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PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

5 de julio de 2023

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MEMORIA

1. ANTECEDENTES, MARCO LEGAL Y OBJETO DEL PROYECTO

1.1 ANTECEDENTES ADMINISTRATIVOS

El 19 de junio de 2021, la ABAQUA encarga a CALTER la redacción del proyecto de ejecución de un nuevo depósito prefabricado para la planta de desalación de Formentera.

1.2 ANTECEDENTES TÉCNICOS

El 7 de noviembre de 2020, la ABAQUA adjudicó la redacción del Proyecto de rehabilitación estructural del depósito de la desaladora de Formentera.

En dicho proyecto se preveía la implantación de un depósito provisional adosado al existente que permitiese abastecer a la población durante la ejecución de las obras.

Tras la entrega de la maqueta de dicho proyecto básico, la ABAQUA considera que la solución más recomendable es la de plantear un depósito prefabricado definitivo adyacente sustituyendo así la idea inicial de implantar un depósito provisional de almacenaje de agua únicamente durante la ejecución de las obras. Con este planteamiento la ABAQUA encarga de forma independiente al presente servicio la redacción de un proyecto para la implantación de un depósito prefabricado de carácter definitivo.

Este depósito deberá construirse y estar en funcionamiento de forma previa a las obras de rehabilitación del depósito existente.

1.3 LEGISLACIÓN Y NORMAS APLICABLES

- Ley 9/2017, de 8 de noviembre, de contratos del sector público.
- Real Decreto Legislativo 1098/2001, de 12 de octubre y sus actualizaciones posteriores.
- Directiva 2000/60/CE, del Parlamento Europeo y del Consejo, de 23 de octubre de 2000, por la que se establece un marco comunitario de actuación en el ámbito de la política de aguas.
- Real Decreto 51/2019, de 8 de febrero, por el que se aprueba el Plan Hidrológico de la Demarcación Hidrográfica de las Illes Balears.
- Decreto 53/2012 de 6 de julio, sobre vigilancia sanitaria de las aguas de consumo humano de les Illes Baleares.
- Instrucción de hormigón estructural EHE-08
- Real Decreto 1627/ 1997 de 24 de octubre, por el que se establecen disposiciones mínimas de Seguridad y Salud en las obras de construcción.
- RD 105/2008 por el que se regula la gestión de los residuos de construcción y demolición

– Decreto Legislativo 1/2020, de 28 de agosto, por el que se aprueba el texto refundido de la Ley de Evaluación Ambiental de las Illes Balears.

1.4 OBJETO DEL PROYECTO

El objeto del presente proyecto es la definición completa a nivel de proyecto de ejecución de un nuevo depósito prefabricado a implantar adosado al depósito prefabricado existente en las instalaciones de la desaladora de Formentera.

Se incluirá la realización de todas las pruebas, ensayos y estudios previos necesarios que permitan la elaboración de todos los documentos que definan las obras y la forma de ejecutarlas, con el fin de obtener unos resultados óptimos en las fases de construcción y posterior explotación, mantenimiento y conservación.

1.5 UBICACIÓN

Lo indicado en el presente proyecto se desarrolla en el depósito de la IDAM de Formentera y en la parcela adyacente, en la Avinguda de Ca *Marí.*



Emplazamiento

2. SITUACIÓN ACTUAL

El depósito de agua de la instalación desaladora de Formentera se construyó en 2002, y almacena el agua procedente del proceso de desalación del agua captada en los pozos existentes en la propia instalación. Es una instalación que se encuentra sobre rasante, de planta rectangular de 68 x 58 m, y de 5,35 m de altura.

Actualmente la ABAQUA se encuentra en fase de redacción de proyecto de ejecución para la rehabilitación de dicho depósito. Esta intervención que prevé el cambio completo de cubierta obligará a dejar fuera de uso al depósito durante el tiempo que duren dichas obras.

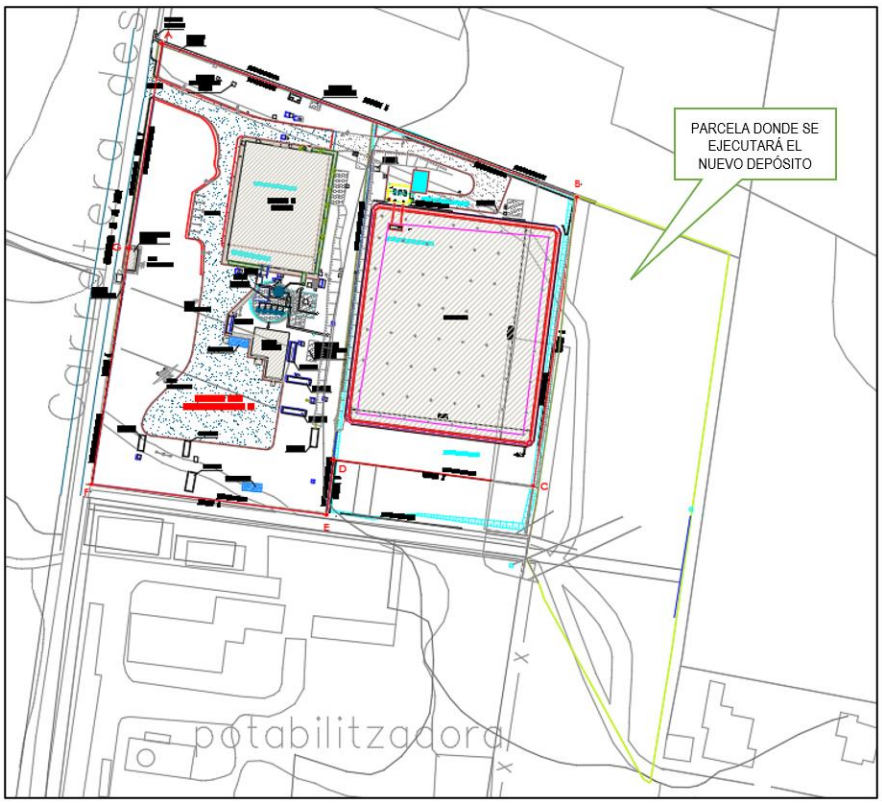
Las obras de rehabilitación del depósito se proyectan con un plazo estimado de 6 meses.

La implantación del nuevo depósito se proyecta sobre la parcela colindante a la del actual depósito prefabricado de manera que quede integrado en la configuración hidráulica de la planta.





Vista General de la parcela de actuación desde el norte-sur, donde se observa la ubicación del depósito existente



Parcela adyacente a la IDAM de Formentera donde se ejecutará el nuevo depósito prefabricado

2.1 DOCUMENTACIÓN APORTADA POR EL CLIENTE Y ANÁLISIS

Para la redacción del presente proyecto se ha tenido acceso a la documentación que formará parte del Proyecto de ejecución de rehabilitación del depósito de Formentera que la ABAQUA está redactando de forma independiente al presente servicio.

3. JUSTIFICACIÓN DE LA SOLUCIÓN ADOPTADA

3.1 DIMENSIONAMIENTO

El dimensionamiento proyectado del depósito viene determinado por las necesidades de consumo que tendrá la población de Formentera durante el tiempo que duren las obras de rehabilitación del depósito actual.

Dicha obra tiene una duración prevista de 6 meses a los que hay que prever la puesta en marcha sanitaria una vez finalizada la obra.

Para la determinación de los caudales de consumo se han considerado los valores del año 2019 por ser los mayores registrados hasta la fecha.

La obra de rehabilitación del depósito actual se ejecutará durante los meses de menor demanda: noviembre, diciembre, enero, febrero y marzo.

Si se analiza el consumo mínimo diario de cada uno de estos meses:

	FORMENTERA – m³ AGUA ENTREGADA DIARIA						
MES	2014	2015	2016	2017	2018	2019	2020
ENERO	682,77	783,74	739,97	485,55	732,32	918,00	709,06
FEBRERO	612,61	718,89	838,14	521,21	668,04	1.010,00	745,02
MARZO	1.151,77	823,48	928,37	820,46	673,77	1.255,00	872,55
ABRIL	1.787,23	1.512,82	1.625,55	1.308,09	1.400,90	1.816,00	924,81
MAYO	1.800,32	1.959,84	2.426,98	2.596,08	2.635,97	2.376,00	1.021,26
JUNIO	2.768,90	2.701,87	3.022,32	2.900,32	2.998,43	3.080,00	1.615,04
JULIO	3.412,74	3.645,29	3.640,35	3.203,25	3.721,97	3.704,82	2.923,54
AGOSTO	3.478,71	3.704,15	3.716,97	3.270,12	3.583,45	3.734,10	3.240,05
SEPTIEMBRE	2.310,07	2.360,58	2.695,14	2.338,20	2.420,50	2.228,33	1.819,41
OCTUBRE	1.130,16	1.293,37	1.432,39	1.477,35	1.750,97	1.777,43	1.245,02
NOVIEMBRE	822,07	773,10	928,78	878,15	904,20	821,26	0,00
DICIEMBRE	509,87	866,23	484,66	826,07	610,23	669,54	0,00

Se obtienen valores mínimos de 669,54 m3 en diciembre y valores máximos de 1.255 m3 en marzo.

La capacidad de producción diaria de la planta es de 5.000 m3/día. Con consumos diarios de 800 m3/h, estos 5.000 m3 quedarían almacenados entre 6 y 7 días, mientras que con consumos diarios de 1.255 m3/día el agua quedaría almacenada unos 4 días. En cambio, si la producción se reduce a la mitad, se conseguiría que el agua estuviera almacenada en el peor de los casos entre 3 y 4 días, tiempo que se considera adecuado.

Por tanto, se comprueba que, durante la duración de la obra de rehabilitación del depósito actual, entre los meses de noviembre a marzo, el volumen almacenado en el nuevo Depósito Prefabricado de **2.500 m³** es suficiente para cubrir las necesidades de abastecimiento, de manera que dicha agua pueda ser producida por la planta a lo largo de media jornada.

Esta producción será suficiente para abastecer durante:

- 3 o 4 días en los meses de menor consumo
- 2 días en el mes de marzo.
- 1-2 días en los meses de abril y octubre (en caso de ser necesario)

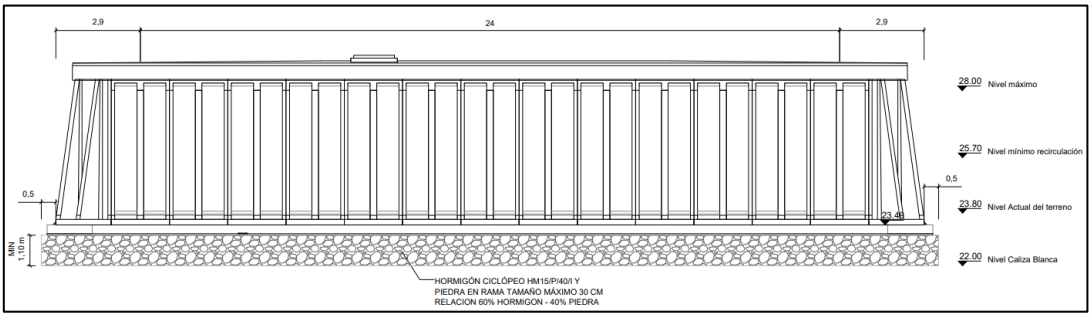
3.2 GEOTECNIA

En el **Anejo Nº3 "Geotecnia"**, se recoge el **Informe Geotécnico** realizado para el presente proyecto. En él se detallan los diferentes sustratos que conforman la estructura resistente del terreno, determinándose que el nivel geotécnico óptimo para la cimentación de la estructura corresponde a "caliza blanca sana".

Bajo esta premisa y, teniendo en cuenta, la cota de implantación del depósito, fijada por el nivel máximo de la lámina de agua, se prevé la mejora del terreno existente mediante la ejecución de un relleno de hormigón ciclópeo que permita cimentar la estructura sobre él.

Fijada la cota de apoyo del muro prefabricado sobre su cimentación de 30 cm (+23.40), el espesor de losa de cimentación del depósito y conocida la cota actual del terreno (23,80 m), la cimentación debería ejecutarse a la cota +22,00 m.

Esta cota es insuficiente para asegurar el trasiego de caudales entre depósitos, por lo tanto, se deberá rellenar con hormigón una altura mínima de 1,10 m sobre la cota de caliza blanca.

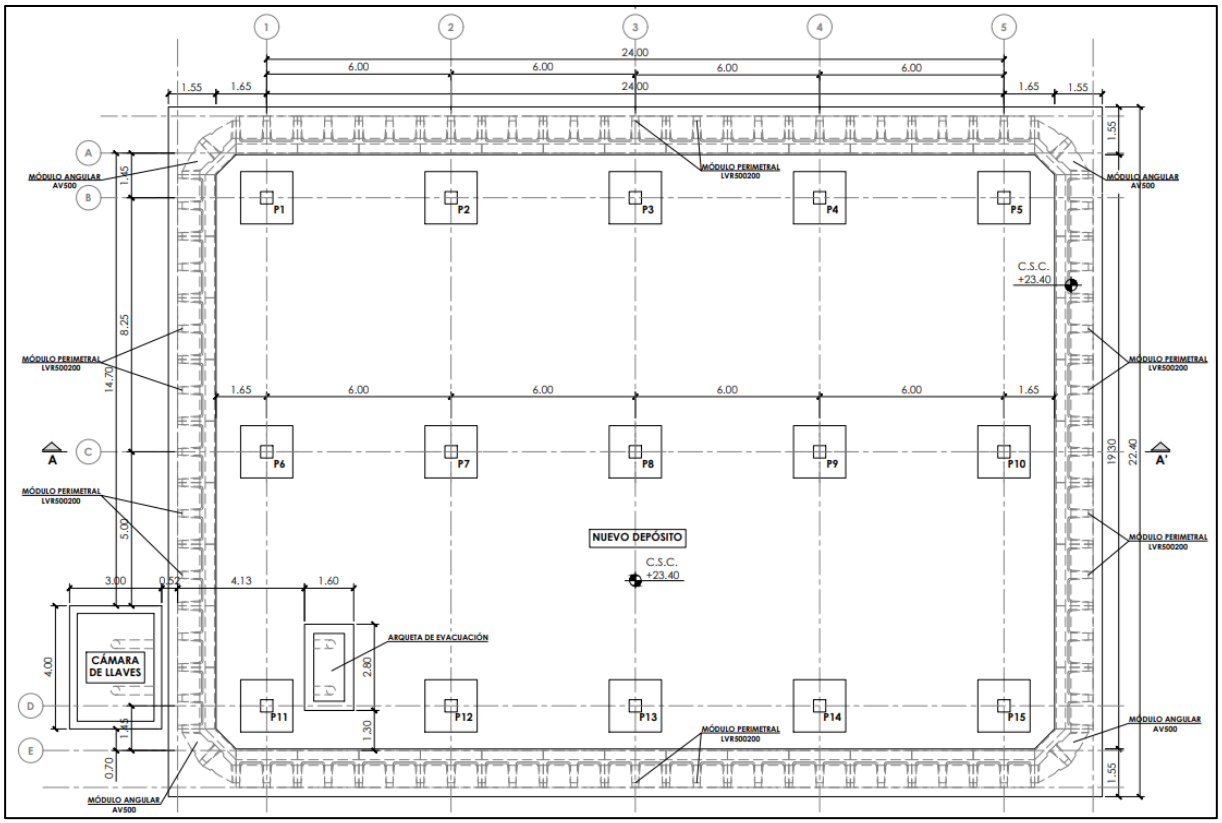


Cota de Cimentación y nivel de Caliza Blanca hasta donde se debe realizar la mejora del terreno

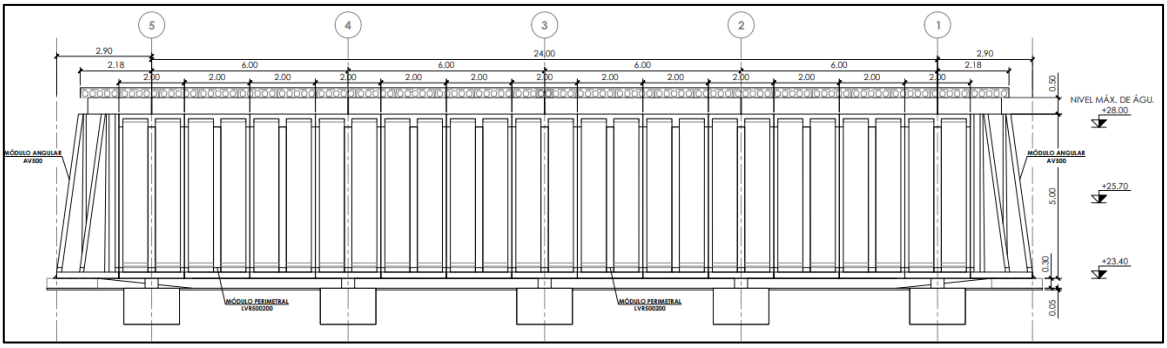
3.3 ESTRUCTURAS

3.3.1 DEPÓSITO PREFABRICADO

El depósito de agua de la instalación desaladora de Formentera se construyó en 2002, y almacena el agua procedente del proceso de desalación del agua captada en los pozos existentes en la propia instalación. Anexo a él se proyecta la ejecución de un nuevo depósito más pequeño, con las siguientes dimensiones:



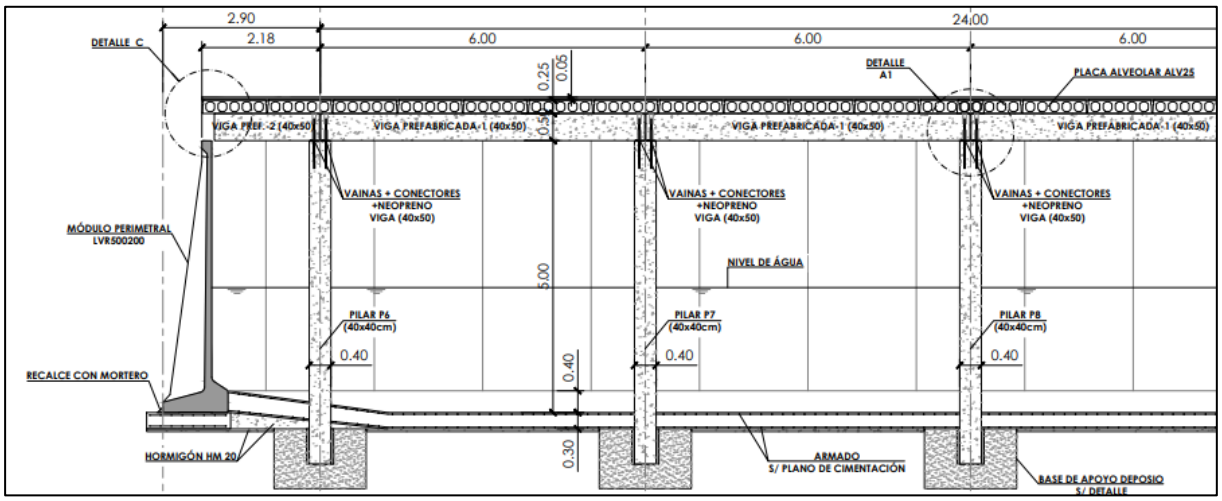
Planta Geométrica General del Depósito Prefabricado



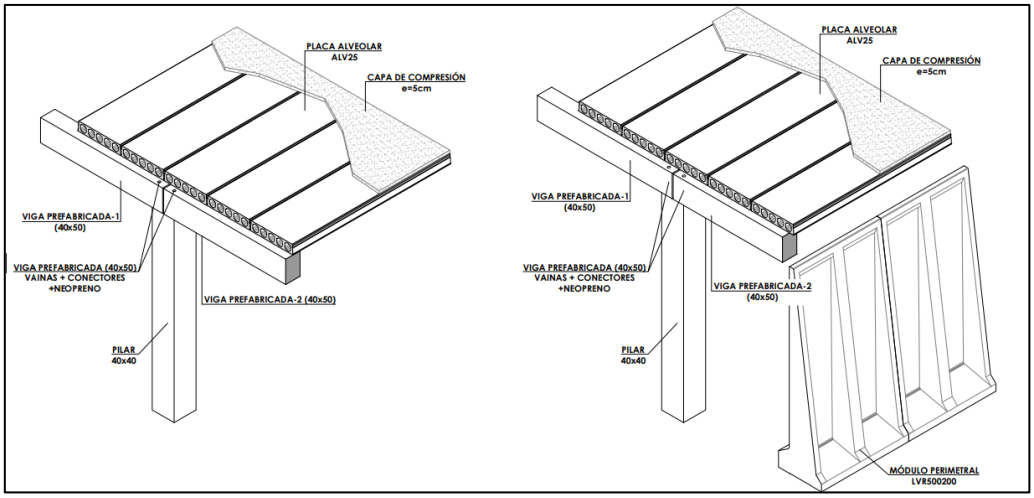
Alzado General del Depósito

La estructura del depósito consta de los siguientes elementos y es de hormigón prefabricado:

- **Muros ménsula de paneles prefabricados** iguales a los del depósito existente, de sección plana y vertical al interior y tres nervios resistentes verticales o contrafuertes, de sección variable, situados al exterior del panel. Los paneles son de 2 m de ancho y 5 m de alto. La cimentación se proyecta sobre una zapata corrida de 30 cm de canto y empotrados por el lateral de su base a la losa del suelo mediante prolongación de sus armaduras, conectados lateralmente entre ellos con cuatro pernos y sueltos en cabeza (sin conexión con las vigas o la tapa superior del depósito).
- **Pilares de hormigón prefabricado**, de 40 x 40 cm de sección, empotrados en zapatas aisladas bajo la losa del suelo. Sobre ellos apoyan vigas prefabricadas de hormigón, se sección rectangular de 40 cm x 50 cm, biapoyadas en la cabeza de los pilares. Las vigas tienen una luz de 6,00 m. En los extremos de cada pórtico vuelan 1,90 m hasta llegar a la vertical del muro perimetral, sin llegar a tocarlo o apoyarse en él.
- La cubierta del depósito se diseña mediante la instalación de forjado de placas alveolares prefabricadas de hormigón pretensado de 25 cm de canto total, con capa de compresión superior de 5 cm, biapoyadas sobre las vigas prefabricadas.

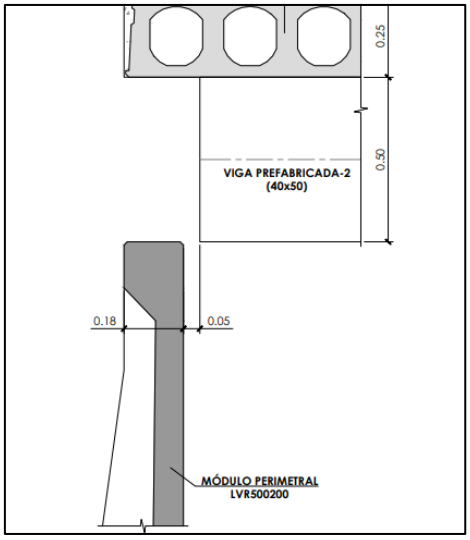


Sección del Depósito donde se observan todos los elementos que lo componen



Vista Axonométrica del encuentro entre pilares, vigas y placas alveolares

- El **remate perimetral** se ejecuta mediante un recrecido de los pilares donde apoyan las vigas prefabricadas de manera que el canto de 50 cm de la viga permite la instalación de la rejilla de ventilación en la cara inferior de las Placas Alveolares y la cara superior de los paneles prefabricados.



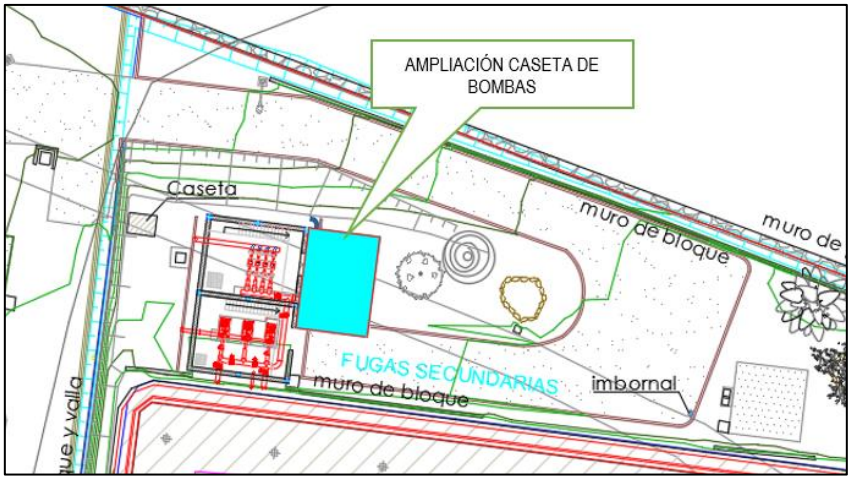
Detalle de terminación perimetral para instalación de Rejilla de Ventilación

En el **Documento Nº2 "Planos"**, se detalla completamente la definición geométrica de la estructura, su armado y los detalles constructivos necesarios para la correcta construcción del Depósito Prefabricado.

3.3.2 CASETA DE BOMBEO

El nuevo grupo de bombeo se ubica en la nueva caseta de bombas, que se construirá anexa a la caseta DE bombas existente.

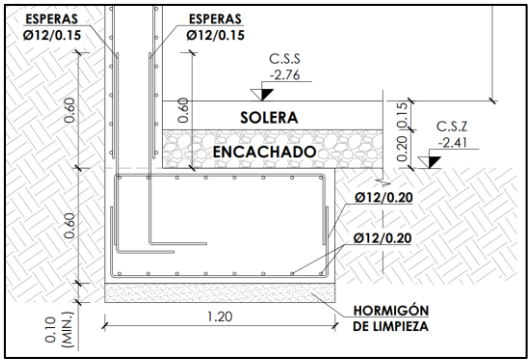
En la siguiente imagen se puede consultar la ubicación exacta de la nueva caseta de bombas.



Ubicación de la caseta de bombas (ampliación)

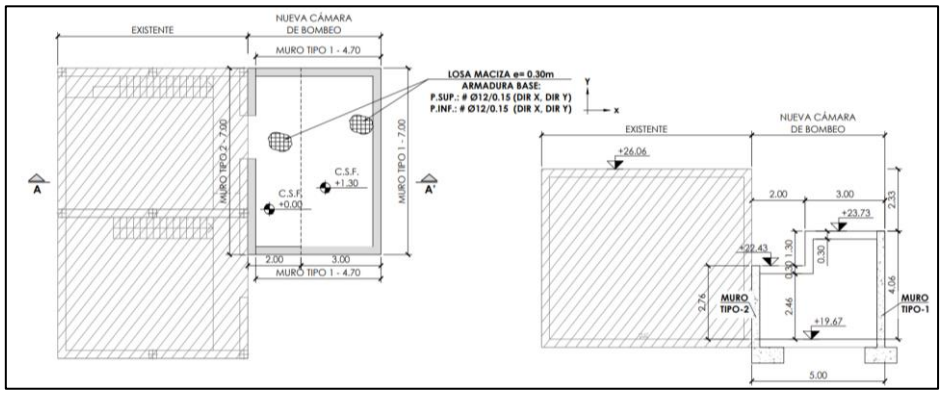
La estructura se proyecta mediante la ejecución de dos muros ménsula de diferente tipología y como cerramiento superior se proyecta una losa maciza, conforme se puede consultar en el **Documento Nº2 Planos, plano nº9**.

La solera de 15 cm se ejecutará sobre un encachado de 20 cm, apoyando tanto en el terreno existente como en las punteras de los muros tipo.



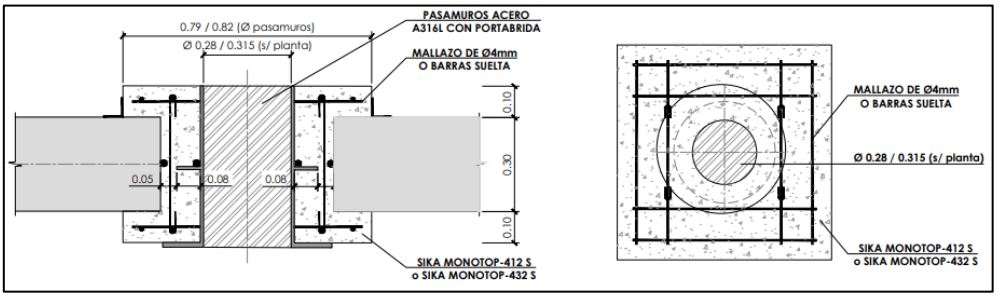
Detalle de la cimentación de la caseta de bombas (ampliación)

Se presenta, a continuación, detalle de la planta y alzado la estructura proyectada:



Planta General y alzado de la caseta de bombas (ampliación)

En el plano nº9 (hoja 2) se pueden consultar los detalles constructivos referentes a la creación de huecos para ventilación de la caseta y de los pasamuros para tubos de diámetro exterior 280 mm y 315 mm.



Detalle para la ejecución de Pasamuros

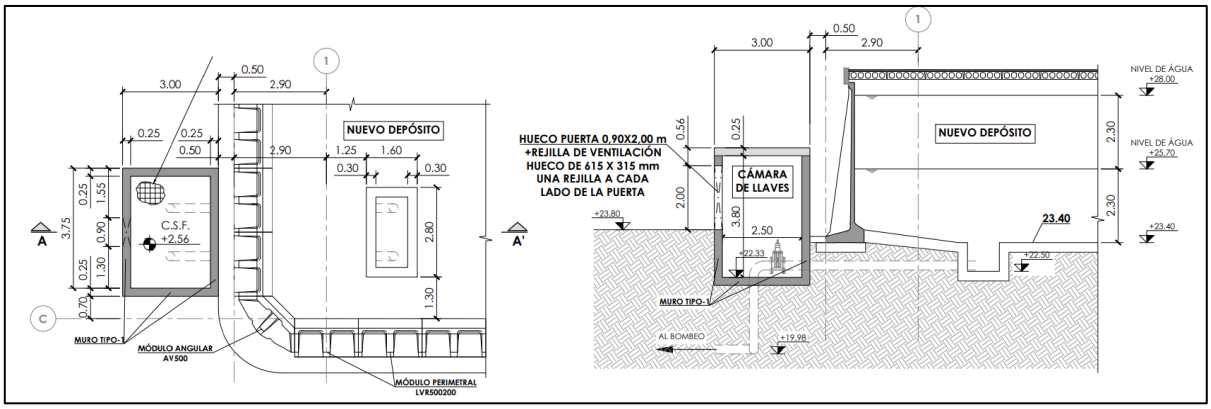
3.3.3 CÁMARA DE LLAVES

La cámara de llaves se proyecta como un cajón armado formado por muros de 25 cm de espesor, losa de cimentación de espesor 30 cm y tapa en cubierta ejecutada mediante losa maciza de 25 cm de espesor.

La conexión de las tuberías que provienen del depósito prefabricado hasta la cámara de llaves, se realizada desde una poceta ejecutada desde el fondo de la solera.

La poceta se encuentra totalmente desarrollada en el grupo de plano 7, donde se detalla el armado a disponer para la ejecución de banqueos en losa maciza.

En el grupo de planos 8 se detalla el armado y refuerzos a realizar en la formación de huecos, tanto en el muro como en la losa maciza de cimentación.



Planta General y alzado de la cámara de llaves

3.4 CUBIERTA

Sobre la cubierta se llevarán a cabo las siguientes actuaciones:

- Formación de pendientes
- Remate perimetral

- Impermeabilización de cubierta
- Formación de superficie de acabado
- Montaje rejas ventilación

A continuación, se detalla cada una de estas actuaciones.

3.4.1 FORMACIÓN DE PENDIENTES

Se ejecutarán pendientes mediante la formación de una capa de hormigón celular a base de cemento y aditivos plastificantes y aireantes. Las pendientes se ejecutarán a 4 aguas, con una pendiente del 1%, vertiendo siempre hacia el perímetro del depósito. El espesor mínimo de esta capa será de 5 cm, dicho espesor coincidirá con el perímetro del depósito.

3.4.2 REMATE PERIMETRAL

Tras la formación de la pendiente se colocará perimetralmente una chapa conformada de aluminio de espesor 1 mm y recorrido de hasta de 35 cm. La chapa se anclará mecánicamente a la cubierta, alcanzando dicho anclaje la capa de compresión que se realizará. Se dispondrá de un perno de fijación de longitud 10 cm y M6 cada metro lineal. El anclaje será de acero inox A4. La pletina será de color blanco.

Este remate tendrá una visera en su parte inferior que permitirá escupir el agua hacia fuera del paramento del depósito.

3.4.3 IMPERMEABILIZACIÓN DE CUBIERTA

Se ejecutará una impermeabilización continúa adherida mediante la aplicación de un revestimiento impermeabilizante bicomponente a base de resina de poliurea aplicado mediante sistema de proyección mecánica en caliente, previa aplicación de imprimación a base de resina de poliuretano.

La poliurea cubrirá la parte anclada de la chapa de aluminio colocada con anterioridad.

Se propone esta solución constructiva por los siguientes motivos:

- En cubiertas de depósitos se recomienda el uso de sistemas de impermeabilización adheridos.
- Rapidez de aplicación.
- Necesidad de aplicación por operarios cualificados que aseguren la correcta ejecución de los trabajos.

3.4.4 FORMACIÓN DE SUPERFICIE DE ACABADO

Sobre la poliurea se dispondrá un geotextil no cosido de gramaje 200 gr/m2. Se colocará con un solape de 20 cm.

Sobre este geotextil se formará una capa de mortero de cemento M-5 de 3 cm de espesor sobre la cual se colocará un solado de baldosín catalán de tamaño 14x28 cm color ocre. Se realizarán juntas de dilatación formando paños de 100 m2.

3.4.5 MONTAJE REJAS VENTILACIÓN

Se colocarán perimetralmente rejas de ventilación que estarán formadas por un bastidor de aluminio con lamas horizontales que permitan el paso de ventilación. En la parte interior del bastidor se colocará una malla metálica antimosquitos de abertura de malla máxima 1x1 mm. El bastidor irá atornillado a la cara inferior de la placa prefabricada existente. La parte inferior quedará a 1 cm de la coronación del muro prefabricado de manera que se pueda aplicar un cordón de sellado con masilla continua.

Del perfil inferior que formará el bastidor se anclará mecánicamente un faldón de chapa de aluminio de 3 mm de espesor que proteja la coronación del muro. Este faldón tendrá un recorrido de hasta 15 cm.

En los puntos donde se ubiquen las nuevas impulsiones de la recirculación se adaptará el fijo de aluminio para permitir el paso de la tubería, y asegurando que no queden huecos libres entre el fijo de aluminio y la tubería.

3.5 IMPERMEABILIZACIÓN INTERIOR

La impermeabilización interior del depósito se ejecutará sobre las paredes del nuevo depósito prefabricado según las indicaciones de utilización del producto por el fabricante y la ficha técnica del mismo.

Se ejecutará sobre las paredes de los paneles prefabricados y sobre la losa de cimentación, realizando la limpieza del soporte, mano de fondo y mano de acabado.

Se ejecutarán dos capas de mortero con un consumo aproximado de 1,5 kg/m2 en losas horizontales y 2,0 kg/m2 en los paneles prefabricados, teniendo en cuenta que el consumo máximo no puede superar los 4 kg/m2.

El material a utilizar será Sika MonoTop®-107 Seal o similar.

3.6 INSTALACIONES HIDRÁULICAS

En el presente proyecto del depósito prefabricado, está prevista la ejecución de los siguientes elementos hidráulicos:

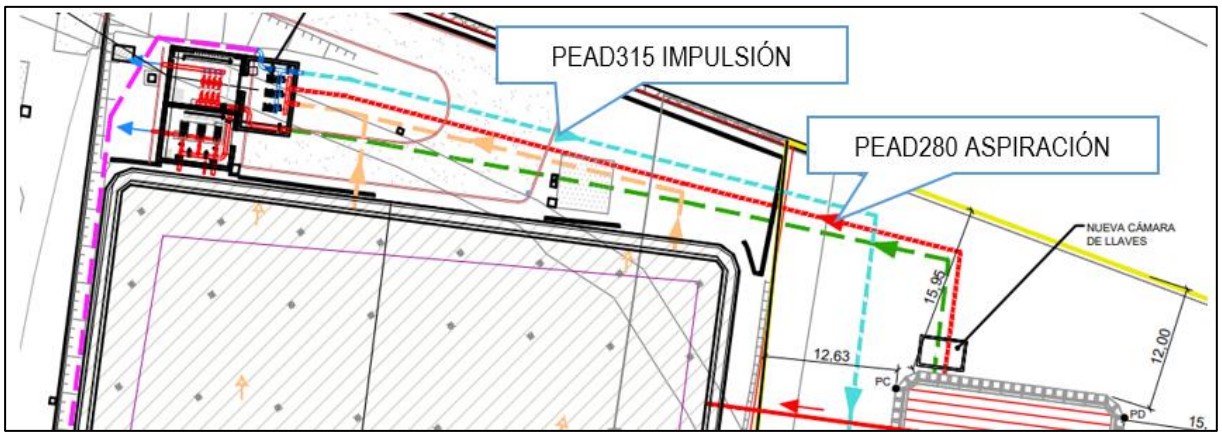
- Tubería de Aspiración desde el Depósito Prefabricado a la nueva caseta de bombas.
- Tubería de Recirculación desde la Nueva Caseta de bombas hasta el depósito prefabricado.
- Tubería de conexión con el bombeo existente, desde el depósito prefabricado.
- Tubería de conexión del suministro de la IDAM hasta el depósito prefabricado.
- Tubería de trasiego de caudal entre depósitos

3.6.1 RECIRCULACIÓN

La instalación de recirculación se compone de los siguientes elementos, que quedan justificados y recogidos, en su totalidad, en el Anejo Nº5 “Cálculos Hidráulicos”, detallándose únicamente las instalaciones que forman parte del nuevo depósito:

- **Bombeo de superficie:**
    - Grupo de bombeo sobre bancada instalado en el interior del cuarto de bombas existente. Configuración 2 bombas en paralelo + 1 bomba de reserva.
    - Las bombas se dimensionan para trabajar en paralelo con una en reserva, que permita realizar trabajos de mantenimiento sin necesidad de paralizar la operatividad del sistema de recirculación.
    - Se propone la instalación del modelo de Bomba NSCF 125-315/185 o similar.
- **Tramos de impulsión:**
    - Impulsión a Depósito Prefabricado mediante tubo PEAD100 PN10 DN315 que verterá el agua al interior del depósito en un punto, situado en el extremo sureste del mismo. La longitud aproximada asciende a 135 m.
- **Tramos de aspiración:**
    - Aspiración desde depósito prefabricado a ejecutar mediante tubo PEAD100 PN10 DN280 de longitud aproximada de 90 m.

Para el dimensionamiento de todas las líneas, tanto de impulsión como de aspiración, se ha mantenido un rango de velocidades inferiores a 2,5 m/s y superiores a 0,5 m/s, buscando y analizando un rango de diámetros acorde a los cálculos realizados para el diseño de la impulsión y aspiración del depósito existente, permitiendo que el funcionamiento del grupo de bombeo se apto para trabajar recirculando caudales de los dos depósitos.



Planta General de Recirculación con las tuberías de Impulsión y Aspiración

3.6.2 TUBERÍA PARA TRASIEGO DE CAUDALES

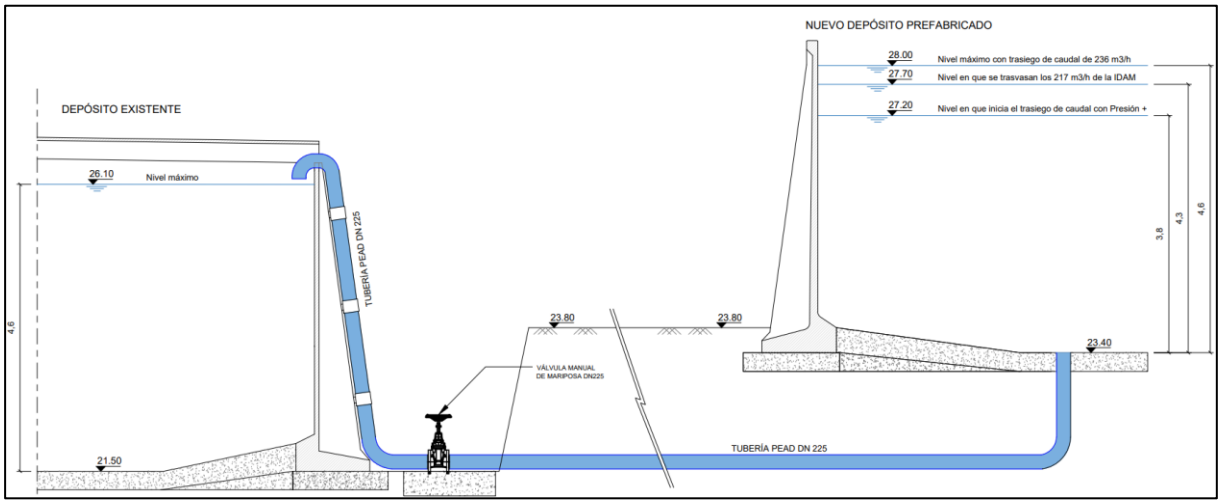
En al Anejo Nº5 se detallan todos los cálculos realizados para el dimensionamiento de la tubería de trasiego de caudales entre el nuevo depósito prefabricado y el depósito existente. La principal premisa para su diseño, ha sido establecer la cota de implantación del nuevo depósito.

Con esta condición inicial y, teniendo en cuenta, que la nueva tubería de trasiego debe asegurar un mínimo de caudal igual o superior al aportado por la IDAM, se establece y comprueba que:

- El caudal aportado por la IDAM es igual a 217 m3/h (60,27 l/s), sobre el cual se trabaja para el diseño de la instalación.
- Los cálculos realizados con EPANET, se han realizado analizando el comportamiento de la energía disponible en el depósito prefabricado que por gravedad y, considerando su agotamiento, para ello se ha establecido un nivel de la lámina de agua de +28,00 m, que condiciona la cimentación de la nueva estructura.
- Con este nivel y, teniendo en cuenta, la instalación de un tubo de PEAD PN10 DN225 de longitud igual a 28,34 m aproximadamente, se asegura un trasiego de caudal de 236 m3/h.

Así mismo, se ha comprobado el nivel mínimo del depósito en que inicia la trasferencia de caudal entre depósito (considerando el inicio de presiones positivas en la salida del tramo de tubería), fijando este nivel en los +27,20 m.

En la siguiente imagen se puede consultar el alzado de la instalación:



Alzado trasvase de Caudales entre depósitos

3.6.3 CONEXIONES CON ELEMENTOS EXISTENTE

Conexión Impulsión Existente

Para la conexión del nuevo depósito prefabricado con la instalación existente de bombeo "Es Caló – Sa Mola", se han mantenido las mismas características de las tuberías existentes, optando por homogenizar la instalación mediante la ejecución de una tubería de PEAD PN10 DN315 con una longitud de 89,00 m.

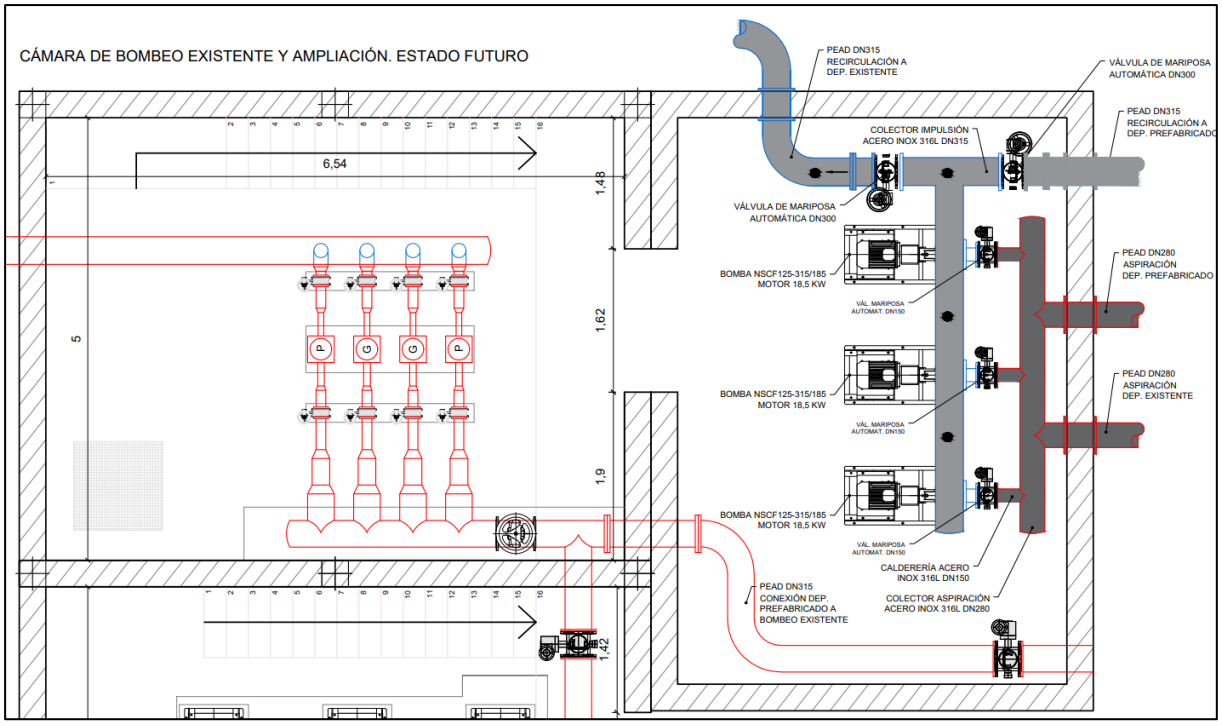
Conexión Suministro IDAM

La conexión del suministro de la IDAM al nuevo depósito prefabricado, se realiza mediante la instalación de una tubería de PEAD PN10 DN400 de 65,00 m de longitud.

3.6.4 AMPLIACIÓN CÁMARA DE BOMBEO

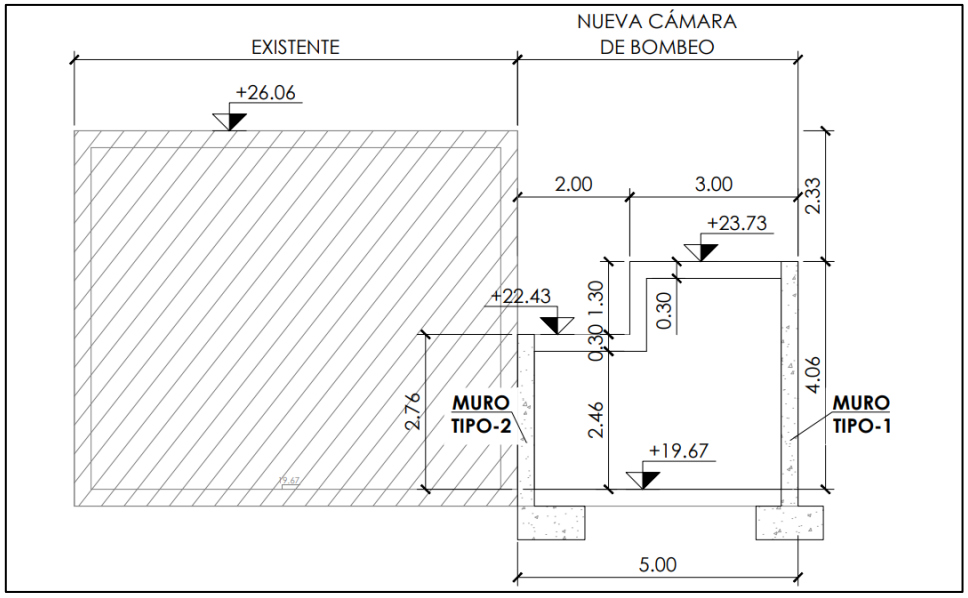
Las instalaciones descritas anteriormente realizan sus conexiones en el interior de la nueva cámara de bombeo, donde se alojará el nuevo grupo de bombeo de recirculación.

La nueva cámara de bombeo tendrá unas dimensiones en planta (interiores) de 4,40 m x 6,40 m, adosada a las casetas existente y con acceso desde la caseta derecha.



Planta general de ampliación de la caseta de bombeo

En la siguiente imagen se puede observar la sección de la nueva cámara de bombeo respecto de la caseta existente, donde se ha respetado el acceso actual situado a la cota de 22,43 m, diseñando una sobreelevación de la caseta hasta la cota 23,73 m.

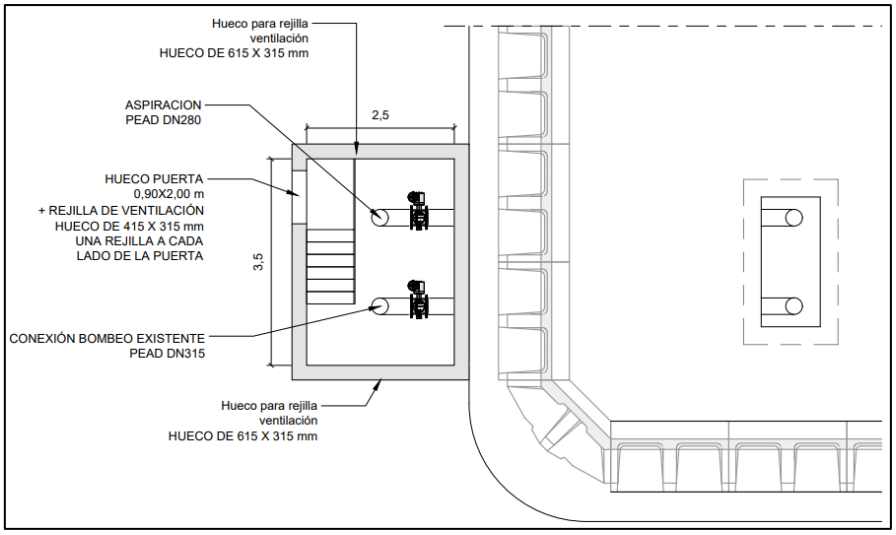


Alzado de la ampliación de la caseta de bombeo

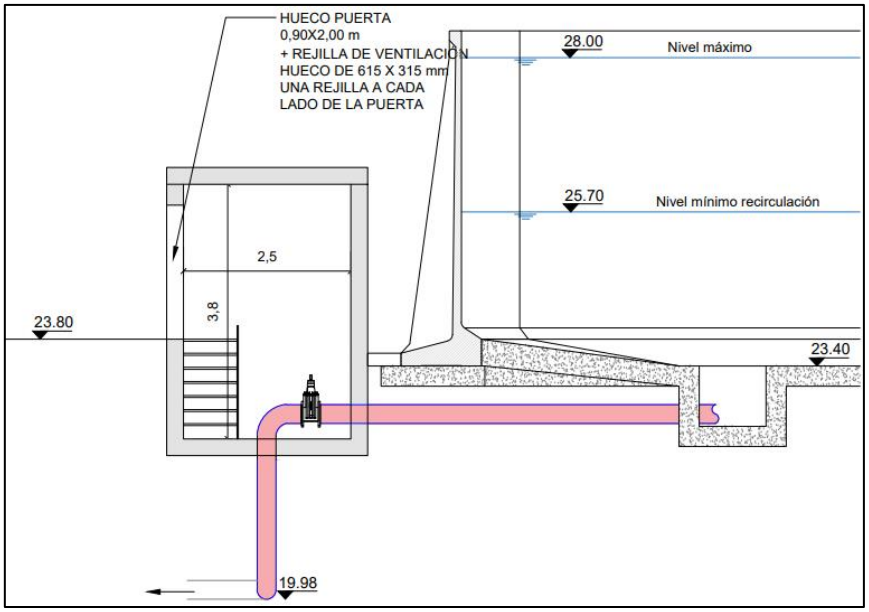
3.6.5 NUEVA CÁMARA DE LLAVES

La salida de las tuberías de aspiración y conexión con el bombeo existente, provenientes del nuevo depósito prefabricado, se diseñan con las siguientes consideraciones:

- Ejecución de Poceta de recogida de caudal en la losa de cimentación del nuevo depósito
- Conexión en horizontal con la nueva cámara de llaves.
- Las dimensiones interiores de la cámara de llaves son las siguientes:
    - En planta: 2,50 m x 3,50 m
    - En alzado se proyecta una altura máxima de 3,8 m, suficiente para la ejecución de la puerta de acceso, teniendo en cuenta el desarrollo de las tuberías que provienen de la poceta del depósito.



Planta nueva cámara de llaves



Sección nueva cámara de llaves

3.6.6 CALDERERÍA, VALVULERÍA Y ACCESORIOS

La calderería prevista en el grupo de bombeo se ejecutará íntegramente en Acero INOX AISI 316L, estando prevista la ejecución de los siguientes elementos:

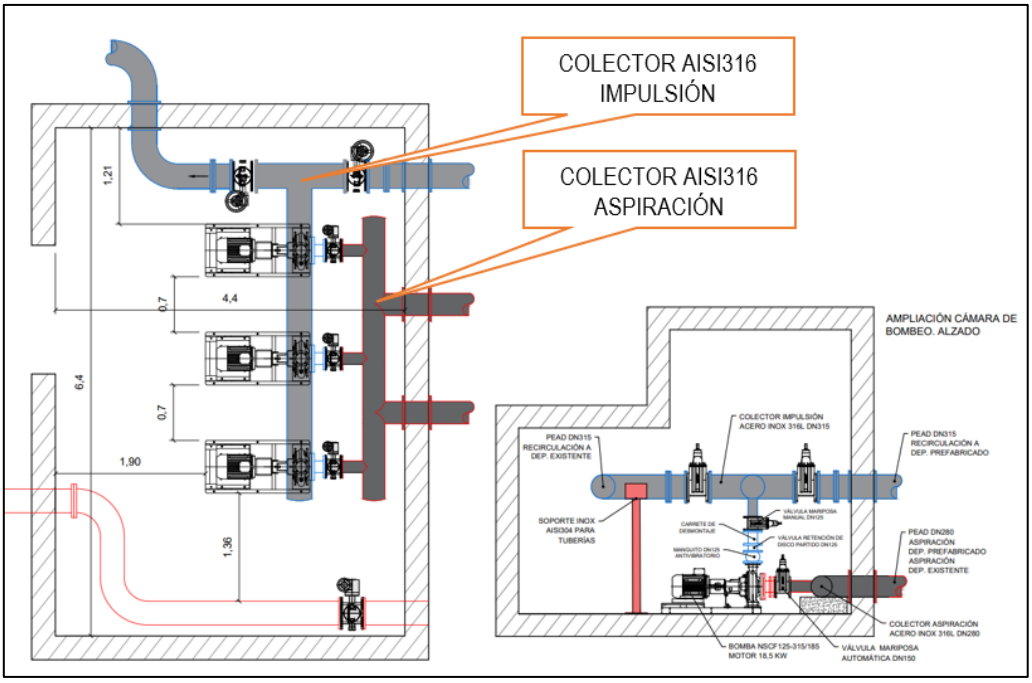
TRAMO ASPIRACIÓN:

- Conexión a 90º de los tramos de aspiración en ACERO AISI 316L DN280 con un desarrollo de 0,40 m (total 0,80 m).
- Colector Común a 90º que recibe las dos aspiraciones en ACERO AISI 316L DN280 de 3,60 m, del que salen tres conexiones en horizontal en inox DN150 con una longitud cada una de 0,4 m (total 1,20 m)

TRAMO IMPULSIÓN:

- Colector común en vertical elevado sobre la impulsión de las bombas con un desarrollo horizontal de 3,95 m realizado en ACERO AISI 316L DN315, con tres entradas a 90º para la conexión de la impulsión de las bombas en AISI 316L DN125 con una desarrollo cada una de 0,40 m (total 1,20 m).
- Salidas a conexión con tubos de impulsión a depósitos ejecutada mediante T en ACERO AISI 316L DN315 con un desarrollo de 1,10 m
- Tres tramos rectos verticales DN125 (uno por cada bomba) con una longitud total de 0,40 m para conexión de las tres bombas con los accesorios.

Las válvulas de corte, carretes de desmontaje y antivibratorios, válvulas de retención y cualquier pieza especial, será de acero inoxidable.



Planta y Alzado bombeo de recirculación

Para trabajos de mantenimiento, se instalarán válvulas de corte antes de la entrada a las bombas y en su salida, permitiendo aislar la instalación. Así mismo, se ha previsto la instalación de válvulas de corte en todas las instalaciones proyectadas.

3.7 INSTALACIONES ELÉCTRICAS Y DE CONTROL

Se ha previsto la instalación eléctrica con potencia suficiente para la instalación del grupo formado por dos bombas más una bomba de reserva.

Así mismo, se ha considerado el alumbrado de la caseta de bombas, de la cámara de llaves y de la iluminación perimetral del depósito.

Para la estimación de las necesidades eléctricas se ha considerado alimentar a los siguientes equipos:

- Bombas de 18,5 kW trabajando dos en paralelo y una de reserva.
- Equipos de automatización y control de bombas
- Grupos electrógenos
- Alumbrado de servicio y emergencias
- Alumbrado perimetral del depósito
- Tomas de corriente.

Además, se ha previsto una reserva de potencia con valor de 6,90 kW, para conexiones en el futuro de nuevos circuitos.

En el Anejo Nº6 "Cálculos Eléctrico y Telecontrol" se definen los cálculos realizados y la descripción detallada del funcionamiento del sistema de automatización y control, destacando los siguientes puntos respecto del sistema de telecontrol planteado:

- Primer nivel de control, que garantiza la seguridad de los equipos, su marcha y buen funcionamiento automático, mediante los elementos de medida, captación, actuación y protección situados en los cuadro de control distribuidos en las instalaciones.
- Segundo nivel de automatización completa del sistema, de forma que facilite la explotación del bombeo, minimizando las actuaciones manuales del bombeo, gestionado parcialmente por medio del autómata programable.
- Tercer nivel de automatización, donde se monitoriza el estado global del proceso, con un registro del funcionamiento general del grupo de bombeo, parámetros y sistema de alarmas. Este nivel se gestiona de forma telemática y se podrán obtener resultados analíticos del funcionamiento del sistema.

3.7.1 CUADRO DE BOMBAS

El cuadro de bombas estará formado por los siguientes elementos principales que quedan completamente definidos en el pliego de prescripciones técnicas particulares y en el presupuesto:

- Interruptores automáticos magnetotérmicos
- Relé diferencial y transformador toroidal cerrado.
- Contactor ABB AF38-30-00-13
- Arrancador suave para motor asíncrono
- Protección sobretensiones transitorias
- Medidor de potencia y energía
- Temporizador bifunción, contador multifunción totalizador de horas y eventos con montaje en panel.
- Hermes TCR200 Telecontrol y datalogger GSM/GPRS MODBUS
- Relé vigilante fase temperatura y tensión motor RM35TM250MW

3.8 INSTALACIÓN DE CLORACIÓN

La instalación de cloración consta de los siguientes elementos de instrumentación:

- **ANALIZADOR 1770/3:** dos puntos de consigna configurables en el panel, salida 4-20 mA, by-pass muestra, rotámetro con señal de falta muestra, bomba periatática para la solución tampon.
- **BOMBA CENTRIFUGA PARA MUESTRA ANALIZADORES**: Potencia 0,5 CV, monofásica, 230 V, protección IP 55, condensador y protección termoamperométrica de rearme automático. Conexión aspiración 1-1/4" y conexión impulsión 1".

- **BOMBA DOSIFICADORA ELECTRONICA DIGITAL PZi4**: cabezal autopurgante ARPZi4ATCF 6x8 W CE EUP, entrada de pulsos 4-20 mA para realizar un control proporcional, pantalla visual, caudal 1,6 l/h a 10 bar y 150 pulsos minuto o caudal 3,6l/h a 8 bar y 300 pulsos minuto. Alimentación electrica a 240 V AC50/60 Hz. Suminitro completo con vàlvulas y cable de señal.
- **CUADRO DE CONTROL ELECTRICO**: Protección sobretensiones, magnetotèrmico para la bomba de muestra, control rearme automático en caso de fallo de caudal con tiempos de paro/marcha regulable, funcionamiento en manual o automático según necesidad.
- **DEPÓSITO DE HIPOCLORITO**: deposito dosificador de 500 l con cubeto, de polietileno, de 1,02 m de diámetro y 1,18 m de altura.
- **DUCHA DE SEGURIDAD**: se instalará una ducha de seguridad para lavado de proyección accidental de hipoclorito.

3.9 ACCESOS Y REGISTROS

Todos los accesos proyectados y todos los registros previstos se realizarán en PRFV con un doble objetivo:

- Evitar problemas de corrosión tanto en los accesos como en los registros.
- Reducir el peso de los elementos en el caso de los registros.

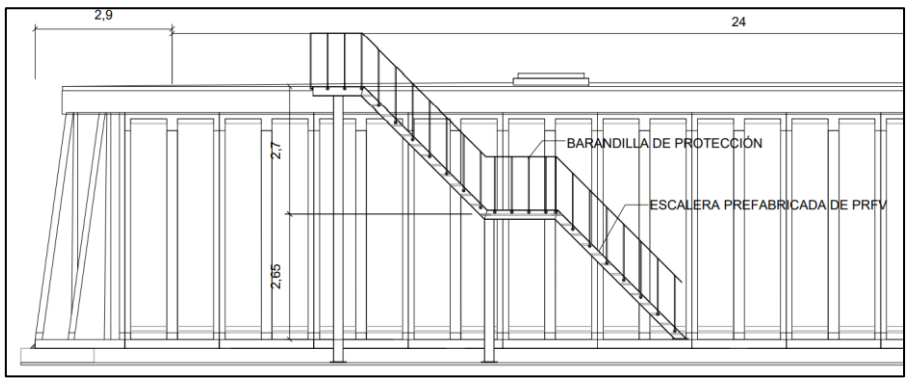
3.9.1 A LA CUBIERTA DEL DEPÓSITO

El acceso a la cubierta se proyecta desde uno de sus laterales mediante la instalación de una escalera de PRFV paralela a los muros del depósito y separada aproximadamente 0,50 m desde su parte inferior.

Debido a la altura de la escalera, se deberá anclar al muro prefabricado con la finalidad de evitar vibraciones.

La escalera se compone de dos alturas, independizadas mediante un descansillo que divide la altura total de 5,35 m, en dos alturas de 2,65 y 2,70 m.

Finalmente, el acceso a la cubierta se realiza mediante una pasarela que accede perpendicularmente a la parte superior del depósito.

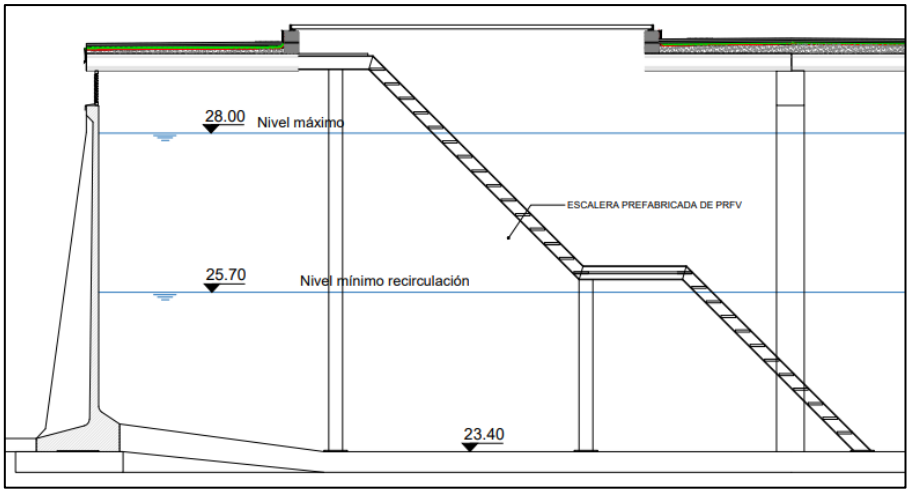


Escalera de PRFV para acceso a la cubierta

3.9.2 AL INTERIOR DEL DEPÓSITO

El acceso al interior del depósito estará formado por una escalera formada por 2 zancas y un descansillo intermedio.

Dispondrá de dos puntos de apoyo que quedarán atornillados a la solera del depósito. Dichos puntos de apoyo deberán arriostrarse transversalmente para evitar pandeos y vibraciones excesivas durante su uso.



Escalera de PRFV para acceso al depósito

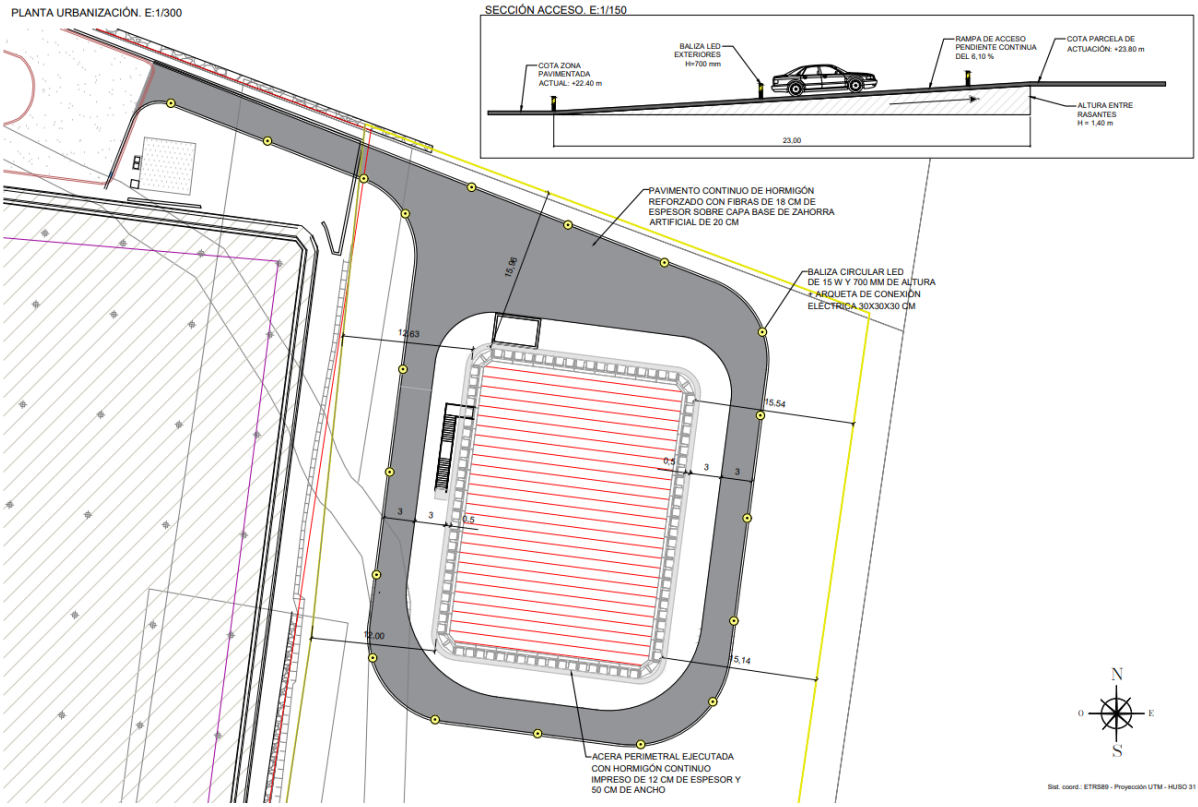
3.9.3 REGISTROS

Todos los registros que se proyectan serán de PRFV. Las dimensiones de cada uno de ellos vienen definidas en planos.

3.10 URBANIZACIÓN DE LA PARCELA

La urbanización de la parcela, se centrará en las siguientes actuaciones:

- Rampa de acceso a la parcela desde la zona norte de la IDAM, dando continuidad a la zona pavimentada existente en los aledaños de la caseta de bombas. Para su ejecución se prevé un relleno compactado de material procedente de la excavación.
- Ejecución de un camino perimetral de hormigón reforzado con fibras de 18 cm de espesor sobre capa de zahorra artificial de 20 cm de espesor. Se estima un acceso vehicular bajo, con lo que se ha optado por proyectar un firme con hormigón sobre capa de zahorra correspondiente a una sección T42, firme 4214, de la Instrucción de Carreteras.
- Ejecución de acera perimetral al depósito prefabricado, con un ancho de 0,50 m y ejecutada con hormigón continuo impreso de 12 cm de espesor.
- Balizamiento del camino de acceso mediante “Balizas LED de 15 W” situadas aproximadamente a una distancia de 10 m.

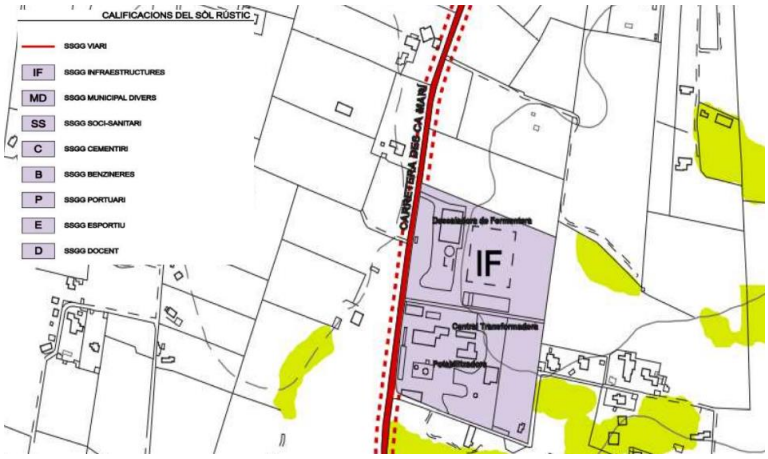


Planta General Urbanización de la parcela

4. MEDIO AMBIENTE

En el **Anejo 2 "Estudio Urbanístico"** se recoge el estudio de los parámetros y condicionantes urbanísticos de la parcela donde se ejecutará el proyecto.

Según las NNSS de 2010, la zona de implantación se clasifica como suelo rústico con calificación de SSGG_IF "Sistemas Generales de Infraestructuras" con la misma calificación que los suelos ocupados por las infraestructuras existente de la IDAM de Formentera y de la Central Transformadora y Potabilizadora.



Calificaciones de Suelo Rústico en el ámbito de estudio

Dada las características de la parcela no existe afección alguna a espacios naturales protegidos, así mismo, con la finalidad de reducir el impacto generado por los residuos procedentes, en su mayoría de las excavaciones, se reutilizarán los materiales excavados para el relleno de zanjas y para la construcción del camino de acceso a la parcela.

Para la conexión de la IDAM y el depósito prefabricado, se deberá afectar a un muro de mampostería existente. Se ha planteado el desmontaje manual del muro y la posterior reconstrucción del mismo aprovechando el material retirado, evitando su transporte a vertedero.

5. GESTIÓN DE RESIDUOS

Se incluye como Anejo Nº11 el Estudio de Residuos de Construcción y Demolición de acuerdo con el RD 150/2008 por el que se regula la gestión de residuos de construcción y demolición. En dicho anejo se desarrollan los siguientes puntos:

- Identificación de los residuos (según OMMA/304/2002)
- Estimación de la cantidad que se generará durante la ejecución de la obra.
- Medidas de segregación “in situ”
- Previsión de reutilización en la misma obra u otros emplazamientos
- Operaciones de valorización “in situ”
- Destino previsto para los residuos
- Conclusiones

Este estudio servirá como base para la redacción del Plan que desarrollará y complementará el contratista de las obras.

6. SEGURIDAD Y SALUD

Se incluye como Anejo nº10, el “Estudio de Seguridad y Salud” del Proyecto, en cumplimiento con el Real Decreto 1627/1997 de 24 de octubre, por el que se establecen las disposiciones mínimas de Seguridad y Salud en las obras de construcción.

Este Estudio de Seguridad y Salud establece, durante la construcción de la obra, las previsiones respecto a prevención de riesgos y accidentes profesionales, así como, las medidas de protección individual y colectiva para reducirlos. Se incluye la ubicación de los centros de salud más cercanos a los puntos de trabajo.

El citado estudio servirá para dar unas directrices básicas a la/s empresa/s contratista/s para llevar a cabo sus obligaciones en el campo de la prevención de riesgos profesionales facilitando su desarrollo con el Plan de Seguridad y Salud, bajo el control del Coordinador en materia de Seguridad y Salud durante la ejecución de las

obras, de acuerdo, con el Real Decreto 1627/1997 de 24 de octubre, por el que se establecen las disposiciones mínimas de Seguridad y Salud.

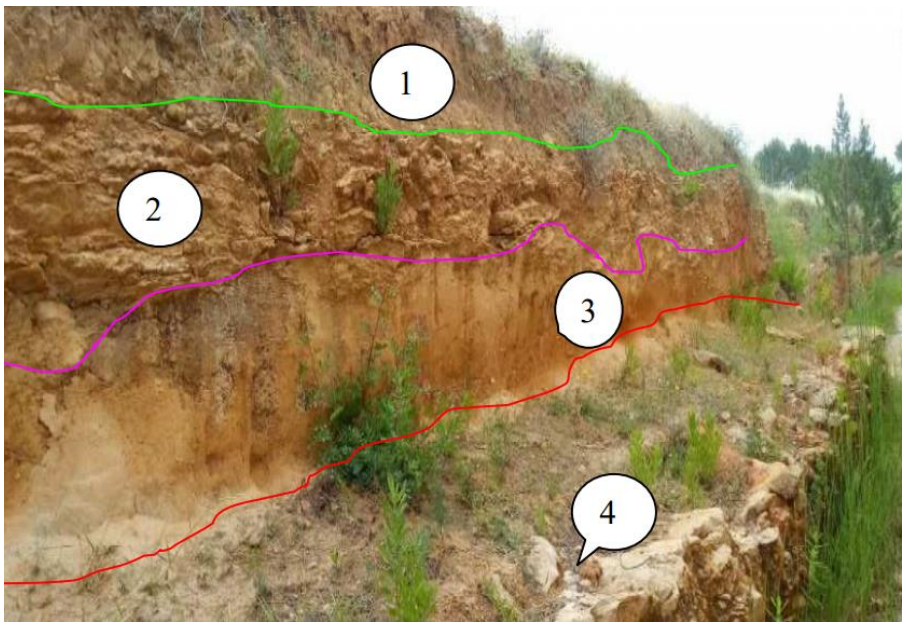
7. GEOLOGÍA

La intervención recogida en el presente proyecto prevé la excavación de la parcela adyacente a la IDAM de Formentera. Para la localización del sustrato resistente, capaz de soportar las cargas que le transmitirá el depósito una vez construido, se recoge en el Anejo Nº3, el Estudio Geotécnico realizado.

Se presente, a continuación, un extracto del Informe Geotécnico aportado al presente proyecto, en referencia a la geología de la zona de estudio. Así mismo, en el apartado 3.2. del presente documento se detallan las conclusiones geotécnicas para determinar la cota de cimentación de la estructura.

La geología de la parcela se enmarca en una unidad de limos arenosos y calcarenitas de grano medio regularmente cementadas, de edad Plioceno Superior Pleistoceno.

Mediante la observación de los taludes existentes en la zona del proyecto (parcelas circundantes) se pueden distinguir 4 niveles geotécnicos con las siguientes características y potencias aproximadas:



- (1) 80 cm de nivel de cobertera vegetal o tierra de cultivo.
- (2) 30 cm de costra calcárea de fino espesor fracturada que se estrecha lateralmente.
- (3) 70 cm de nivel limoarcilloso suelto fácilmente erosionable en presencia de agua.
- (4) A partir de los 180 cm, aproximadamente, nos encontramos con nivel geotécnico formado por caliza blanca de espesor métrico.

8. CONTROL DE CALIDAD

El control de calidad a realizar durante el desarrollo de las obras, se centrará en el control de los materiales prefabricados que conforman la mayor parte del proyecto, así como, de los elementos y accesorios que conforman las partes eléctricas e hidráulicas del proyecto.

En este sentido se hará un control documental exhaustivo, tanto de los controles de calidad realizados en origen para los prefabricados de hormigón, como los certificados de calidad de los materiales puestos en obra. No se prevé que el control de calidad llevado a cabo, tanto en la puesta en obra de hormigones como en el control del tendido e instalación de tuberías, instalaciones eléctricas y puesta en marcha del grupo de bombeo, supere el 1% del Presupuesto de Ejecución Material de la Obra (14.302,42 €), por lo tanto:

El contratista estará obligado a sufragar los gastos de ensayos, análisis y pruebas que estimase oportuno el Director, hasta un máximo del 1% del Presupuesto de la obra, cláusula 38 del Pliego de Cláusulas Administrativas Generales (D.3854/1970), en adelante PCAG. Las pruebas de presión y estanqueidad de las tuberías de abastecimiento y saneamiento, no se computarán a los efectos de cálculo del 1% anteriormente mencionado, al estar incluidas expresamente en la unidad de obra correspondiente.

9. DISPOSICIONES ADMINISTRATIVAS

9.1 PROGRAMACIÓN DE LA OBRA Y PLAZO DE GARANTÍA

El **plazo de ejecución** íntegro de los trabajos se fija en un máximo de **5 meses**.

El programa de trabajos justificado queda completamente definido en el **Anejo 9.- Programa de trabajos**.

Dadas las características de la obra se estima que el plazo de garantía de la misma debe ser de 2 años desde la recepción de la obra.

9.2 CLASIFICACIÓN DEL CONTRATISTA

De acuerdo con el plazo de ejecución del proyecto y del tipo de las obras descritas en el mismo, y según lo prescrito en la Ley 9/2017, de 8 de noviembre, de contratos del sector público y en el Real Decreto Legislativo 1098/2001, de 12 de octubre, por el que se aprueba el Reglamento general de la Ley de Contratos de las Administraciones Públicas, así como su actualización mediante el Real Decreto 773/2015, de 28 de agosto, por el que se modifican determinados preceptos del Reglamento General de la Ley de Contratos de las Administraciones Públicas, aprobado por el Real Decreto 1098/2001, de 12 de octubre, el contratista deberá acreditar las clasificaciones correspondientes.

Según el *Artículo 25. Grupos y subgrupos en la clasificación de contratistas de obras*, de la *Sección 1ª. Clasificación de empresas contratistas de obras* del *Capítulo II. De la clasificación y registro de empresas* del Real

Decreto Legislativo 1098/2001, así como el A*rtículo 26. Categorías de clasificación de los contratos de obras de la citada actualización mediante el Real Decreto 773/2015, correspondería:*

Grupo C	Edificaciones
Subgrupo 2	Estructura de fábrica y hormigón
Categoría	4

La categoría se justifica teniendo en cuenta el peso de la parte ESTRUCTURAL del PEM del proyecto respecto a las partes que no lo son, de la siguiente forma:

	Importe €	**Porcentaje del PEM total**
CIMENTACIONES Y CONTENCIONES	423.937,33 €	26,01 %
ESTRUCTURAS DE HORMIGÓN	469.366,11 €	28,80 %
CUBIERTA	57.957,02 €	3,56 %
PEM	1.629.883,93 €	**TOTAL SOBRE PEM 58,37 %**

9.3 REVISIÓN DE PRECIOS

En cumplimiento del Art.103 de la Ley 9/2017, de 8 de noviembre, de contratos del sector público, por las que se trasponen al ordenamiento jurídico español las directivas del Parlamento Europeo y del Consejo 2014/23/UE y 2014/24/UE, de 26 de febrero de 2014 (RCL 2017, 1303), no es de aplicación ninguna fórmula de revisión de precios.

9.4 PRESUPUESTO

RESUMEN PRESUPUESTO GENERAL DE OBRA

C01	MOVIMIENTO DE TIERRAS	7,73%	125.975,20 €
C02	DEMOLICIONES Y APEOS	0,50%	8.194,54 €
C03	CIMENTACIONES Y CONTENCIONES	26,01%	423.937,33 €
C04	ESTRUCTURAS DE HORMIGÓN	28,80%	469.366,11 €
C05	CUBIERTA	3,56%	57.957,02 €
C06	INSTALACIÓN HIDRÁULICA	16,59%	270.364,88 €
C07	INSTALACIÓN ELÉCTRICA Y DE CONTROL	3,81%	62.105,24 €
C08	INSTALACIÓN DE LA CLORACIÓN	0,91%	14.817,78 €
C09	CARPINTERÍA	0,30%	4.925,62 €
C10	PRFV	1,17%	19.038,33 €
C11	LÍNEA DE VIDA	0,75%	12.256,57 €
C12	URBANIZACIÓN	5,47%	89.230,33 €
C13	REPOSICIONES	0,42%	6.804,34 €
C14	GESTIÓN DE RESIDUOS	2,27%	36.981,32 €
C15	SEGURIDAD Y SALUD	1,50%	24.429,32 €
C16	PUESTA EN SERVICIO DEPÓSITO	0,21%	3.500,00 €
	PRESUPUESTO DE EJECUCIÓN MATERIAL		**1.629.883,93 €**
	GASTOS GENERALES	13,00%	211.884,91
	BENEFICIO INDUSTRIAL	6,00%	97.793,04
	Suma		**309.677,95 €**
	PRESUPUESTO DE CONTRATA		**1.939.561,88 €**
	IVA	21,00%	407.307,99
	PRESUPUESTO BASE DE LICITACIÓN CON IVA		**2.346.869,87 €**
	EXPROPIACIONES		36.095,81
	PROTECCIÓN PATRIMONIO HISTÓRICO ILLES BALEARS	1,50%	29.093,43
	PRESUPUESTO PARA CONOCIMIENTO DE LA ADMINISTRACIÓN		**2.412.059,11 €**

10. DECLARACIÓN DE OBRA COMPLETA

La obra proyectada constituye una obra completa, susceptible de entrar en servicio a su terminación de acuerdo con el punto 3 del artículo 13 de la Ley 9/2017, de 8 de noviembre, de Contratos del Sector Público y R.D. 1098/2001 de 12 de octubre (Art. 125. Proyectos de obras en su punto 1 y Art. 127. Contenido de la memora. Punto 2).

11. DOCUMENTOS DE QUE CONSTA EL PRESENTE PROYECTO

El presente Proyecto de Reparación consta de la siguiente relación de documentos:

DOCUMENTO Nº1. MEMORIA Y ANEJOS.

Memoria

Anejos

- Anejo nº1. Reportaje Fotográfico
- Anejo nº2. Estudio Urbanístico
- Anejo nº3. Geotecnia
- Anejo nº4. Cálculos Estructurales
- Anejo nº5. Cálculos Hidráulicos
- Anejo nº6. Cálculos Eléctricos y Telecontrol
- Anejo nº7. Estudio de Materiales a emplear
- Anejo nº8. Cumplimiento Normativa Sanitaria
- Anejo nº9. Programa de Trabajos
- Anejo nº10. Estudio de Seguridad y Salud
- Anejo nº11. Estudio de Residuos de Construcción y Demolición
- Anejo nº12. Plan de Control de Calidad
- Anejo nº13. Justificación de Precios
- Anejo nº14. Expropiaciones
- Anejo nº15. Presupuesto para conocimiento de la Administración

DOCUMENTO Nº2. PLANOS.

1. Situación y emplazamiento.
2. Ubicación. Planta general actual
3. Topografía. Planta general actual
4. Estructuras - Definición Geométrica
5. Estructuras - Secciones
6. Estructuras – Alzados
7. Estructuras – Armados y Detalles
8. Estructuras – Cámara de Llaves
9. Estructuras – Cámara de Bombeo
10. Mejora del Terreno – Hormigón Ciclópeo
11. Esquema General
12. Recirculación – Planta General y Distribución de Tuberías
13. Recirculación – Alzados y Detalles
14. Trasvase entre depósitos
15. Cámara de Bombeo – Actual y Futuro
16. Cámara de Llaves
17. Cubierta
18. Instalación Eléctrica
19. Cloración
20. Urbanización de la Parcela

21. Expropiaciones

Documento nº3. PLIEGO DE PRESCRIPCIONES TÉCNICAS PARTICULARES

Documento nº4. PRESUPUESTO

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

Redactor de proyecto: Juan Carlos Arroyo Portero ICCP	**Redactor adjunto:** Jesús Jiménez Cañas ICCP

ANEJO 1 – REPORTAJE FOTOGRÁFICO

ANEJO 1. REPORTAJE FOTOGRÁFICO

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ANEJO 1. REPORTAJE FOTOGRÁFICO

1. OBJETO

El objeto del presente anejo es mostrar con imágenes el estado actual en que se encuentra la zona de actuación enfatizando en las instalaciones existentes, cuartos de bombas, parcela de actuación, etc…

2. UBICACIÓN DEL NUEVO DEPÓSITO

En las siguientes imágenes podemos consultar la parcela donde se ubicará el nuevo depósito, colindante a la IDAM. Esta parcela se sitúa en la cota aproximada +23,80 m, siendo en su mayor parte llana sin desniveles significativos.



Imagen 1 – Vista General de la Parcela donde se ubicará el nuevo depósito

El nuevo depósito se situará de forma paralela a la cara este del depósito existente. En la siguiente imagen podemos observar la ubicación del depósito de la IDAM desde la zona de instalación del nuevo depósito. Así mismo, la fotografía muestra la zona por donde se conectará la tubería de trasvase entre depósitos.



Imagen 2 – Vista del depósito existente desde la zona de implantación del nuevo depósito



Imagen 3 – Zona de acceso al nuevo depósito, donde se ejecutará una rampa de entrada con una pendiente del 6%



Imagen 4 – Vista de la parcela y del depósito existente desde el sur de la parcela.



Imagen 5 – Detalle de la zona de implantación de la tubería de trasvase de caudal entre depósitos. En la imagen se puede observar el desnivel existente entre las parcelas.

3. ESTADO ACTUAL DE LOS EXTERIORES DE LA IDAM





Imagen 6 – Estado exterior de las casetas de bombeo existentes, zona de acceso a las mismas y vista general de la zona donde se construirá la ampliación de la caseta de bombas para la instalación del bombeo de recirculación.

4. CUARTO DE BOMBAS: BOMBEO A DEPÓSITO SANT FERRÁN





Imagen 7 – Interior de la caseta izquierda de bombeo a Sant Ferrán donde se puede observar la ubicación de las bombas de superficie, el colector elevado de impulsión y la entrada del colector de aspiración en PEAD.



Imagen 8 – Vista General de la aspiración actual desde el depósito existente y derivación en PEAD al bombeo Es Caló – La Mola



Imagen 9 – Instalación de las bombas de superficie y vista general de la impulsión de las bombas y conexión con el colector general.

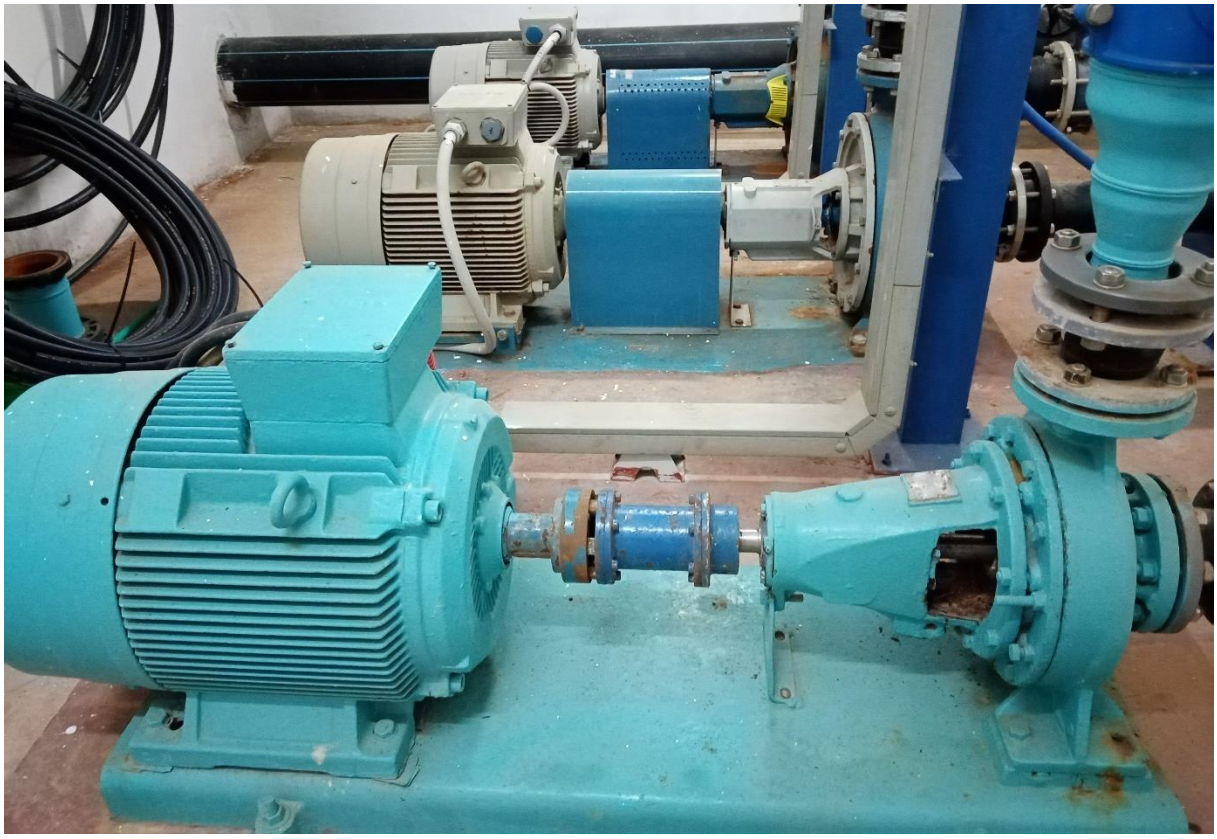


Imagen 10 – Bombas instaladas en paralelo 1+1 (1 de reserva) modelo SIHI ZLND 100430 rodete 380 mm.

5. CUARTO DE BOMBAS: BOMBEO A ES CALÓ – LA MOLA



Imagen 11 – Vista general del grupo de bombeo con 1+1 bombas Caprari HVU 25/2A para el invierno y 1+1 Bombas Caprari HVU 50/2C para el verano



Imagen 12 – Vista general de la aspiración del bombeo desde el cuarto de bombas de superficie. Colector principal de aspiración en PEAD.



Imagen 13 – Colector de impulsión fabricado en PEAD



Imagen 14 – Punto de conexión del depósito prefabricado con la aspiración existente. Conexión del bombeo a Es Caló – La Mola con suministro desde el nuevo depósito

6. PUNTO DE CONEXIÓN SUMINISTRO IDAM



Imagen 14 – Tubería principal de entrada de agua



Imagen 15 – Válvula de mariposa y conexión al interior del depósito a través del prefabricado.

ANEJO 2 – ESTUDIO URBANÍSTICO

ANEJO 2. ESTUDIO URBANÍSTICO

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ANEJO 2. ESTUDIO URBANÍSTICO

1. OBJETO

El objeto del presente anejo es el de analizar los parámetros y condicionantes urbanísticos de la parcela con ref catastral 07024A008000740000PX, localizada en Polígono 8 Parcela 74, en la venda des ca Marí i Migjorn, en Formentera (Illes Balears), para la implantación de un nuevo depósito en la zona adyacente a la instalación desaladora de agua de mar (IDAM) existente de Ca Marí en la isla de Formentera.

2. ANÁLISIS PRELIMINAR

2.1 PARCELA ÁMBITO DE ESTUDIO

La parcela cuenta con una superficie gráfica según catastro de 7.147 m2

GOBIERNO DE ESPAÑA · MINISTERIO DE HACIENDA · SECRETARÍA DE ESTADO DE HACIENDA · DIRECCIÓN GENERAL DEL CATASTRO

CONSULTA DESCRIPTIVA Y GRÁFICA DE DATOS CATASTRALES DE BIEN INMUEBLE

Referencia catastral: 07024A008000740000PX

DATOS DESCRIPTIVOS DEL INMUEBLE

Localización:

Polígono 8 Parcela 74

VENDA DES CA MARI I MIGJORN. FORMENTERA [ILLES BALEARS]

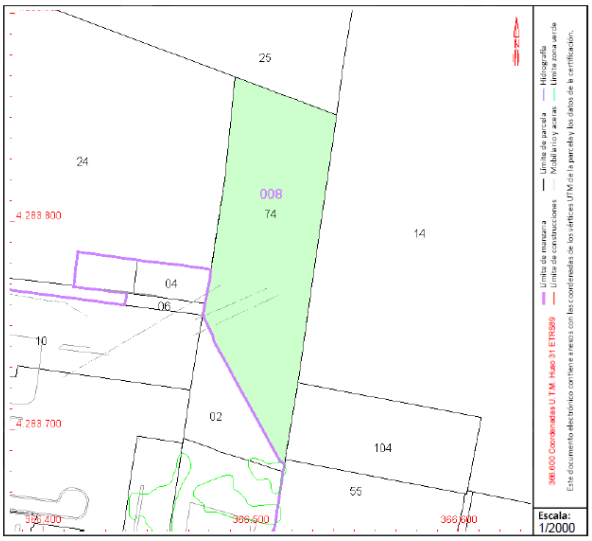
Clase: RÚSTICO
Uso principal: Agrario
Superficie construida:
Año construcción:

Cultivo

Subparcela	Cultivo/aprovechamiento	Intensidad Productiva	Superficie m²
0	C- Labor o Labradio secano	03	6.139

PARCELA

Superficie gráfica: 7.147 m2
Participación del inmueble: 100,00 %
Tipo:



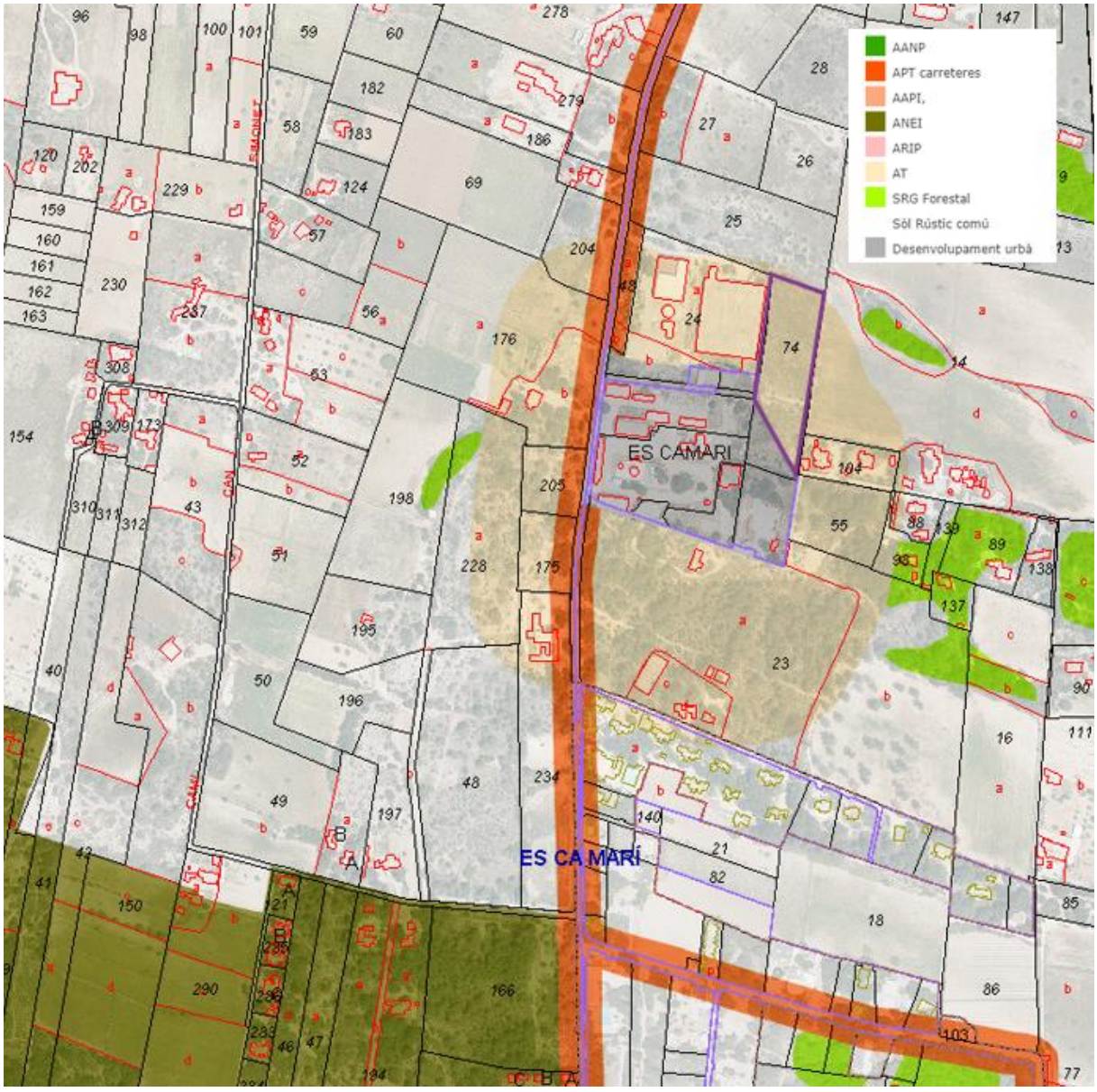
Ficha catastral. Fuente: sede electrónica catastro

2.2 PLANIFICACIÓN Y ORDENACIÓN TERRITORIAL DE FORMENTERA

PLAN TERRITORIAL DE FORMENTERA 2005

El PTI de Formentera constituía el instrumento general de ordenación del territorio en la isla de Formentera. Se aprueba en el año 2005, de hecho, formaba parte del PTI de Eivissa y Formentera.

- En base a las categorías de suelo rústico del PTI de Formentera, la parcela objeto de estudio estaba clasificada como suelo rústico común - área de Transición.



Categorías de suelo rústico del PTI de Formentera y catastro. Fuente: ideib

2.3 PLANEAMIENTO VIGENTE: NNSS FORMENTERA (2013)

Las Normas Subsidiarias y Complementarias de Formentera, en adelante las NNSS, son el instrumento para la ordenación territorial y urbanística de la isla.

El planeamiento urbanístico vigente en la isla de Formentera son las Normas Subsidiarias de Formentera, aprobadas inicialmente en el año 2010, con posteriores revisiones y modificaciones, siendo las NNSS del año 2013 la normativa vigente en la actualidad:

Publicación del acuerdo del Pleno del Consell Insular de Formentera de día 26 de julio de 2013, de aprobación definitiva de la modificación puntual nº. 1 de las Normas subsidiarias (NNSS) de planeamiento del municipio de Formentera y publicación de todo lo que se deriva de esta modificación puntual.

2.3.1 NNSS 2010

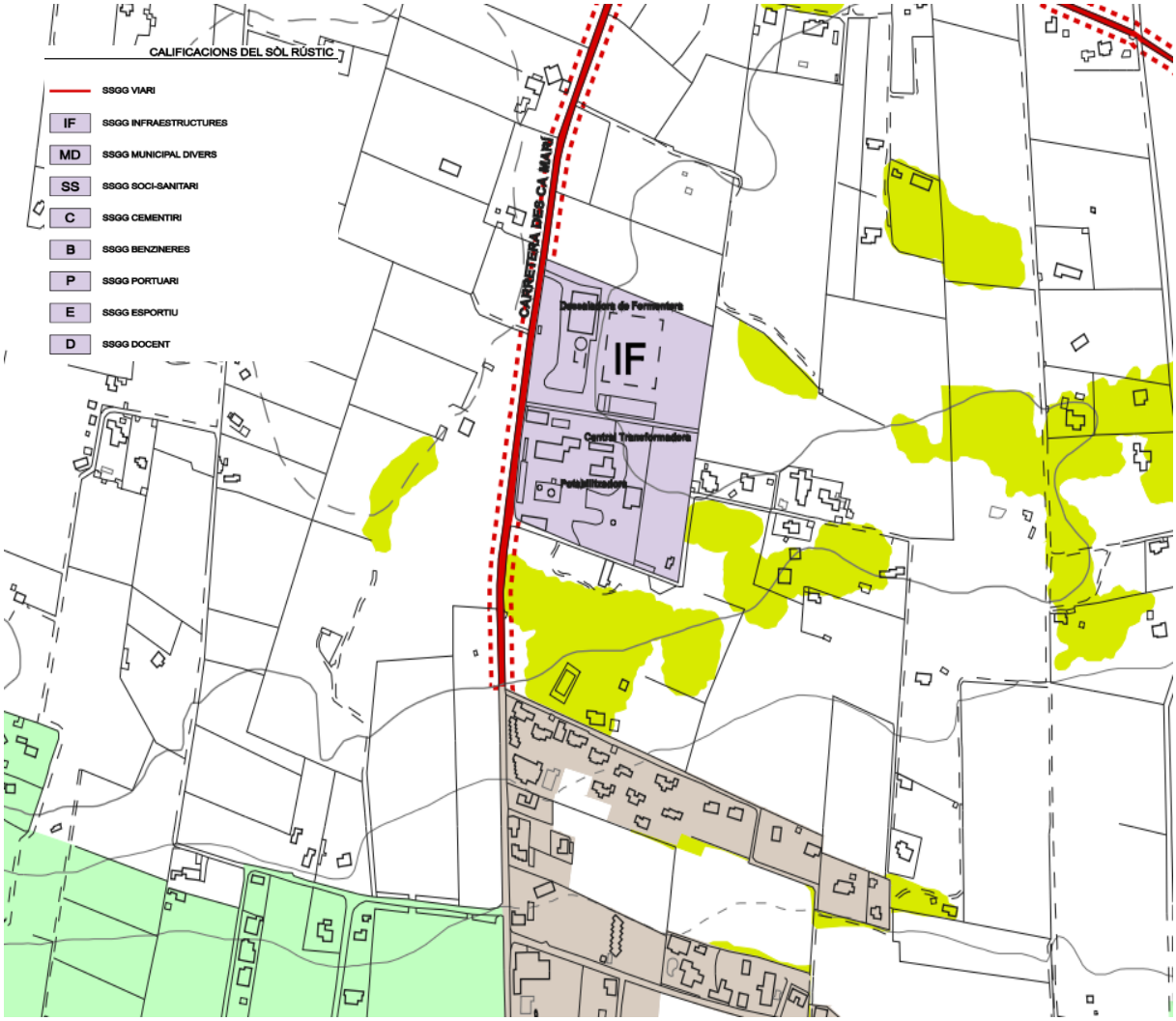
Según las NNSS de 2010, el ámbito rústico está clasificado como sistema general Infraestructura.



Categorías de suelo rústico según NNSS Formentera 2010 y catastro. Fuente: ideib

2.3.1 NNSS FORMENTERA 2013

En base a la Modificación 1 de las NNSS de Formentera 2010 – 2013, el ámbito está clasificado como **suelo rústico con calificación de SSGG_IF: sistemas generales de infraestructuras.**



NNSS de Formentera 2013, Categorías y calificaciones de suelo rústico. Fuente: Consell de Formentera (Plano 1.1.5 Revisión de las Normas Subsidiarias)

A continuación, se presentan unos extractos de las NNSS de Formentera 2013 relacionadas con el ámbito de estudio :

Artículo 9

Gestión

9. La documentación gráfica de las NNSS contiene delimitación indicativa de los ámbitos de SSGG cuya ejecución directa corresponde al Consell de Formentera una vez se cedan los terrenos correspondientes o resulte autorizada su ocupación. La delimitación precisa de tales ámbitos se efectuará por el planeamiento de desarrollo o, en su caso, por los correspondientes proyectos.

Artículo 166

Sistemas generales de comunicaciones e infraestructuras SGCI

Los sistemas generales de comunicaciones e infraestructuras comprenden el conjunto de terrenos, instalaciones y reservas de suelo adscritos al uso global de comunicaciones e infraestructuras CI y correspondientes a los siguientes usos pormenorizados:

a. Red viaria SGCI-V

b. Portuario SGCI-P

c. Infraestructuras SGCI-I

d. Residuos SGCI-R

e. Comunicaciones y telecomunicaciones SGCI-CT

f. Aparcamientos de vehículos SGCI-AP

g. Estaciones de servicio SGCI-B.

Artículo 168

Regulación de los sistemas generales

1. La calificación por las NNSS de terrenos como sistema general, o su definición por el planeamiento de desarrollo, comporta el interés general de los usos y actividades a los que se destinen, no siendo por tanto necesario en suelo rústico la previa declaración de tal interés, precisando su ejecución tan sólo la previa autorización del Consell de Formentera.

2. **Sea cual sea la clase de suelo en que se asienten, la regulación particular de cada uno de los usos a los que se vinculan los elementos de los sistemas generales, incluyendo las condiciones que se deberán respetar en su ejecución, son:**

a. Las definidas en el Capítulo III del Título IV de las NNUU.

b. Las determinadas en los artículos 124, **125** y 126 de las NNUU

Artículo 170

Desarrollo y ejecución de los sistemas generales

1. El desarrollo y ejecución de los sistemas generales se podrá realizar:

a. De forma directa cuando las NNSS contengan las determinaciones necesarias.

b. Mediante Planes especiales en el resto de los casos.

2. El Consell de Formentera podrá acordar la necesidad de la ejecución de cualquier elemento de los sistemas generales por medio de un Plan especial cuando sea indispensable reajustar las reservas de suelo previstas en las NNSS o cuando resulte conveniente precisar la coordinación entre la implantación del elemento y su entorno más inmediato. Hasta que sean formulados los Planes especiales, toda intervención tendente a la ejecución de los referidos elementos, sea a través de obras de nueva planta u obras de urbanización, responderá a un proyecto unitario y coherente con las determinaciones de las NNSS y en especial se sujetará a las normas sobre clasificación de suelo, edificabilidad y resto de condiciones vinculantes.

3. La ejecución de las obras e instalaciones de los sistemas generales será acometida por las administraciones públicas y por los particulares, de acuerdo con las previsiones de las NNSS y, en su caso, de conformidad con lo que determinen los Planes especiales para cada clase de suelo y exigirá la efectiva coordinación de las actuaciones e inversiones públicas y privadas, según los casos, en consonancia con las previsiones que en este sentido se establecen.

Capitulo III

Condiciones generales de la edificación en suelo rústico

Artículo 58
Ámbito de aplicación

1. Las edificaciones en suelo rústico se regularán, con carácter general, por las condiciones de edificación establecidas en este Capítulo y en el Anexo VI. Quedan excluidas:

a. Las actuaciones en elementos que se incluyan en el Catálogo de protección, en las que prevaldrán las determinaciones específicas establecidas en el mismo.
b. Las actuaciones que se planteen al amparo de lo dispuesto en el artículo 27.2.b de la Ley 6/1997, de 8 de julio, de suelo rústico de las Illes Balears, que deberán ser objeto de la autorización específica que en dicha disposición se establece.

2. En todo lo no regulado regirán con carácter supletorio las normas de edificación aplicables a todos los tipos y las aplicables a la tipología aislada que se definen en el Título V y en el Anexo VI.

Artículo 59
Condiciones de posición e implantación

Las edificaciones se ubicarán dentro de la parcela atendiendo a la protección de las características generales del paisaje y a la reducción de su impacto visual, por lo que su configuración y morfología, así como la de sus accesos, deberán ser las adecuadas a la topografía, vegetación y resto de condiciones de los terrenos en que se asiente. Se prohíbe su ubicación en acantilados, coronación de cerros, peñascos o cornisas naturales debiendo ser la distancia de separación a las aristas superiores e inferiores de dichos elementos, como mínimo igual, a la altura de los mismos, y de forma que su vista quede libre de obstáculos.

Artículo 69

Parámetros de aplicación

1. Separación de límites de parcela: 10 m como mínimo.

2. Superficie construible máxima, incluidos los anexos:

a. En SRP-ANEI: 0.007 m2/m2 con un máximo de 250 m2 construidos

b. En SRC-F: 0.01 m2/m2 salvo en las zonas de protección paisajística 1, 2, 3 y 4 en que será de 0.008 m2/m2, en ambos casos con un máximo de 250 m2 construidos

c. En SRC-SRG 0.02 m2/m2 aplicándose, en las parcelas de superficie superior a 15.000 m2 un incremento de 0.01 m2/m2 sobre la superficie adicional**, con un máximo de 400 m2 de superficie construida.**

3. Porcentaje máximo de ocupación de parcela, incluidos los anexos:

a. En SRP-ANEI: 1 %, con un máximo de 400 m2 ocupados

b. En SRC-F: 1.5 %, salvo en las zonas de protección paisajística 1, 2, 3 y 4 en que será del 1.2 %, con un máximo en ambos casos de 400 m2 ocupados

c. **En SRC-SRG: 3 %, con un máximo de 600 m² ocupados**

4. Altura del edificio principal:

a. En SRP-ANEI, SRC-F y SRC-SRG incluido en las zonas paisajísticas 1, 4, y 6: Altura máxima 3 m y altura total 4 m en los supuestos de cubierta plana. En los casos de cubierta inclinada de tipología tradicional mediante forjado inclinado visto podrá alcanzarse una altura total de 4.5 m, con el correlativo aumento de la altura máxima y sin que pueda preverse ningún tipo de elemento intermedio.

b. En SRC-SRG incluido en las zonas paisajísticas 2, 3 y 5: Altura máxima 6 m y altura total 7 m

5. Número máximo de plantas del edificio principal:

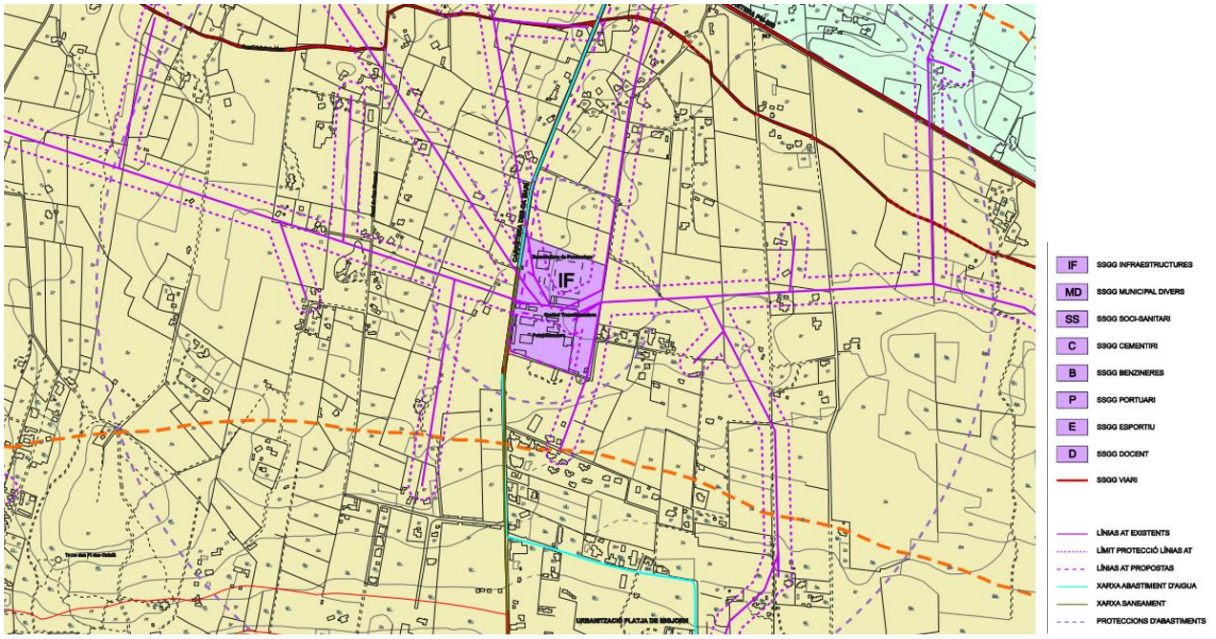
a. En SRP-ANEI, SRC-F y SRC-SRG incluido en las zonas paisajísticas 1, 4, 6 y zona de protección de costa de 500 m: S+PB

b. En SRC-SRG incluido en el resto de las zonas 5: S+PB+P1, pudiendo la planta piso tener un máximo de 1/3 de la superficie construida de la planta baja del cuerpo principal

2.4 AFECCIONES SERVICIOS Y SISTEMAS GENERALES

El ámbito está afectado por el paso de diversas líneas de alta tensión (según las NNSS de Formentera 2010), que se muestran en la siguiente imagen:





Sistemas generales. Fuente: Consell de Formentera (Plano 1.2.5 Estructura General i Orgánica. Protecciones de la Rev. NNSS)

- Respecto a los sistemas Generales, el ámbito se localiza en la Zona 3. Pi des Català, Mitjorn. La Miranda.
- En base a la modificación 1 de las NNSS2010 aprobada en 2013, el ámbito está definido como:
    - Suelo Régimen General, Zona 3. Pi des català. Mitjorn. La Miranda

- SRC-SRG_Z3 (A nivel global admite pequeñas infraestructuras condicionadas por las limitaciones que se impongan en relación con su impacto territorial)

3. RESUMEN Y CONCLUSIONES

- La parcela objeto de estudio se localiza en SRG.
- La parcela tiene menos de 15.000 m² de superficie (aproximadamente la mitad).
- La parcela está afectada por el paso de líneas eléctricas de alta tensión (con la correspondiente zona de protección).
- La parcela se localiza adyacente a infraestructuras existentes (IDAM de Formentera, central transformadora y potabilizadora).
- De hecho, el suelo tiene la misma calificación (**SRG-SSGG IF**, suelo rústico régimen general, sistemas generales infraestructuras).

Los parámetros establecidos en las NNSS de Formentera para suelo rústico general son los siguientes:

PARÁMETROS SUELO RÚSTICO GENERAL	
Clasificación	Suelo Rústico General
Calificación	SSGG IF Sistemas generales de Infraestructura
Separación de límites de parcela	10 m mínimo
Superficie construible máxima	0.02 m²/m² (máx. 400 m² de sup construida)
Porcentaje máximo ocupación parcela	3 %, con un máximo de 600 m² ocupados
Altura máxima	Altura máxima 6 m y altura total 7m
Nº máx. plantas del edificio principal	S+PB+P1

CATEGORÍA SUELO RÚSTICO	Sòl règim general, Zona 3. Pi des català. Mitgjorn. La Miranda	
SISTEMAS EN SUELO RÚSTICO	SSGG IF	Infraestructures

- En la documentación analizada no se han localizado parámetros urbanísticos específicos o determinaciones necesarias vinculados a la calificación de sistemas generales de infraestructuras en suelo rústico.

De hecho, el artículo **Artículo 170 Desarrollo y ejecución de los sistemas generales de las NNSS de Formentera establece que:**

1. El desarrollo y ejecución de los sistemas generales se podrá realizar:
   a. De forma directa cuando las NNSS contengan las determinaciones necesarias.
   b. Mediante Planes especiales en el resto de los casos.

Por otro lado, el artículo 9 Gestión establece en su punto 9 que

9. La documentación gráfica de las NNSS contiene delimitación indicativa de los ámbitos de SSGG cuya ejecución directa corresponde al Consell de Formentera una vez se cedan los terrenos correspondientes o resulte autorizada su ocupación. La delimitación precisa de tales ámbitos se efectuará por el planeamiento de desarrollo o, en su caso, por los correspondientes proyectos.

ANEJO 3 – GEOTECNIA

ANEJO 3. GEOTECNIA

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1. OBJETO 2
2. RESUMEN DEL ESTUDIO REALIZADO 2

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ANEJO 3. GEOTECNIA

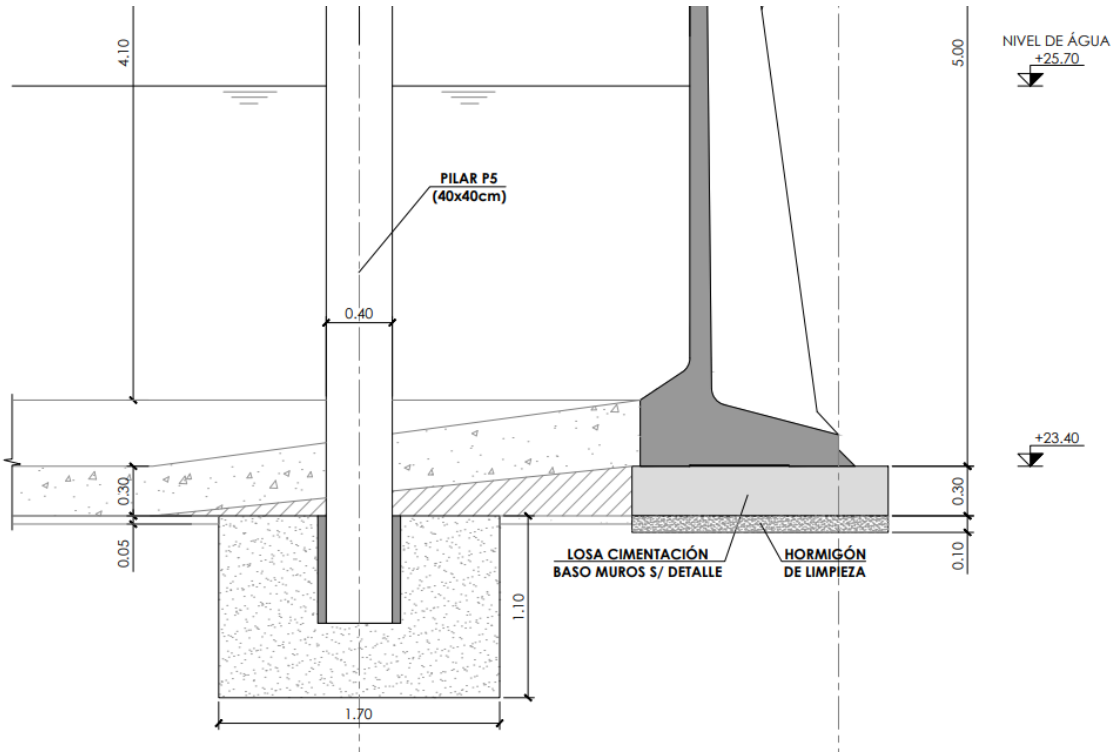
1. OBJETO

En el presente anejo se detalla como anexo, el informe geotécnico realizado para la parcela objeto de estudio. En él se recogen las consideraciones técnicas para la cimentación de las estructuras que componen la ejecución del nuevo depósito.

2. RESUMEN DEL ESTUDIO REALIZADO

Como resumen destacar que la cimentación de las estructuras debe realizarse a nivel de caliza blanca de espesor métrico (CAL).

Este nivel se encuentra a 1,80 m desde el nivel de la parcela, con lo que teniendo en cuenta la cota de implantación del depósito, condicionada por varios factores, como el trasiego de caudales entre depósitos por gravedad, hace que se deba rellenar con hormigón ciclópeo desde la profundidad de 1,80 m hasta la cota de cimentación, fijada en los planos estructurales.



APÉNDICE 1. INFORME GEOTÉCNICO

Estudios geotécnicos para la edificación y obras públicas. Laboratorio de ensayos

INFORME GEOTÉCNICO.
Doc. 1. Rev. 0.

Cimentación:
86.06.21

Cliente:

AGENCIA BALEAR DE L'AIGUA I DE LA QUALITAT AMBIENTAL

Proyecto:

Depósito de agua, silos, etc (0 niveles de sótano y 1 plantas sobre rasante)
Desaladora-depuradora de Formentera – T.M. Sant Francesc de Formentera

NOTA GEOTECNICA PREVIA.
OBJETO: Cimentación y muros. Estimación de parámetros
Doc. 0. Rev.0

Ibiza. iunio de 2021

Avda. Isidoro Macabich 27 principal 5, 07800 Eivissa - Tel: 971 30 52 51 Fax: 971 57 05 44 - ege@ege.cat - www.ege.cat

Estudi Geotècnia Eivissa SL. Inscrita en el registro mercantil de Girona en el tomo 2097, folio 96, hoja GI-35347 y con N.I.F. B-17794454.
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CUADRO TÉCNICO DE EXPEDIENTE					
Objeto de los trabajos				Clasificación **CTE**	
Trabajo	ESTUDIO GEOTÉCNICO PARA CIMENTACIÓN			**Tipo de Terreno**	T1
Proyecto	Depósito de agua, silos, etc			**Estructura**	C1
Emplazamiento	Desaladora-depuradora de Formentera - T.M. Sant Francesc de Formentera				
Estructura					
Superficies →	**Parcela (m^2):**	**Cimentación (m^2):** 500		**Total construido (m^2):** 500	
Nº de plantas →	**Sobre rasante:** 1		**Bajo rasante (sótanos):** 0		
Contratación					
Peticionario	JOAN DANIEL MARTORELL LLETI				
Cliente	AGENCIA BALEAR DE L'AIGUA I DE LA QUALITAT AMBIENTAL				
Dirección	C/ Gremi Corredors, 10				
Teléfono:	971 177 678	**Fax:**		**e-mail:**	jdmartorell@lagencia.cat
Expediente:	86.06.21				
Oferta nº :	4160.05.21				

Estimación de parámetros geotécnicos

1. Introducción

Hemos sido solicitados para realizar el reconocimiento geotécnico del proyecto de referencia Depósito de agua, silos, etc con emplazamiento en la Desaladora-depuradora de Formentera, T.M. Sant Francesc de Formentera.

El proyecto de referencia consiste en la realización de un nuevo depósito auxiliar al depósito actual; el emplazamiento de dicho nuevo depósito se ubica en la parcela aledaña al depósito actual.

El presente documento se redacta previo a los trabajos de campo, y se analiza a partir de una visita previa a la parcela de estudio (04/06/21).

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En base a las observaciones realizadas en los taludes perimetrales de la parcela de estudio y de la zona de emplazamiento del depósito actual y en base a la experiencia que se posee sobre la zona en otros trabajos de reconocimiento geotécnico, así como en las predicciones geológicas de la cartografía del ITGE (1991).

El presente documento pretende por lo tanto, orientar sobre las soluciones de cimentación que se estima será de aplicabilidad en el nuevo proyecto de cimentación.

2. visita técnica a parcela de estudio

A partir de la visita realizada el día 04/06/21 a la zona objeto de estudio, se observa una secuencia estratigráfica y geotécnica en los taludes excavados para el depósito actual.

En dichos taludes, sobretodo en el de la parcela donde se ubicará el nuevo depósito, se observan 4 niveles geotécnicos.

1.- De 0,00-0,80: Nivel de cobertera vegetal o tierra de cultivo (COB)

2.-De 0,80-1,10: nivel de costra calcárea de fino espesor (centimétrico) fracturada que se estrecha lateralmente (CCAL)

3.- 1,10-1,80: Nivel de limoarcilloso suelto fácilmente erosionable en presencia de agua (LAR)
4.- A partir de 1,80: Nivel de caliza blanca sana de espesor métrico (CAL)

Los espesores de las capas son estimados y se toma como nivel de cota 0,00 la cabecera del talud que coincide con la cota 0,00 en la parcela de estudio.

Es por ello que a partir de las obsevaciones realizadas se recomienda cimentar sobre el nivel de caliza blanca de espesor métrico (nivle CAL).

3. Sustrato geológico y solución de cimentación recomendada

El substrato natural del solar de referencia se enmarca en una unidad de limos arenosos y

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calcarenitas de grano medio regularmente cementadas, de edad Plioceno superior Pleistoceno

4. Tipología de cimentación y tensión admisible.

Se cita a continuación los parámetros geotécnicos estimados con aplicabilidad al diseño y cálculo de la cimentación de la estructura en proyecto y muros de contención, si procede

- Tipología de cimentación admisible: **Zapata aislada o corrida**
- Tensión vertical admisible en servicio: **Qs=250 kN/m2**
- Coeficiente de balasto k30: **2500 T/m^3**
- Nivel de cimentación recomendado:

Se recomienda cimentar sobre el nivel de caliza blanca a 1,80m bajo cota actual de terreno de la parcela de estudio, tras superar las capas superiores de menor competencia y tensión admisible

5. Nivel freático

Improbable su presencia a una profundidad de influencia sobre la funcionalidad y servicio de la cimentación.

6. Agresividad al hormigón de la cimentación. Valoración.

- Agresividad del terreno **Improbable (sustrato rocoso)**
- Agresividad del nivel freático **Improbable**

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7. Elementos de contención. Parámetros de cálculo (si procede)

- Ángulo de fricción de tierras en trasdós: **$\phi = 30^{o}$**
- Cohesión tierras en trasdós: **$c = 0\ kN/m^2$**
- Peso específico tierras en trasdós: **$\gamma = 18\ kN/m^3$**
- Ángulo de fricción tierras – muro: **$\delta <= 2/3\ \phi = 20^{o}$**
- Coeficiente de permeabilidad: **$k = 10^{-3}\ m/s$**

8. Acción sísmica (norma NCSE-02).

- Aceleración base **a=0.04 g** (BOE num 244, 11-10-2002)
- Coeficiente del terreno **C=1.3** (Terreno tipo II)

Los datos contenidos en este documento serán contrastados en la campaña de reconocimiento geotécnico posterior mediante el informe geotécnico definitivo.

Estamos a vuestra disposición para solventar cualquier duda derivada de la lectura del presente documento.

Ibiza, Junio de 2021

Informe emitido por
Estudi Geotecnia Eivissa, S.L.

Fdo: **Vicente Baños Delgado**
Geólogo, colegiado 4387
Jefe de área GTC

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Foto 1: vista del talud natural junto a depósito acitual, el nuevo depósito se emplazará en la parcela del talud observado

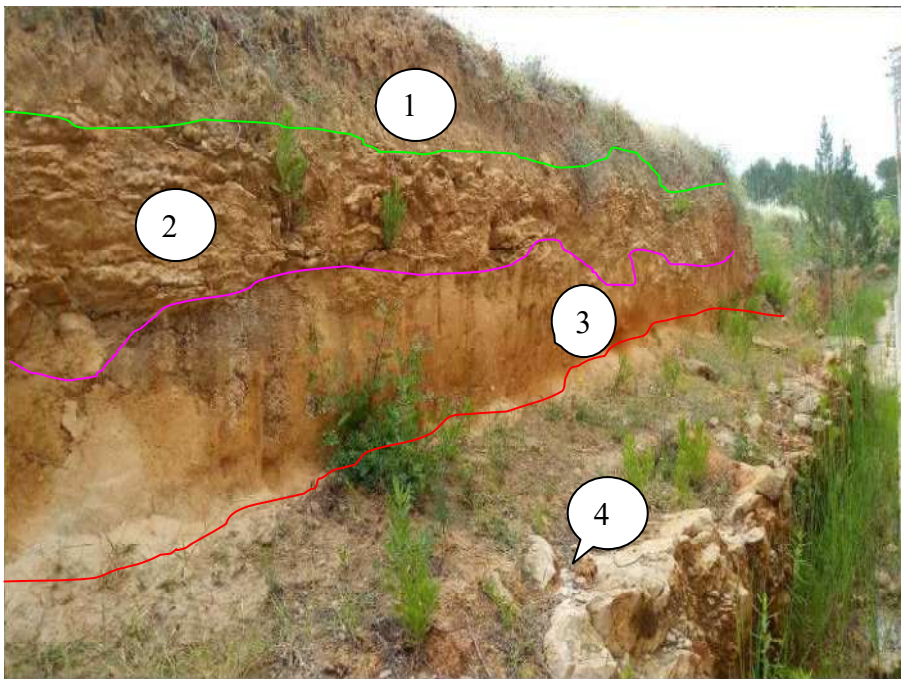


Foto 2: vista de los niveles geotécnicos detectados en el talud:1) cobertera vegetal 2)nivel de costra fracturada de espesor centimétrico 3)Limo arcilloso 4) Caliza blanca

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Foto 3: Detalle del sustrato rocoso (caliza blanca) sobre el que se recomienda el nivel de cimentación del nuevo depósito



Foto 4: Altura estimada de material a retirar para la excavación del futuro depósito

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Foto 5: Detalle de la continuidad del sustrato rocoso en el talud, se observa el depósito actual cimentado sobre dicho nivel

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ANEJO 4 – CÁLCULOS ESTRUCTURALES

ANEJO 4. CÁLCULOS ESTRUCTURALES

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APÉNDICE 1. RESULTADOS CÁLCULO ESTRUCTURAL

ANEJO 4. CÁLCULOS ESTRUCTURALES

1. OBJETO, PREMISAS Y DOCUMENTACIÓN

Se redacta la presente memoria con el fin de describir la tipología estructural, así como los procesos de cálculo empleados en el proyecto de la estructura del nuevo depósito de agua desalada de la IDAM en la Avinguda de Ca Marí, Formentera (Islas Baleares), anexo al existente y la ampliación de la caseta de bombas.

Para la realización de esta memoria se ha contado con:

- Informe de la estructura de rehabilitación del depósito existente realizado previamente por Calter ingeniería, titulado "Rehabilitación de estructura del depósito de la IDAM, Formentera (Baleares)" y el correspondiente "Proyecto de rehabilitación estructural del depósito de la desaladora de Formentera"
- Planos de geometría y armado básicos realizados por Paver prefabricados

2. DESCRIPCIÓN GENERAL DE LA ESTRUCTURA

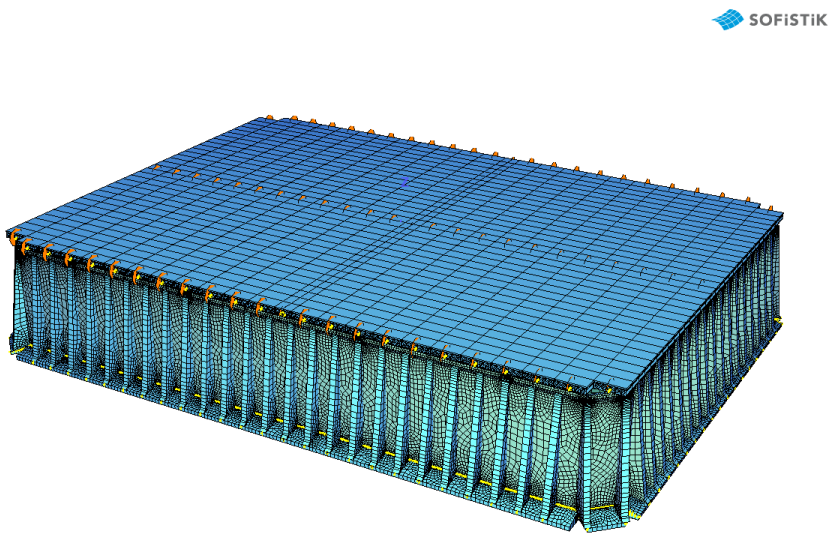


Figura 1. Modelo general del depósito

El depósito de agua de la instalación desaladora de Formentera se construyó en 2002, y almacena el agua procedente del proceso de desalación del agua captada en los pozos existentes en la propia instalación. Anexo a él se proyecta la ejecución de un nuevo depósito más pequeño, con unas dimensiones en planta de 28 m x 20 m y de estructura análoga al anterior.

La estructura del depósito previa a la ejecución del presente proyecto es de hormigón prefabricado, y consta de los siguientes elementos:

- Muros ménsula de paneles prefabricados iguales a los del depósito existente, de sección plana y vertical al interior y tres nervios resistentes verticales o contrafuertes, de sección variable, situados al exterior del

panel. Los paneles son de 2 m de ancho y 5 m de alto, están apoyados sobre una zapata corrida de 30 cm de canto y empotrados por el lateral de su base a la losa del suelo mediante prolongación de sus armaduras, y conectados lateralmente entre ellos con cuatro pernos y sueltos en cabeza (sin conexión con las vigas o la tapa superior del depósito).

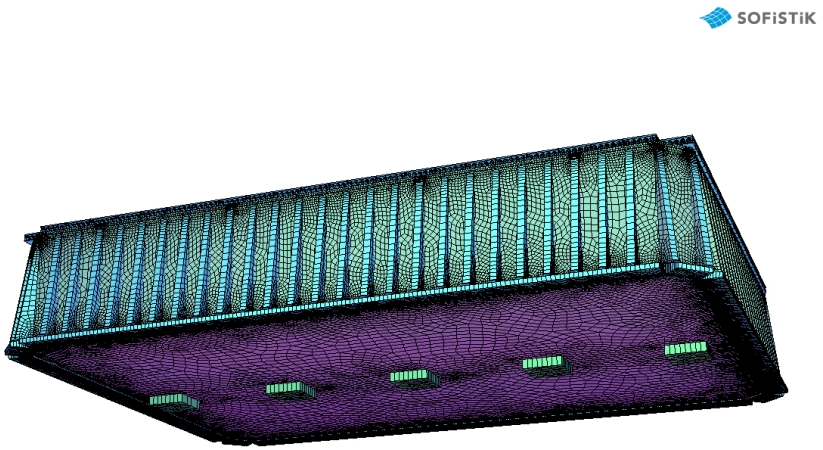


Figura 2. Modelo general del depósito

– Pilares de hormigón prefabricado, de 40 cm x 40 cm de sección, empotrados en zapatas aisladas bajo la losa del suelo. En la siguiente imagen, mostrada también en el A*péndice 1.- Resultados cálculo estructural* del presente anejo, se muestra el modelado únicamente de una de las 3 filas de 5 pilares existentes para simplificar a nivel gráfico el modelo mostrado, pero el modelo de cálculo utilizado contempla los 15 pilares proyectados.

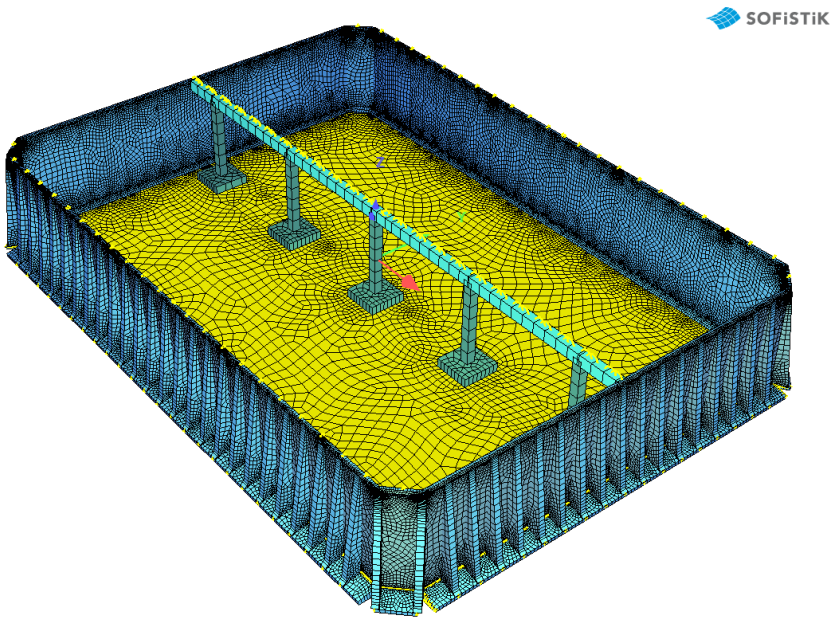


Figura 3. Modelo general del depósito

- Vigas prefabricadas de hormigón, de sección rectangular de 40 cm x 50 cm, biapoyadas en la cabeza de los pilares. Las vigas tienen una luz de 6,00 m, y en los dos extremos de cada pórtico vuelan 1,90 m hasta llegar a la vertical del muro perimetral, sin llegar a tocarlo o apoyarse en él.
- Tapa superior o forjado de placas alveolares prefabricadas de hormigón pretensado de 25 cm de canto total, con capa de compresión superior de 5 cm, biapoyadas sobre las vigas y los muros perimetrales.

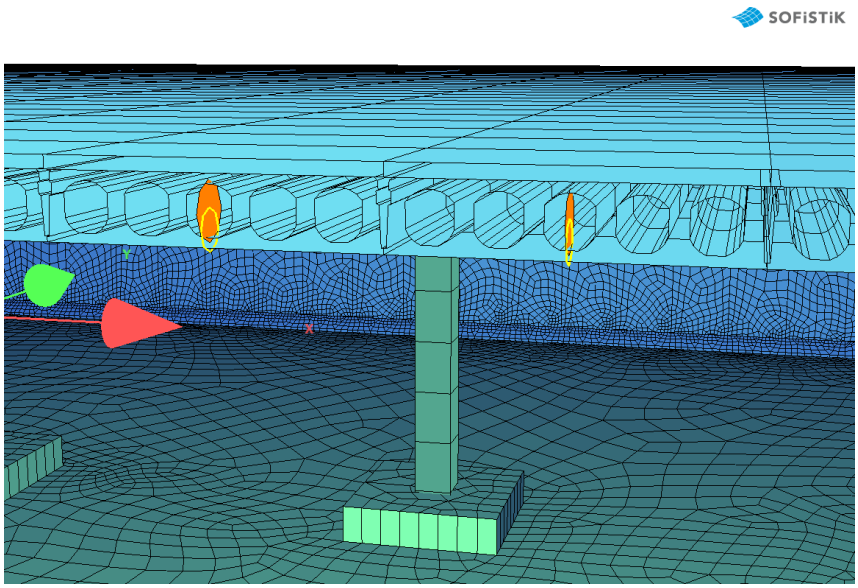


Figura 4. Sección

- Losa de hormigón en el suelo del depósito, de 30 cm de espesor según la documentación gráfica recibida.

A continuación, se muestra una imagen de la ampliación de la caseta de bombas.

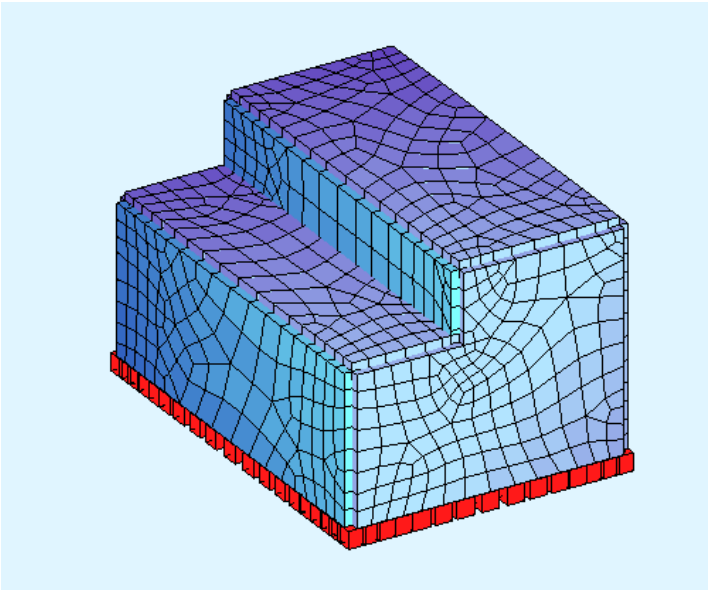


Figura 5. Ampliación caseta de bombas

En la siguiente imagen se muestra el modelo de cálculo de la cámara de llaves:

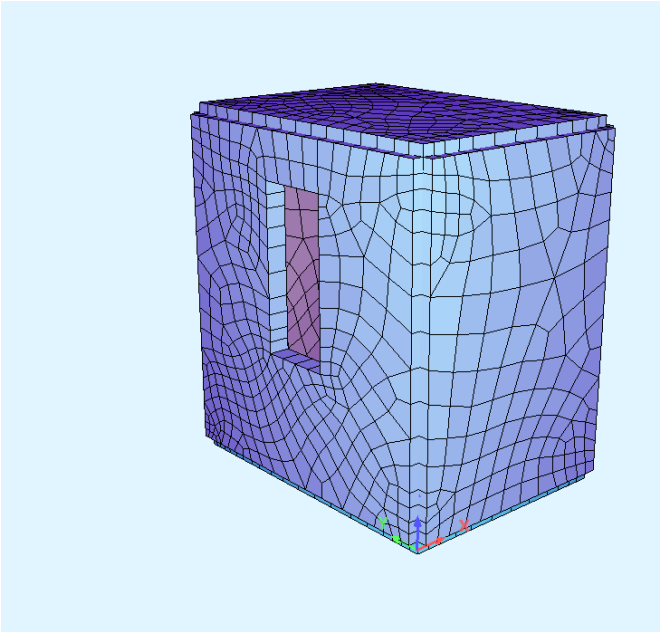


Figura 6. Cámara de llaves

3. CUMPLIMIENTO CÓDIGO TÉCNICO DE LA EDIFICACIÓN (CTE)

Prescripciones aplicables conjuntamente con DB SE

El DB-SE constituye la base para los Documentos Básicos siguientes y se utilizará conjuntamente con ellos:

	Apartado		Procede	No procede
DB-SE	3.1	Seguridad estructural:	☒	☐
DB-SE-AE	3.2	Acciones en la edificación	☒	☐
DB-SE-C		Cimentaciones	☒	☐
DB-SE-A		Estructuras de acero	☐	☒
DB-SE-F		Estructuras de fábrica	☐	☒
DB-SE-M		Estructuras de madera	☐	☒

Deberán tenerse en cuenta, además, las especificaciones de la normativa siguiente:

	apartado		Procede	No procede
NCSE	3.3	Norma de construcción sismorresistente	☒	☐
EHE 08	3.4	Instrucción de hormigón estructural	☒	☐

REAL DECRETO 314/2006, de 17 de marzo, por el que se aprueba el Código Técnico de la Edificación. (BOE núm. 74, martes 28 marzo 2006)

Artículo 10. Exigencias básicas de seguridad estructural (SE).

1. El objetivo del requisito básico «Seguridad estructural» consiste en asegurar que el edificio tiene un comportamiento estructural adecuado frente a las acciones e influencias previsibles a las que pueda estar sometido durante su construcción y uso previsto.
2. Para satisfacer este objetivo, los edificios se proyectarán, fabricarán, construirán y mantendrán de forma que cumplan con una fiabilidad adecuada las exigencias básicas que se establecen en los apartados siguientes.
3. Los Documentos Básicos «DB SE Seguridad Estructural», «DB-SE-AE Acciones en la edificación», «DBSE-C Cimientos», «DB-SE-A Acero», «DB-SE-F Fábrica» y «DB-SE-M Madera», especifican parámetros objetivos y procedimientos cuyo cumplimiento asegura la satisfacción de las exigencias básicas y la superación de los niveles mínimos de calidad propios del requisito básico de seguridad estructural.
4. Las estructuras de hormigón están reguladas por la Instrucción de Hormigón Estructural vigente.

10.1 Exigencia básica SE 1: Resistencia y estabilidad: la resistencia y la estabilidad serán las adecuadas para que no se generen riesgos indebidos, de forma que se mantenga la resistencia y la estabilidad frente a las acciones e influencias previsibles durante las fases de construcción y usos previstos de los edificios, y que un evento extraordinario no produzca consecuencias desproporcionadas respecto a la causa original y se facilite el mantenimiento previsto.

10.2 Exigencia básica SE 2: Aptitud al servicio: la aptitud al servicio será conforme con el uso previsto del edificio, de forma que no se produzcan deformaciones inadmisibles, se limite a un nivel aceptable la probabilidad de un comportamiento dinámico inadmisible y no se produzcan degradaciones o anomalías inadmisibles.

3.1 SEGURIDAD ESTRUCTURAL (SE)

Análisis estructural y dimensionado

Proceso	-DETERMINACIÓN DE SITUACIONES DE DIMENSIONADO -ESTABLECIMIENTO DE LAS ACCIONES -ANÁLISIS ESTRUCTURAL -DIMENSIONADO

Situaciones de dimensionado	PERSISTENTES	condiciones normales de uso

TRANSITORIAS	condiciones aplicables durante un tiempo limitado.
EXTRAORDINARIAS	condiciones excepcionales en las que se puede encontrar o estar expuesto el edificio.

Periodo de servicio	50 Años
Método de comprobación	Estados límites
Definición estado límite	Situaciones que, de ser superadas, puede considerarse que el edificio no cumple con alguno de los requisitos estructurales para los que ha sido concebido
Resistencia y estabilidad	ESTADO LÍMITE ÚLTIMO: Situación que, de ser superada, existe un riesgo para las personas, ya sea por una puesta fuera de servicio o por colapso parcial o total de la estructura: - pérdida de equilibrio - deformación excesiva - transformación de estructura en mecanismo - rotura de elementos estructurales o sus uniones - inestabilidad de elementos estructurales
Aptitud de servicio	ESTADO LÍMITE DE SERVICIO: Situación que de ser superada se afecta: - el nivel de confort y bienestar de los usuarios - correcto funcionamiento del edificio - apariencia de la construcción

Acciones

Clasificación de las acciones	PERMANENTES	Aquellas que actúan en todo instante, con posición constante y valor constante (pesos propios) o con variación despreciable: acciones reológicas
	VARIABLES	Aquellas que pueden actuar o no sobre el edificio: uso y acciones climáticas

	ACCIDENTALES	Aquellas cuya probabilidad de ocurrencia es pequeña, pero de gran importancia: sismo, incendio, impacto o explosión.
Valores característicos de las acciones	Los valores de las acciones se recogerán en la justificación del cumplimiento del DB SE-AE	
Datos geométricos de la estructura	La definición geométrica de la estructura está indicada en los planos de proyecto.	
Características de los materiales	Los valores característicos de las propiedades de los materiales se detallarán en la justificación del DB correspondiente o bien en la justificación de la EHE 08.	
Modelo análisis estructural	Se realiza un cálculo espacial en tres dimensiones modelizando la estructura mediante elementos tipo barra y shell. A los efectos de obtención de solicitaciones y desplazamientos, para todos los estados de carga se realiza un cálculo estático y se supone un comportamiento lineal de los materiales, por tanto, un cálculo en primer orden. Se realizan diversas fases constructivas para una mejor modelización del comportamiento seccional de la estructura, debido a la presencia de capa de compresión sobre las losas alveolares.	

Verificación de la estabilidad

$E_{d,dst} \leq E_{d,stb}$	**$E_{d,dst}$:** valor de cálculo del efecto de las acciones desestabilizadoras. **$E_{d,stb}$:** valor de cálculo del efecto de las acciones estabilizadoras.

Verificación de la resistencia de la estructura

$E_d \leq R_d$	**E_d:** valor de cálculo del efecto de las acciones **R_d:** valor de cálculo de la resistencia correspondiente

Combinación de acciones

El valor de cálculo de las acciones correspondientes a una situación persistente o transitoria y los correspondientes coeficientes de seguridad se han obtenido de la fórmula 4.3 y de las tablas 4.1 y 4.2 del CTE-DB-SE.

El valor de cálculo de las acciones correspondientes a una situación extraordinaria se ha obtenido de la expresión 4.4 del CTE-DB-SE y los valores de cálculo de las acciones se ha considerado en función de si su acción es favorable o desfavorable respectivamente, de acuerdo con la tabla 4.1 del CTE-DB-SE

Verificación de la aptitud de servicio

Se considera un comportamiento adecuado en relación con las deformaciones, las vibraciones o el deterioro si se cumple que el efecto de las acciones no alcanza el valor límite admisible establecido para dicho efecto.

Flechas	La limitación de la flecha total es de 1/300 de la luz.
Desplazamientos horizontales	El desplome total limite es 1/500 de la altura total en situaciones persistentes o transitorias y de 1/250 de cada planta.

3.2 ACCIONES EN LA EDIFICACIÓN (SE-AE)

Acciones Permanentes (G):	Peso Propio de la estructura:	Corresponde generalmente a los elementos calculados a partir de su sección bruta y multiplicados por 78,5 (peso específico del acero estructural), 5 (peso específico de la madera aserrada) o 25 (peso específico del hormigón armado)
	Cargas Muertas:	Son elementos tales como el pavimento, los acabados y la tabiquería. Se estiman uniformemente repartidas en la planta. Las acciones del terreno se tratarán de acuerdo con lo establecido en DB-SE-C.
	Peso propio de tabiques pesados y muros de cerramiento:	Estas acciones se consideran adicionales a la carga muerta de tabiquería. En esta estructura no procede

	La sobrecarga de uso:	Se adoptarán los valores según DB SE AE.

Acciones Variables (Q):	Las acciones climáticas:	**El viento:** Se ha considerado una carga de viento en la estructura según DB SE AE. **La temperatura:** Dado que las dimensiones de la estructura no son superiores a 40m, límite de longitud máxima establecido por el CTE-DB-SE para no disponer juntas sin considerar las acciones térmicas, no han sido tenidas en cuenta en el cálculo de este refuerzo de estructura. **La nieve:** Se ha considerado una carga de nieve en la estructura de **0,20 kN/m** según DB SE AE para la situación geográfica del edificio en **Formentera (Baleares)**.
	Las acciones químicas, físicas y biológicas:	Las acciones químicas que pueden causar la corrosión de los elementos de acero se pueden caracterizar mediante la velocidad de corrosión que se refiere a la pérdida de acero por unidad de superficie del elemento afectado y por unidad de tiempo. La velocidad de corrosión depende de parámetros ambientales tales como la disponibilidad del agente agresivo necesario para que se active el proceso de la corrosión, la temperatura, la humedad relativa, el viento o la radiación solar, pero también de las características del acero y del tratamiento de sus superficies, así como de la geometría de la estructura y de sus detalles constructivos. El sistema de protección de las estructuras de acero se regirá por el DB-SE-A. En cuanto a las estructuras de hormigón estructural se regirán por el Art.3.4.2 del DB-SE-AE.
	Acciones accidentales (A):	Los impactos, las explosiones, el sismo, el fuego. Las acciones debidas al sismo están definidas en la Norma de Construcción Sismorresistente NCSE-02. En este caso, debido a la situación geográfica del edificio **Formentera (Baleares)**, no será necesario tener en cuenta la acción sísmica.

3.2.1 Cargas gravitatorias

DEPÓSITO:

Cargas consideradas	Carga (kN/m2)
Peso propio	Según sección tabla
C. de compresión	Según sección tabla
Formación pendientes	1.00
Carga muerta (Paneles solares)	1.00
Impermeabilización y solado	1.50
SC uso	1.00

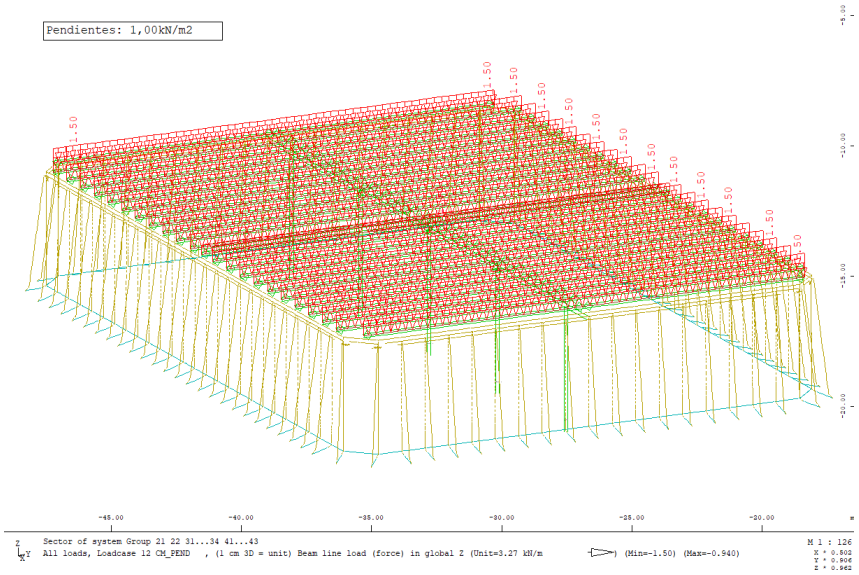


Figura 7. Cargas pendientes

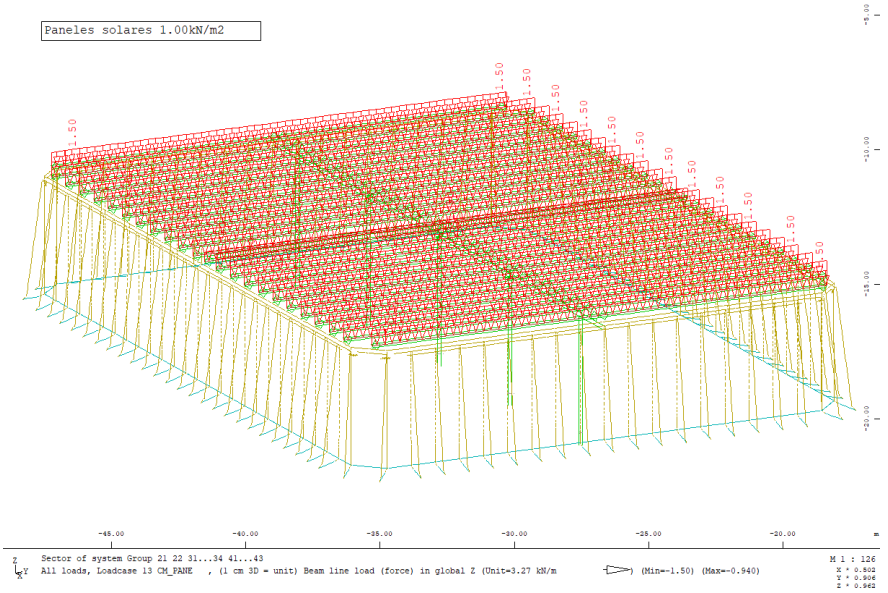


Figura 8. Cargas paneles solares

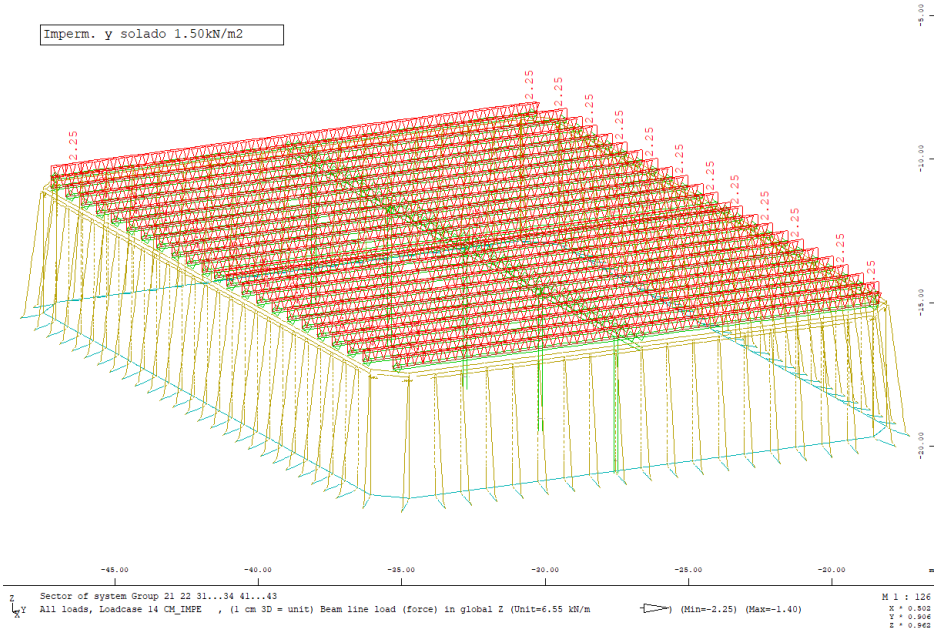


Figura 9. Cargas impermeabilización y solado

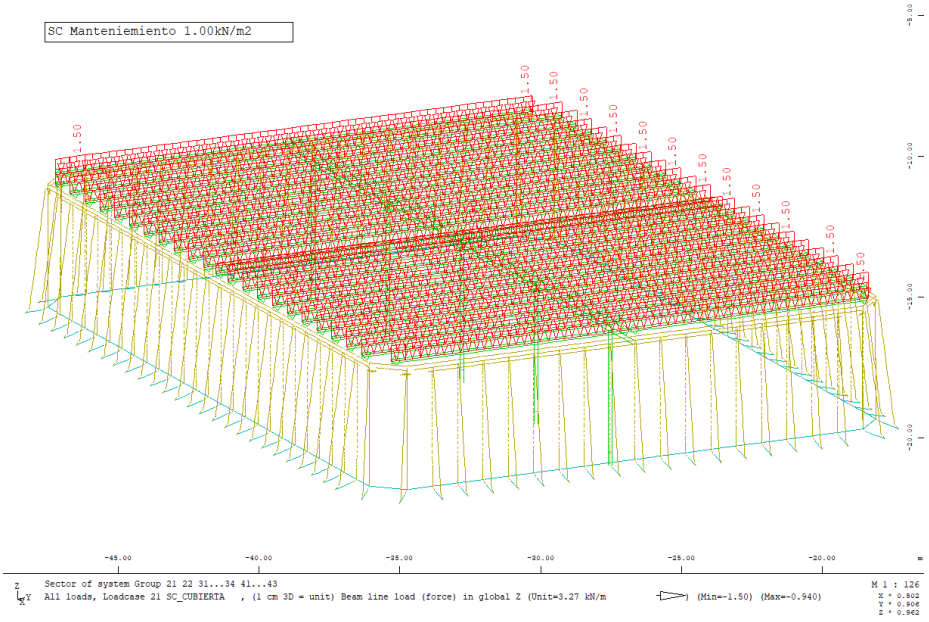


Figura 10. Sobrecarga de mantenimiento

AMPLIACIÓN DE LA CASETA DE BOMBAS y CÁMARA DE LLAVES:

Cargas consideradas	Cargas
Peso propio losa	25 kN/m^3
Carga muerta	2,5 kN/m2
Sobrecarga de uso	1,0 kN/m2

3.2.2 Cargas de agua

Se introduce la carga de agua como la correspondiente al depósito completamente lleno.

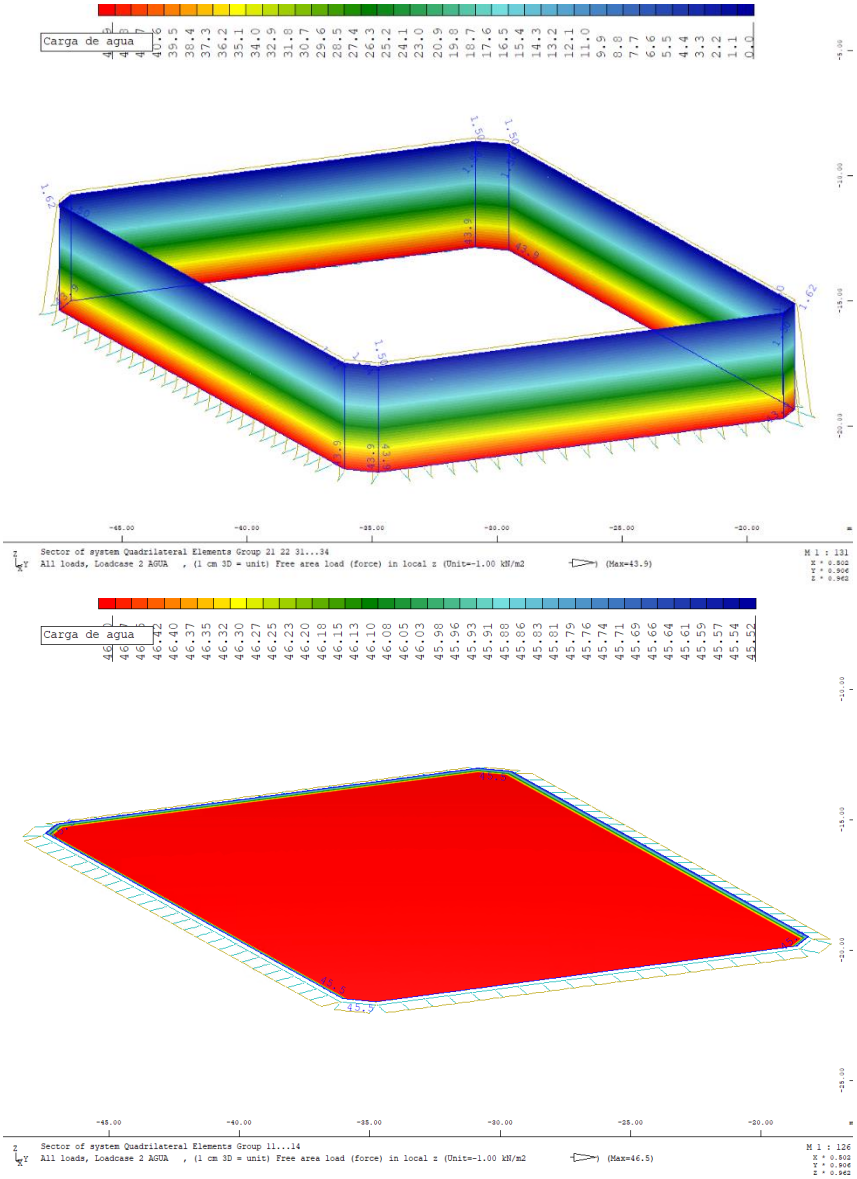


Figura 11. Cargas de agua

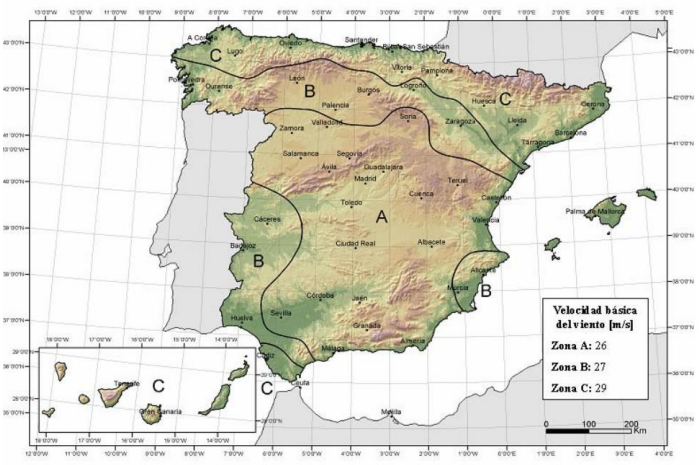
3.2.3 Cargas de viento

DEPÓSITO:

Acción del viento según CTE (Cap. 3.3)

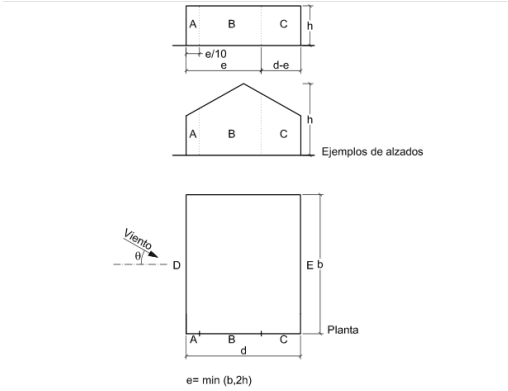
Valor básico velocidad del viento

El valor básico de la velocidad del viento en cada localidad puede obtenerse del mapa de la figura D.1. El de la presión dinámica es, respectivamente de 0,42 kN/m^2, 0,45 kN/m^2 y 0,52 kN/m^2 para las zonas A, B y C de dicho mapa.



Coeficiente de Presión exterior

b	28	m
d	20	m
h	5	m
e	10	m
e/10	1	m
A	5	m2
h/d	0.25	adim



A (m^2)	h/d	Zona (según figura), -45º < θ < 45º A	B	C	D	E
≥ 10	5	-1,2	-0,8	-0,5	0,8	-0,7
	1	"	"	"	"	-0,5
	≤ 0,25	"	"		0,7	-0,3
5	5	-1,3	-0,9	-0,5	0,9	-0,7
	1	"	"	"	"	-0,5
	≤ 0,25	"	"	"	0,8	-0,3
2	5	-1,3	-1,0	-0,5	0,9	-0,7
	1	"	"	."	"	-0,5
	≤ 0,25	"	"	"	0,7	-0,3
≤ 1	5	-1,4	-1,1	-0,5	1,0	-0,7
	1	"	"	"	"	-0,5
	≤ 0,25	"	"	"	"	-0,3

En el modelo se simplificarán los tres velores de succión lateral A, B y C por un valor único B

D	0.8
E	-0.3
B	-0.9

Coeficiente de Exposición

Tabla 3.3 Valores del coeficiente de exposición c_e

	Grado de aspereza del entorno	Altura del punto considerado (m) 3	6	9	12	15	18	24	30
I	Borde del mar o de un lago, con una superficie de agua en la dirección del viento de al menos 5 km de longitud	2,2	2,5	2,7	2,9	3,0	3,1	3,3	3,5
II	Terreno rural llano sin obstáculos ni arbolado de importancia	2,1	2,5	2,7	2,9	3,0	3,1	3,3	3,5
III	Zona rural accidentada o llana con algunos obstáculos aislados, como árboles o construcciones pequeñas	1,6	2,0	2,3	2,5	2,6	2,7	2,9	3,1
IV	Zona urbana en general, industrial o forestal	1,3	1,4	1,7	1,9	2,1	2,2	2,4	2,6
V	Centro de negocio de grandes ciudades, con profusión de edificios en altura	1,2	1,2	1,2	1,4	1,5	1,6	1,9	2,0

Interpolando para 5m; **Ce = 2.4**

Acción del viento

La acción de viento, en general una fuerza perpendicular a la superficie de cada punto expuesto, o presión estática, q_e puede expresarse como:

$$q_e = q_b \cdot c_e \cdot c_p \qquad (3.1)$$

siendo:

qb	0.52	kN/m2	
Ce	2.4	adim	
Cp1	0.8	kN/m2	Presión
Cp2	-0.3	kN/m2	Succión
Cp3	-0.9	kN/m2	Succ. Lateral
qe1	1.0	kN/m2	Presión
qe2	-0.4	kN/m2	Succión
qe3	-1.1	kN/m2	Succ. Lateral

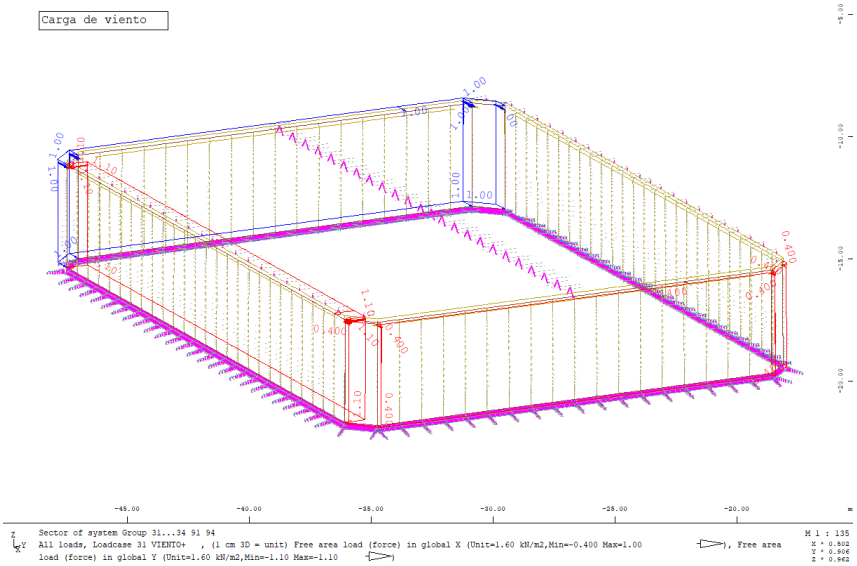


Figura 12. Cargas de viento

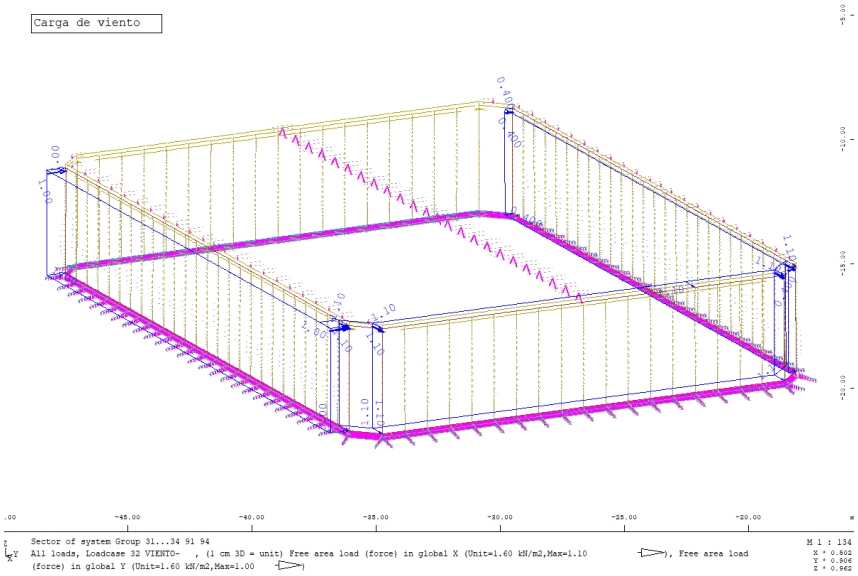


Figura 13. Cargas de viento

AMPLIACIÓN DE CASETA DE BOMBAS:

- Presión dinámica del viento: qb= 0,52 kN/m2
- Grado de aspereza del entorno: II. Terreno rural llamo sin obstáculos ni arbolado de importancia.

Para una altura de fachada de menor a 3 m y grado de aspereza II, se ha considerado un coeficiente de exposición de 2,1.

- Presión dinámica del viento en la dirección X
  - Presión: qe=0,52 x 2,1 x 0,7 = 0,77 kN/m2
  - Succión: qe=0,52 x 2,1 x 0,38= -0,42 kN/m2
- Presión dinámica del viento en la dirección Y
  - Presión: qe=0,52 x 2,1 x 0,7 = 0,77 kN/m2
  - Succión: qe=0,52 x 2,1 x 0,35= -0,38 kN/m2

3.2.4 Cargas de nieve

Se considera una carga de nieve de 0,20kN/m2 tanto en el depósito como en la ampliación de la caseta de bombas.

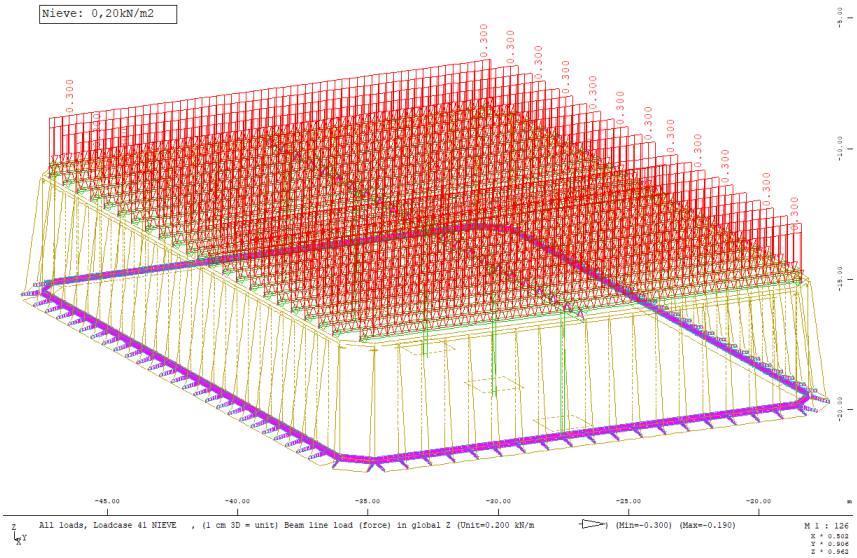


Figura 14. Cargas de nieve

3.3 ACCIÓN SÍSMICA NCSE-02

RD 997/2002, de 27 de septiembre, por el que se aprueba la Norma de construcción sismorresistente: parte general y edificación (NCSE-02).

Clasificación de la construcción:	Construcción de importancia normal
Tipo de Estructura:	Estructura prefabricada de hormigón
Aceleración Sísmica Básica (ab):	Ab=0.04 g, No se considera acción sísmica.
Coeficiente de contribución (K):	
Coeficiente adimensional de riesgo (ρ):	

Coeficiente de amplificación del terreno (S):	
Coeficiente de tipo de terreno (C):	
Aceleración sísmica de cálculo (ac):	
Método de cálculo adoptado:	
Factor de amortiguamiento (Ω):	
Periodo de vibración de la estructura:	
Número de modos de vibración considerados:	
Fracción cuasi-permanente de sobrecarga:	
Coeficiente de comportamiento por ductilidad:	
Efectos de segundo orden (efecto pΔ): (La estabilidad global de la estructura)	
Medidas constructivas consideradas	
Observaciones	

3.4 CUMPLIMIENTO DE LA INSTRUCCIÓN DE HORMIGÓN ESTRUCTURAL EHE 08

(RD 2661/1998, de 11 de diciembre, por el que se aprueba la Instrucción de hormigón estructural)

3.4.1 Estructura

Descripción del sistema estructural:

ESTRUCTURA DEPÓSITO:

Estructura horizontal
Forjados de cubierta de vigas prefabricadas de hormigón HP-40 de 50 cm de canto, paños de forjado de vigas alveolares prefabricadas de hormigón HP-40 con 5 cm de capa de compresión HA-25/B/20/IIa

Estructura vertical
Pilares de hormigón
Muros prefabricados de hormigón HA-40

ESTRUCTURA AMPLIACIÓN CASETA DE BOMBAS:

Estructura horizontal
Forjados de cubierta de losa de hormigón armado HA-30, al considerarse que la cara exterior de la caset no está cubierta.

Estructura vertical
Muros de hormigón armado

Cimentación
Zapata corrida bajo los muros de contención y solera.

3.4.2 Programa de cálculo:

MODELO GENERAL DE ESTRUCTURA	
Nombre comercial:	SOFISTIK
Empresa	SOFiSTIK AG (Oberschleißheim)
Descripción del programa: idealización de la estructura, simplificaciones efectuadas.	Se trata de un programa de elementos finitos desarrollado para el cálculo y diseño tridimensional de estructuras. A los efectos de obtención de solicitaciones y desplazamientos, para todos los estados de carga se realiza un cálculo estático y se supone un comportamiento lineal de los materiales, por tanto, un cálculo en primer orden. El cálculo de la armadura necesaria por flexión se realiza por medio del módulo AQB de Sofistik, específico para el dimensionamiento de secciones armadas y pretensadas En cuanto a las deformaciones, el programa proporciona resultados contemplando los efectos diferidos debidos a la retracción y fluencia en el hormigón.

COMPROBACIONES SECCIONALES	
Nombre comercial:	FAGUS
Empresa	CUBUS AG (Zürich)
Descripción del programa: idealización de la estructura, simplificaciones efectuadas.	Es un programa de cálculo de secciones estructurales de hormigón armado y hormigón pretensado, así como secciones metálicas y mixtas. Permite realizar el dimensionamiento, la verificación de la armadura y el cálculo del coeficiente de seguridad (o su inversa, la eficiencia) para cualquier sección de hormigón armado, hormigón pretensado o sección mixta de una estructura.

3.4.3 Memoria de cálculo

Método de cálculo:	El dimensionado de secciones se realiza según la Teoría de los Estados Límites de la vigente EHE 08, artículo 8, utilizando el Método de Cálculo en Rotura.	
Redistribución de esfuerzos:	Se realiza una plastificación de hasta un 15% de momentos negativos en vigas, según el artículo 24.1 de la EHE 08.	
Deformaciones:	Lím. flecha total	Lím. flecha activa
	L/300	L/400
	Valores de acuerdo con el artículo 50.1 de la EHE 08. Para la estimación de flechas se considera la Inercia Equivalente (Ie) a partir de la Fórmula de Branson. Se considera el módulo de deformación Ec establecido en la EHE 08, art. 39.1.	
Cuantías geométricas:	Serán como mínimo las fijadas por la instrucción en la tabla 42.3.5 de la Instrucción vigente.	

3.4.4 Estado de cargas consideradas

Las combinaciones de las acciones consideradas se han establecido siguiendo los criterios de:	NORMA ESPAÑOLA EHE 08 DOCUMENTO BÁSICO SEGURIDAD ESTRUCTURAL (CÓDIGO TÉCNICO)
Los valores de las acciones serán los recogidos en:	DOCUMENTO BÁSICO SE-AE (CÓDIGO TÉCNICO)
Horizontales: Viento	Se ha considerado una carga de viento en la estructura según el CTE-DB SE AE como se puede consultar en los anejos de cálculo que acompañan al presente documento
Cargas Térmicas	Como las dimensiones de la estructura no son superiores a 40m, límite de longitud máxima establecido por el CTE-DB-SE para no disponer juntas sin considerar las acciones térmicas, no han sido tenidas en cuenta en el cálculo de esta estructura.

Las cargas gravitatorias consideradas se pueden consultar en el apartado 3.2.1. de este documento.

3.4.5 Características de los materiales

Estructura: Prefabricados (Depósito)

-Hormigón	HP-40/B/20/IV
-Tipo de cemento.	CEM II/A-D 42,5 R/MR
-Tamaño máximo de árido.	20 mm.
-Máxima relación agua/cemento	0.45
-Mínimo contenido de cemento.	325 kg/m3
-f_{CK}.	40 Mpa (N/mm^2)
-Tipo de acero.	Pasivo: B-500SD Activo: s/fabricante
-f_{yk}	Pasivo: 500 N/mm^2=5100 kg/cm^2 Activo: s/fabricante

Estructura: Capa de compresión de forjado (Depósito)

-Hormigón	HA-25/B/20/IIa
-Tipo de cemento.	CEM I
-Tamaño máximo de árido.	20 mm.
-Máxima relación agua/cemento	0.60
-Mínimo contenido de cemento.	275kg/m^3
-f_{CK}.	25 Mpa (N/mm^2)
-Tipo de acero.	B-500SD
-f_{yk}	500 N/mm^2=5100 kg/cm^2

Estructura: Losa de fondo (Depósito)

-Hormigón	HA-30/B/20/IV
-Tipo de cemento.	CEM II/A-D 42,5 R/MR
-Tamaño máximo de árido.	20 mm.
-Máxima relación agua/cemento	0.45
-Mínimo contenido de cemento.	325 kg/m3
-f_{CK}.	30 Mpa (N/mm^2)
-Tipo de acero.	Pasivo: B-500SD Activo: s/fabricante
-f_{yk}	Pasivo: 500 N/mm^2=5100 kg/cm^2 Activo: s/fabricante

Estructura: Ampliación caseta de bombas

-Hormigón	HA-30/B/20/IIIa
-Tipo de cemento.	CEM II/A-D 42,5 R/MR
-Tamaño máximo de árido.	20 mm.

-Máxima relación agua/cemento	0.50
-Mínimo contenido de cemento.	300 kg/m3
-f_{CK}.	30 Mpa (N/mm^2)
-Tipo de acero.	Pasivo: B-500SD Activo: s/fabricante
-f_{yk}	Pasivo: 500 N/mm^2=5100 kg/cm^2 Activo: s/fabricante

3.4.6 Coeficientes de seguridad y niveles de control

El nivel de control de ejecución de acuerdo con el artº 95 de EHE 08 para esta obra es normal.

El nivel control de materiales es intenso para el hormigón de la estructura y normal para el acero de acuerdo con los artículos 88 y 90 de la EHE 08 respectivamente.

Hormigón cimentación	Coeficiente de minoración		1.50	
	Nivel de control		ESTADISTICO	
Hormigón estructura	Coeficiente de minoración		1.50	
	Nivel de control		ESTADÍSTICO	
Acero	Coeficiente de minoración		1.15	
	Nivel de control		NORMAL	
Ejecución cimentación	Coeficiente de mayoración			
	Cargas Permanentes...	1.35	Cargas variables	1.5
Ejecución estructura	Coeficiente de mayoración			
	Cargas Permanentes...	1.35	Cargas variables	1.5

El nivel de control de ejecución de la estructura se realizará según el artículo 92 de la Instrucción EHE 08.

3.4.7 Durabilidad

Recubrimientos exigidos:

Al objeto de garantizar la durabilidad de la estructura durante su vida útil, el artículo 37 de la EHE 08 establece los siguientes parámetros:

$r_{nom}=r_{min}+\Delta r$

Control NORMAL: Δr = 10 mm

ELEMENTO	AMBIENTE	r_{nom} (mm)
Prefabricados Forjado (Depósito)	IV	50

Capa compresión Forjado (Depósito) y muros (ampliación caseta de bombas)	IIa	35
Losa (ampliación caseta de bombas)	IIIa	35

Para garantizar estos recubrimientos se exigirá la disposición de separadores homologados de acuerdo con los criterios descritos en cuando a distancias y posición en el artículo 69.8 de la vigente EHE.

Cantidad mínima de cemento:

Para el ambiente considerado IIIa, la cantidad mínima de cemento requerida es de 300 kg/m^3.

Para el ambiente considerado IV, la cantidad mínima de cemento requerida es de 325 kg/m^3.

Para el ambiente considerado IIa, la cantidad mínima de cemento requerida es de 275 kg/m^3.

Resistencia mínima recomendada:

Para ambiente IIIa, se ha empleado una resistencia mínima de 30 MPa.

Para ambiente IV, se ha empleado una resistencia mínima de 40 MPa.

Para ambiente IIa, se ha empleado una resistencia mínima de 25 MPa.

Relación agua cemento:

La cantidad máxima de agua se deduce de la relación en ambiente IIIa:

$a/c \leq 0.50$.

La cantidad máxima de agua se deduce de la relación en ambiente IV:

$a/c \leq 0.45$.

La cantidad máxima de agua se deduce de la relación en ambiente IIa:

$a/c \leq 0.60$.

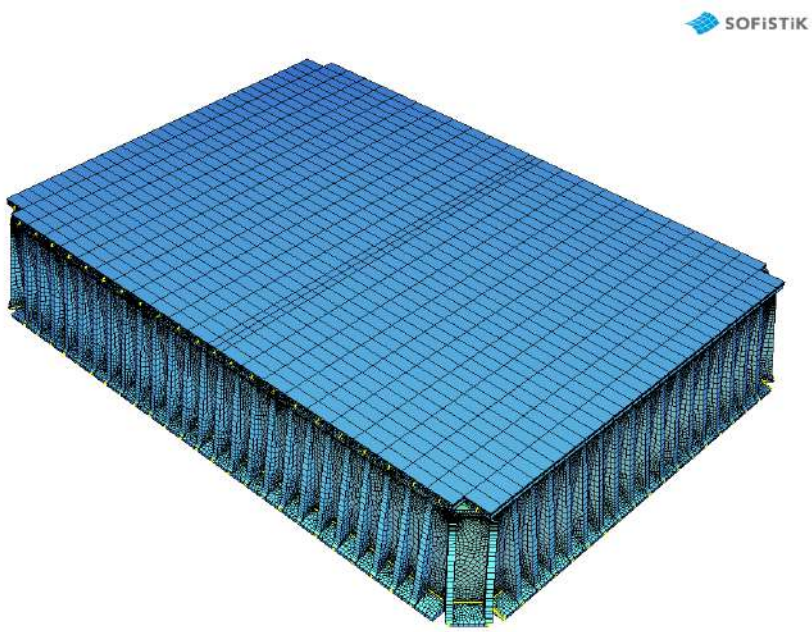
Aditivos:

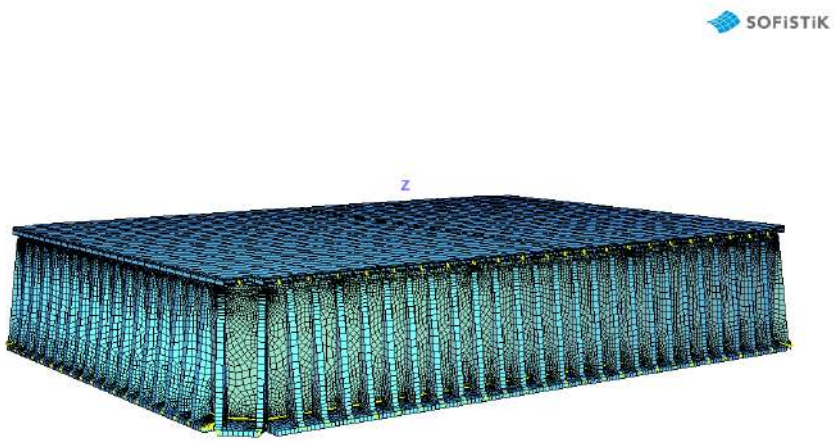
No se precisan.

APÉNDICE 1. RESULTADOS CÁLCULO ESTRUCTURAL

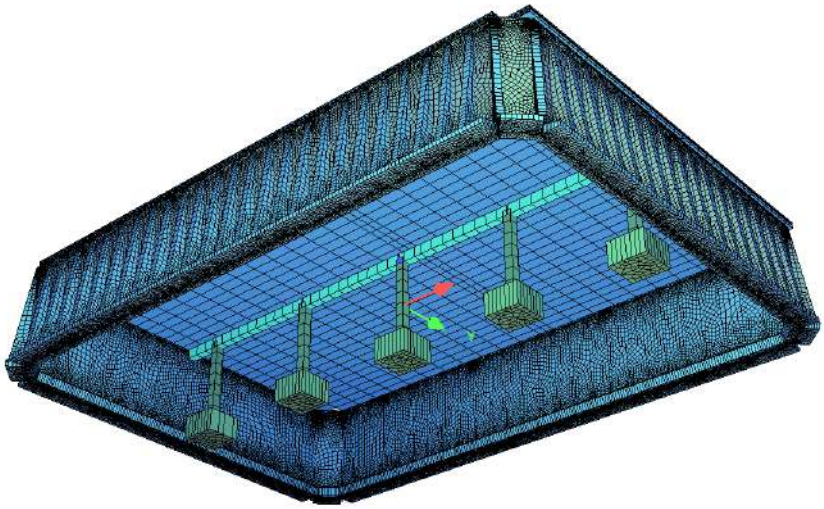
4 - ANEJO DE CÁLCULO - DEPÓSITO

DEPÓSITO

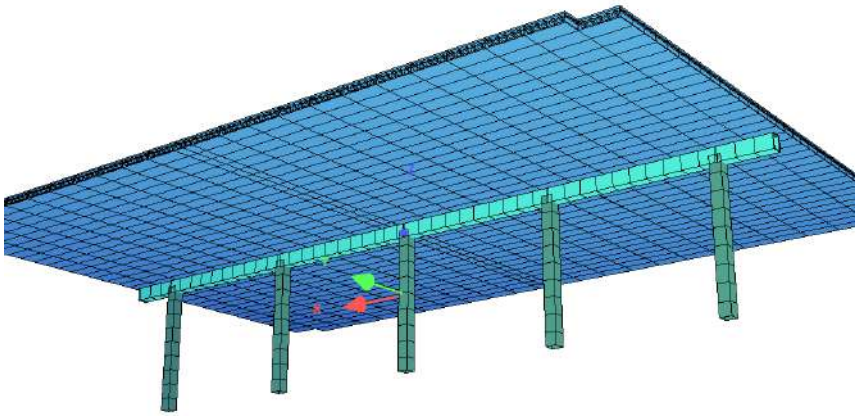


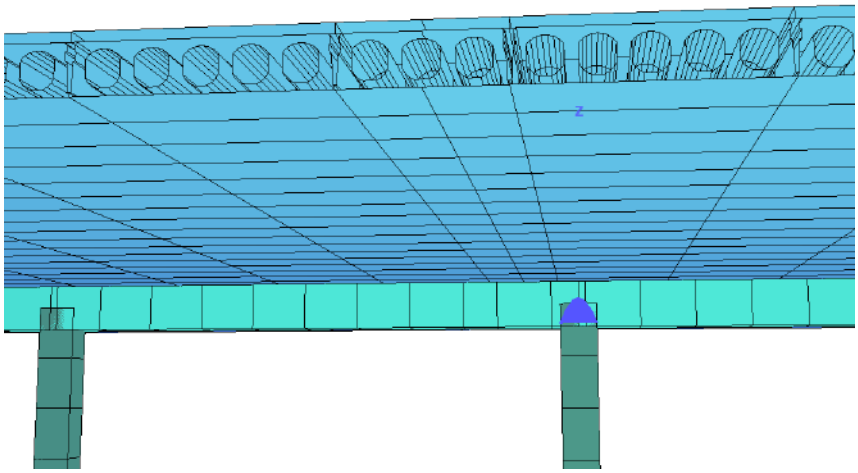


SOFiSTiK



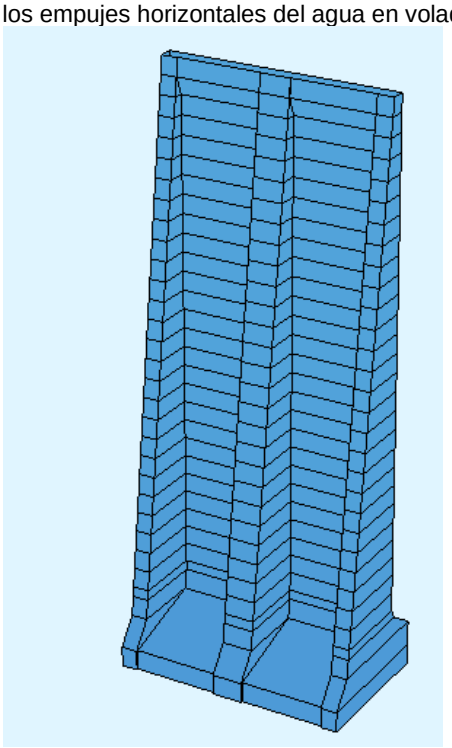
SOFiSTiK





DEPÓSITO-Muros prefabricados (Módulo de 2m)

Se ha realizado un estudio de cálculo estructural del panel prefabricado de muro trabajando a flexión en su situación actual, es decir, empotrado en la base y soportando los empujes horizontales del agua en voladizo vertical.



1.1.1 Análisis situación actual: ELU

En Estado Límite Último se estudia la sección más débil del panel, que es la última de la base que recibe la presión del agua, como se puede apreciar en el siguiente gráfico, diagrama de esfuerzos flectores para ELU:



Figura 14. Diagrama de esfuerzos flectores del panel para cálculo en ELU.

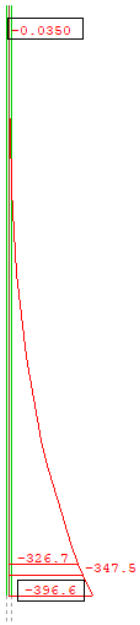


Figura 15. Diagrama de esfuerzos flectores del panel para cálculo en ELU. Sección más débil

El diagrama de esfuerzos axiles (compresión vertical en el panel) concomitantes con el flector es el siguiente:

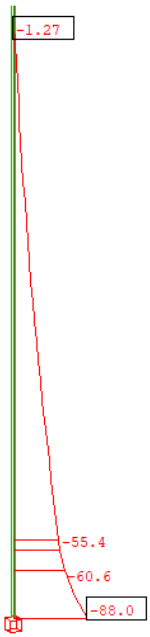
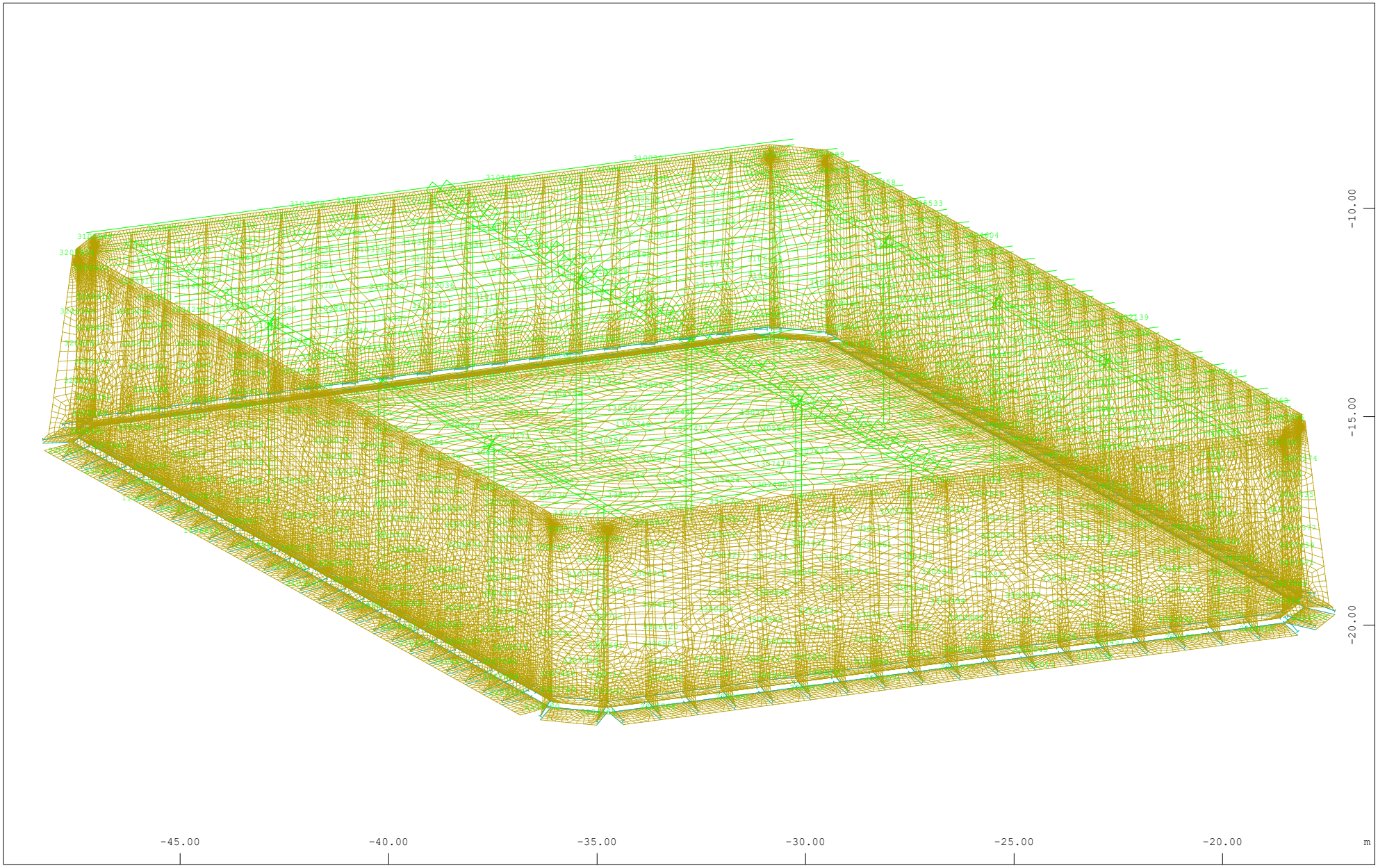


Figura 16. Diagrama de esfuerzos flectores del panel para cálculo en ELU.



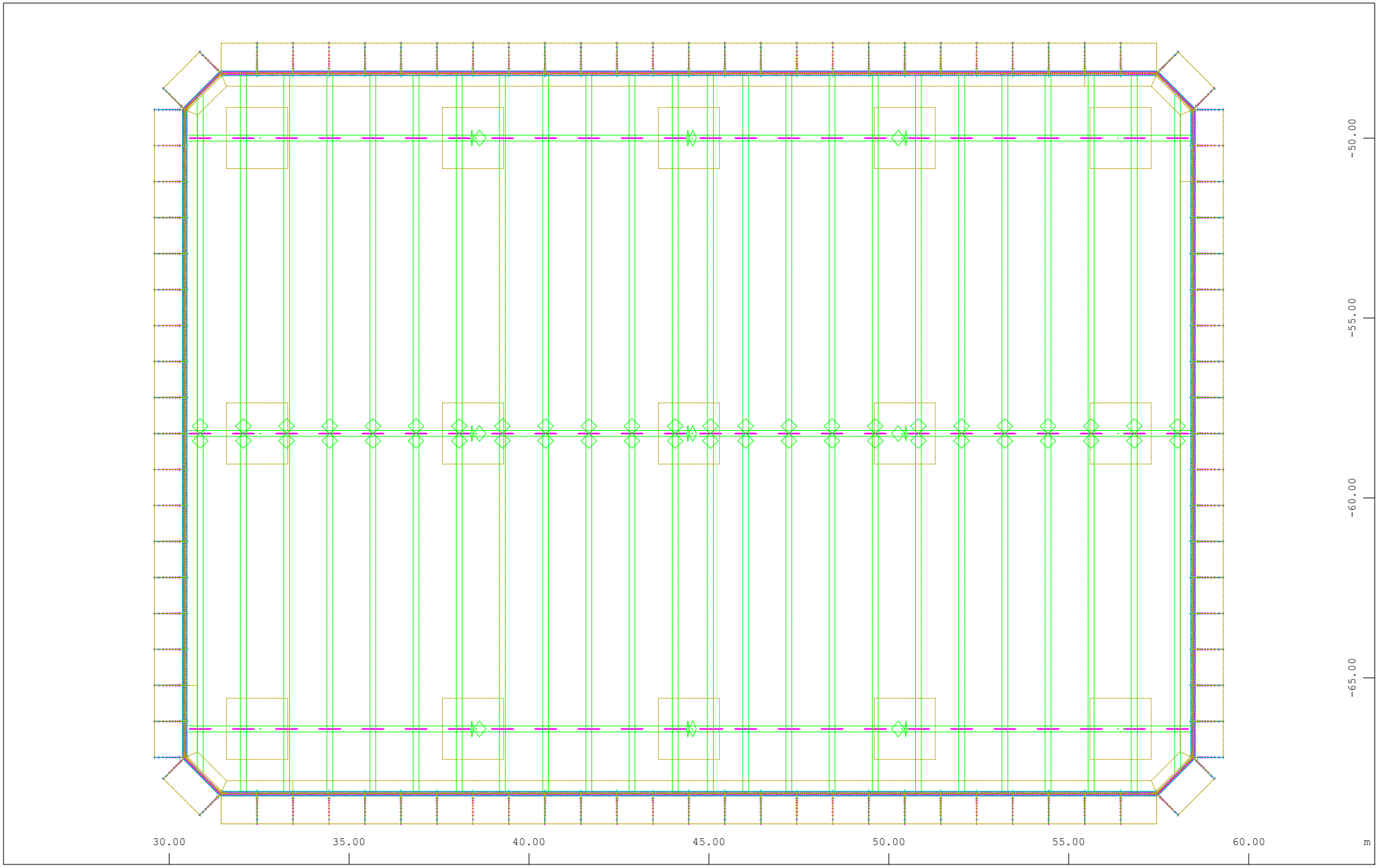
Figura 17. Diagrama de esfuerzos flectores del panel para cálculo en ELU. Sección más débil



Z
Y
X

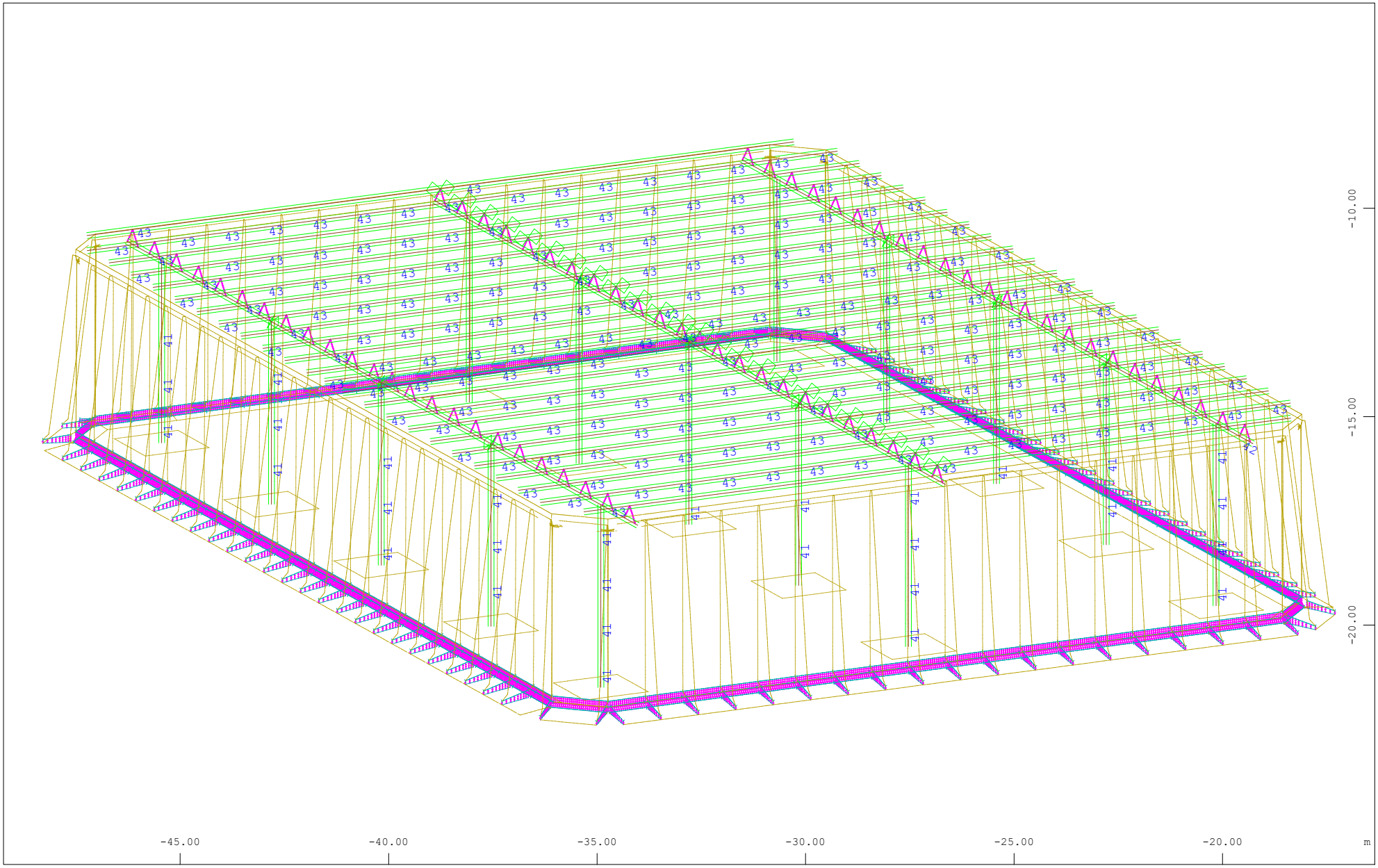
Sector of system Beam Elements,Quadrilateral Elements,Supporting Lines
Quadrilateral Elements , Number of element (Max=3408469)

M 1 : 126
X * 0.502
Y * 0.906
Z * 0.962



Contour

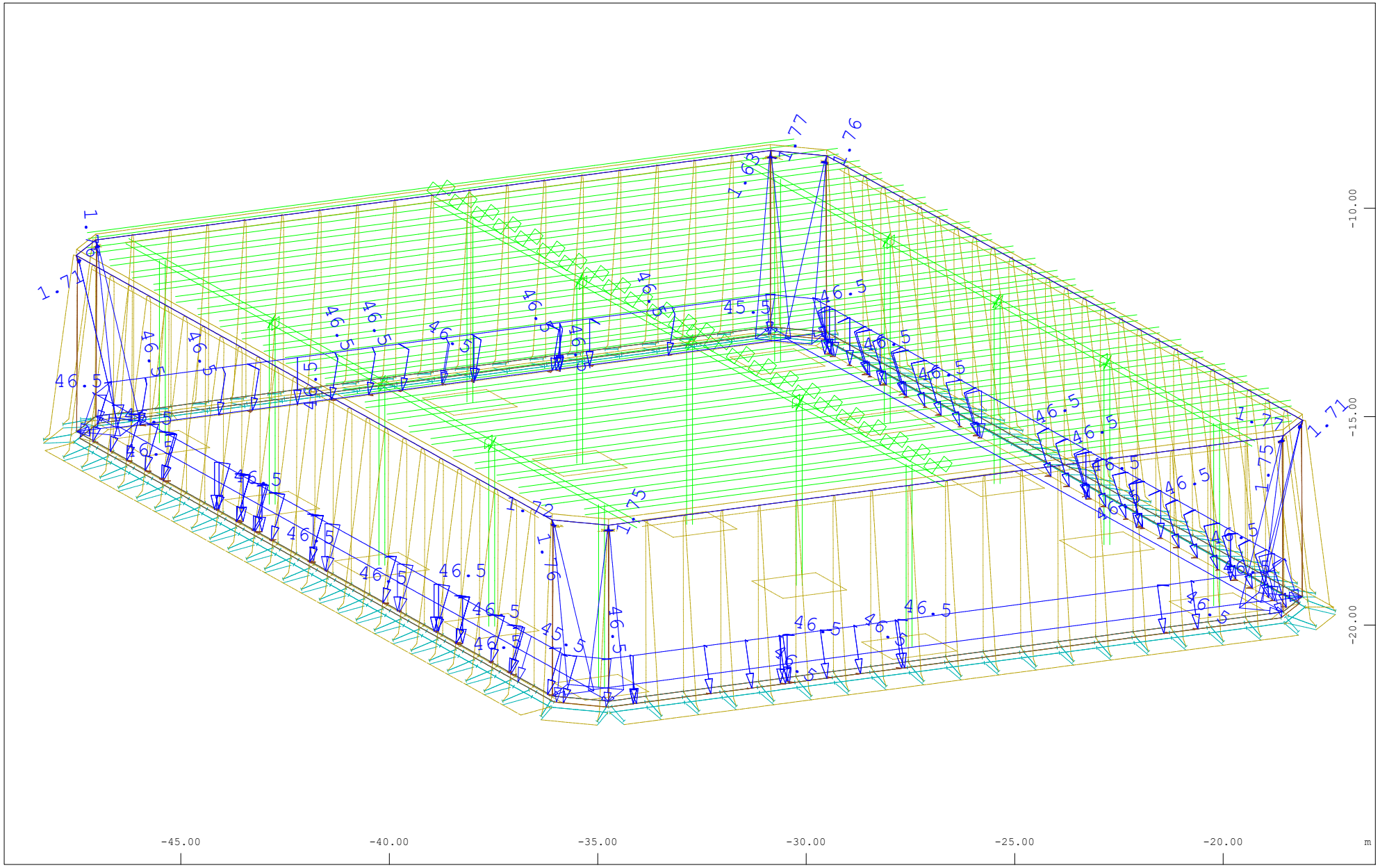
M 1 : 146



Beam Elements , Number of group (Max=43)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962

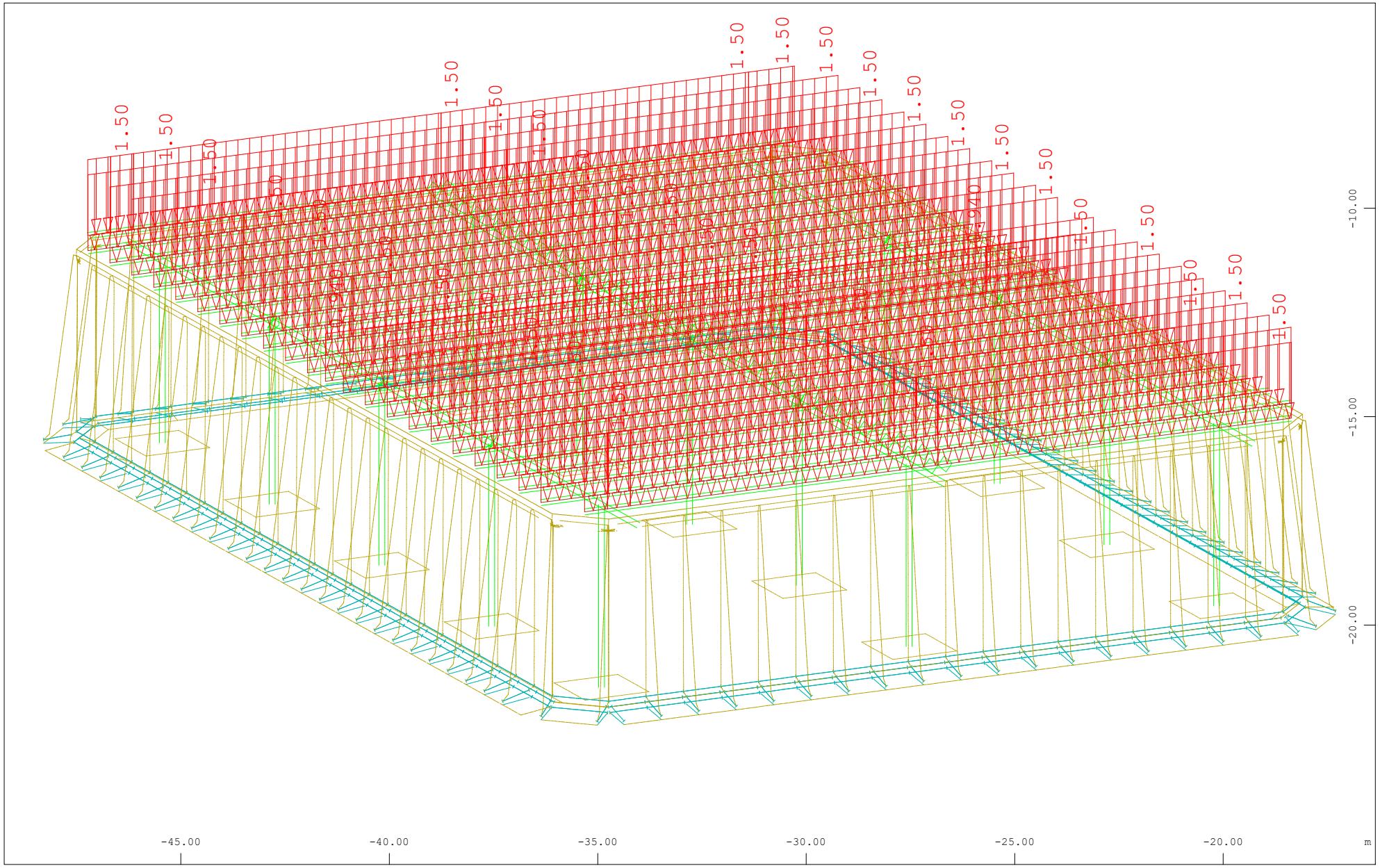


Z
Y X Sector of system Beam Elements,Quadrilateral Elements,Supporting Lines

All loads, Loadcase 2 AGUA , (1 cm 3D = unit) Free area load (force) in local z (Unit=50.0 kN/m2) (Max=46.5)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962

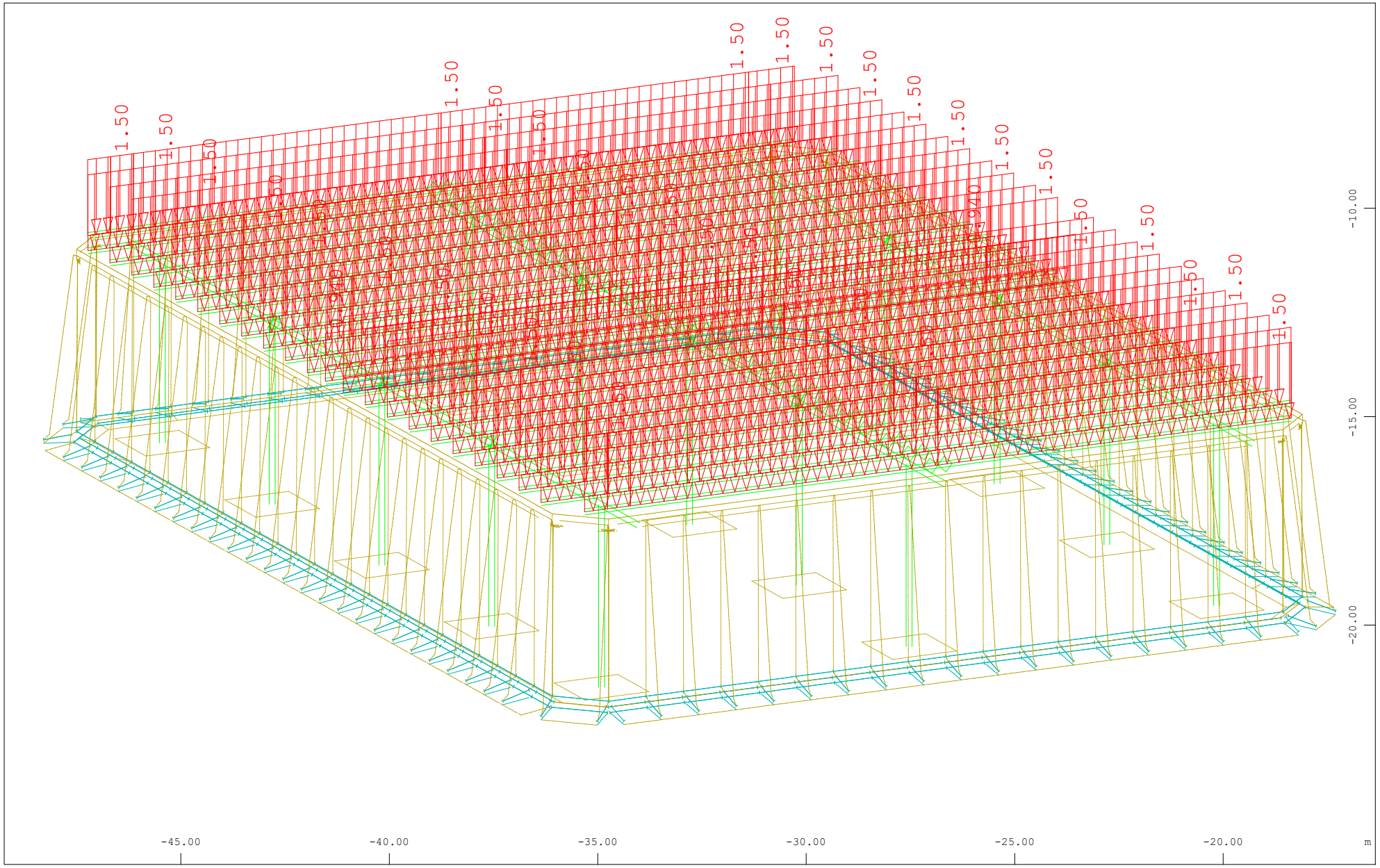


Z
Y X Sector of system Beam Elements,Quadrilateral Elements,Supporting Lines

All loads, Loadcase 12 CM_PEND , (1 cm 3D = unit) Beam line load (force) in global Z (Unit=1.00 kN/m) (Min=-1.50) (Max=-0.940)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



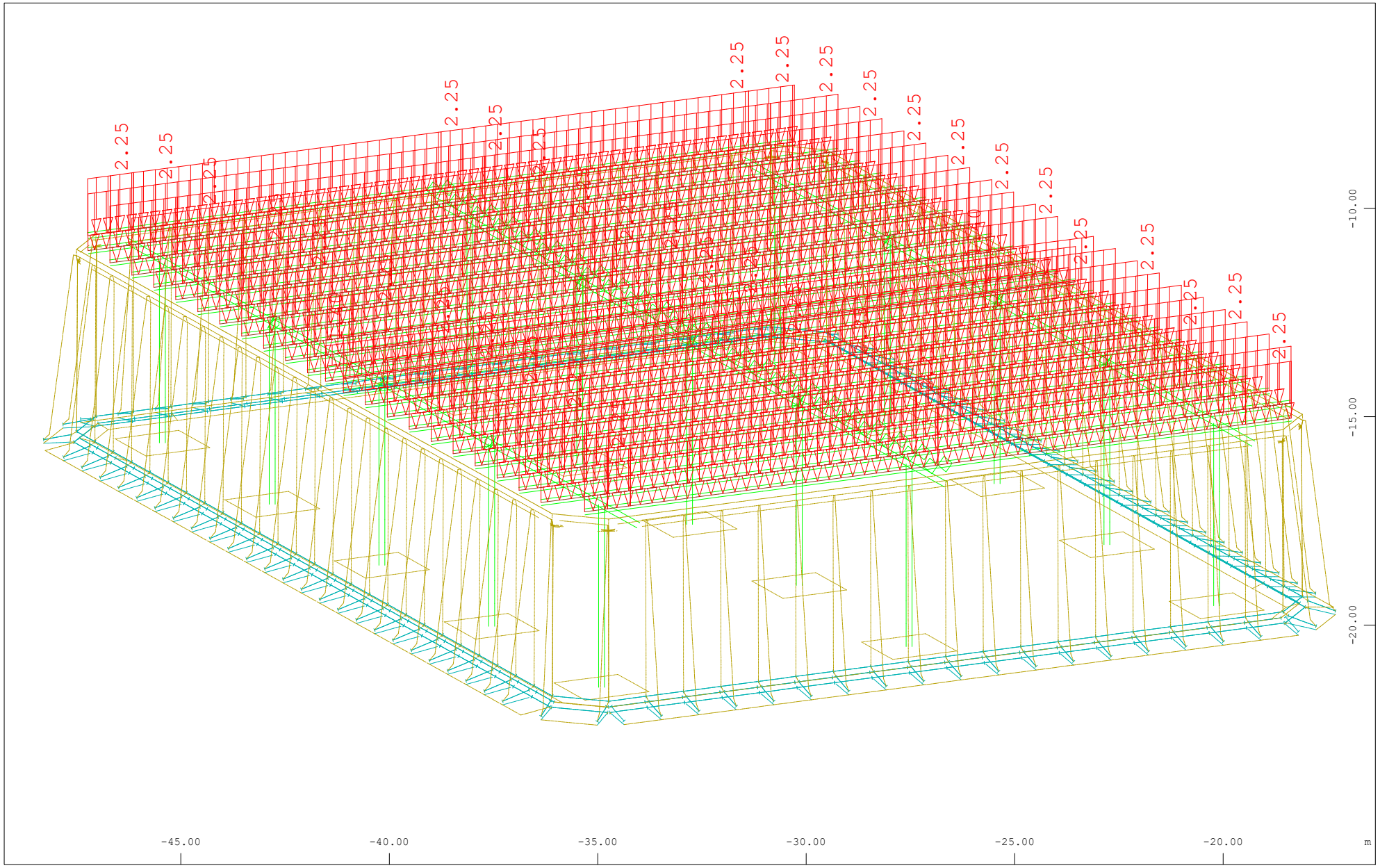
Z
Y
X

Sector of system Beam Elements,Quadrilateral Elements,Supporting Lines

All loads, Loadcase 13 CM_PANE , (1 cm 3D = unit) Beam line load (force) in global Z (Unit=1.00 kN/m) (Min=-1.50) (Max=-0.940)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



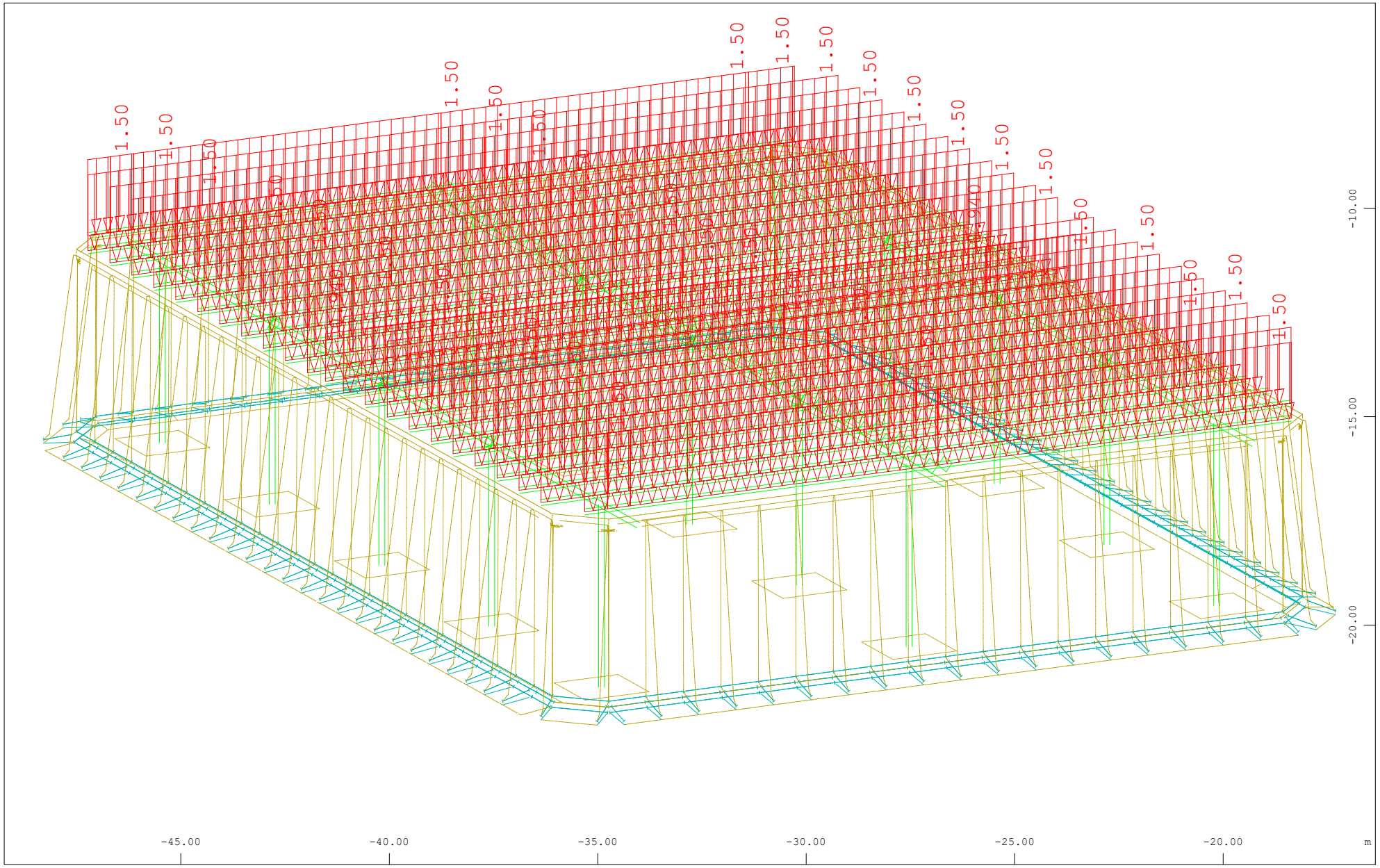
Z
Y
X

Sector of system Beam Elements,Quadrilateral Elements,Supporting Lines

All loads, Loadcase 14 CM_IMPE , (1 cm 3D = unit) Beam line load (force) in global Z (Unit=2.00 kN/m) (Min=-2.25) (Max=-1.40)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



Z
Y
X

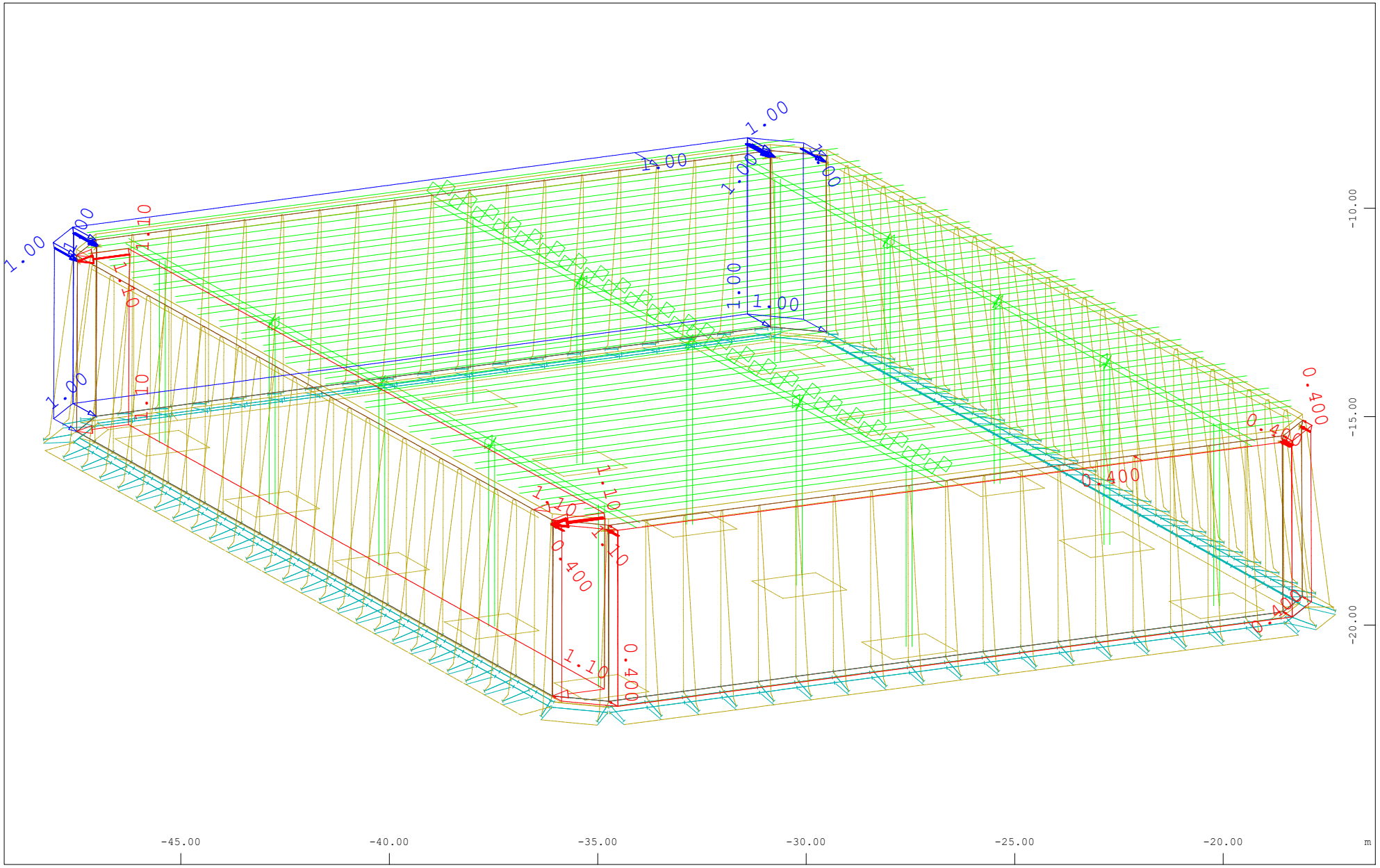
Sector of system Beam Elements,Quadrilateral Elements,Supporting Lines

All loads, Loadcase 21 SC_CUBIERTA , (1 cm 3D = unit) Beam line load (force) in global Z (Unit=1.00 kN/m

) (Min=-1.50) (Max=-0.940)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



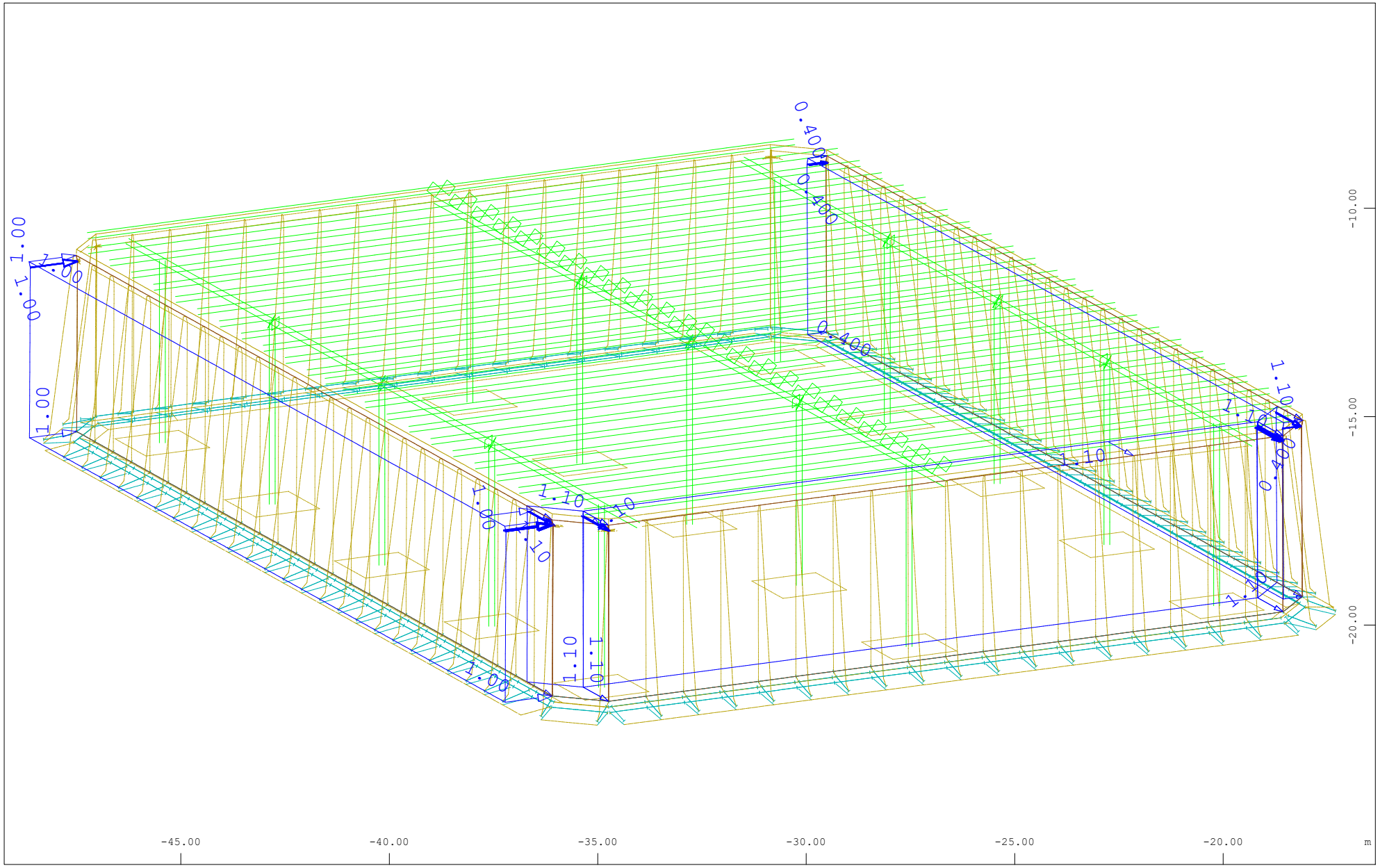
Z
Y
X

Sector of system Beam Elements,Quadrilateral Elements,Supporting Lines

All loads, Loadcase 31 VIENTO+ , (1 cm 3D = unit) Free area load (force) in global X (Unit=1.00 kN/m2,Min=-0.400 Max=1.00 load (force) in global Y (Unit=1.00 kN/m2,Min=-1.10 Max=-1.10), Free area

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



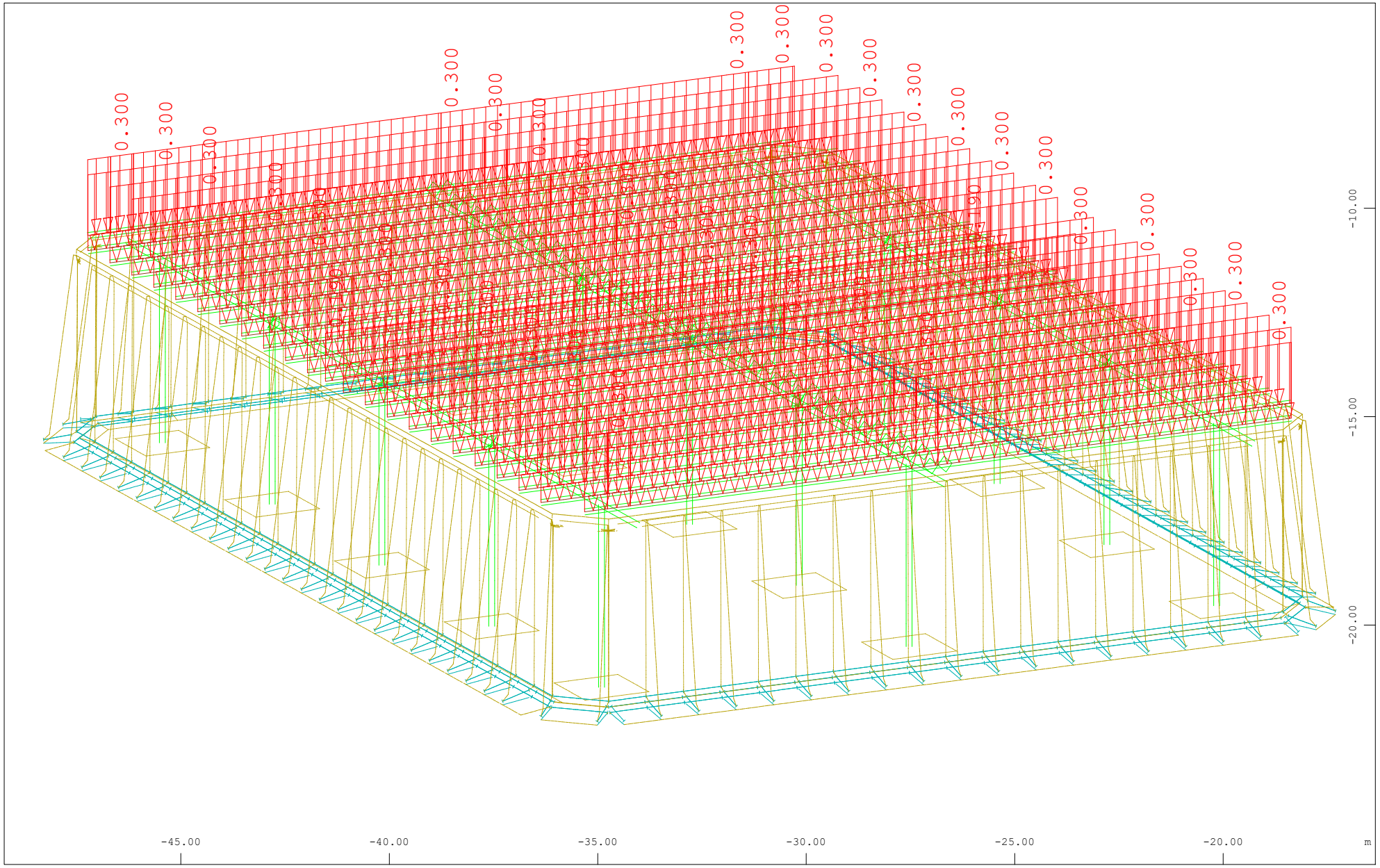
Z
Y
X

Sector of system Beam Elements,Quadrilateral Elements,Supporting Lines

All loads, Loadcase 32 VIENTO- , (1 cm 3D = unit) Free area load (force) in global X (Unit=1.00 kN/m2,Max=1.10), Free area load (force) in global Y (Unit=1.00 kN/m2,Max=1.00)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



Z
Y X

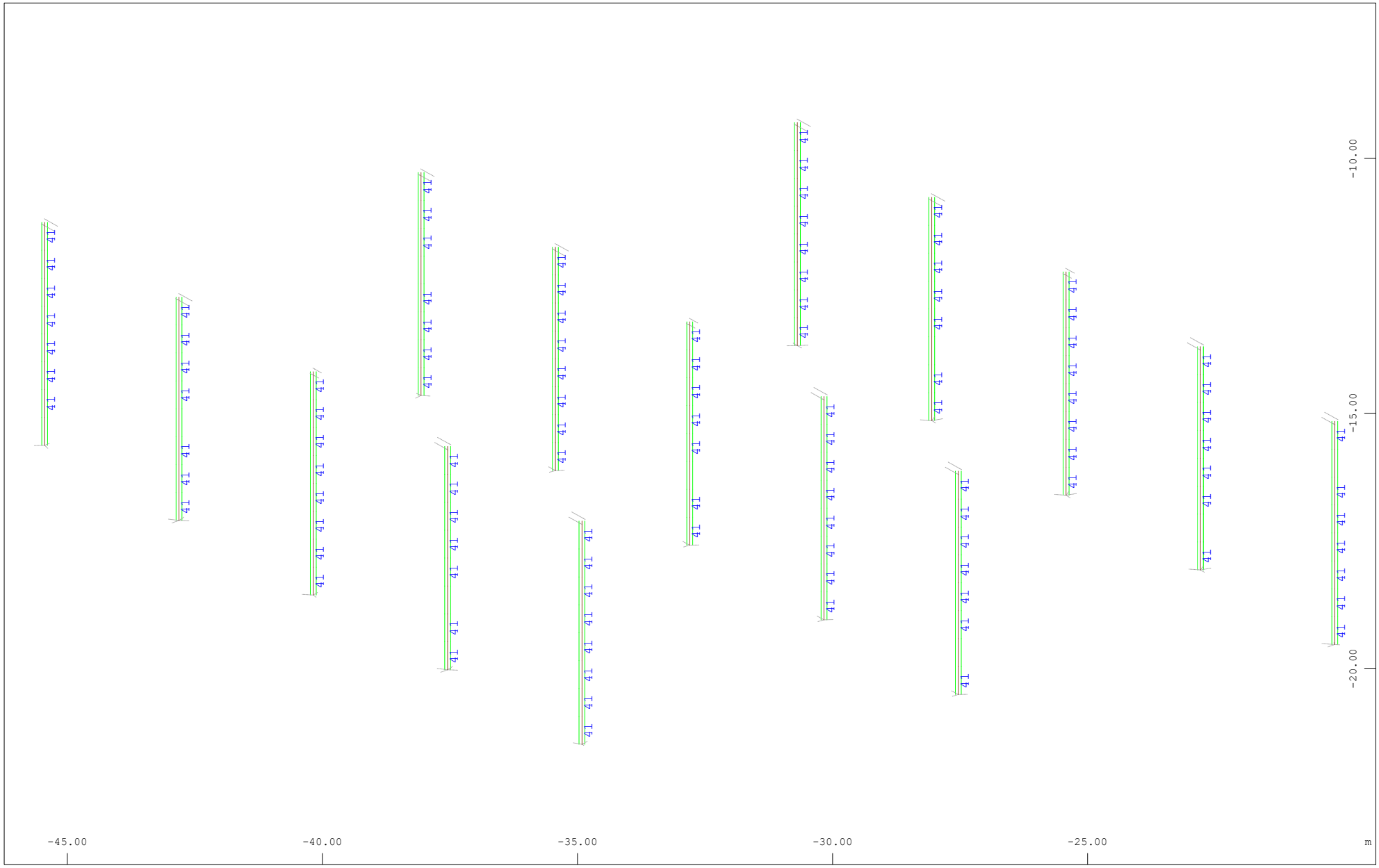
Sector of system Beam Elements,Quadrilateral Elements,Supporting Lines

All loads, Loadcase 41 NIEVE , (1 cm 3D = unit) Beam line load (force) in global Z (Unit=0.200 kN/m

) (Min=-0.300) (Max=-0.190)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



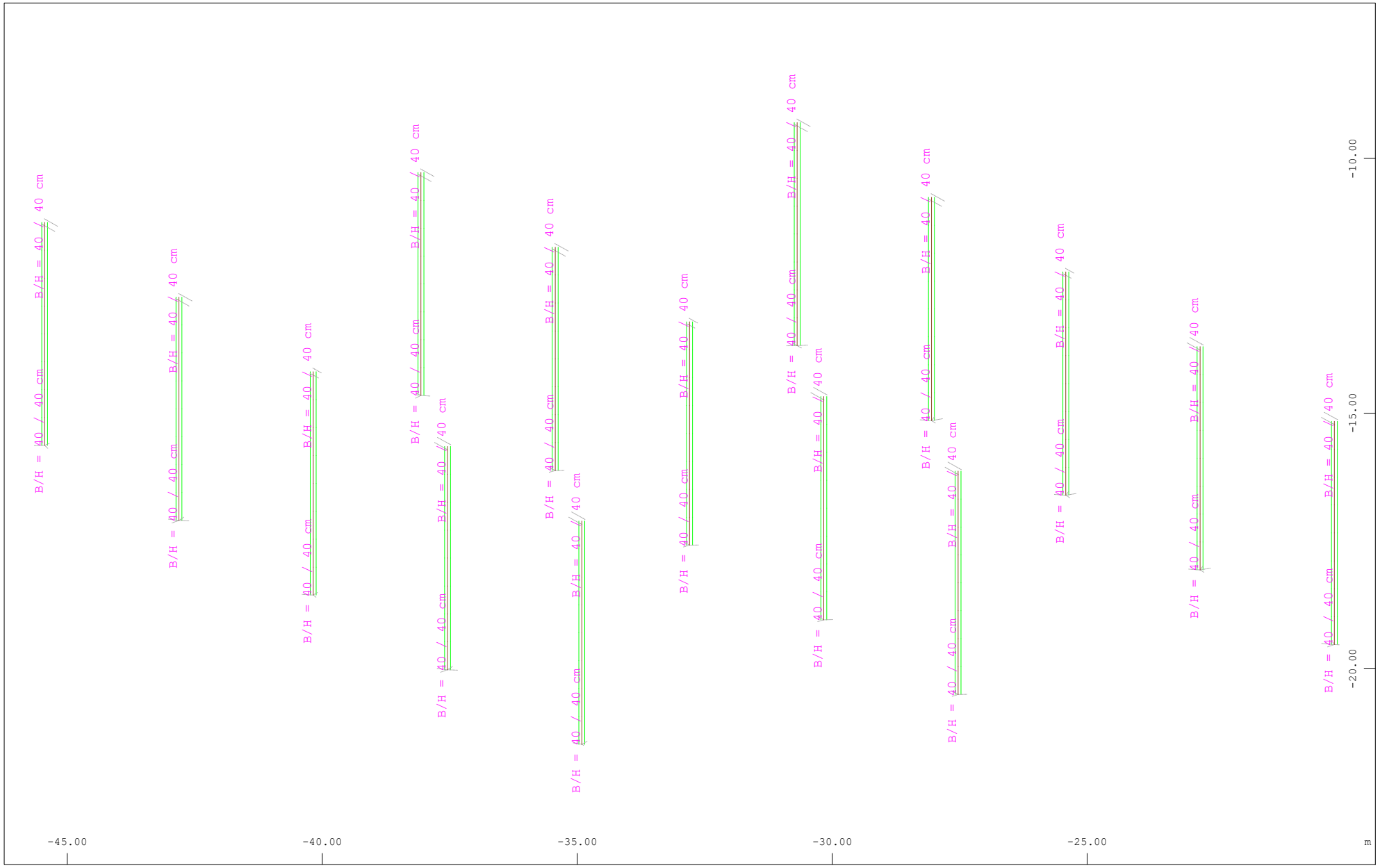
Z
Y
X

Sector of system Group 41

Beam Elements , Number of group (Max=41)

M 1 : 103

X * 0.502
Y * 0.906
Z * 0.962



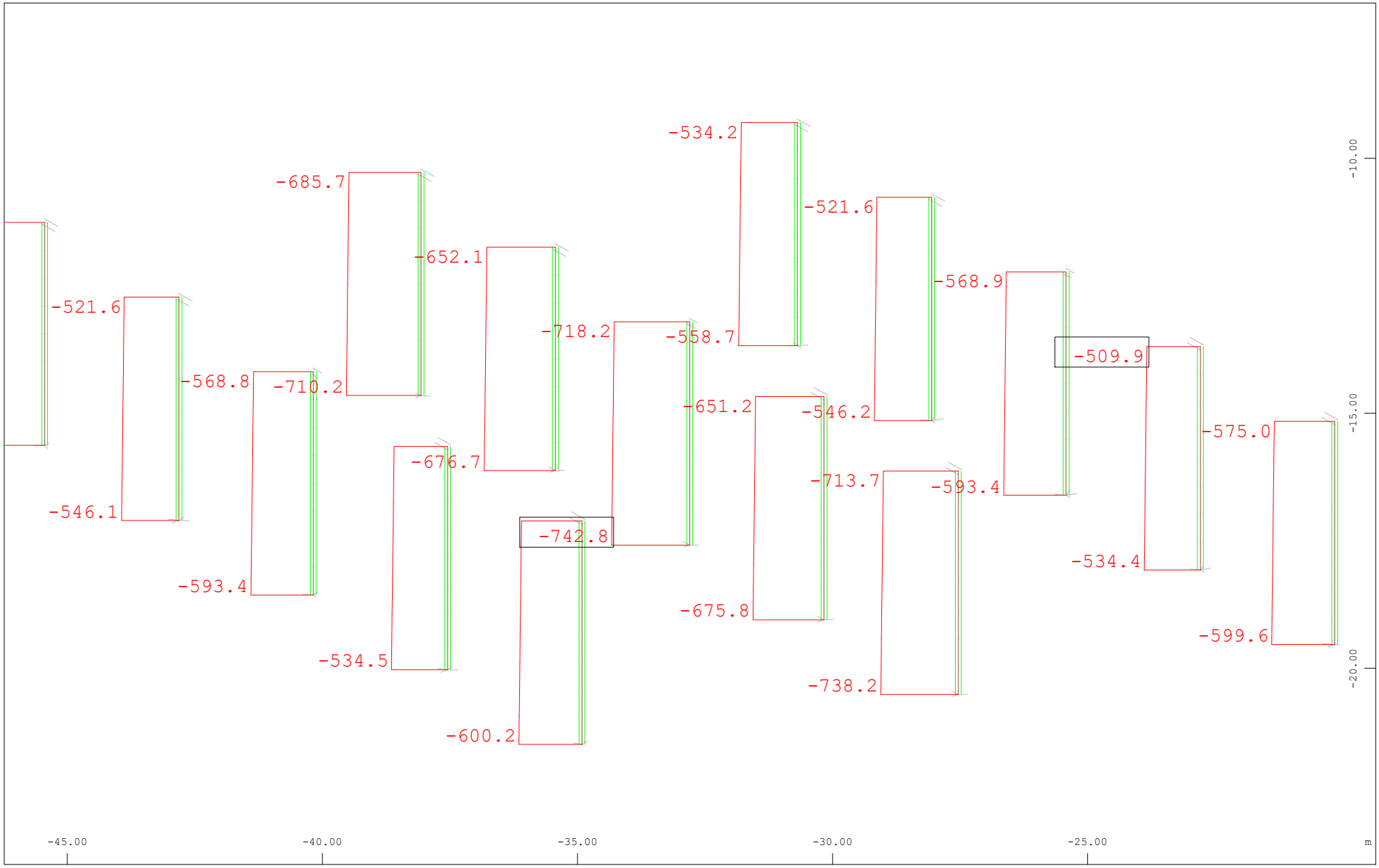
Z
Y
X

Sector of system Group 41

Beam Elements , Sectional Designations

M 1 : 103

X * 0.502
Y * 0.906
Z * 0.962



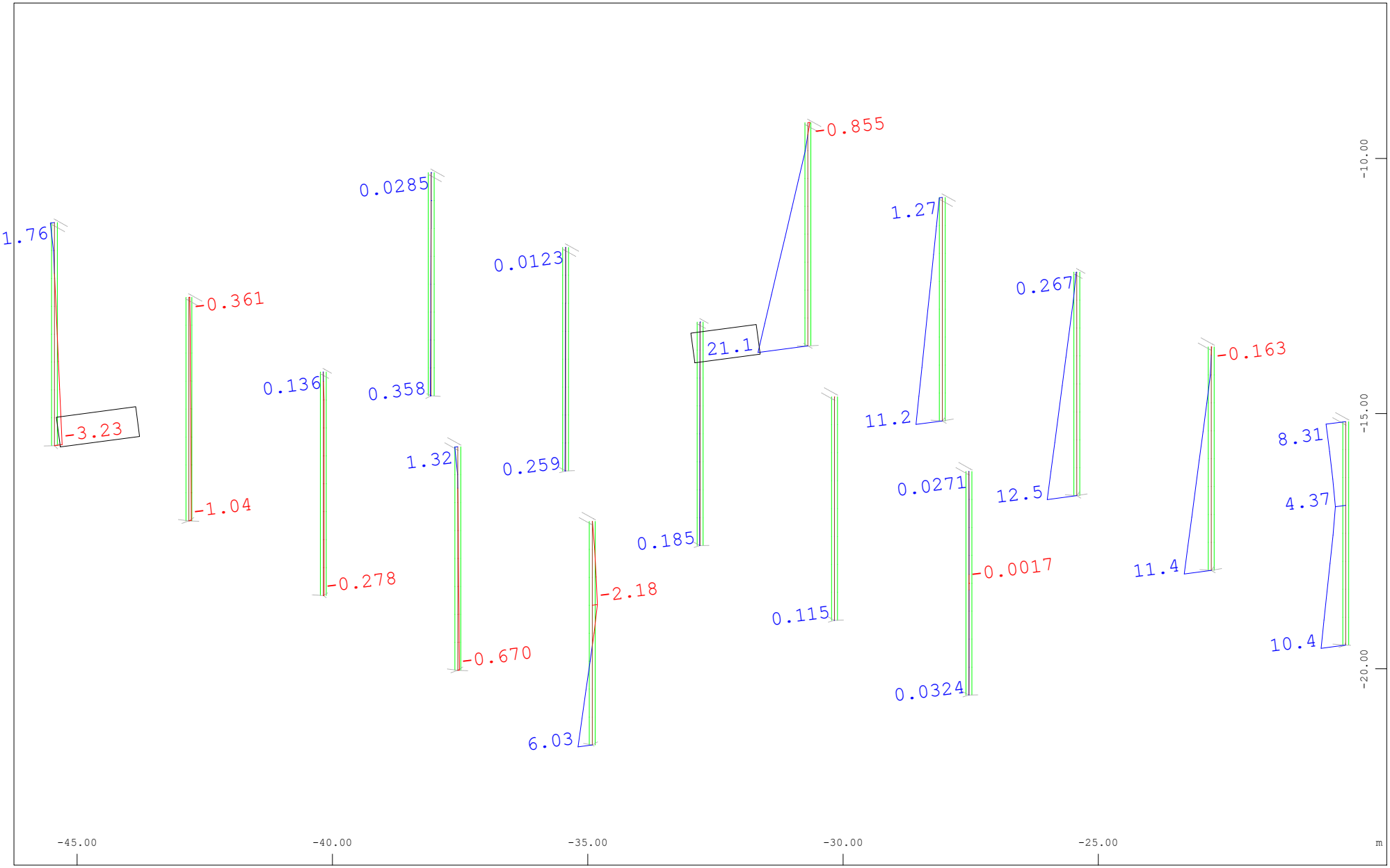
Z
Y
X

Sector of system Group 41

Beam Elements , Normal force Nx, Loadcase 2122 MIN-N BEAM ELU , 1 cm 3D = 500.0 kN (Min=-742.8) (Max=-509.9)

M 1 : 103

X * 0.502
Y * 0.906
Z * 0.962



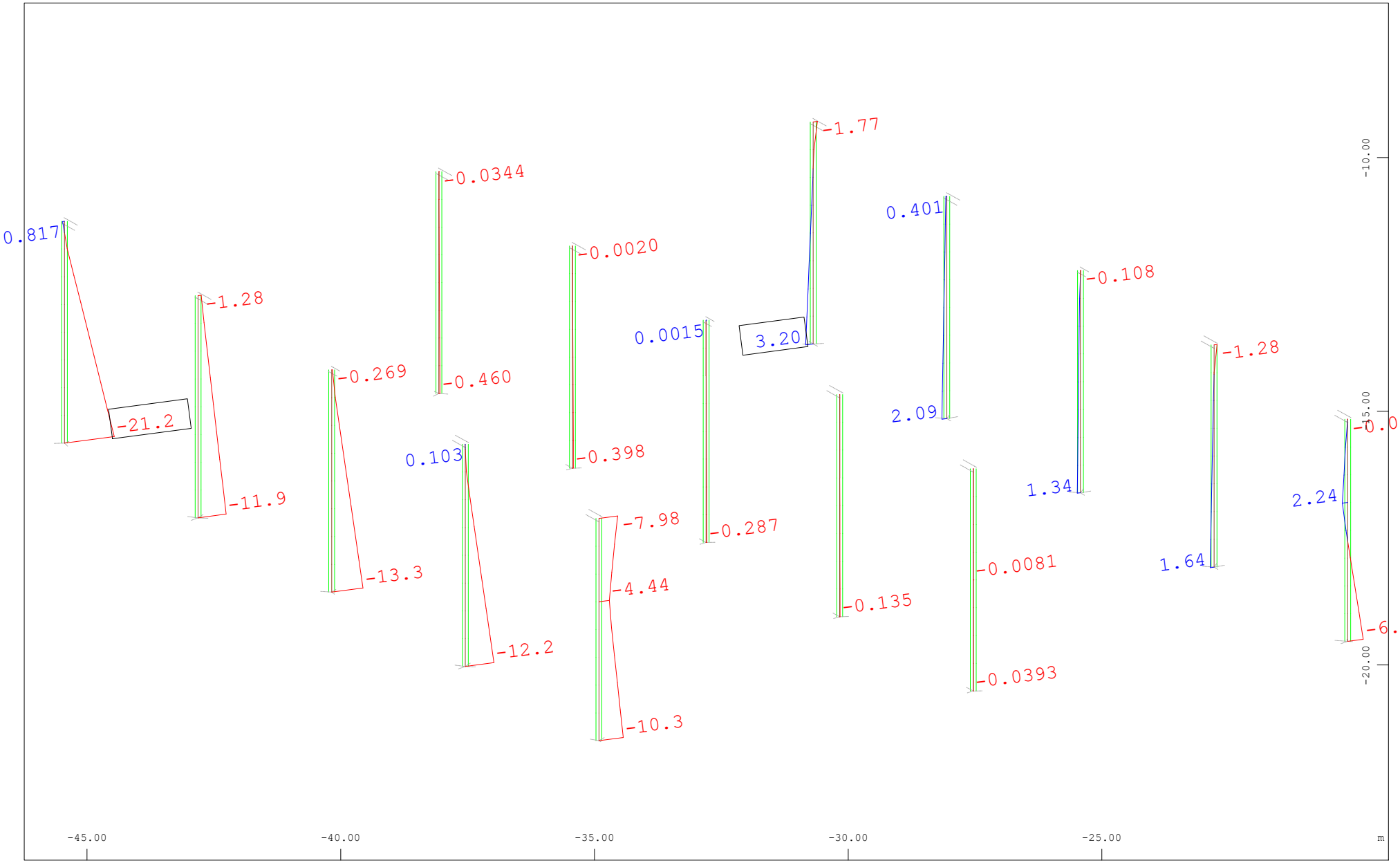
Z
Y
X

Sector of system Group 41

Beam Elements , Bending moment My, Loadcase 2129 MAX-MY BEAM ELU , 1 cm 3D = 20.0 kNm (Min=-3.23) (Max=21.1)

M 1 : 103

X * 0.502
Y * 0.906
Z * 0.962



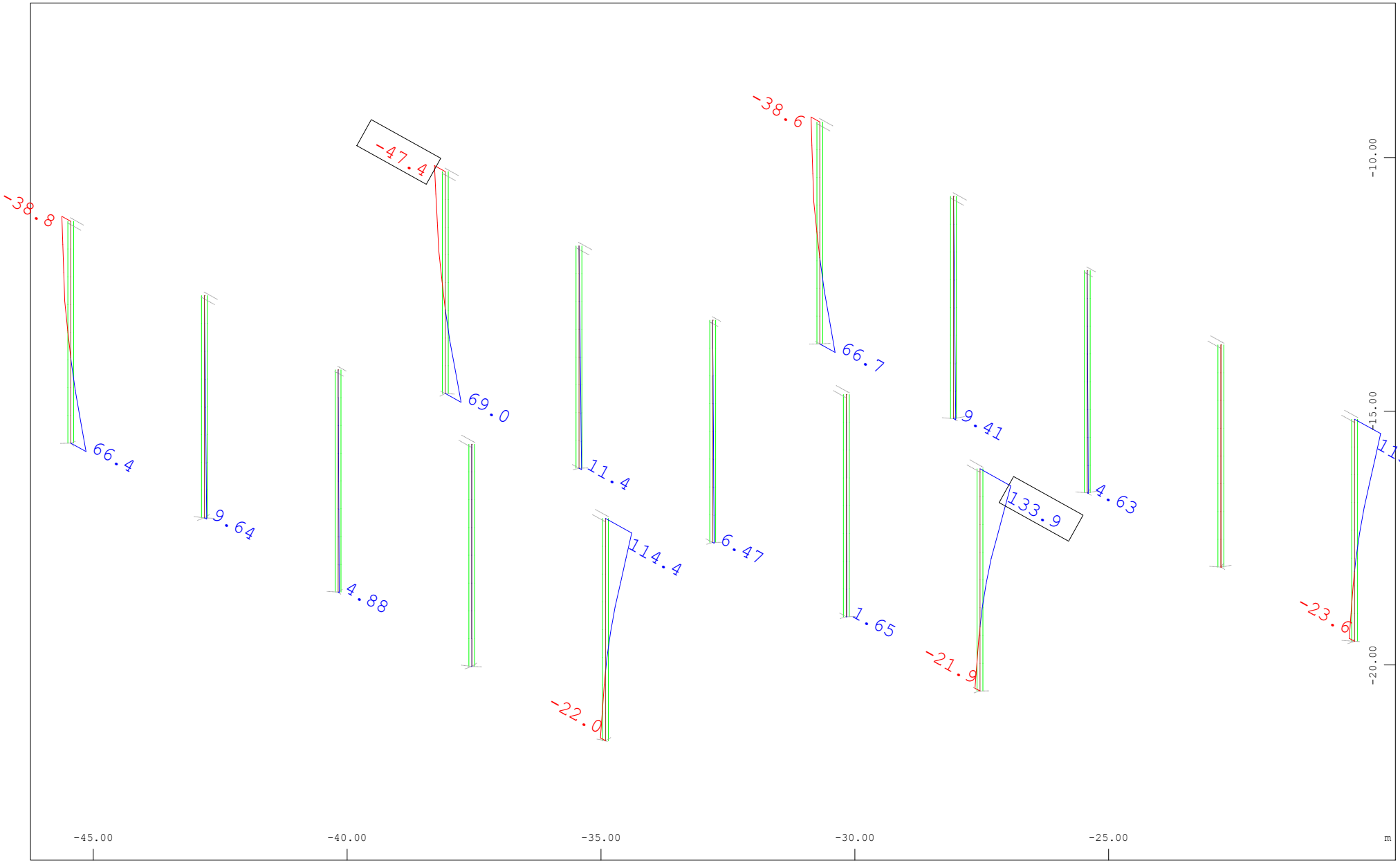
Z
Y
X

Sector of system Group 41

Beam Elements , Bending moment My, Loadcase 2130 MIN-MY BEAM ELU , 1 cm 3D = 20.0 kNm (Min=-21.2) (Max=3.20)

M 1 : 103

X * 0.502
Y * 0.906
Z * 0.962



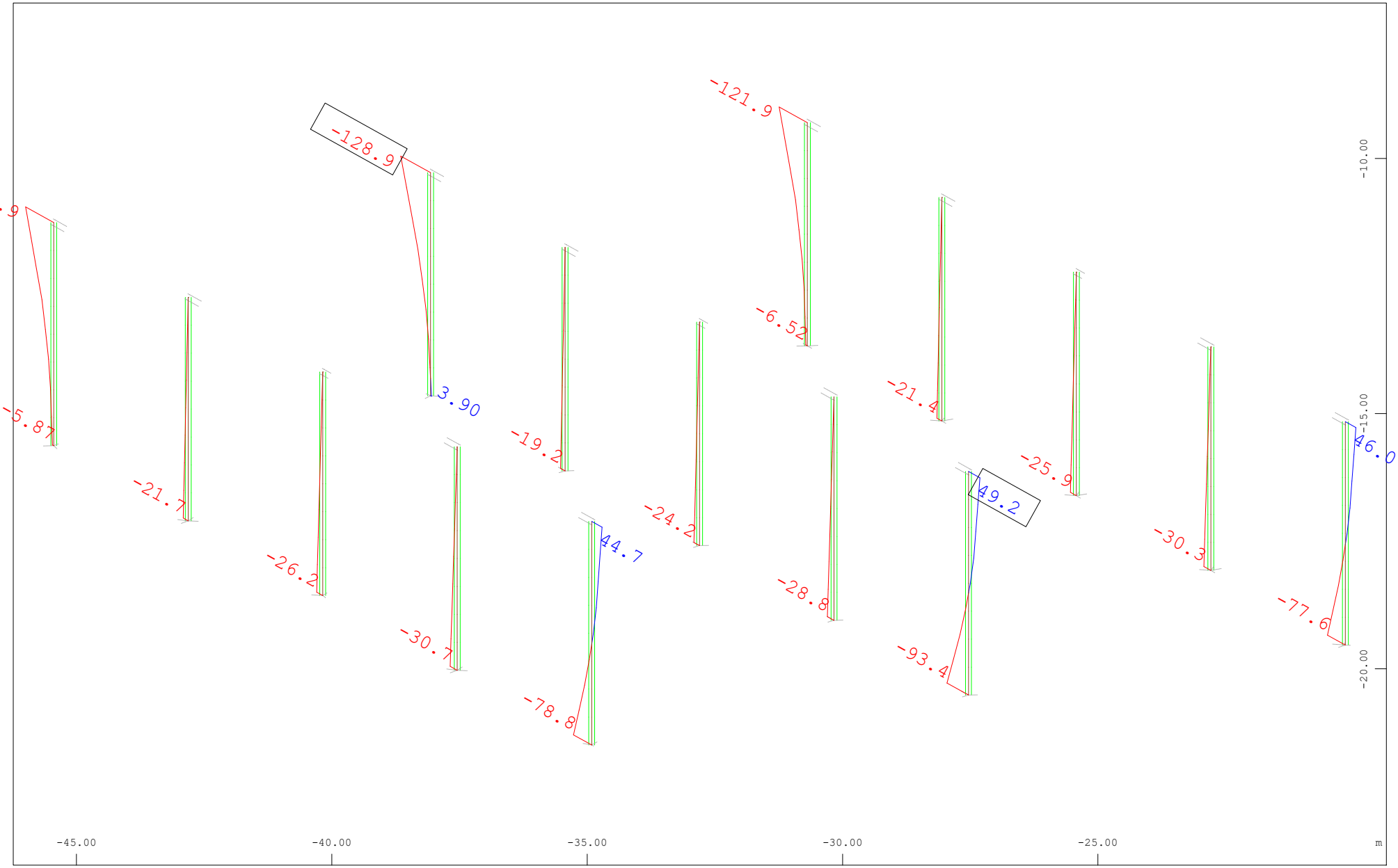
Z
Y
X

Sector of system Group 41

Beam Elements , Bending moment Mz, Loadcase 2131 MAX-MZ BEAM ELU , 1 cm 3D = 100.0 kNm (Min=-47.4) (Max=133.9)

M 1 : 103

X * 0.502
Y * 0.906
Z * 0.962



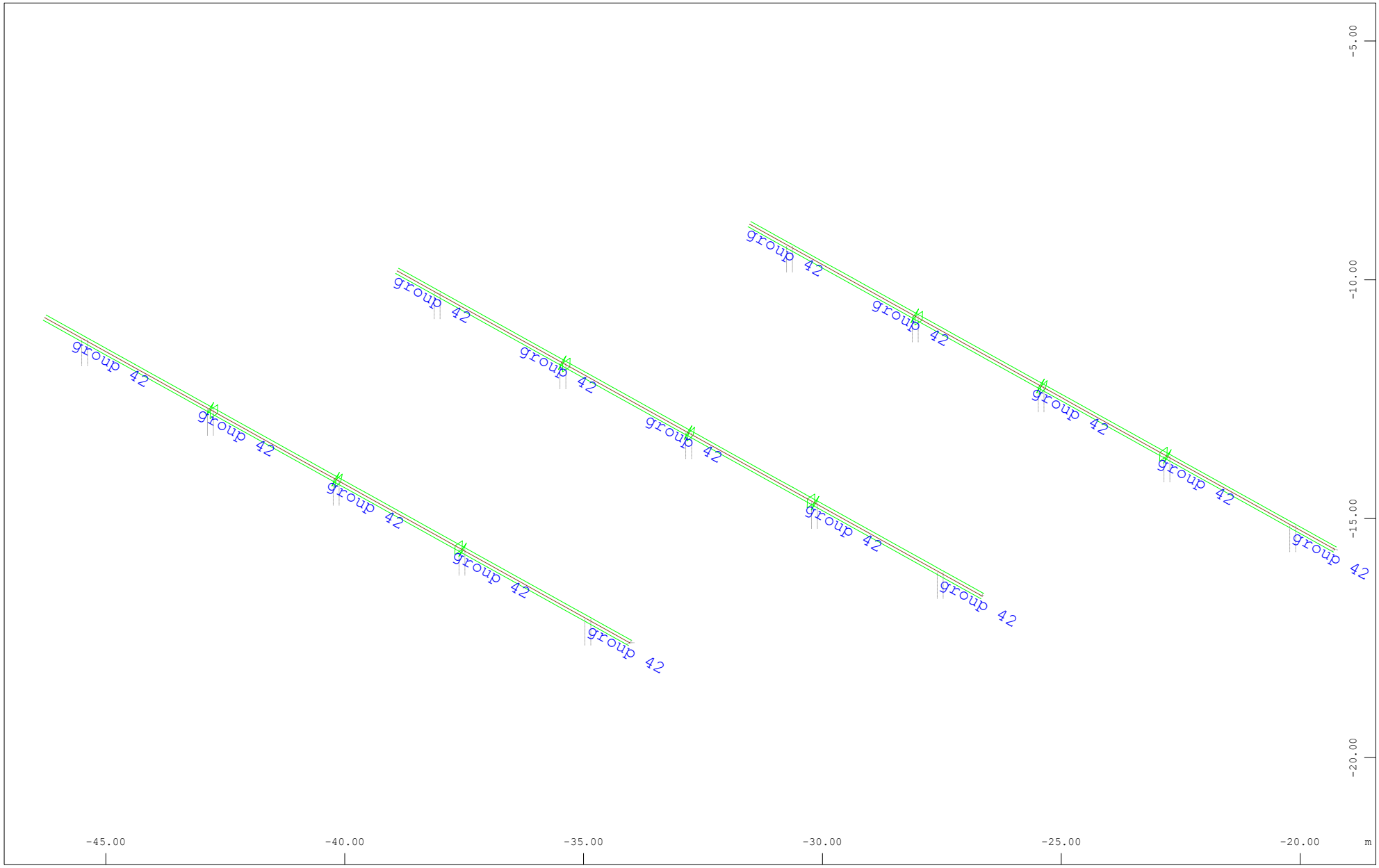
Z
Y
X

Sector of system Group 41

Beam Elements , Bending moment Mz, Loadcase 2132 MIN-MZ BEAM ELU , 1 cm 3D = 100.0 kNm (Min=-128.9) (Max=49.2)

M 1 : 103

X * 0.502
Y * 0.906
Z * 0.962



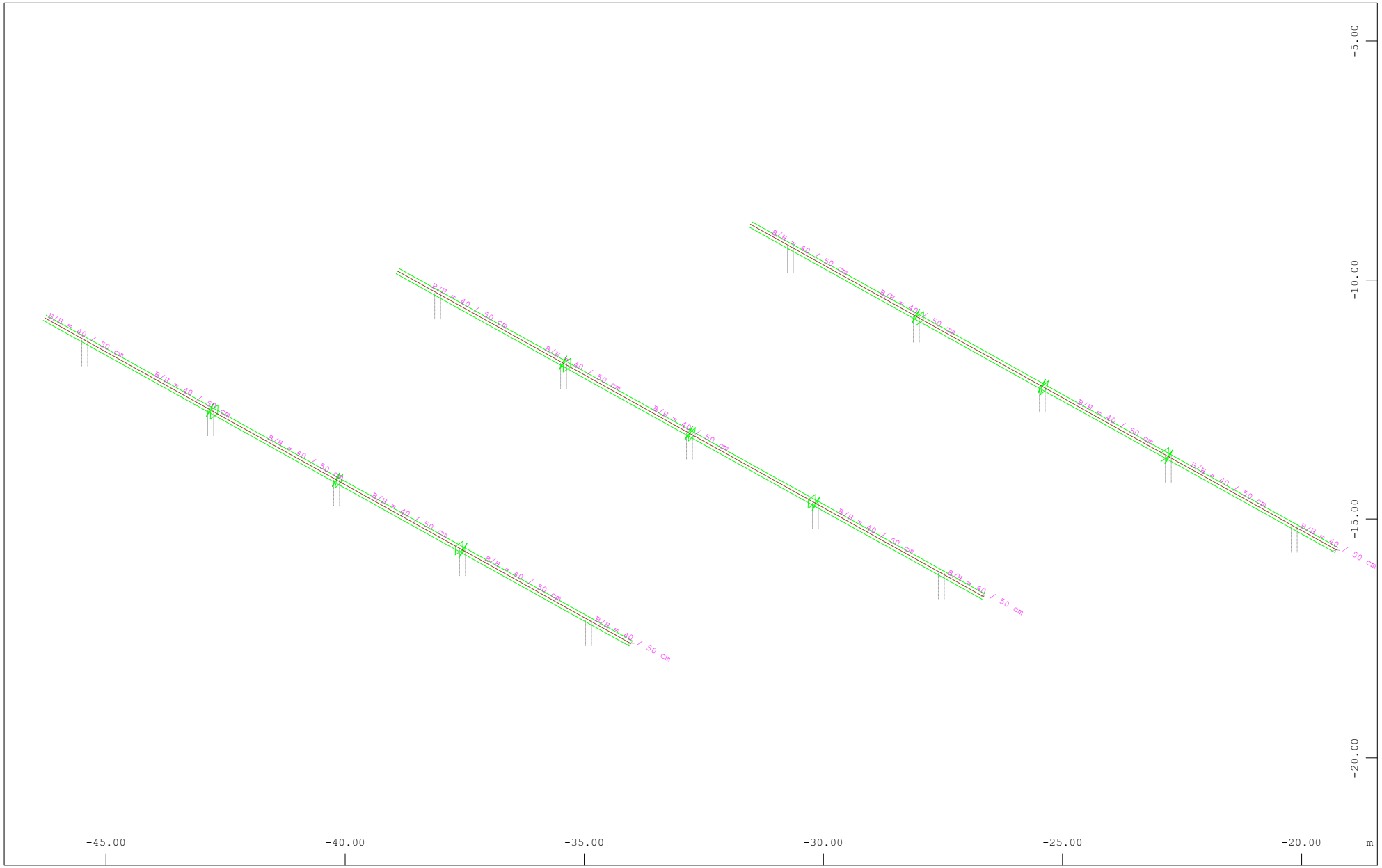
Z
Y
X

Sector of system Group 42

Beam Elements , Designation of groups

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



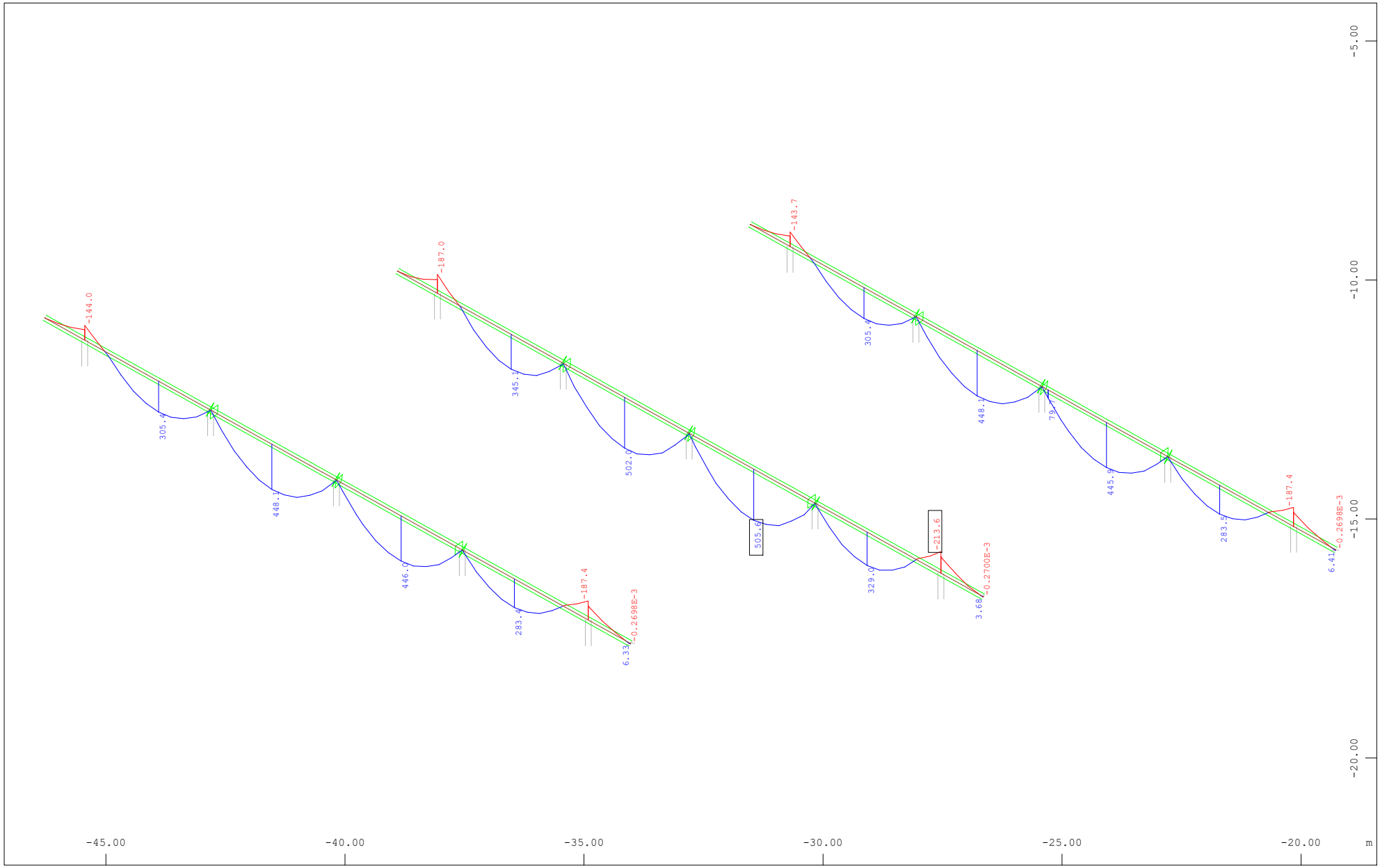
Z
Y
X

Sector of system Group 42

Beam Elements , Sectional Designations

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



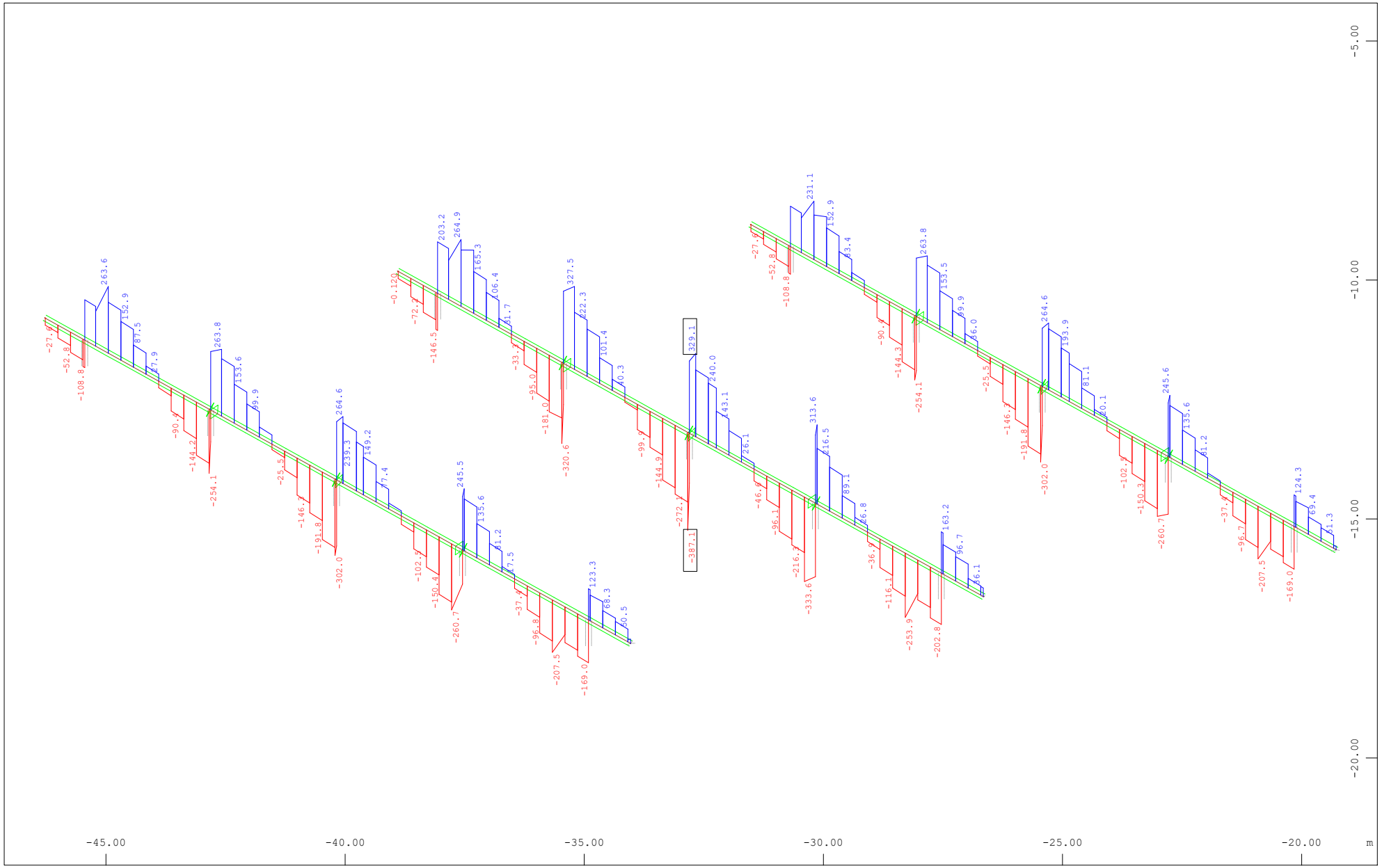
Z
Y
X

Sector of system Group 42

Beam Elements , Bending moment My, Loadcase 2129 MAX-MY BEAM ELU , 1 cm 3D = 500.0 kNm (Min=-213.6) (Max=505.6)

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



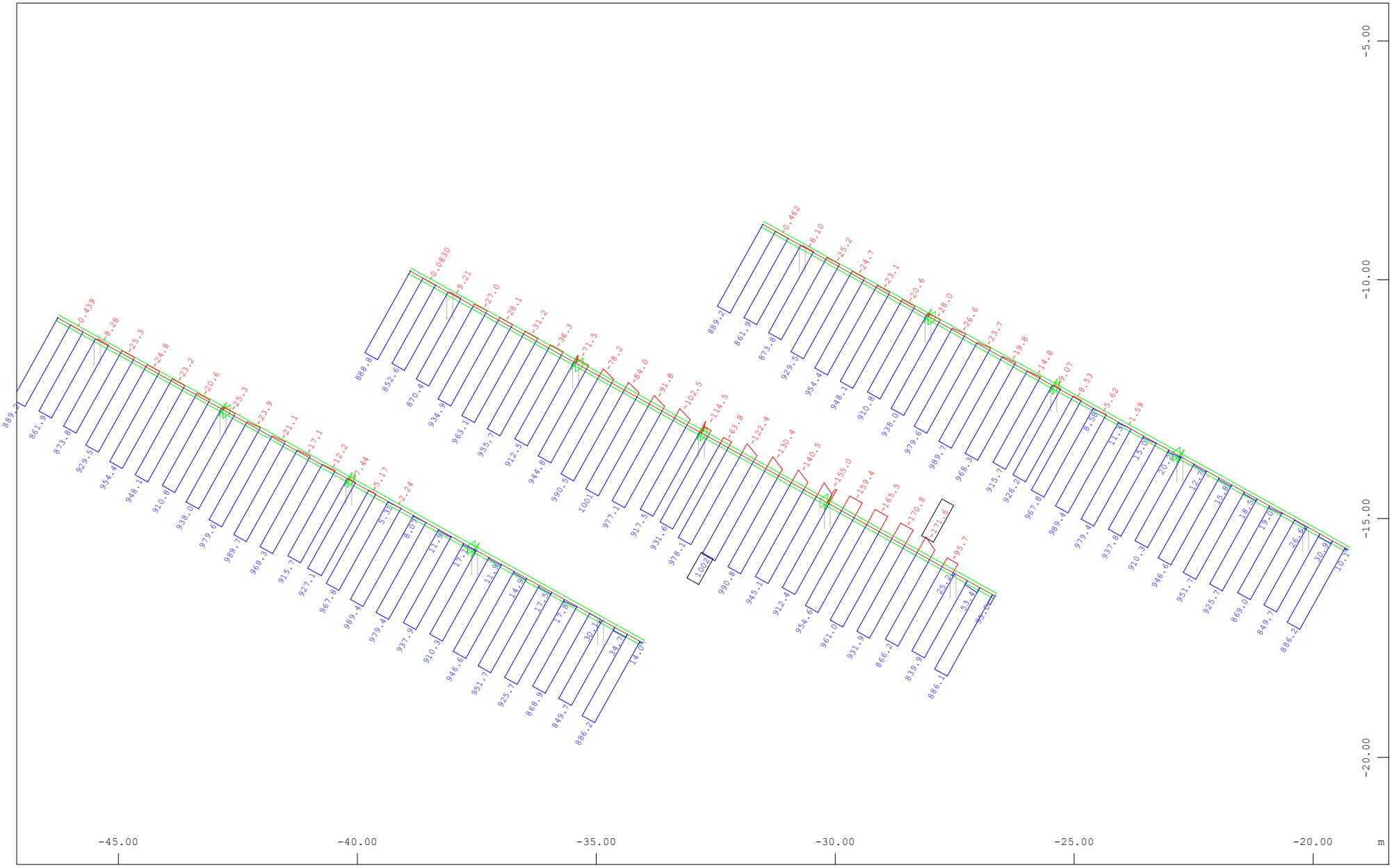
Z
Y
X

Sector of system Group 42

Beam Elements , Shear force Vz, Loadcase 2129 MAX-MY BEAM ELU , 1 cm 3D = 200.0 kN (Min=-387.1) (Max=329.1)

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



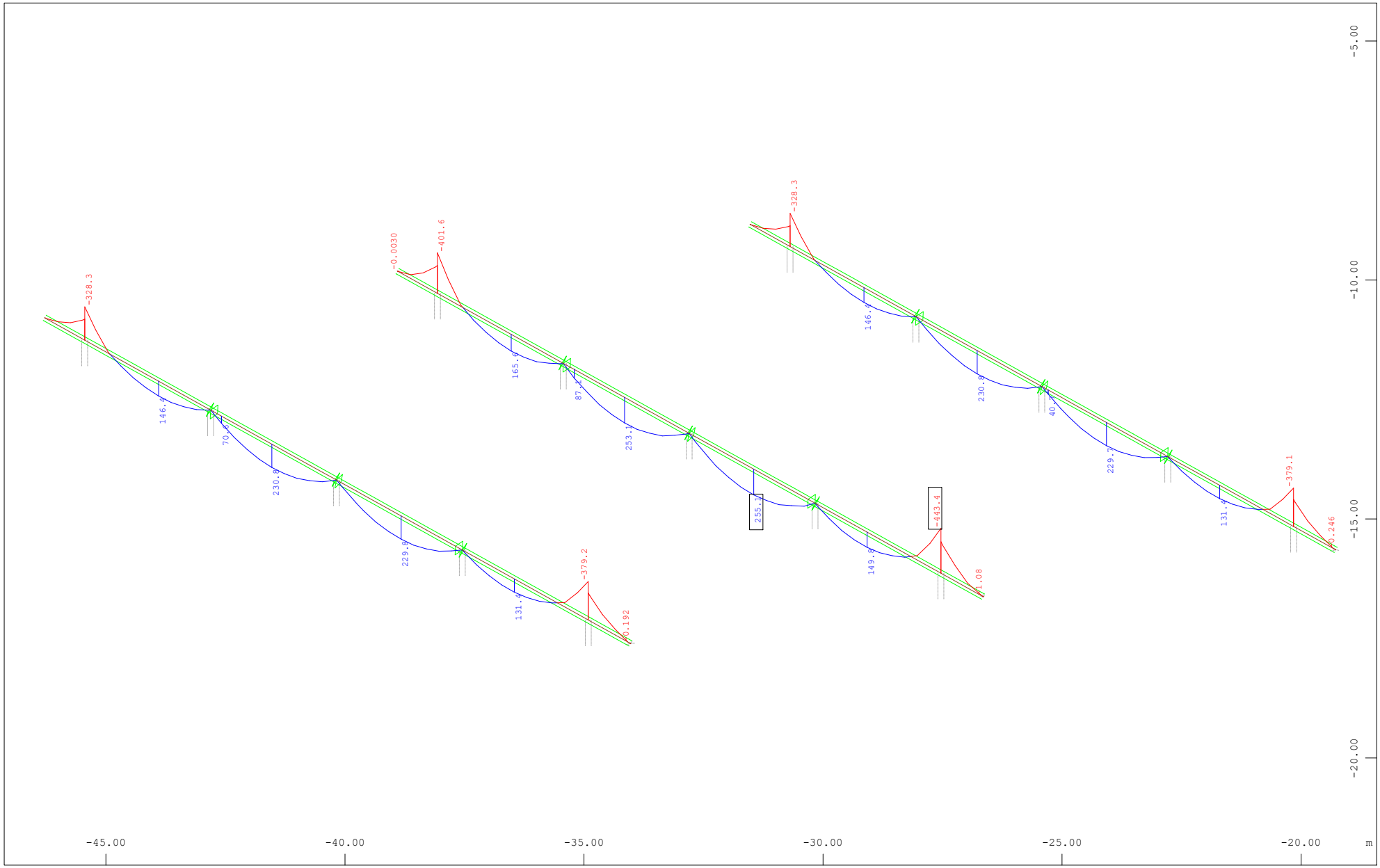
Z
Y
X

Sector of system Group 42

Beam Elements , Normal force Nx, Loadcase 2129 MAX-MY BEAM ELU , 1 cm 3D = 500.0 kN (Min=-171.6) (Max=1002.)

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



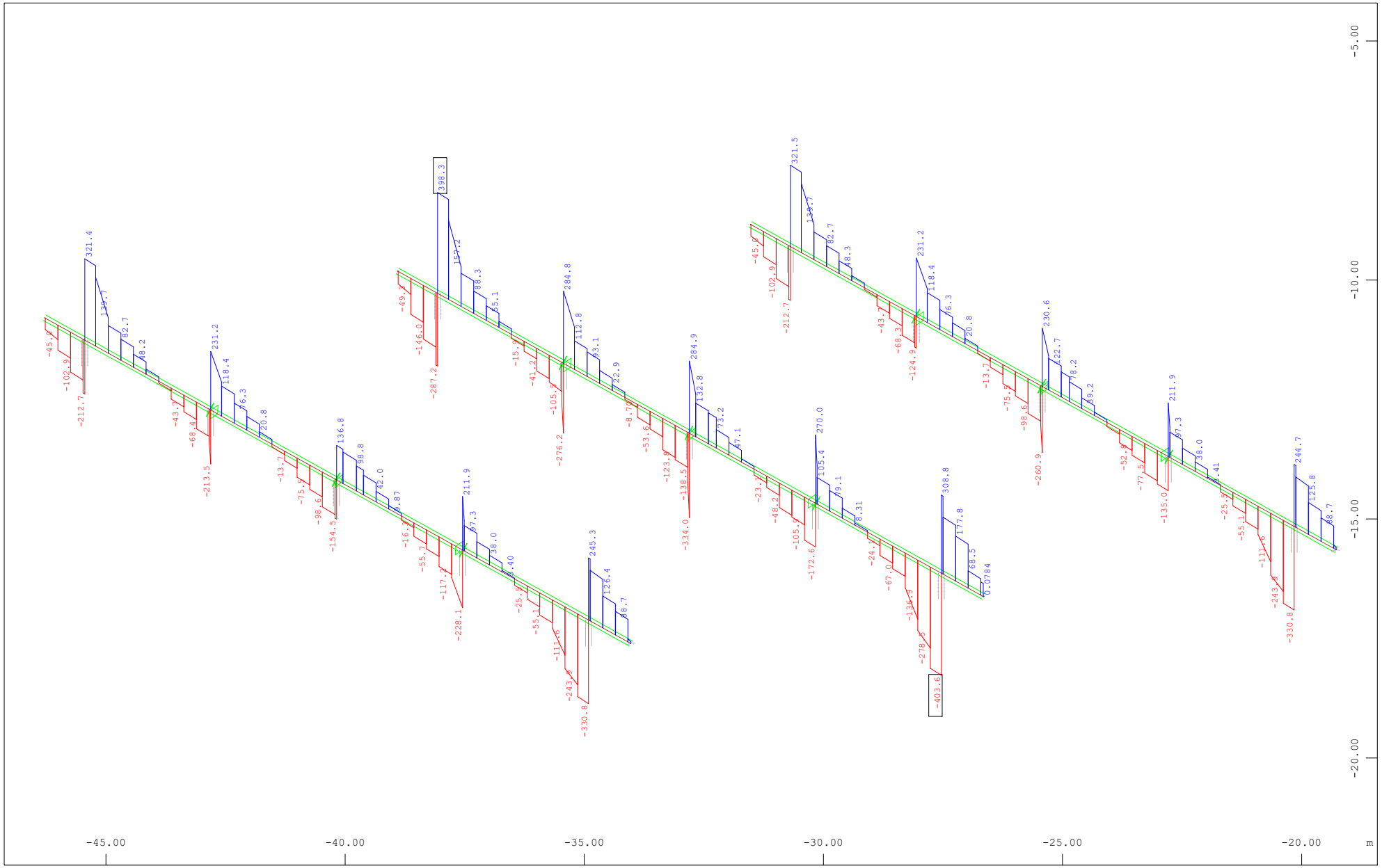
Z
Y
X

Sector of system Group 42

Beam Elements , Bending moment My, Loadcase 2130 MIN-MY BEAM ELU , 1 cm 3D = 500.0 kNm (Min=-443.4) (Max=255.1)

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



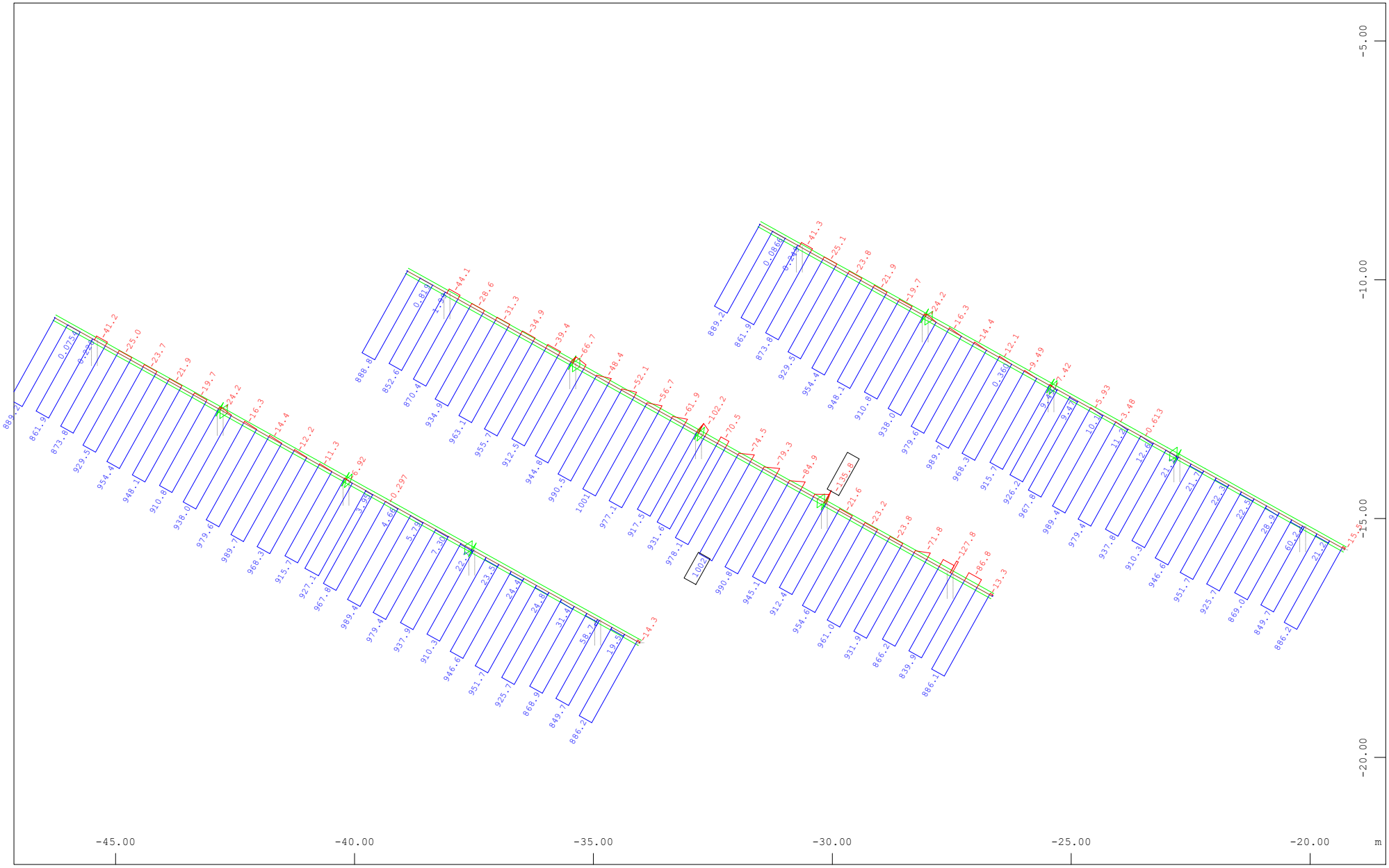
Z
Y
X

Sector of system Group 42

Beam Elements , Shear force Vz, Loadcase 2130 MIN-MY BEAM ELU , 1 cm 3D = 200.0 kN (Min=-403.6) (Max=398.3)

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



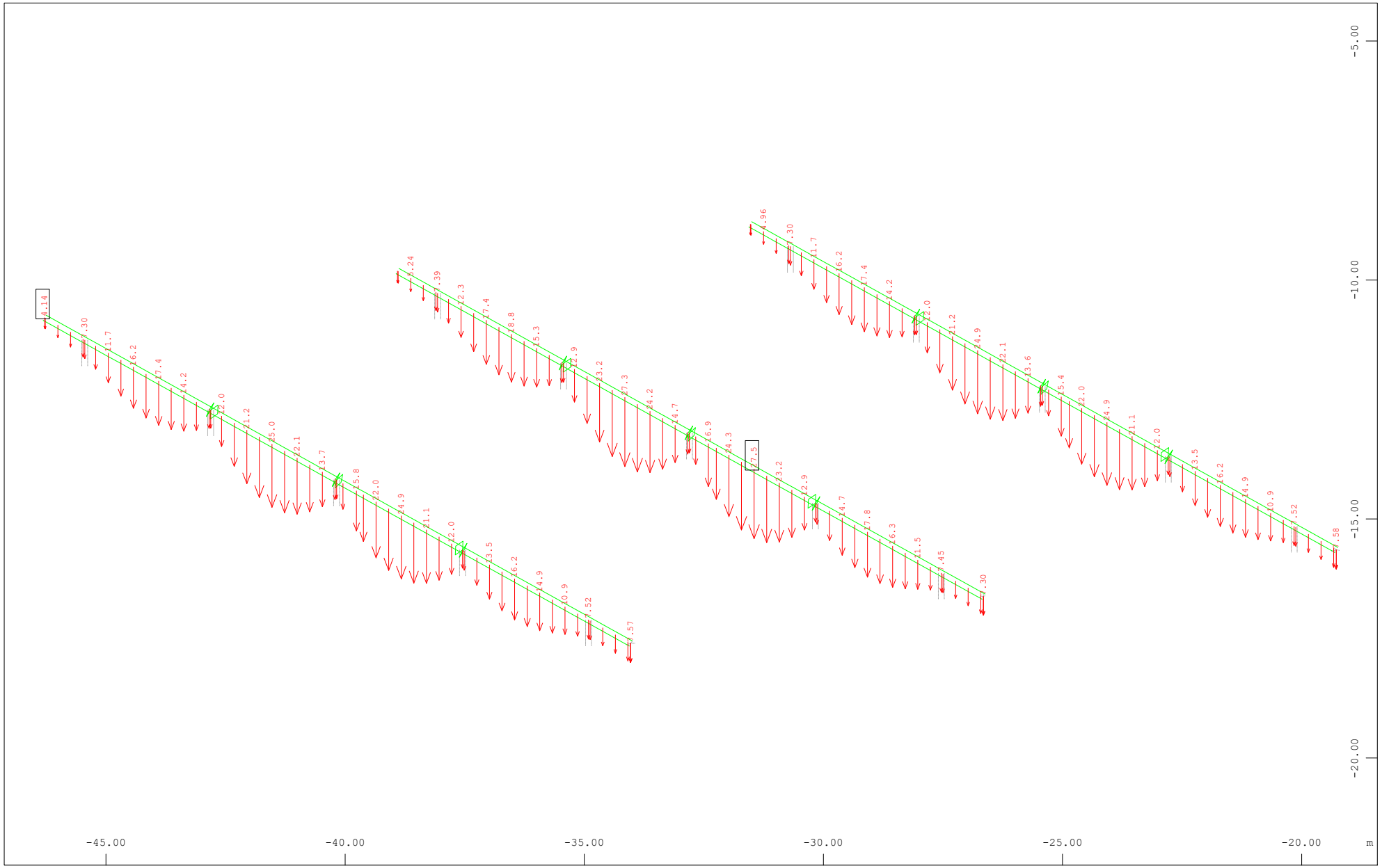
Z
Y
X

Sector of system Group 42

Beam Elements , Normal force Nx, Loadcase 2130 MIN-MY BEAM ELU , 1 cm 3D = 500.0 kN (Min=-135.8) (Max=1002.)

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



Z
Y
X

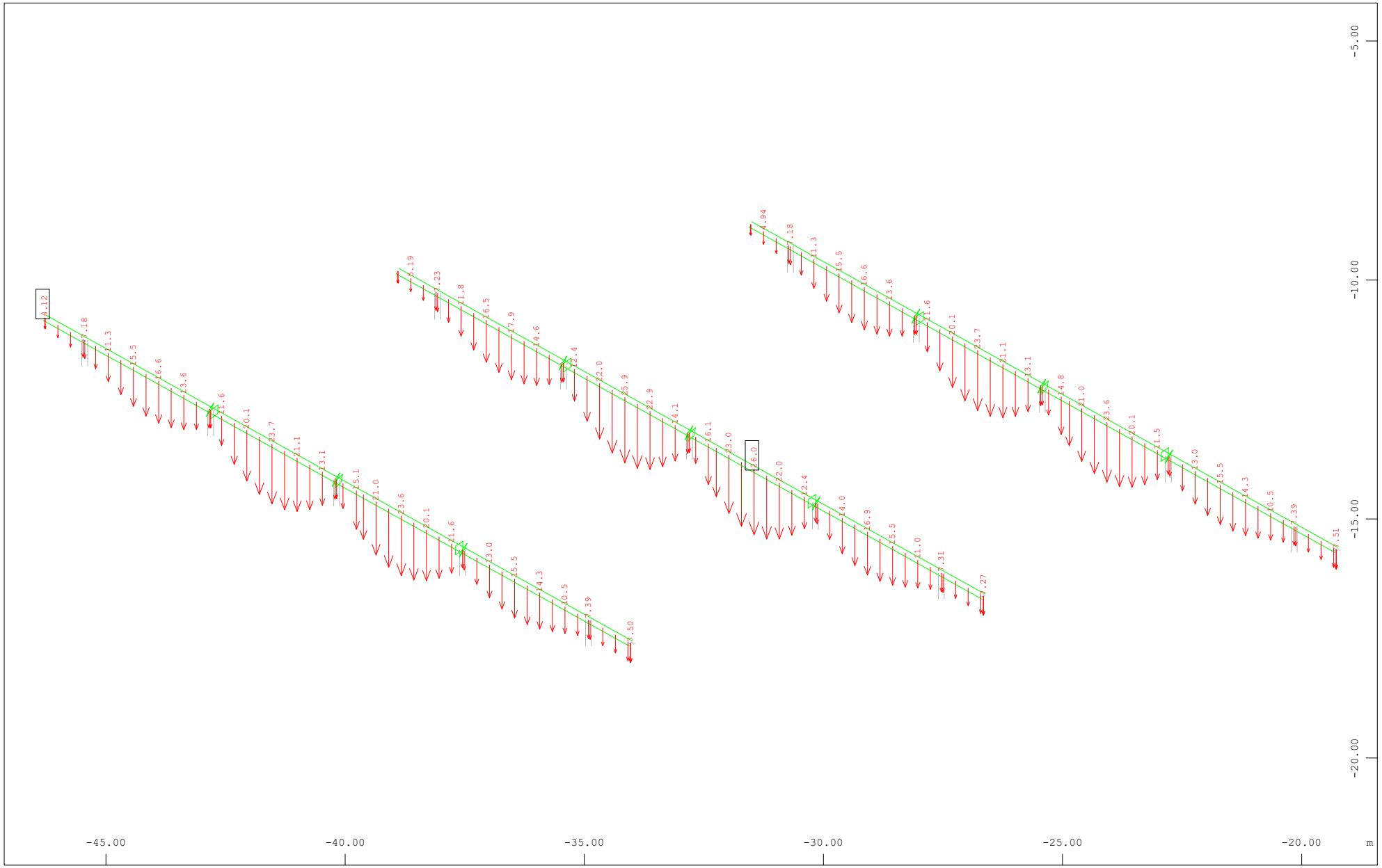
Sector of system Group 42

Nodal displacement in global Z, Loadcase 1176 MINR-UZ NODE RARA , 1 cm 3D = 20.0 mm

(Min=-27.5) (Max=-4.14)

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



Z
Y
X

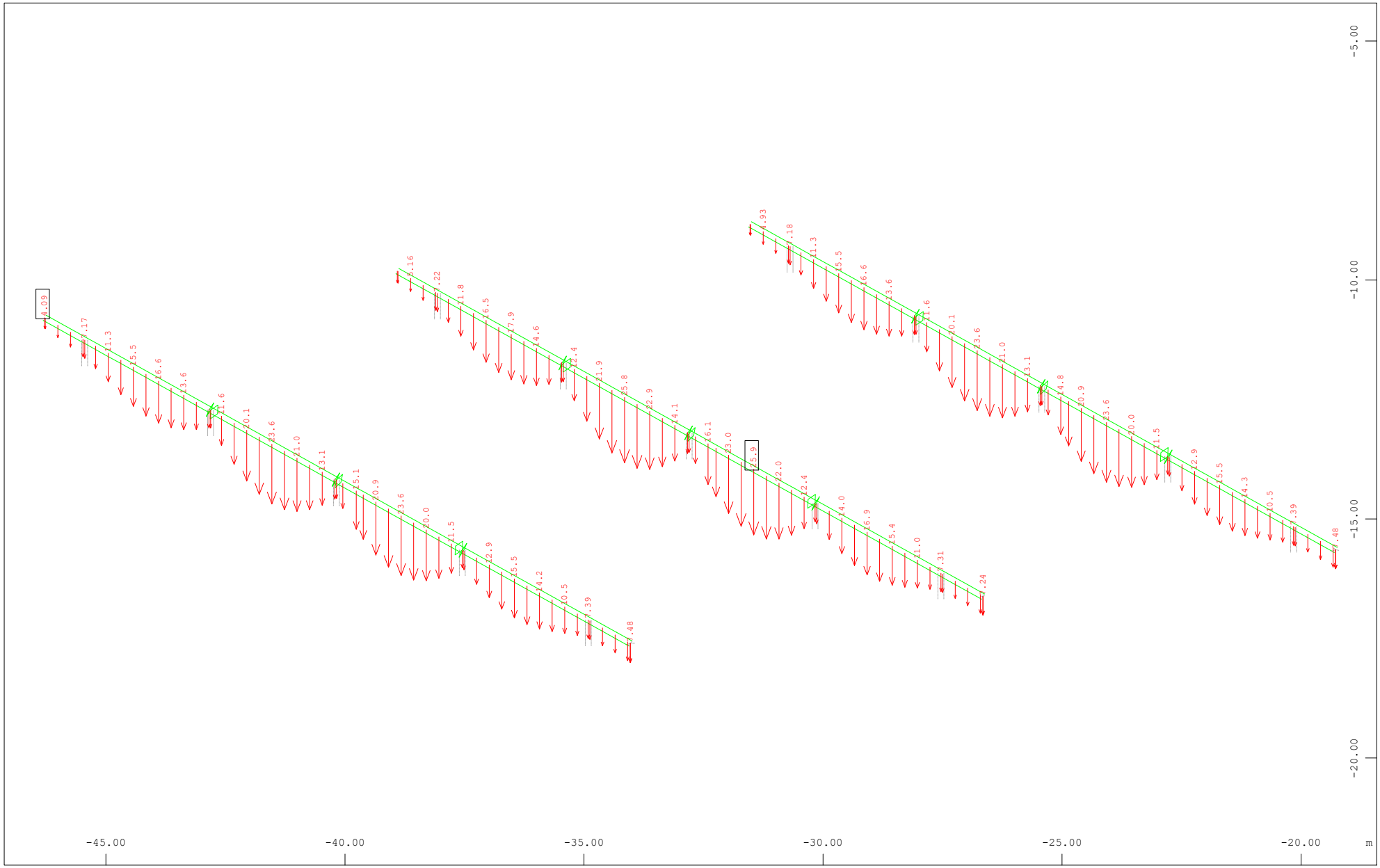
Sector of system Group 42

Nodal displacement in global Z, Loadcase 1376 MINF-UZ NODE FRECUENTE , 1 cm 3D = 20.0 mm

(Min=-26.0) (Max=-4.12)

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



Z
Y
X

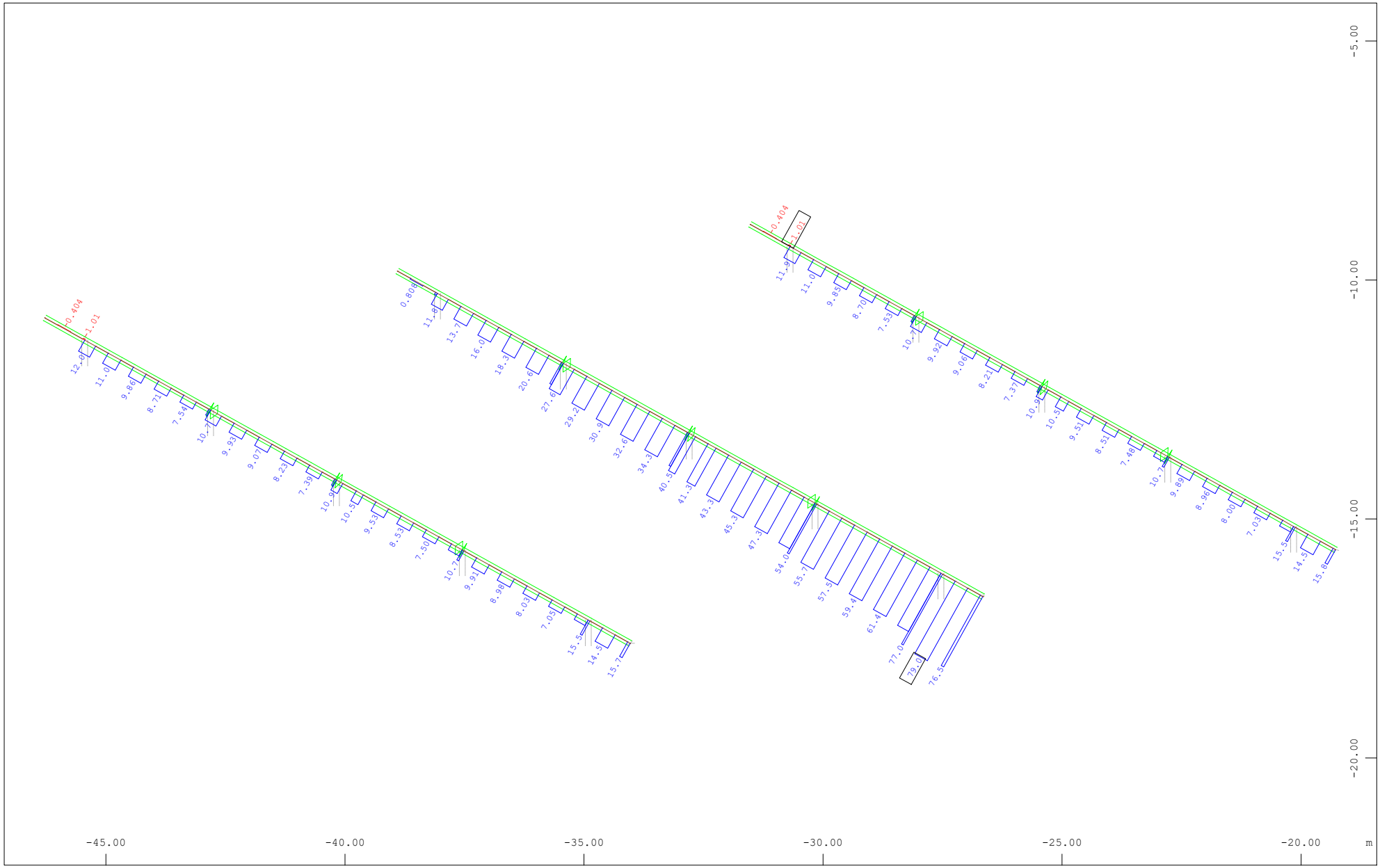
Sector of system Group 42

Nodal displacement in global Z, Loadcase 1476 MINP-UZ NODE CUASIPERM , 1 cm 3D = 20.0 mm

(Min=-25.9) (Max=-4.09)

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



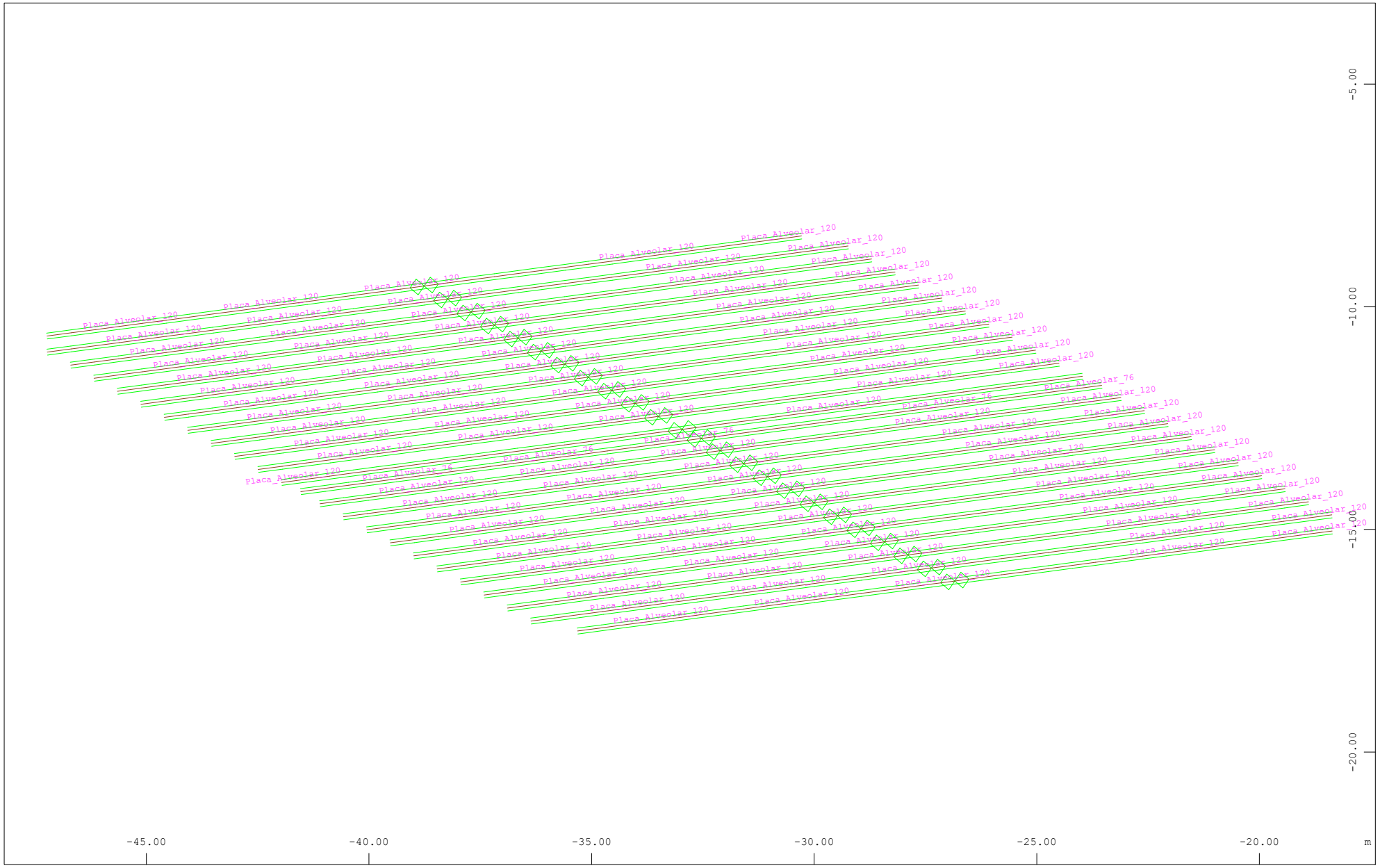
Z
Y
X

Sector of system Group 42

Beam Elements , Normal force Nx, Loadcase 2 AGUA , 1 cm 3D = 50.0 kN (Min=-1.01) (Max=79.0)

M 1 : 110

X * 0.502
Y * 0.906
Z * 0.962



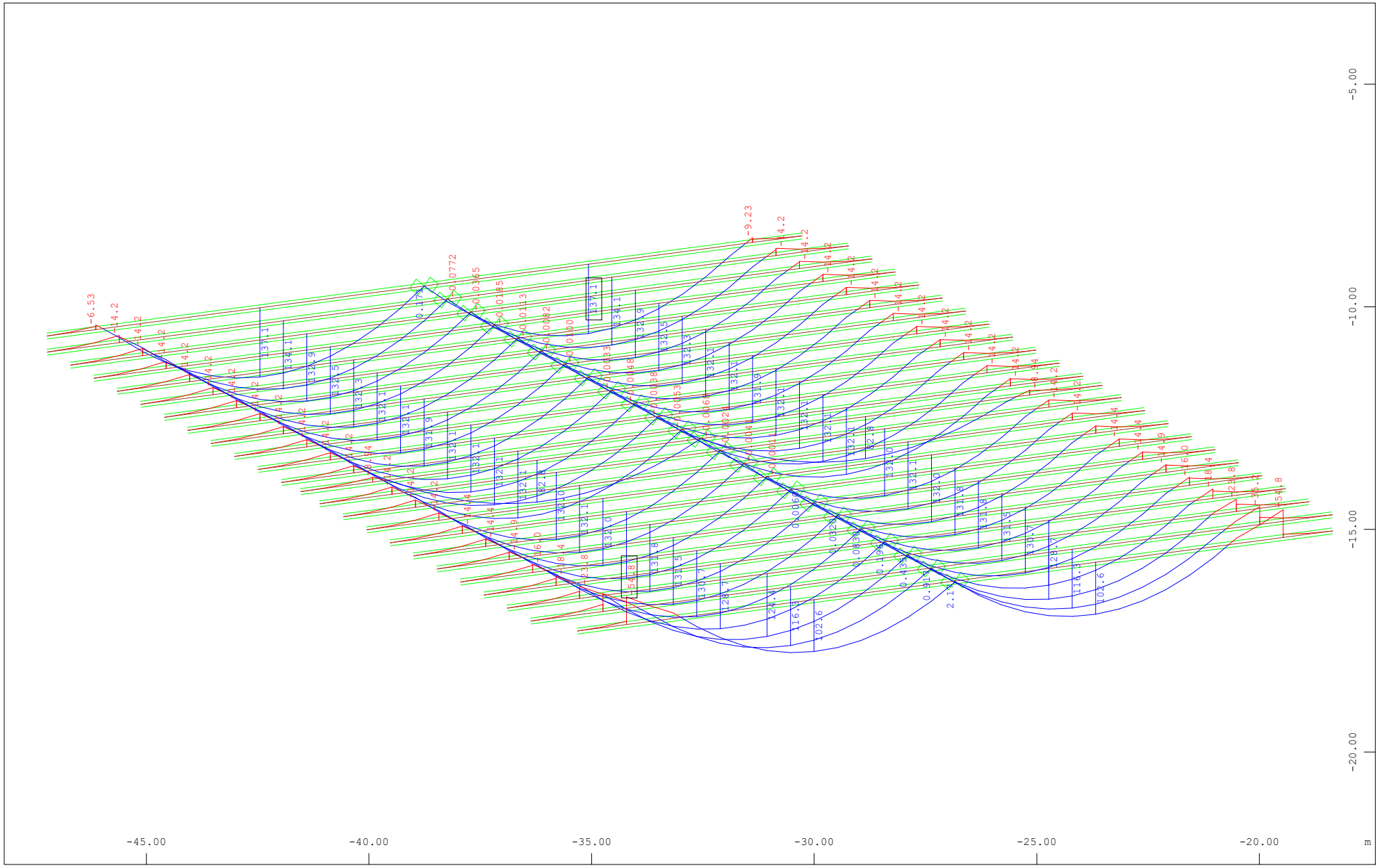
Z
Y
X

Sector of system Group 43

Beam Elements , Sectional Designations

M 1 : 118

X * 0.502
Y * 0.906
Z * 0.962



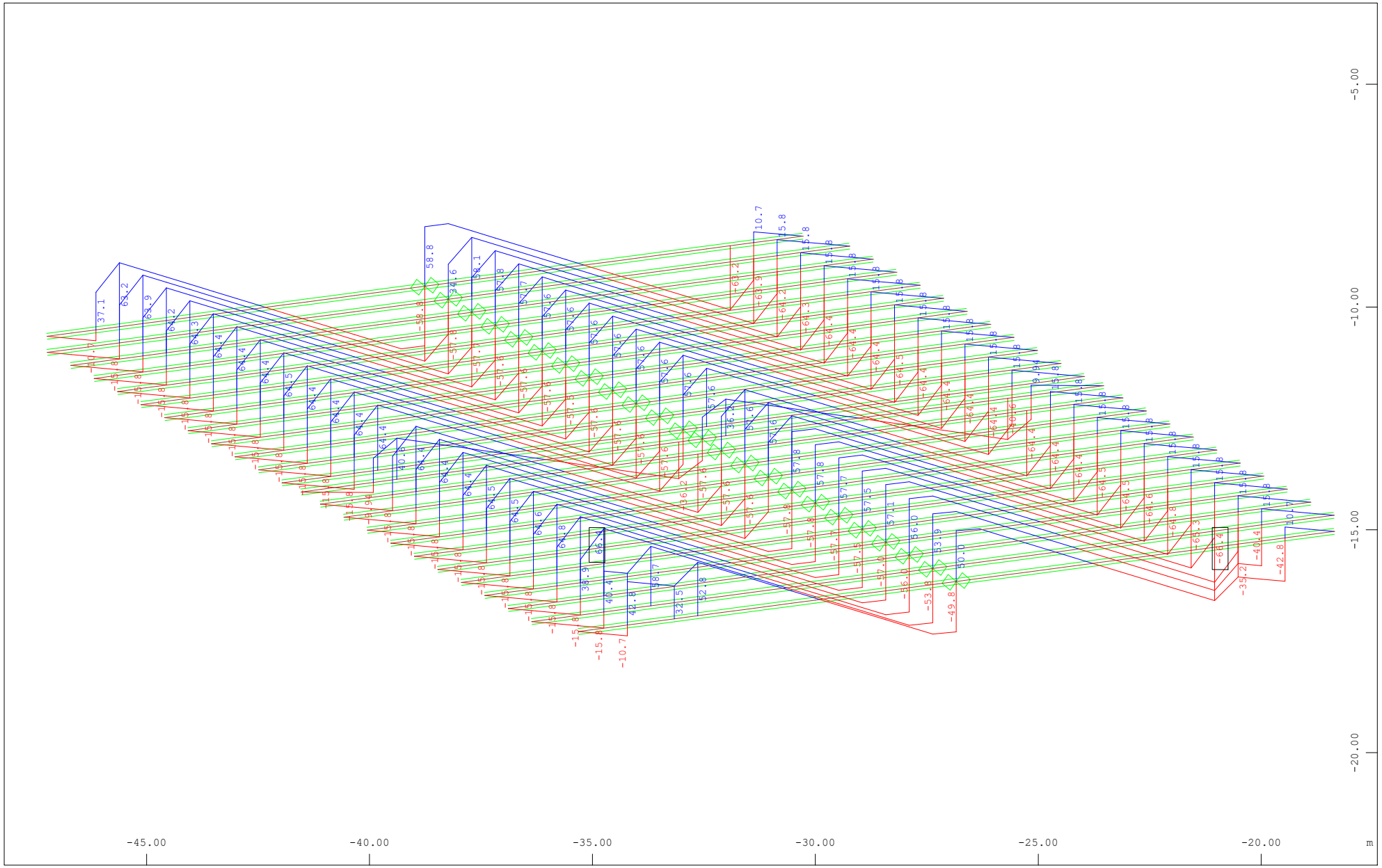
Z
Y
X

Sector of system Group 43

Beam Elements , Bending moment My, Loadcase 2129 MAX-MY BEAM ELU , 1 cm 3D = 100.0 kNm (Min=-54.8) (Max=137.1)

M 1 : 118

X * 0.502
Y * 0.906
Z * 0.962



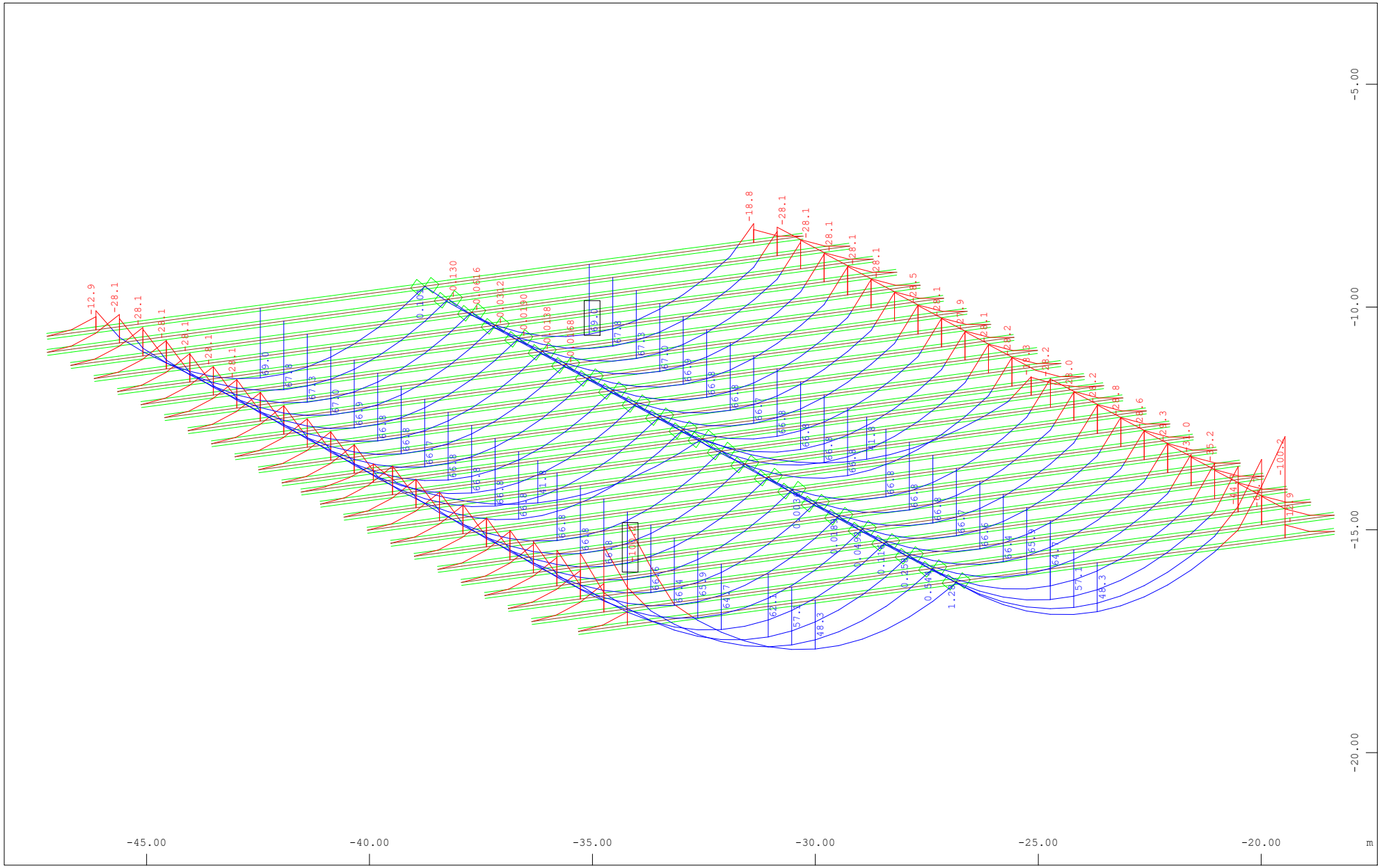
Z
Y
X

Sector of system Group 43

Beam Elements , Shear force Vz, Loadcase 2129 MAX-MY BEAM ELU , 1 cm 3D = 50.0 kN (Min=-66.4) (Max=66.4)

M 1 : 118

X * 0.502
Y * 0.906
Z * 0.962



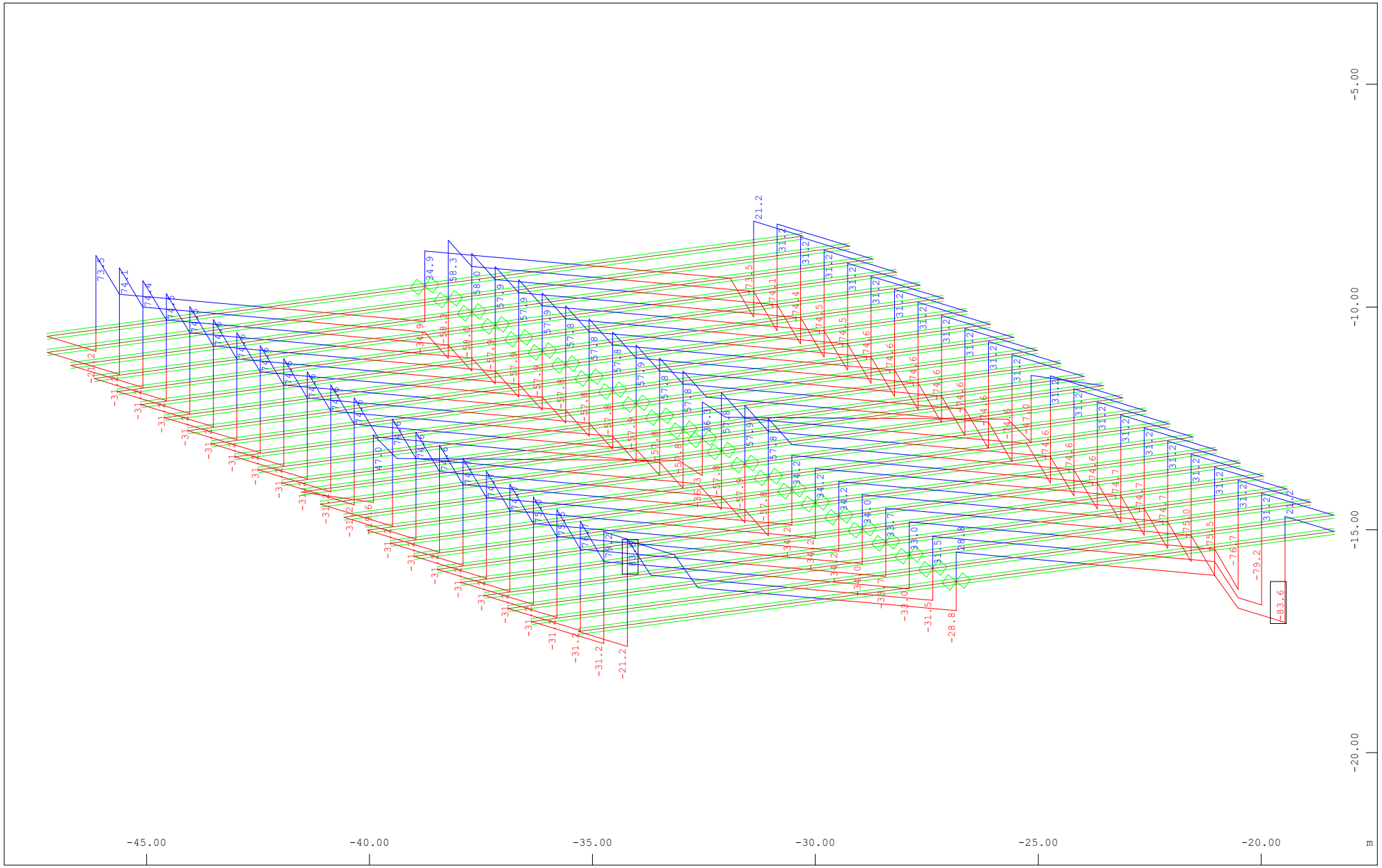
Z
Y
X

Sector of system Group 43

Beam Elements , Bending moment My, Loadcase 2130 MIN-MY BEAM ELU , 1 cm 3D = 50.0 kNm (Min=-100.2) (Max=69.0)

M 1 : 118

X * 0.502
Y * 0.906
Z * 0.962



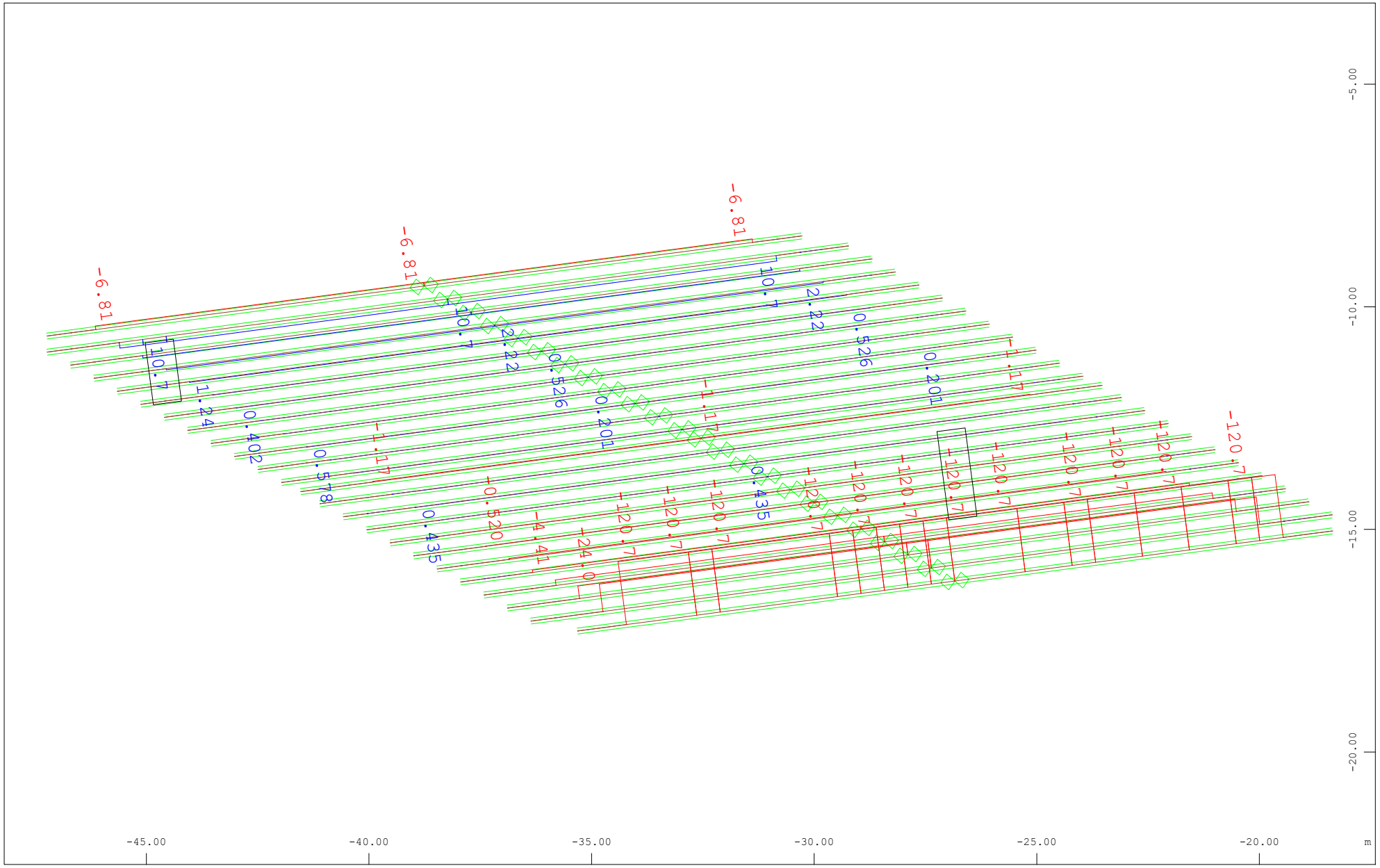
Z
Y
X

Sector of system Group 43

Beam Elements , Shear force Vz, Loadcase 2130 MIN-MY BEAM ELU , 1 cm 3D = 50.0 kN (Min=-83.6) (Max=83.6)

M 1 : 118

X * 0.502
Y * 0.906
Z * 0.962



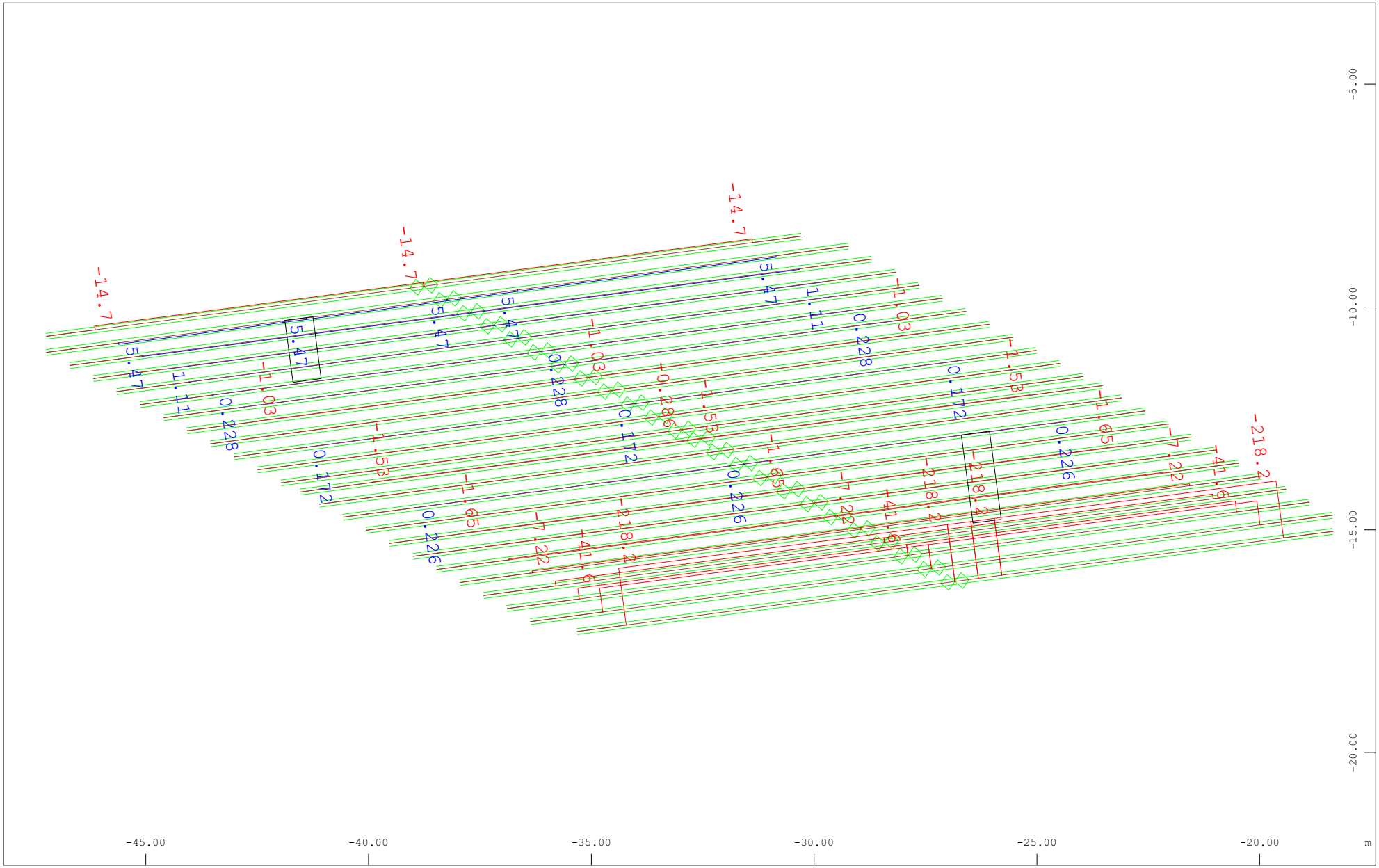
Z
Y
X

Sector of system Group 43

Beam Elements , Normal force Nx, Loadcase 2121 MAX-N BEAM ELU , 1 cm 3D = 100.0 kN (Min=-120.7) (Max=10.7)

M 1 : 118

X * 0.502
Y * 0.906
Z * 0.962



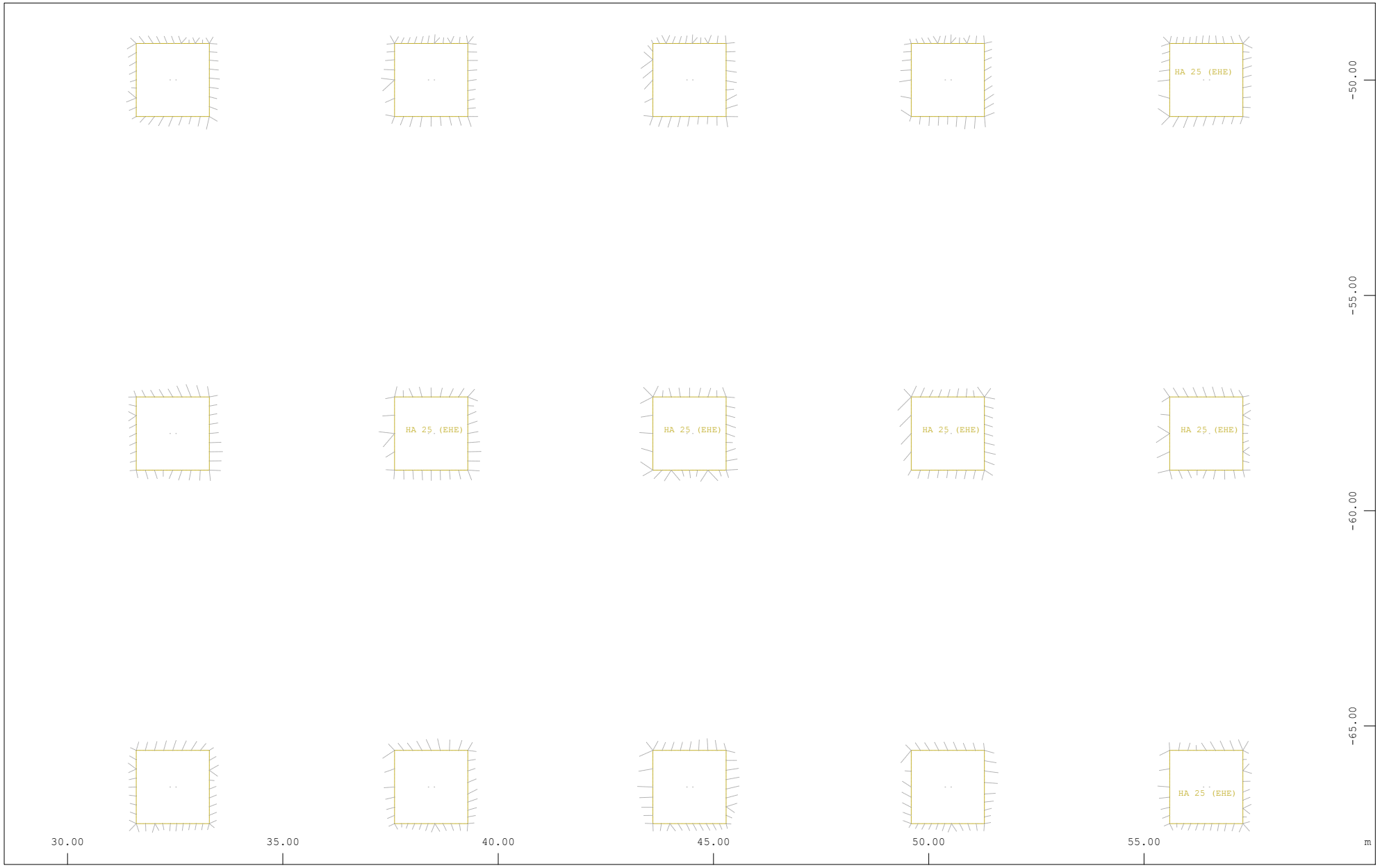
Z
Y
X

Sector of system Group 43

Beam Elements , Normal force Nx, Loadcase 2122 MIN-N BEAM ELU , 1 cm 3D = 200.0 kN (Min=-218.2) (Max=5.47)

M 1 : 118

X * 0.502
Y * 0.906
Z * 0.962

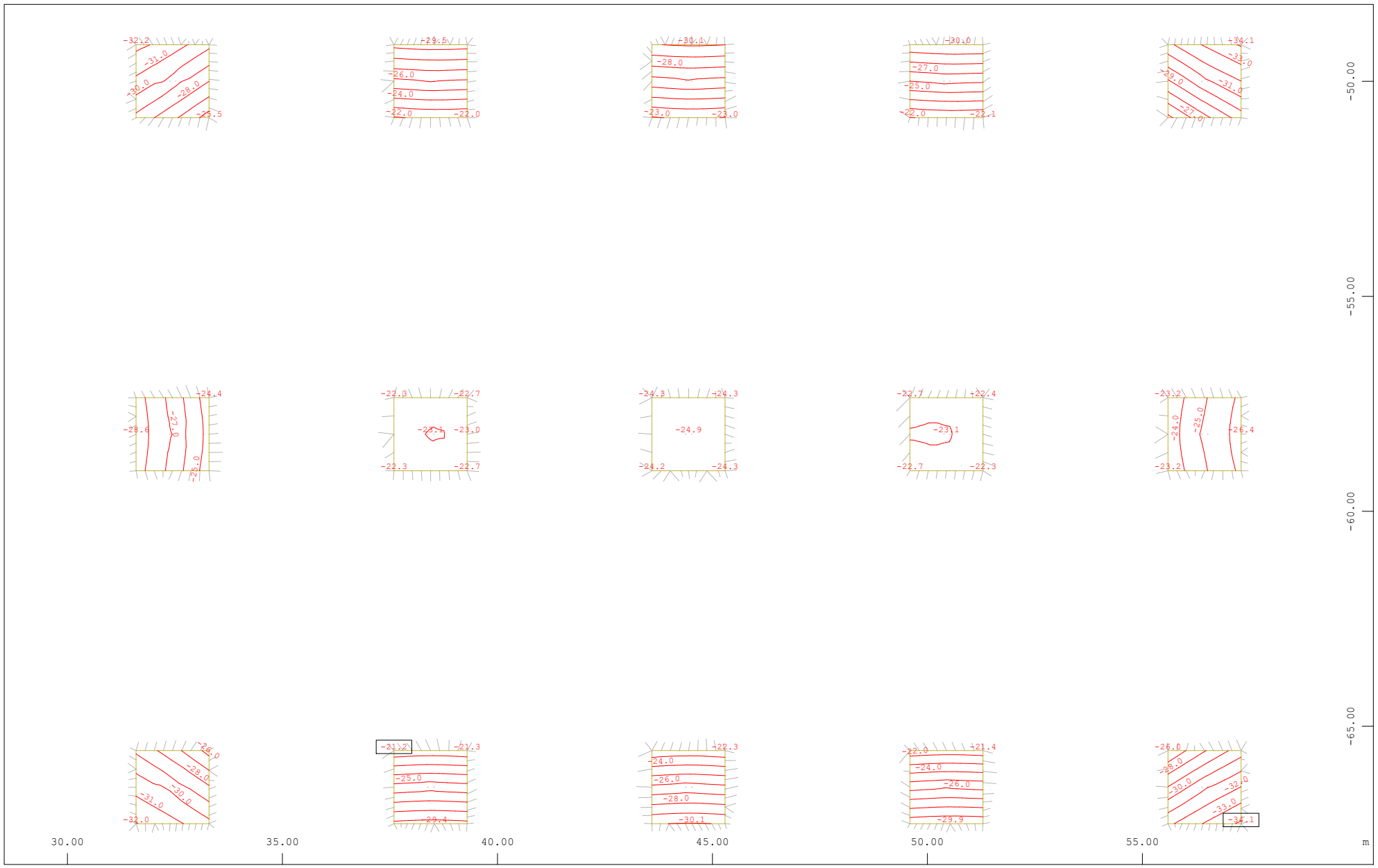


Y
Z X

Sector of system Group 14

Quadrilateral Elements , Material designations

M 1 : 122

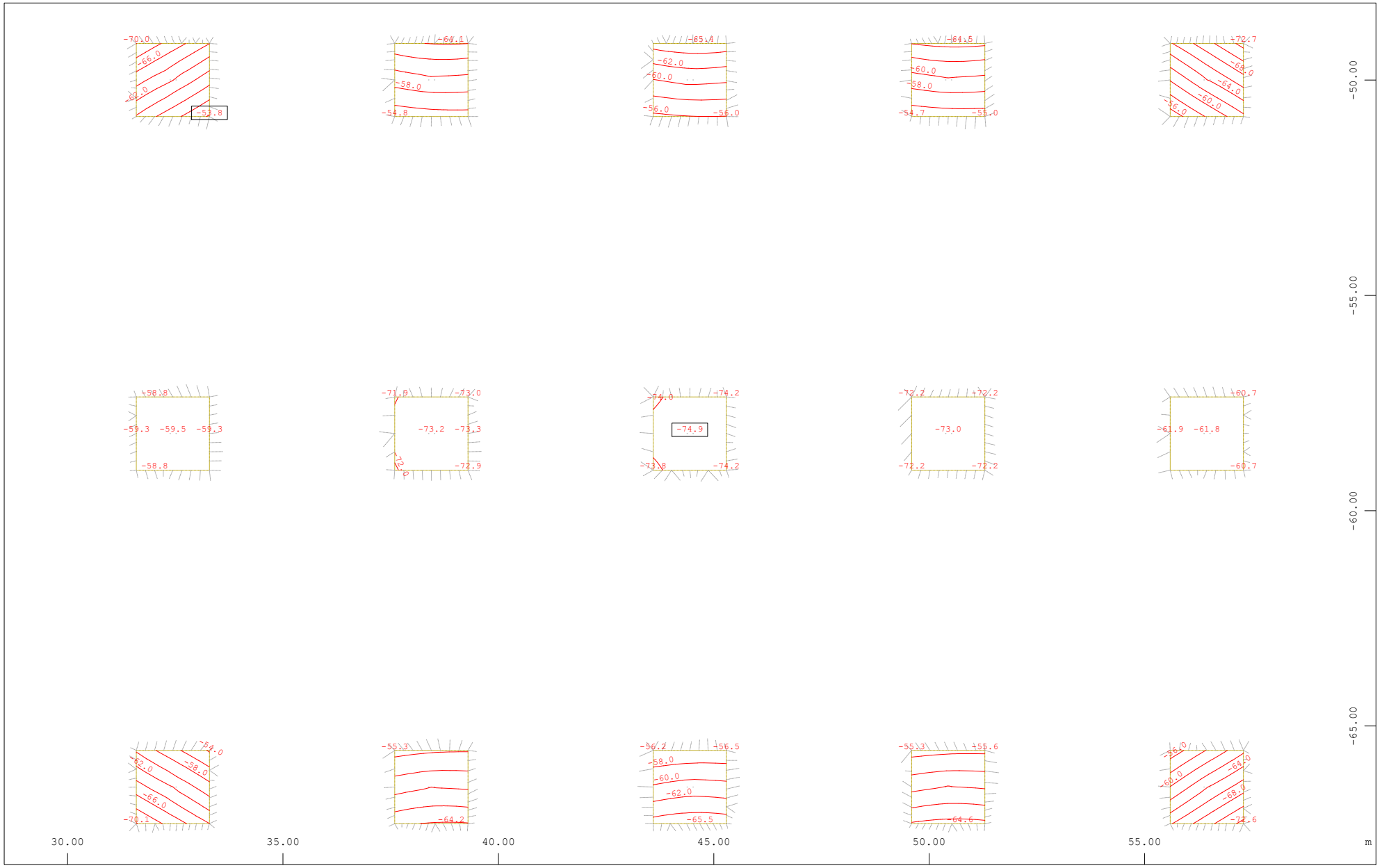


Y
Z X

Sector of system Group 14

Bedding stress in Node ◯, Loadcase 1117 MAXR-P QUAD RARA , from -34.1 to -21.2 step 1.00 kN/m2

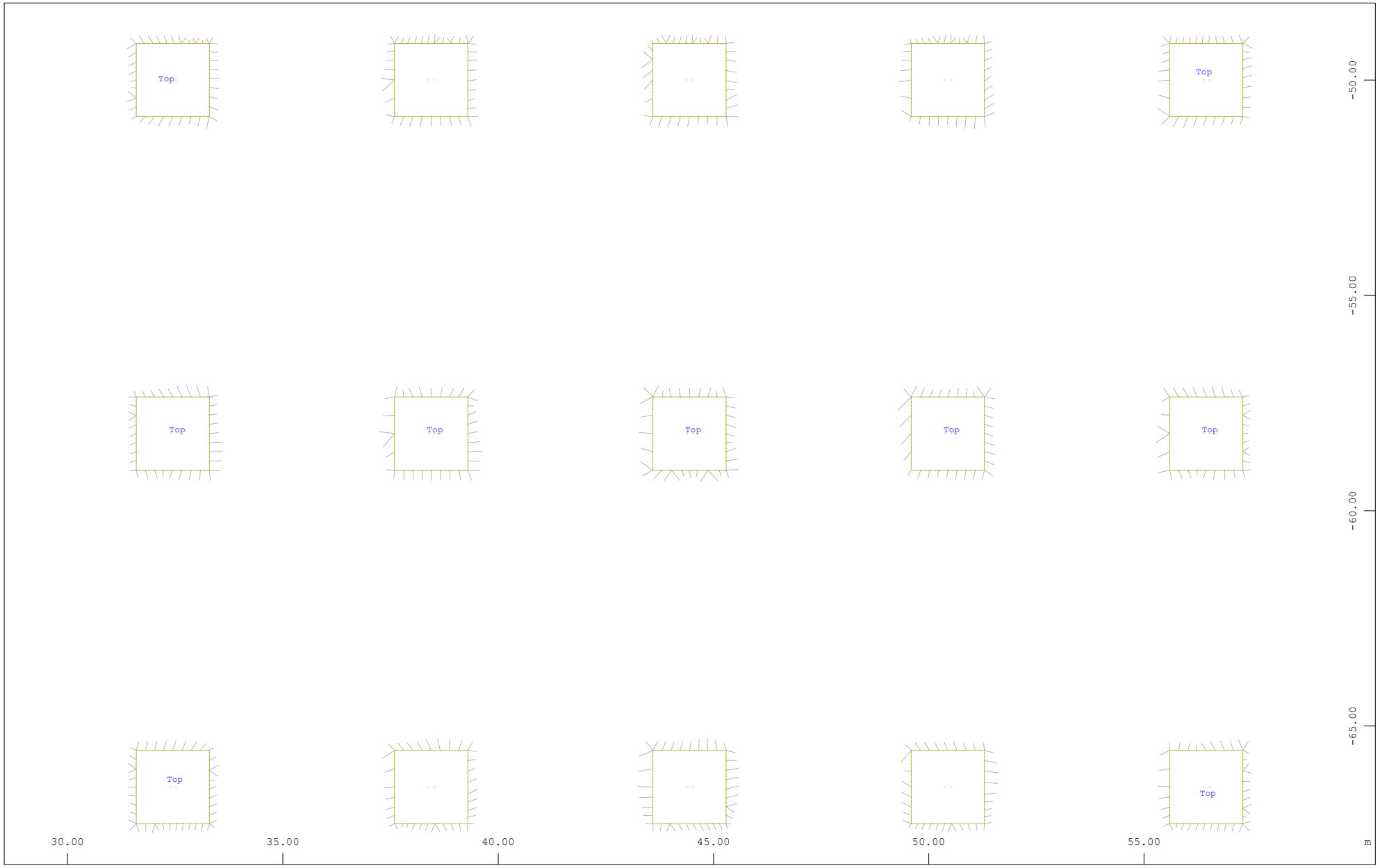
M 1 : 122



Sector of system Group 14

Bedding stress in Node ◯, Loadcase 1118 MINR-P QUAD RARA , from -74.9 to -53.8 step 2.00 kN/m2

M 1 : 122

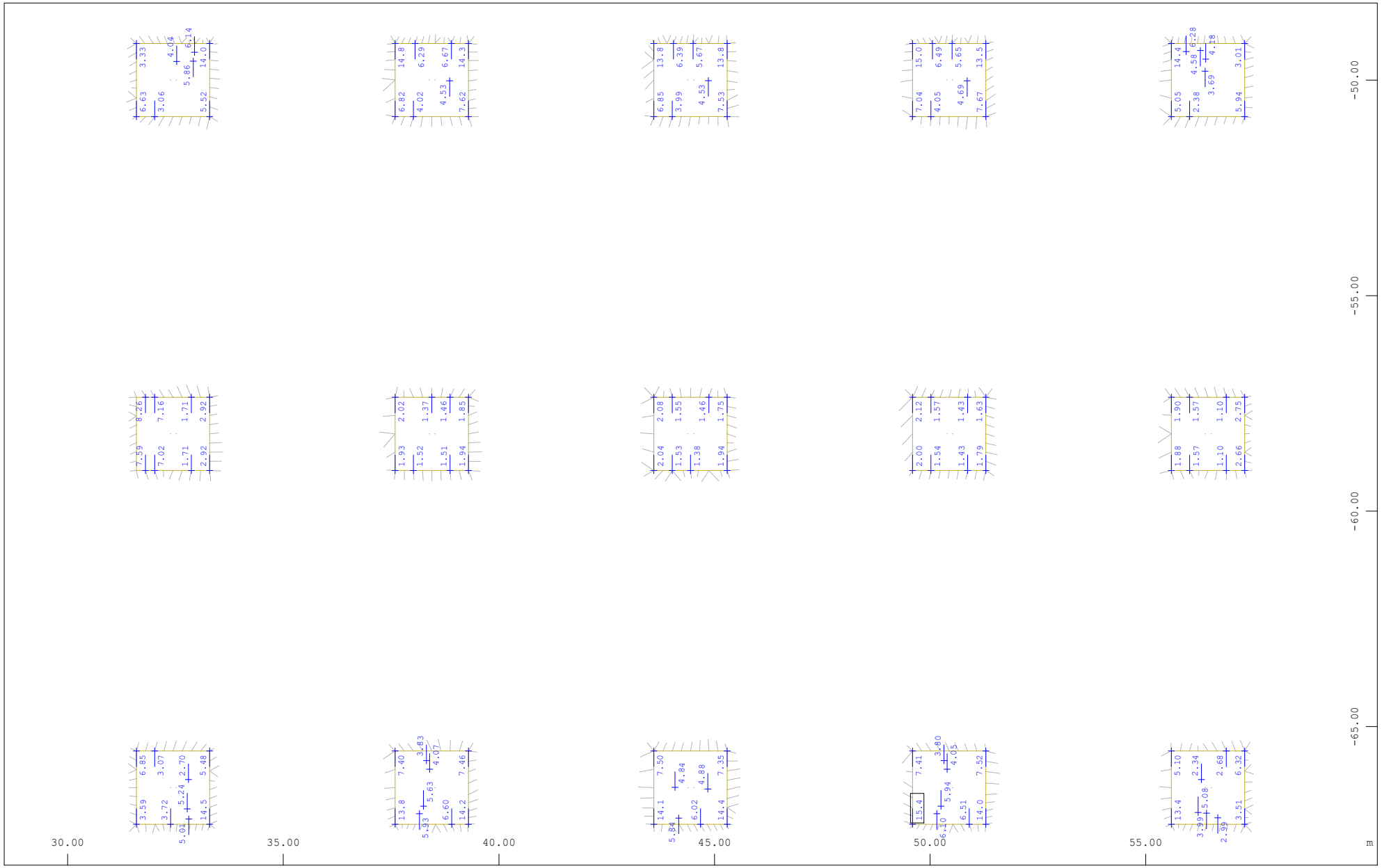


Y
Z X

Sector of system Group 14

Visible QUAD surface top/bottom in Element

M 1 : 122

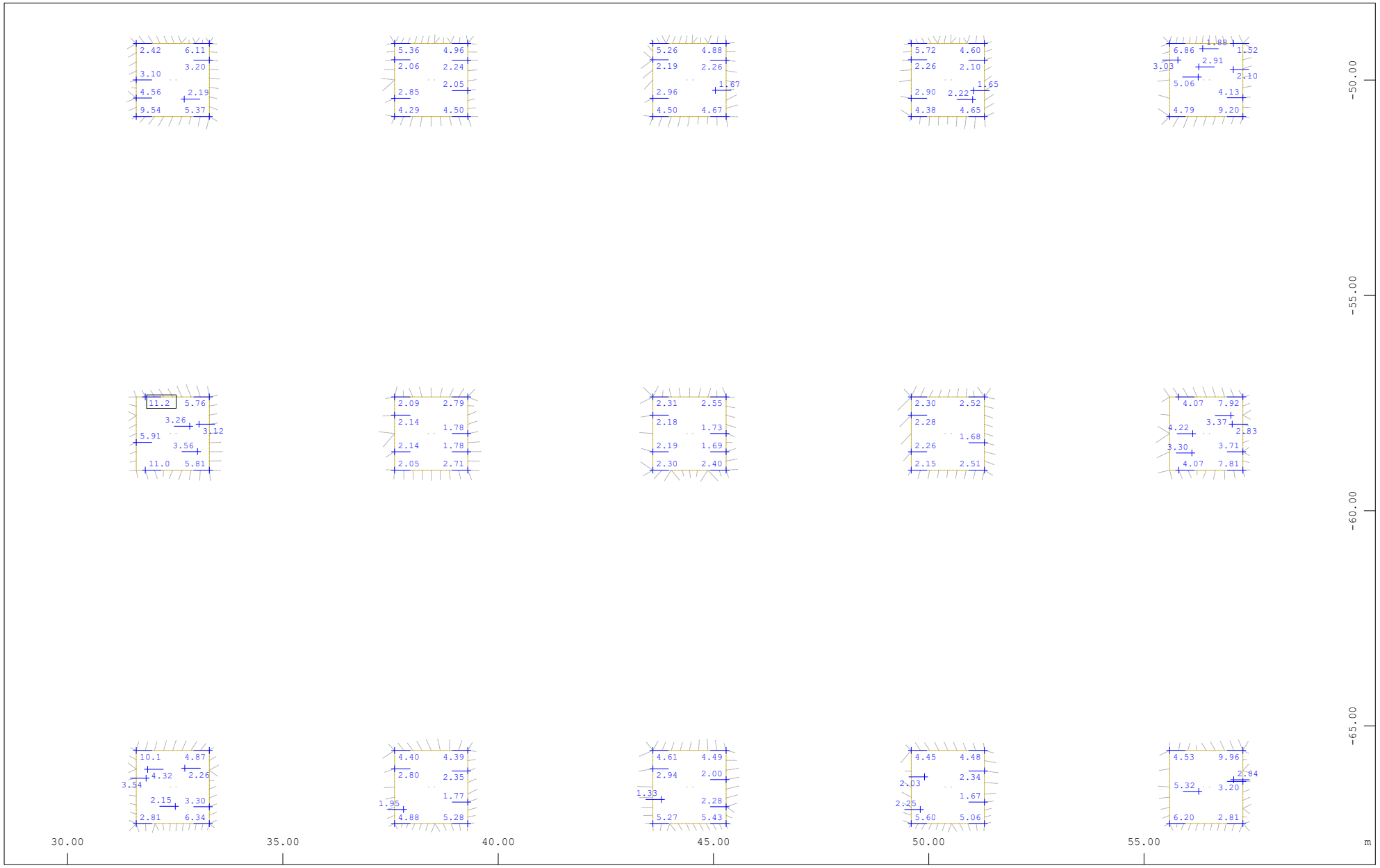


Y
Z X

Sector of system Group 14

Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=15.4)

M 1 : 122

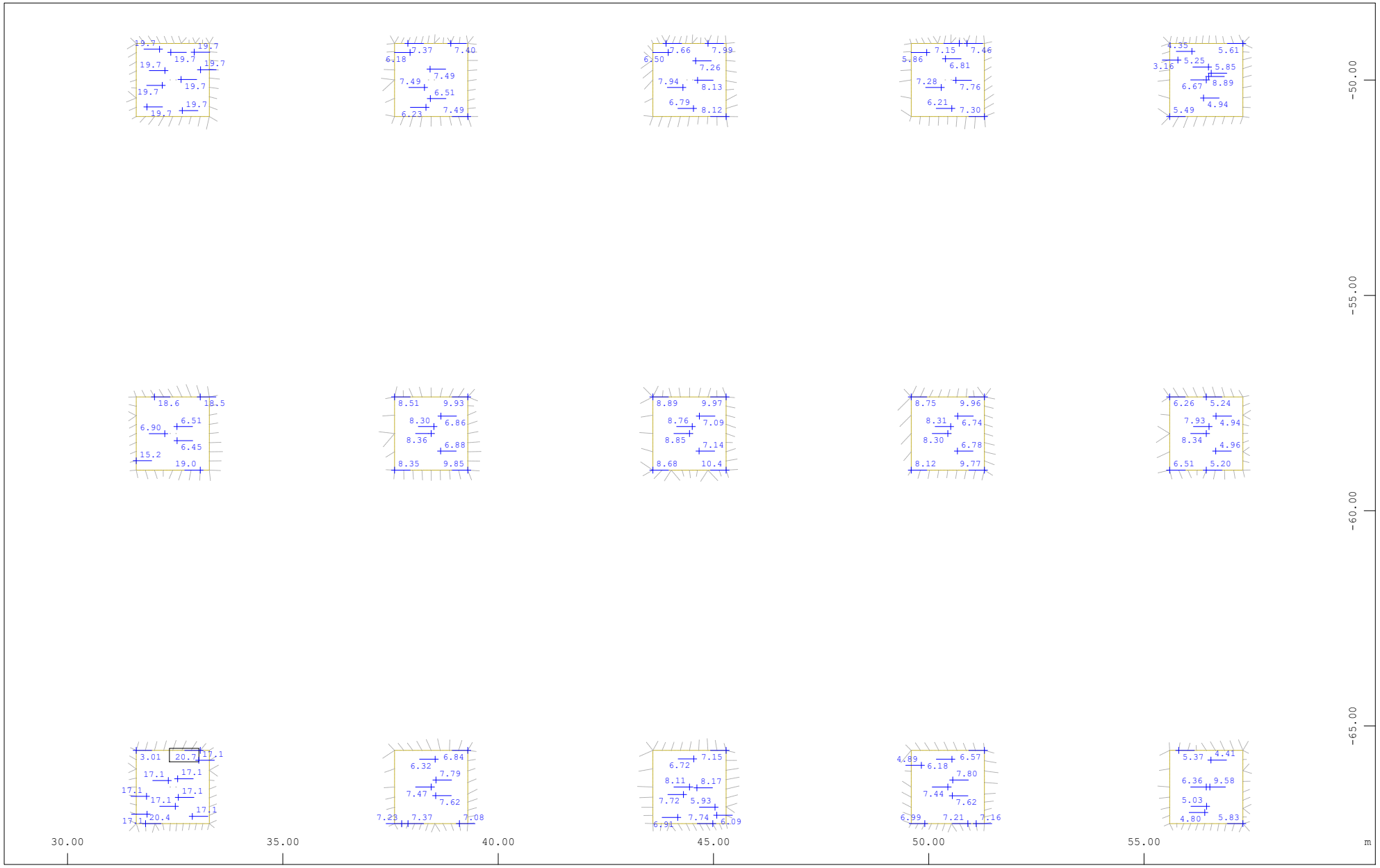


Y
Z X

Sector of system Group 14

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=11.2)

M 1 : 122

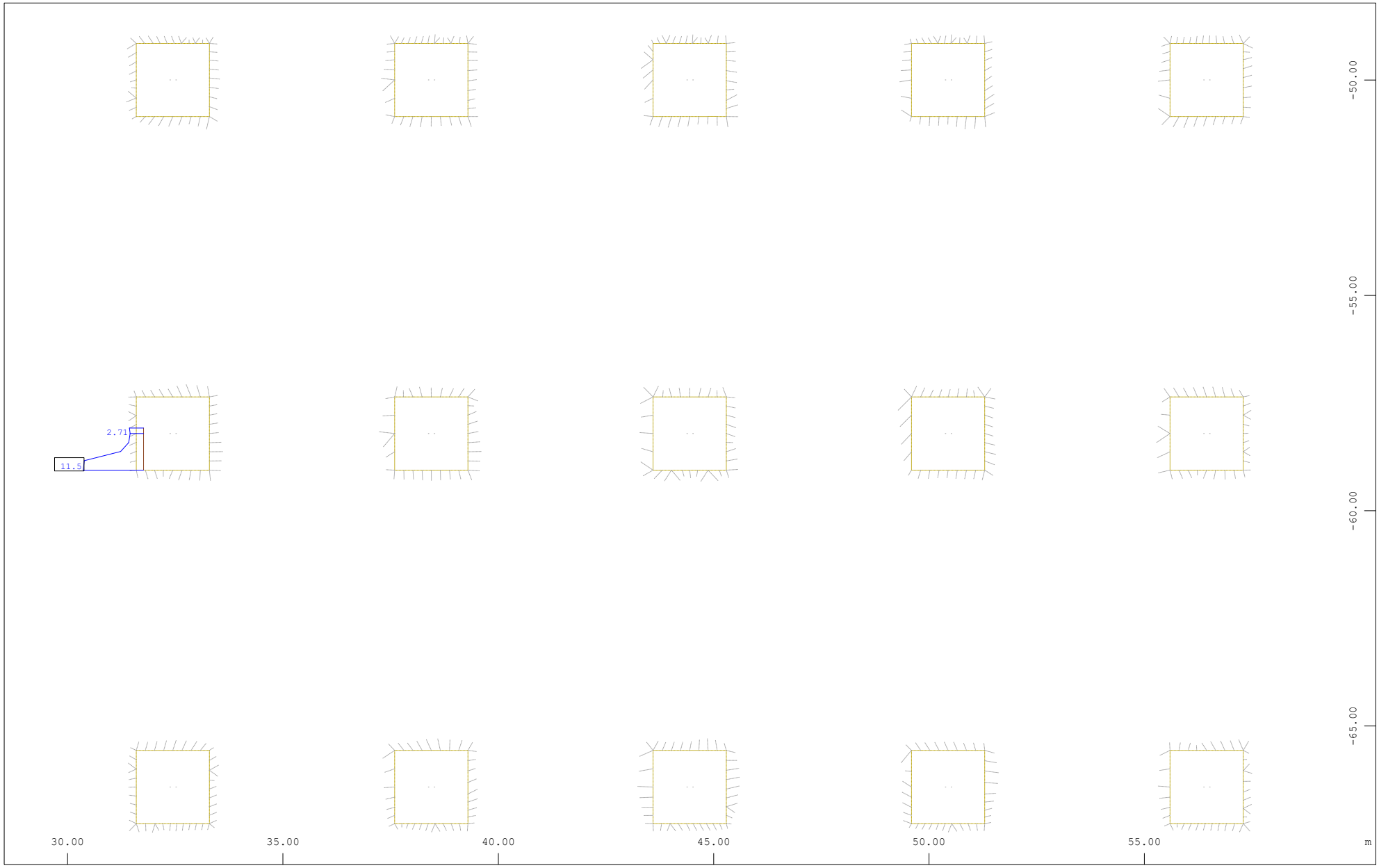


Y
Z X

Sector of system Group 14

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=20.7)

M 1 : 122

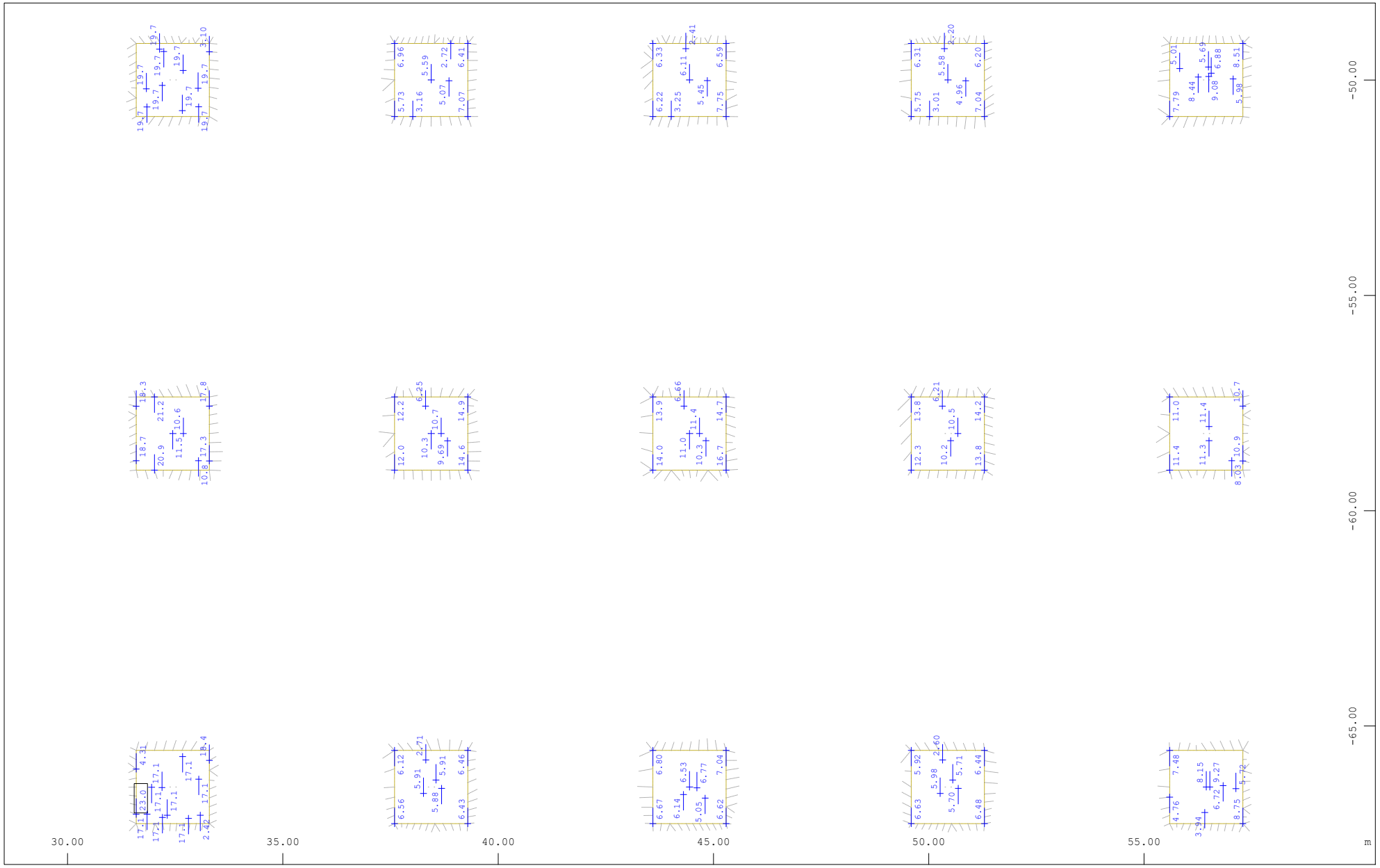


Y
Z X

Sector of system Group 14

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node , Design Case 2 , 1 cm 3D = 10.0 cm2/m (Max=11.5)

M 1 : 122

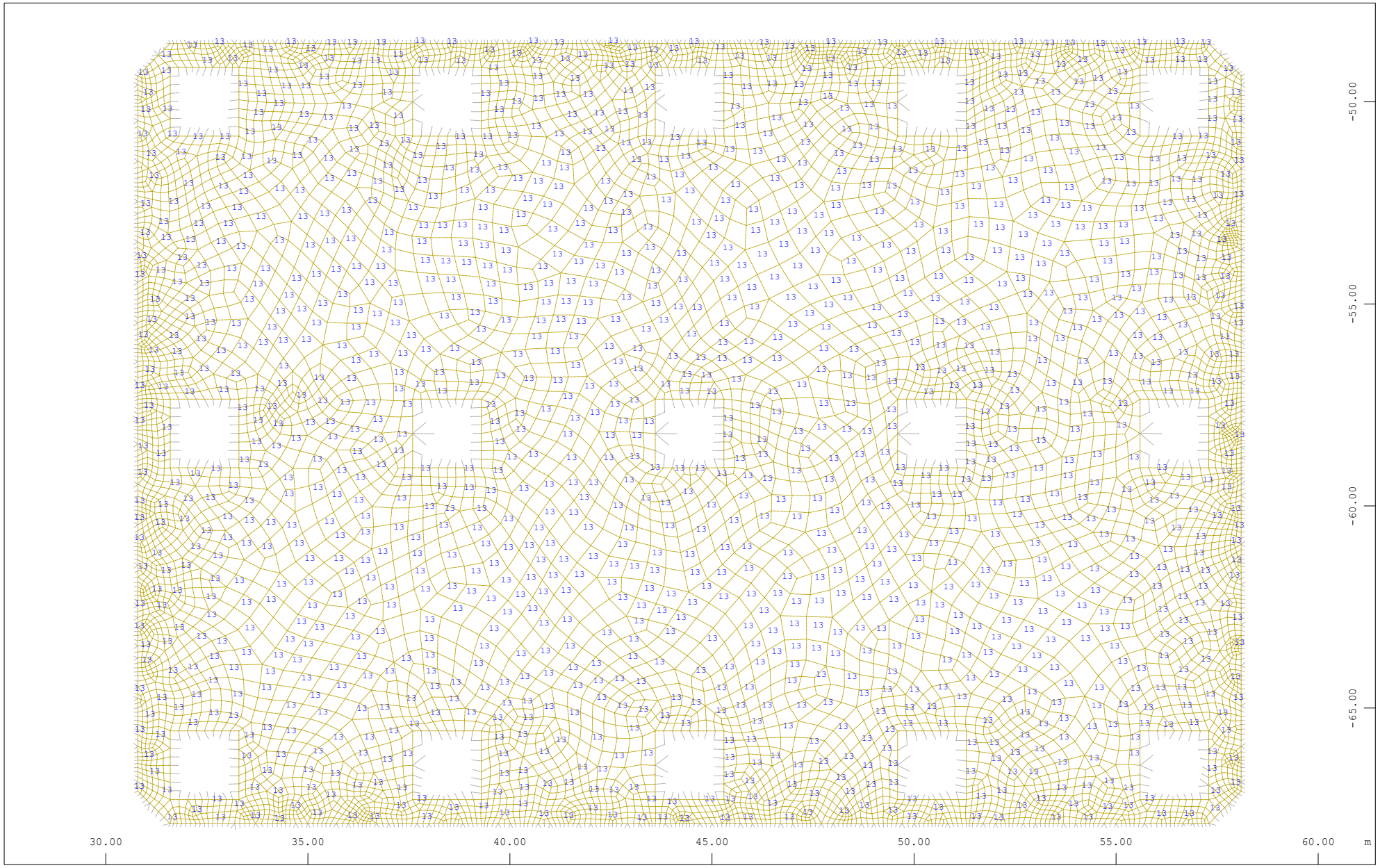


Y
Z—X

Sector of system Group 14

Quadrilateral Elements , lower Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=23.0)

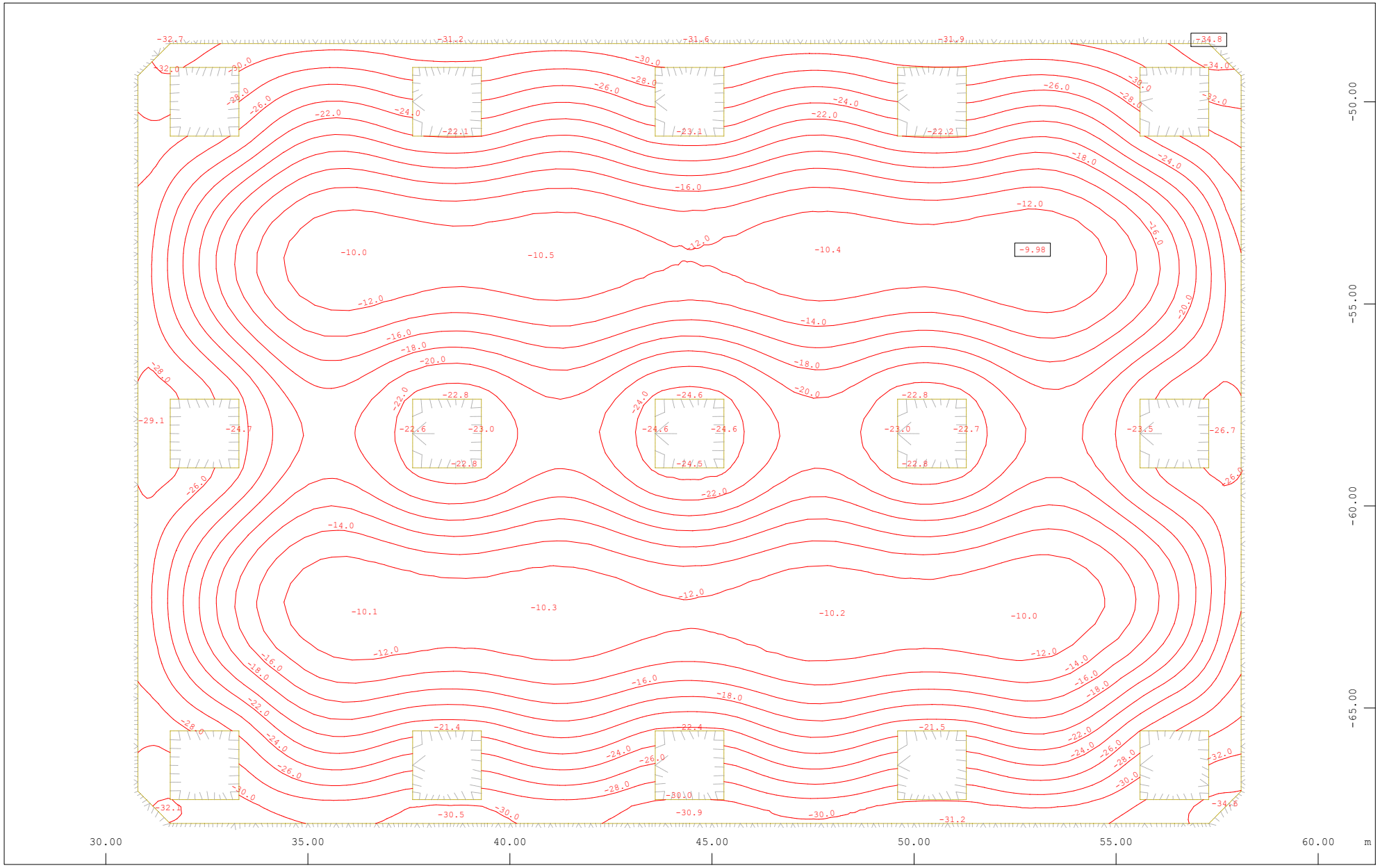
M 1 : 122



Y
Z X Sector of system Group 13

Quadrilateral Elements , Number of group (Max=13)

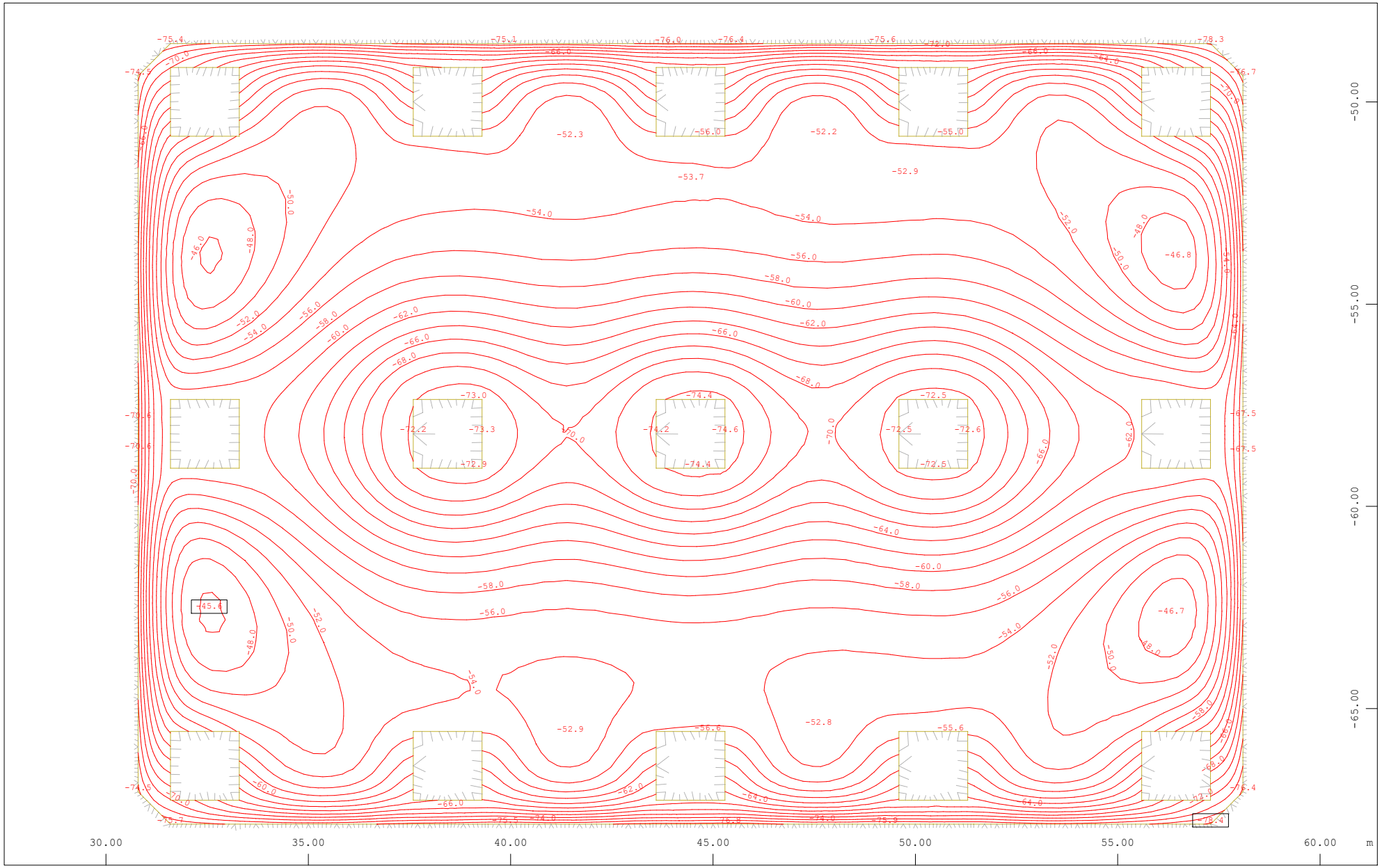
M 1 : 130



Y
Z—X Sector of system Group 13

Bedding stress in Node ◯, Loadcase 1117 MAXR-P QUAD RARA , from -34.8 to -9.98 step 2.00 kN/m2

M 1 : 130

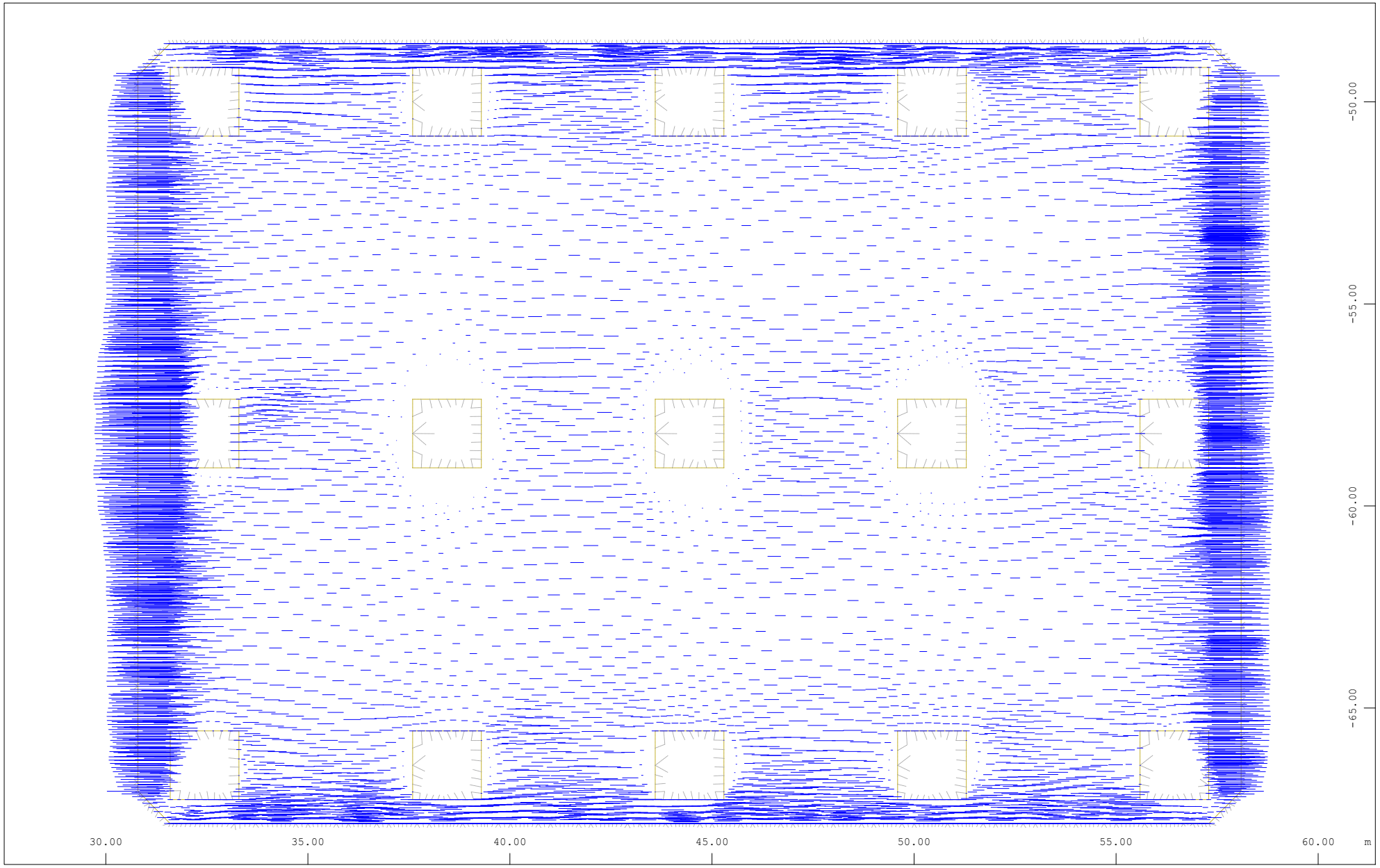


Y
Z X

Sector of system Group 13

Bedding stress in Node ◯, Loadcase 1118 MINR-P QUAD RARA , from -78.4 to -45.6 step 2.00 kN/m2

M 1 : 130



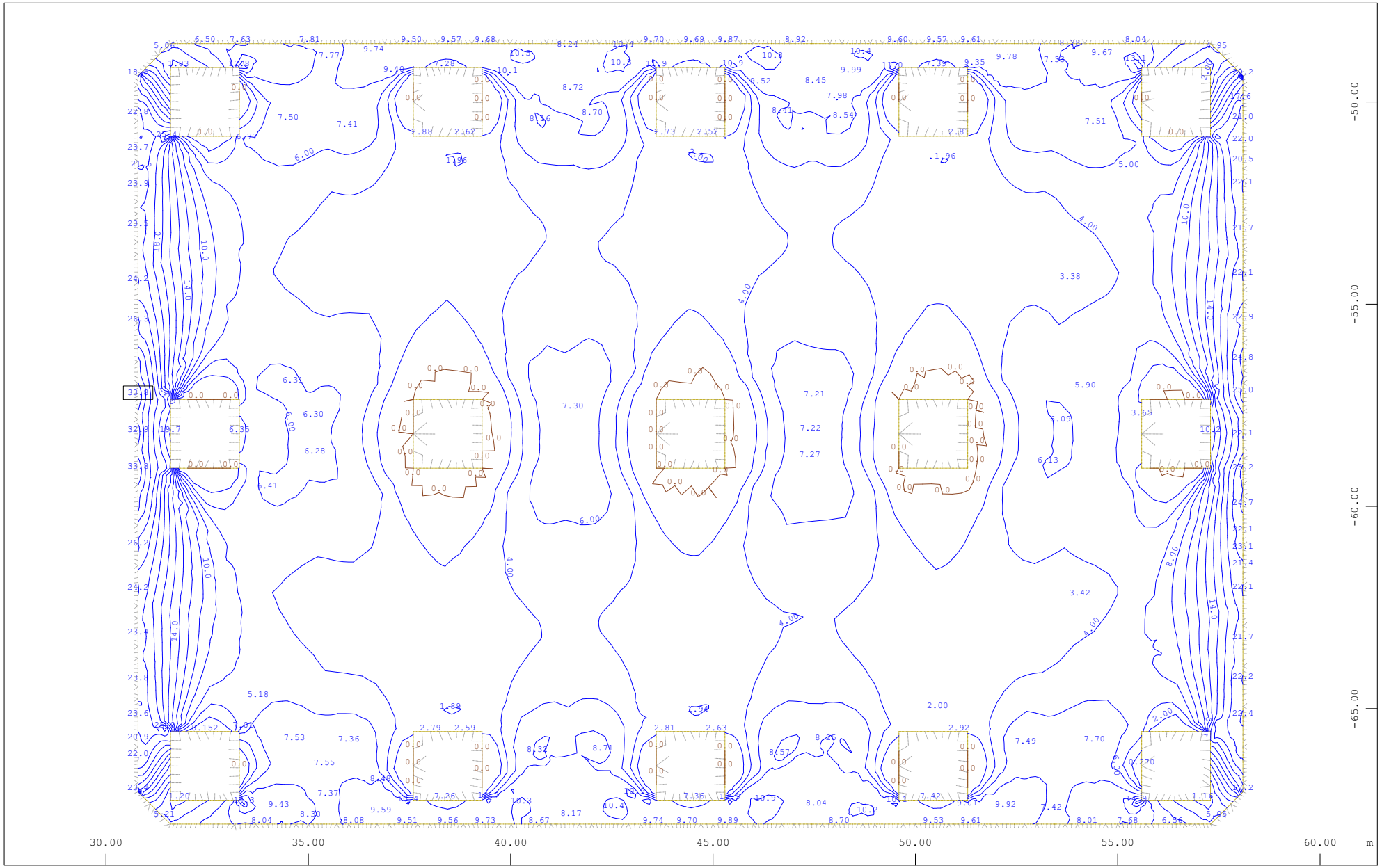
Y
Z X

Sector of system Group 13

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node, Design Case 2 , 1 cm 3D = 20.0 cm2/m

+= -= (Max=33.8)

M 1 : 130

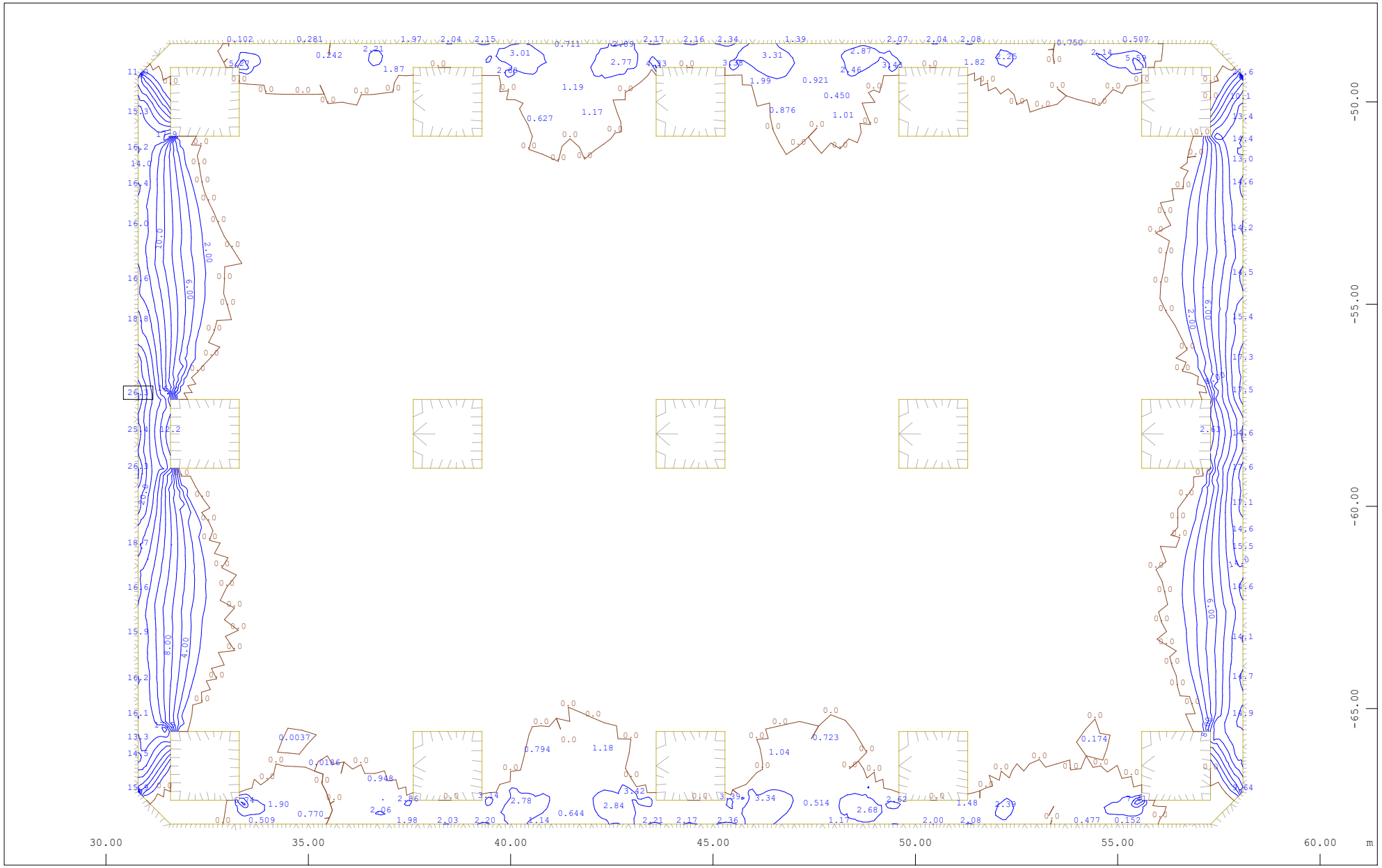


Y
Z X

Sector of system Group 13

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node , Design Case 2 , from 0 to 33.8 step 2.00 cm2/m

M 1 : 130



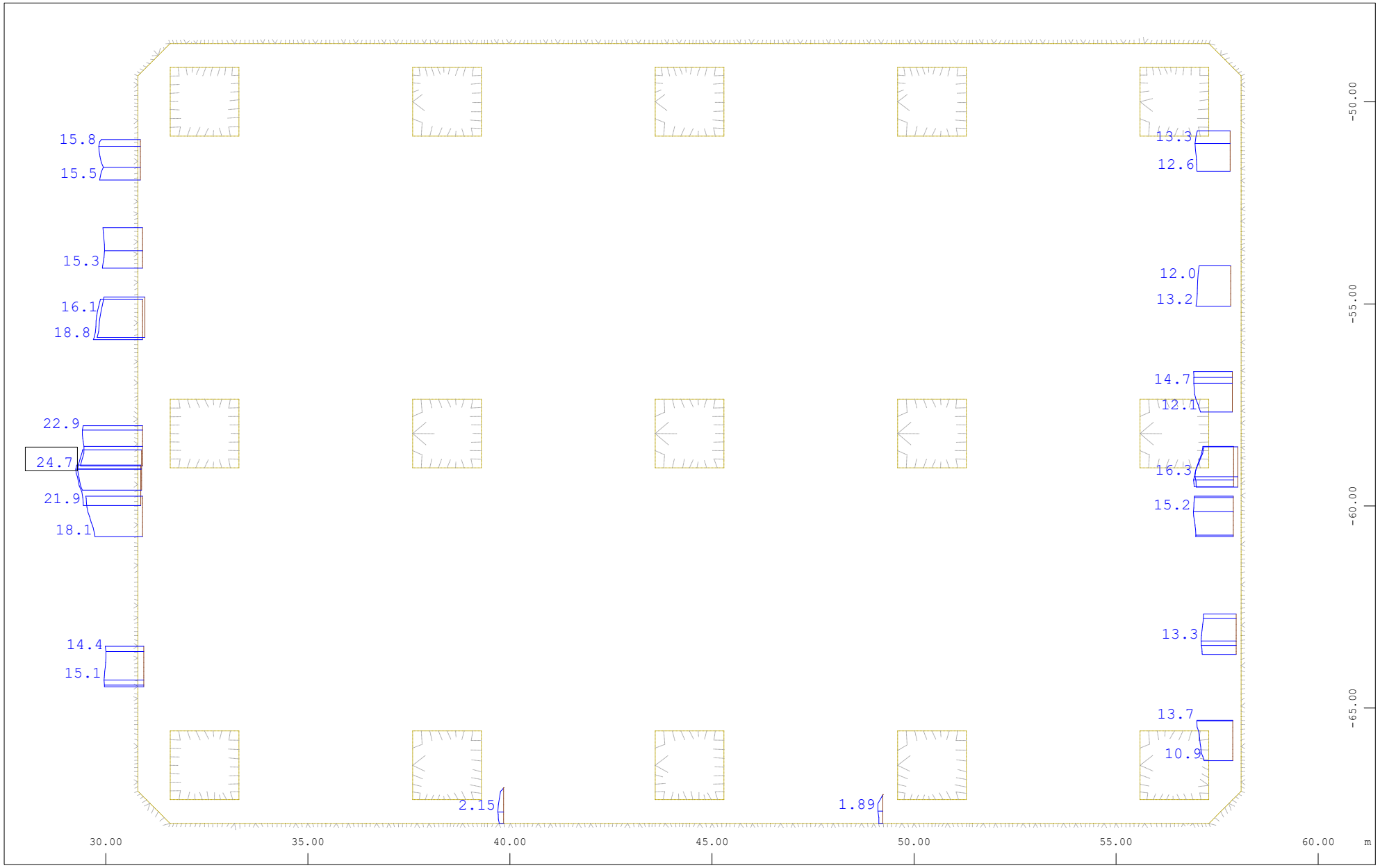
Y
Z—X

Sector of system Group 13

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node , Design Case 2 , Differences to 7.53, from 0 to 26.3 step

2.00 cm2/m

M 1 : 130



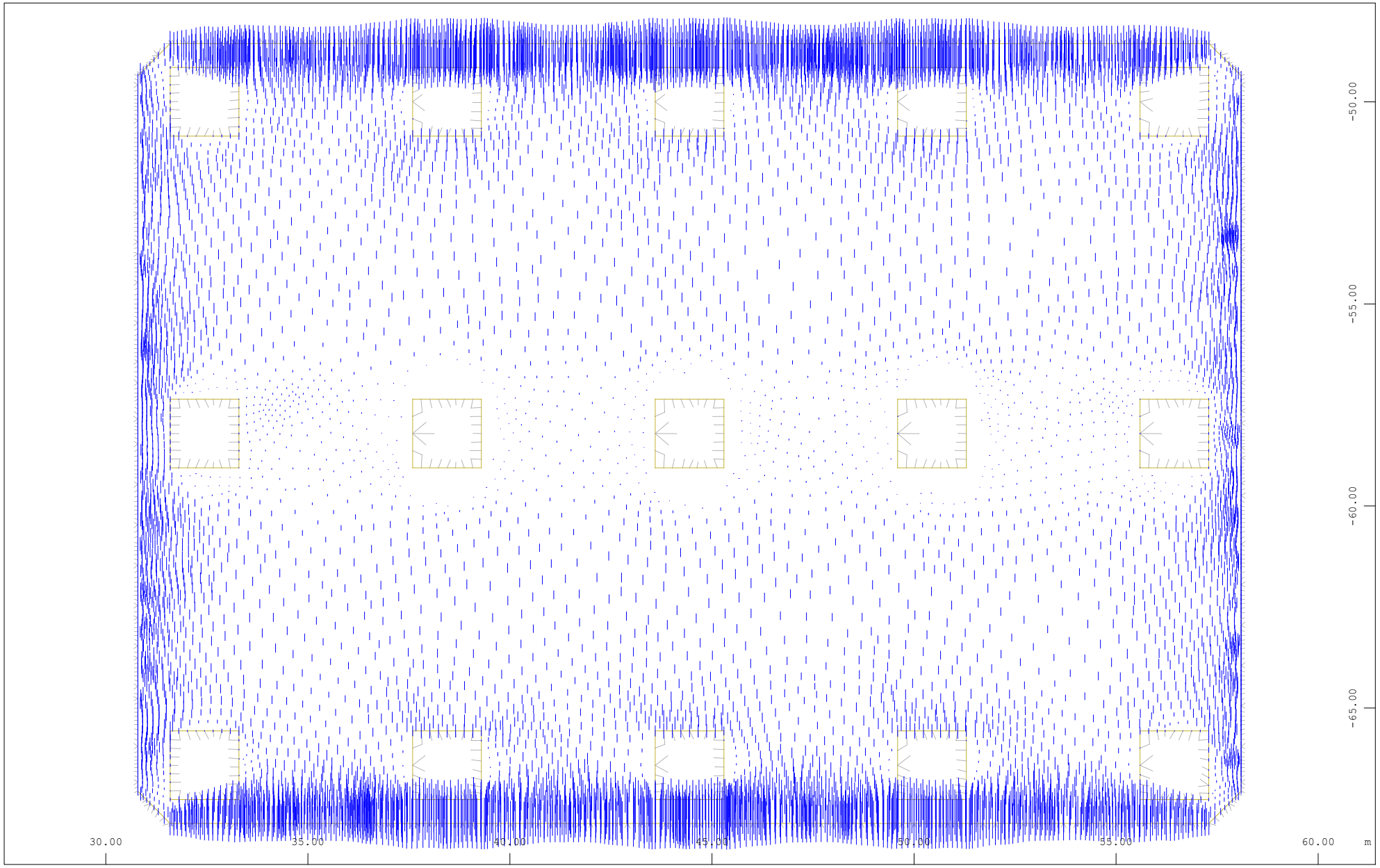
Y
Z X

Sector of system Group 13

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node , Design Case 2 , Differences to 7.53, 1 cm 3D = 20.0 cm2/m

(Max=24.7)

M 1 : 130



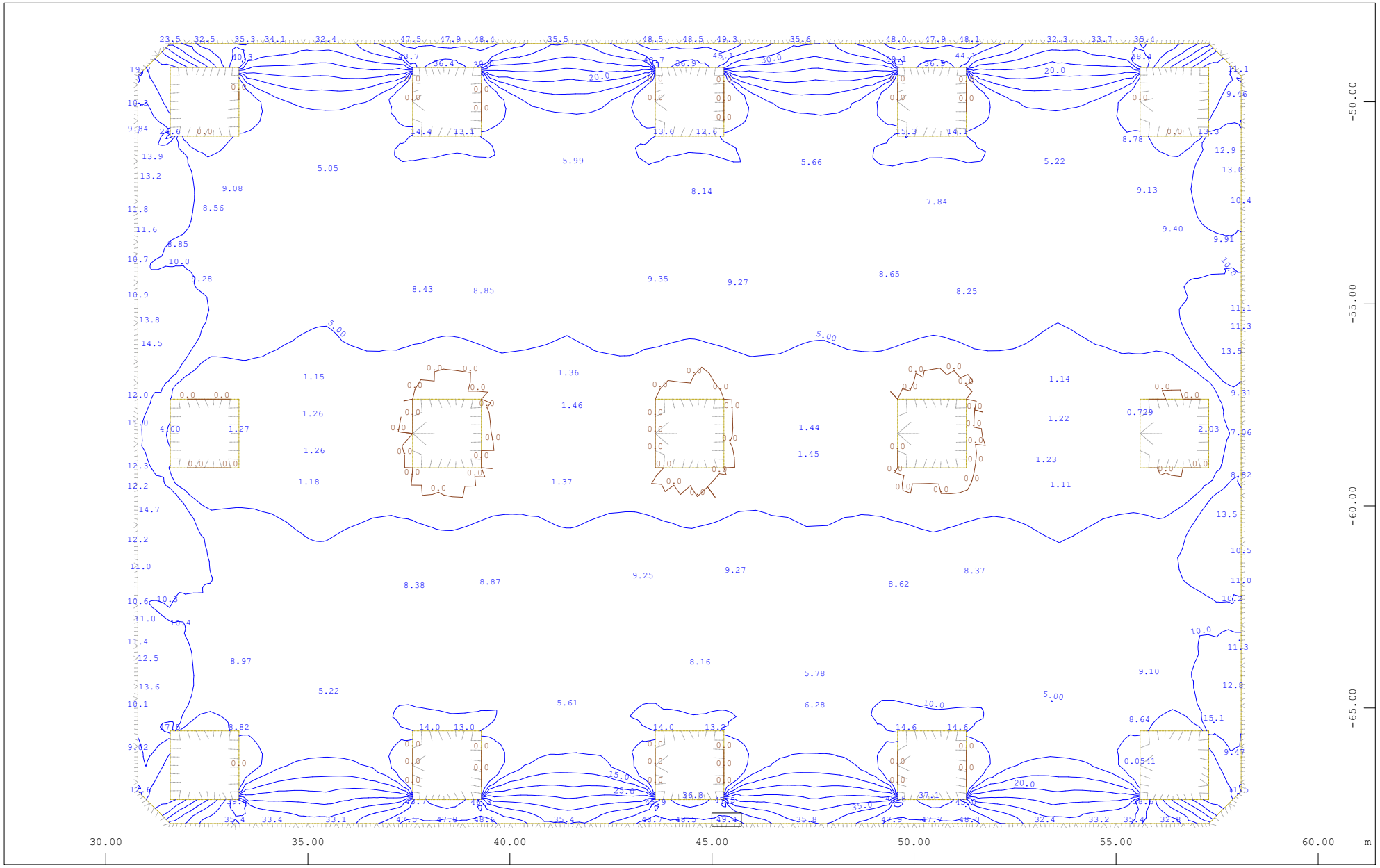
Y
Z X

Sector of system Group 13

Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node, Design Case 2 , 1 cm 3D = 50.0 cm2/m

+= -= (Max=49.4)

M 1 : 130

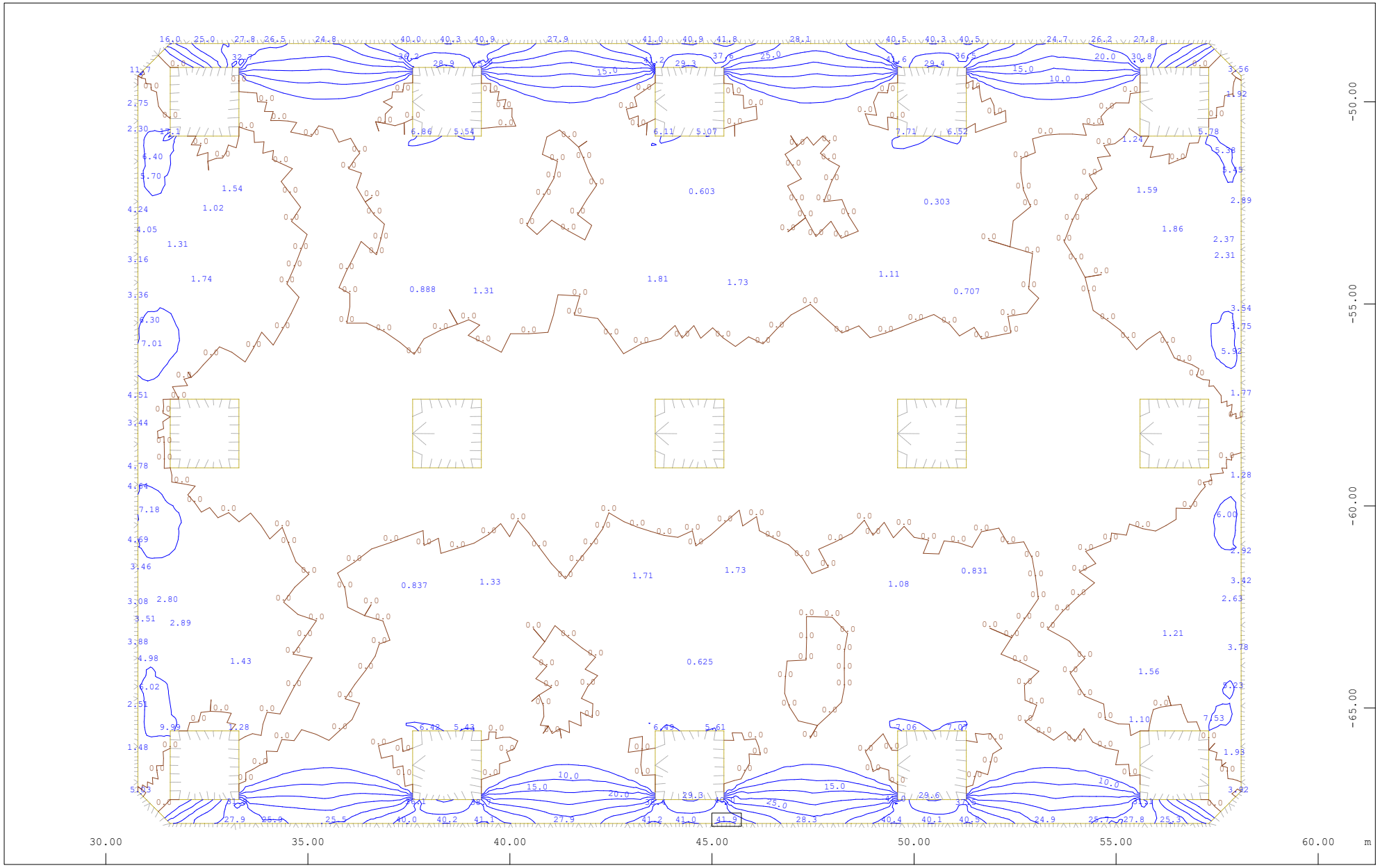


Y
Z X

Sector of system Group 13

Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node , Design Case 2 , from 0 to 49.4 step 5.00 cm2/m

M 1 : 130

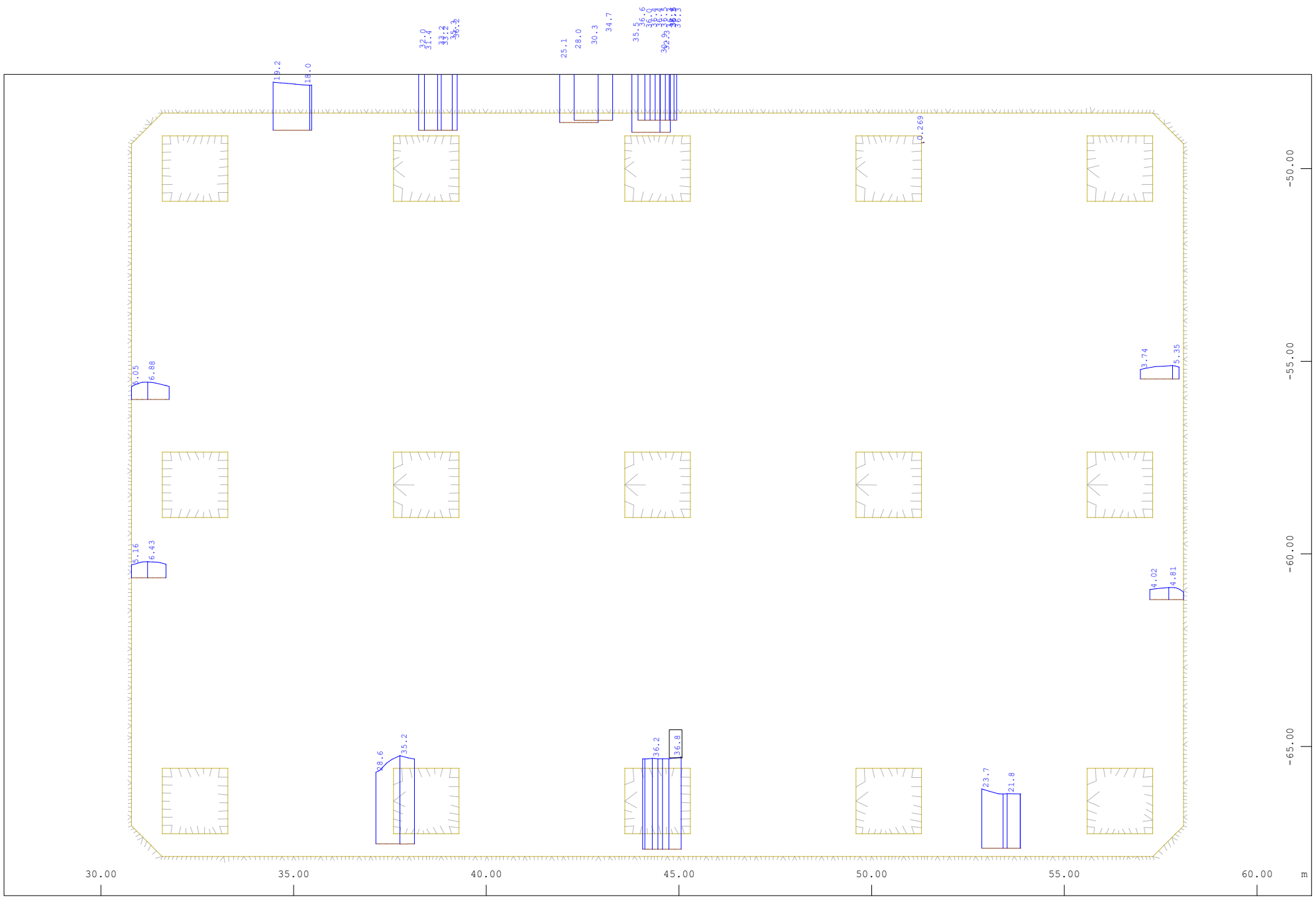


Sector of system Group 13

Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node , Design Case 2 , Differences to 7.54, from 0 to 41.9 step 5.00

cm2/m

M 1 : 130

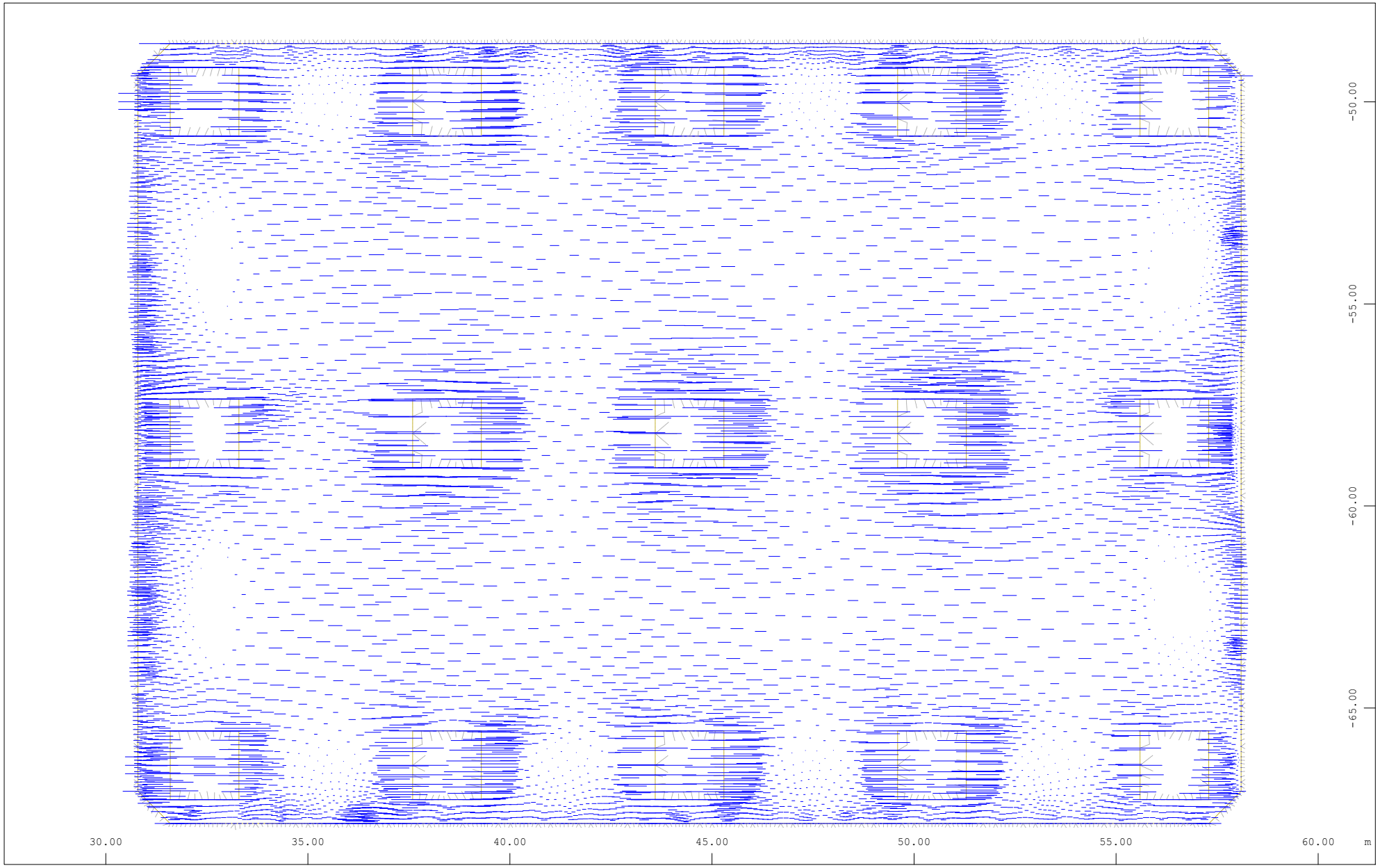


Sector of system Group 13

Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node , Design Case 2 , Differences to 7.54, 1 cm 3D = 20.0 cm2/m

(Max=36.8)

M 1 : 130



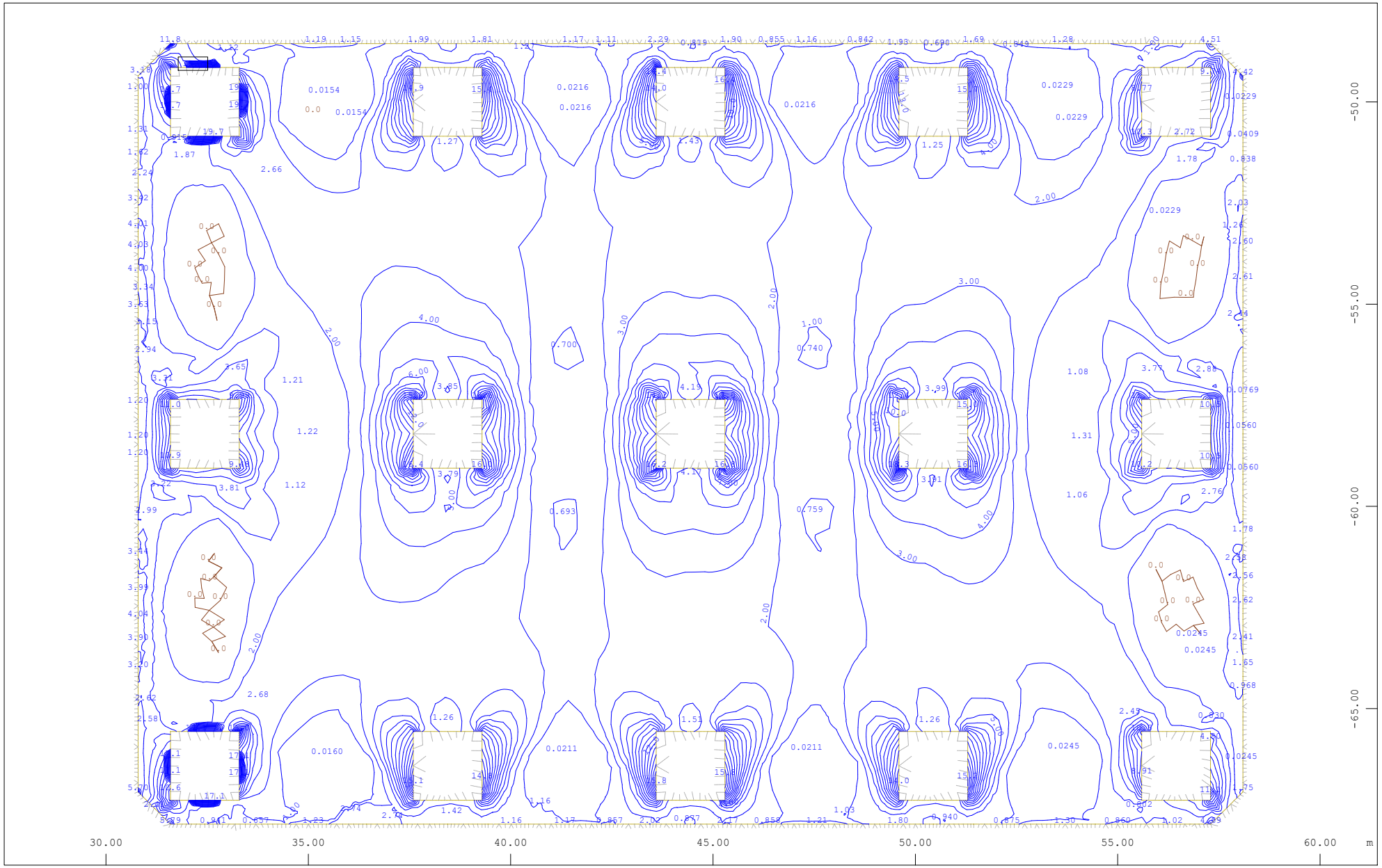
Y
Z X

Sector of system Group 13

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node, Design Case 2 , 1 cm 3D = 10.0 cm2/m

+= -= (Max=19.7)

M 1 : 130

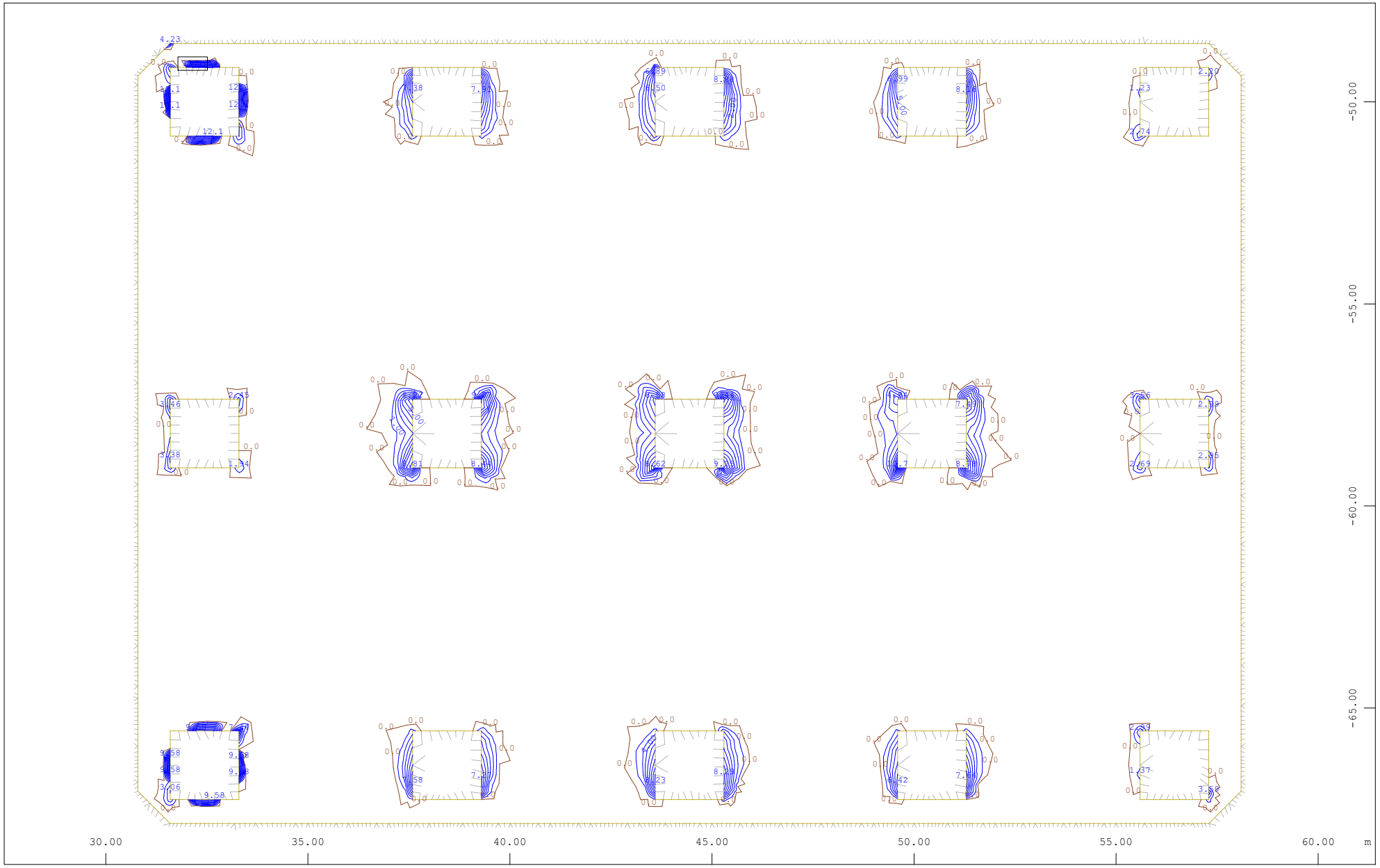


Y
Z X

Sector of system Group 13

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node , Design Case 2 , from 0 to 19.7 step 1.00 cm2/m

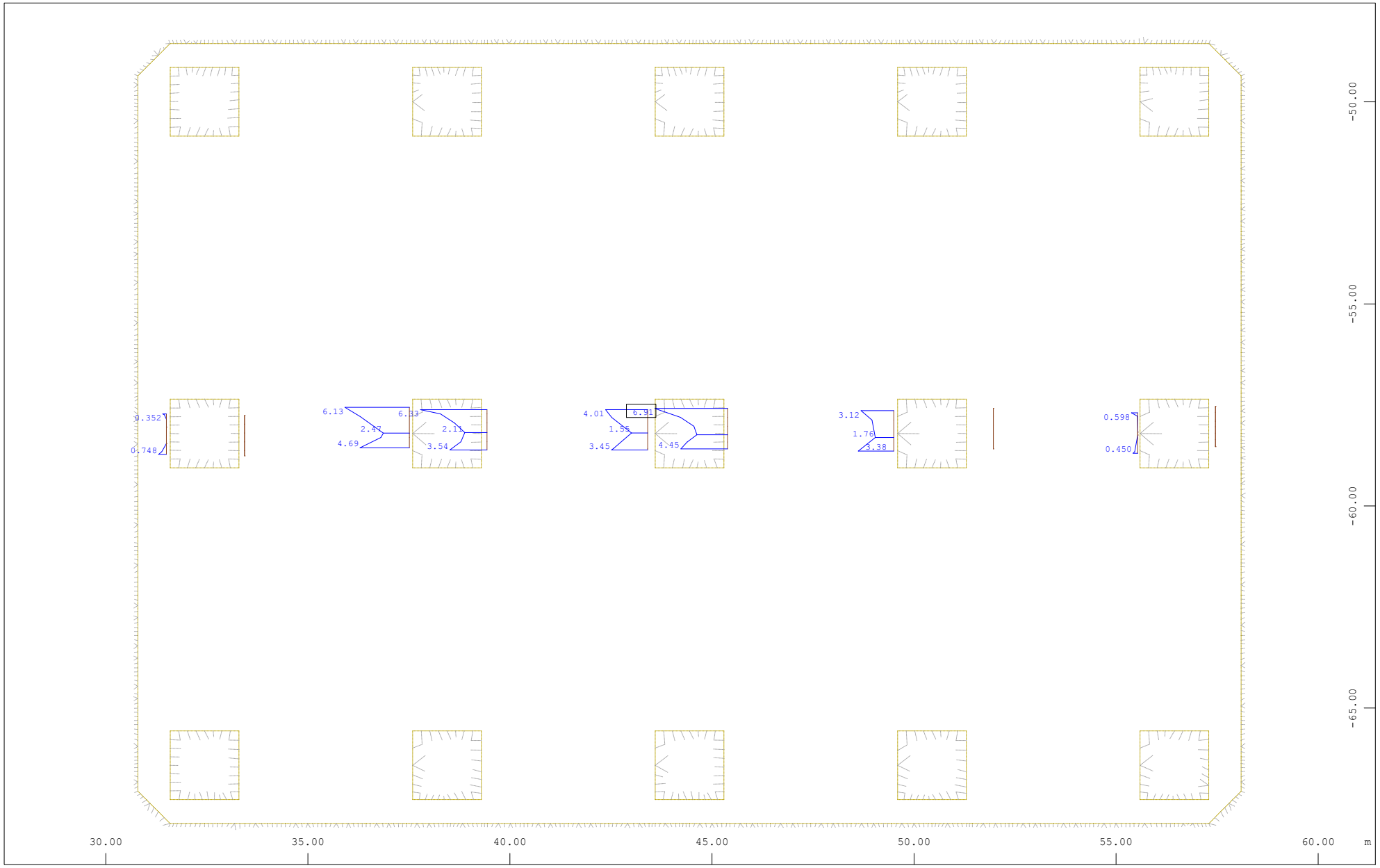
M 1 : 130



Y
Z X

Sector of system Group 13
Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node , Design Case 2 , Differences to 7.54, from 0 to 12.1 step
1.00 cm2/m

M 1 : 130

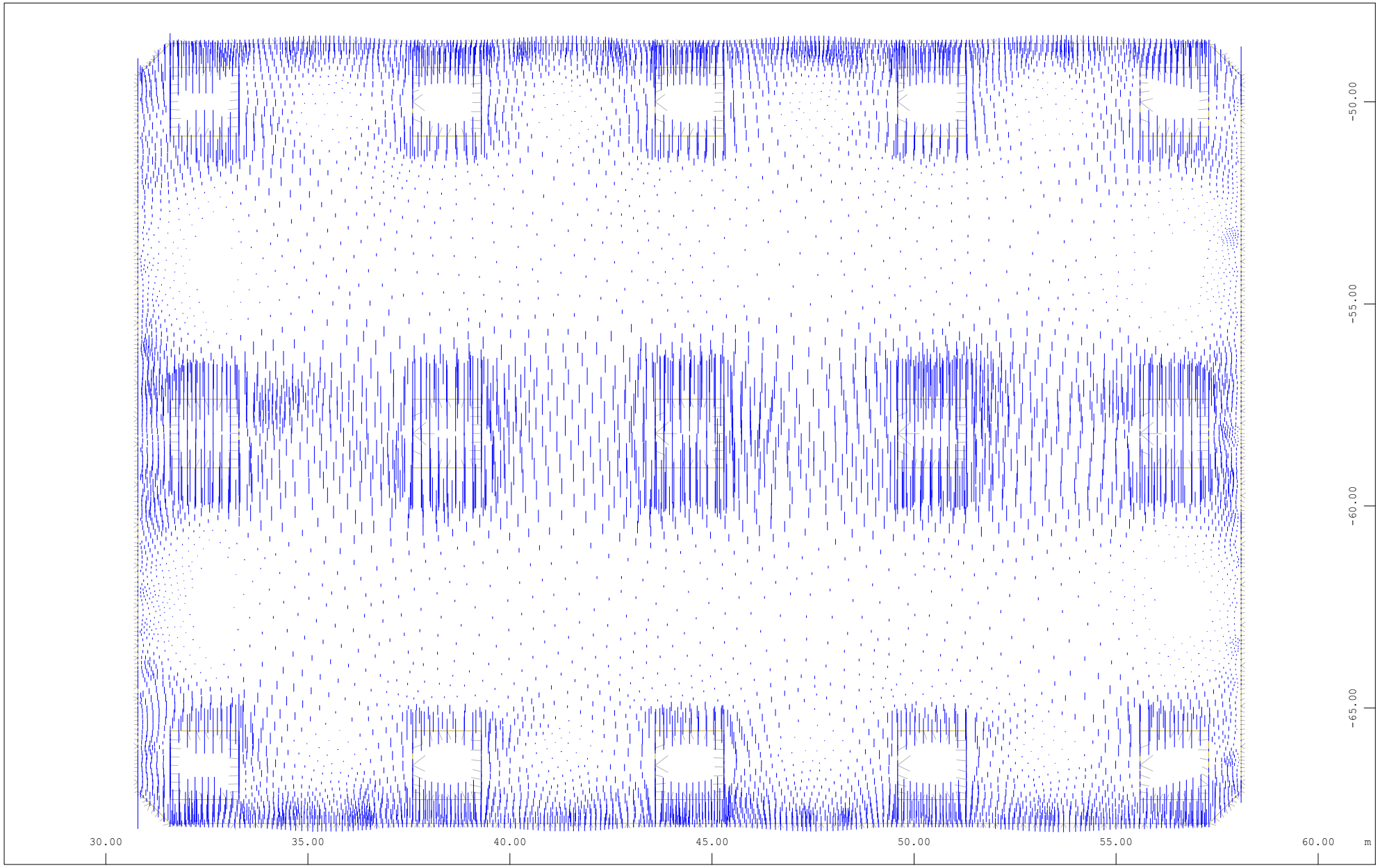


Sector of system Group 13

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node , Design Case 2 , Differences to 7.54, 1 cm 3D = 5.00 cm2/m

(Max=6.91)

M 1 : 130



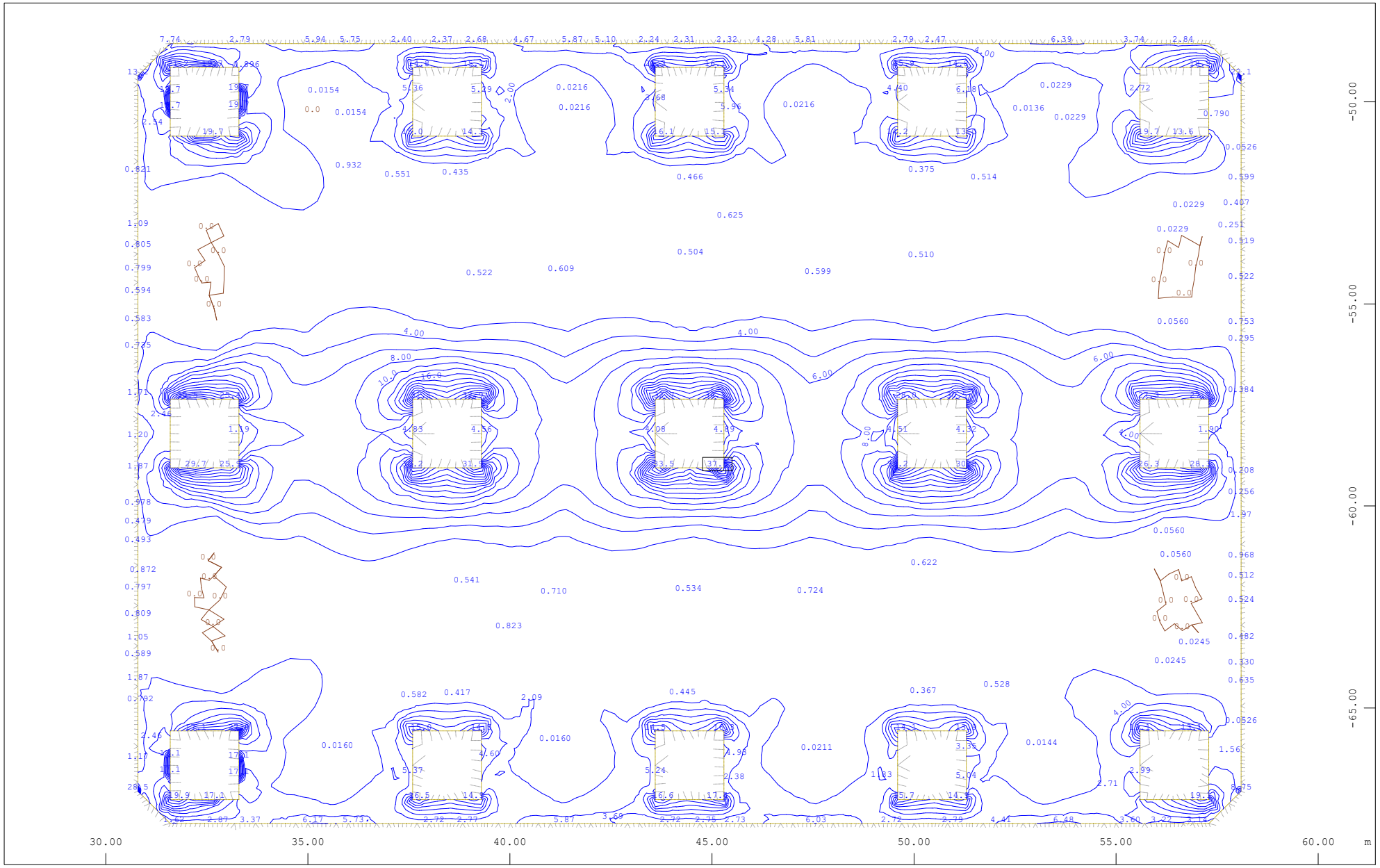
Y
Z X

Sector of system Group 13

Quadrilateral Elements , lower Cross reinforcements (2nd layer) in Node, Design Case 2 , 1 cm 3D = 20.0 cm2/m

+= -= (Max=37.5)

M 1 : 130

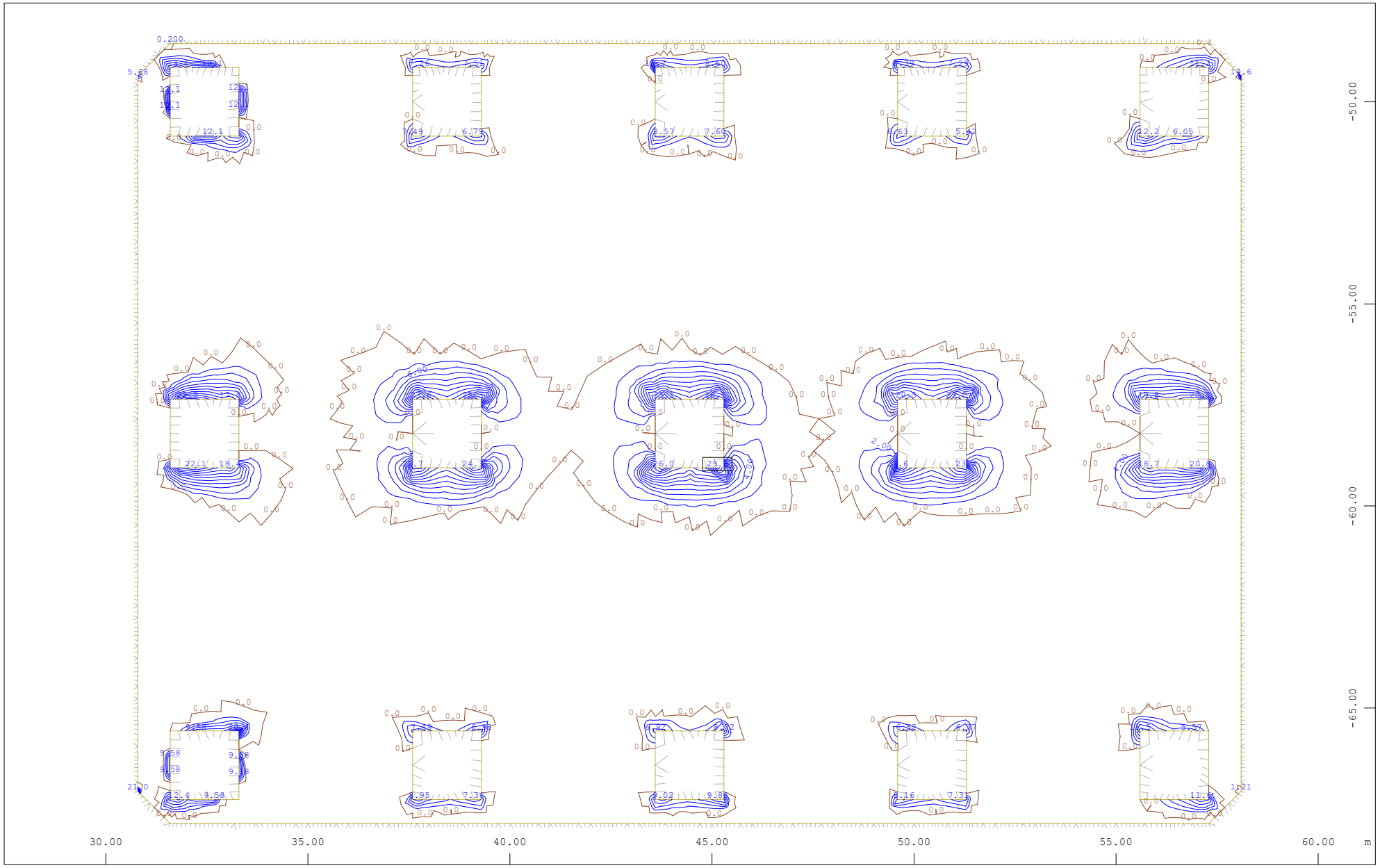


Y
Z X

Sector of system Group 13

Quadrilateral Elements , lower Cross reinforcements (2nd layer) in Node , Design Case 2 , from 0 to 37.5 step 2.00 cm2/m

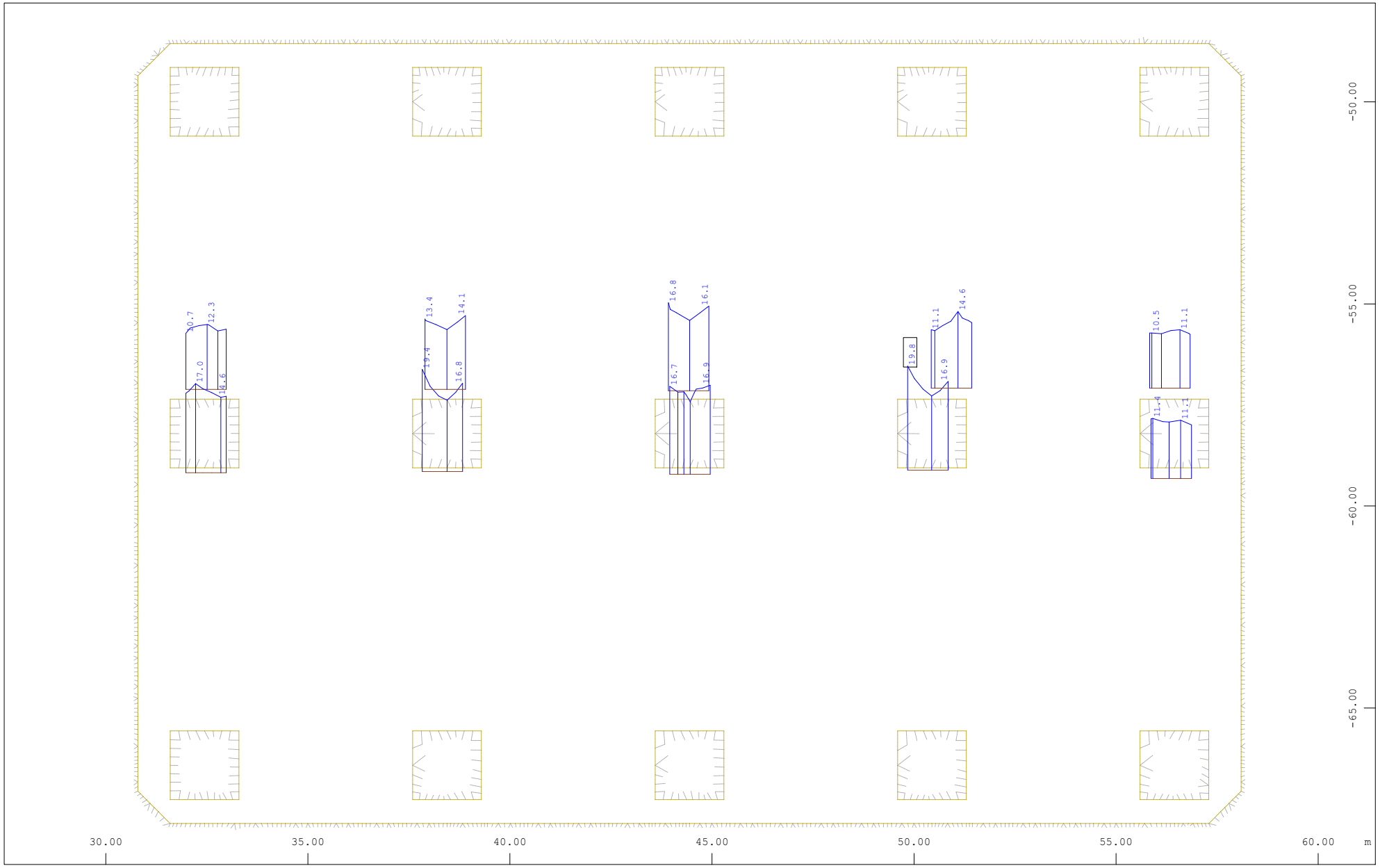
M 1 : 130



Y
Z—X

Sector of system Group 13
Quadrilateral Elements , lower Cross reinforcements (2nd layer) in Node , Design Case 2 , Differences to 7.54, from 0 to 29.9 step 2.00
cm2/m

M 1 : 130

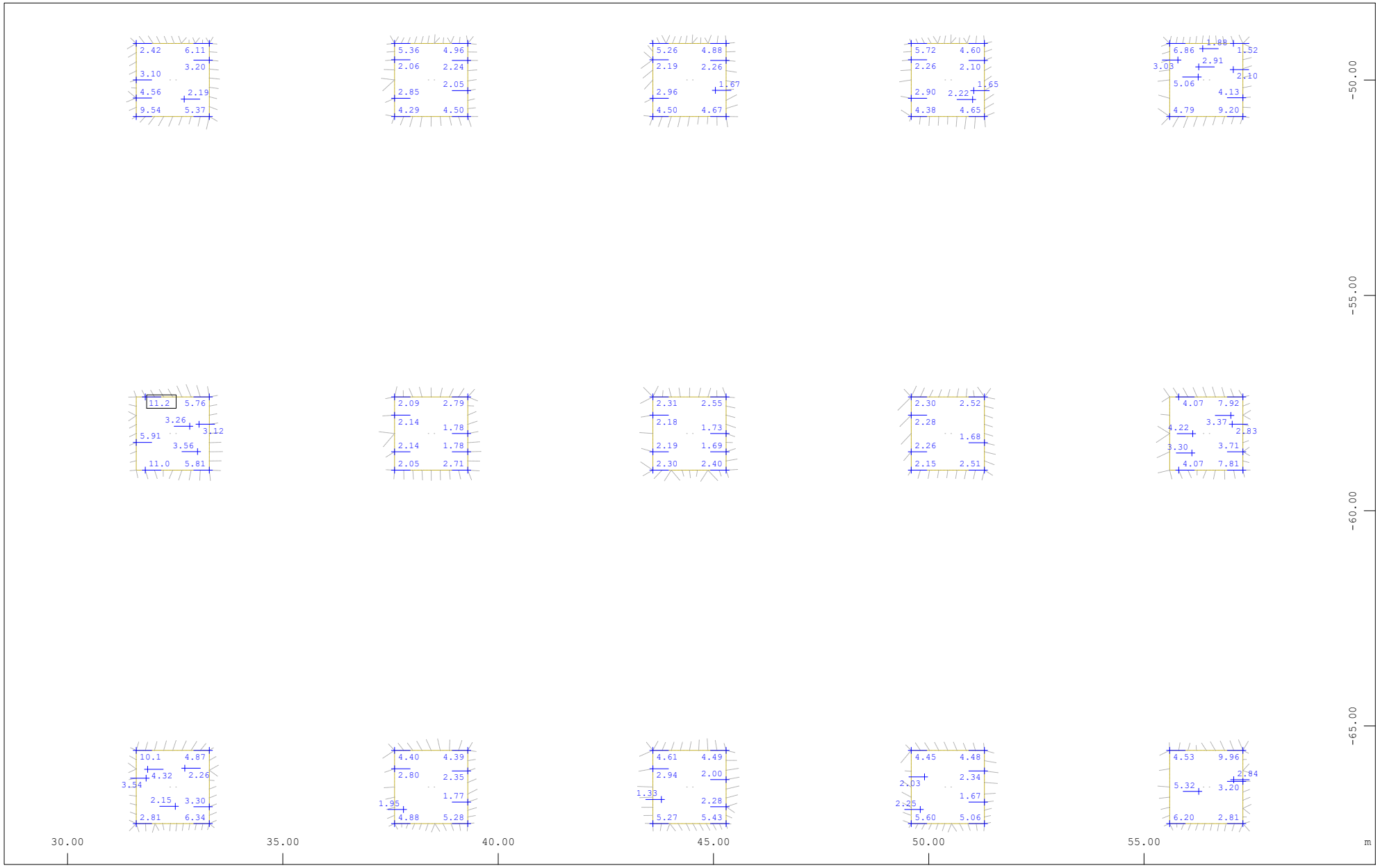


Sector of system Group 13

Quadrilateral Elements , lower Cross reinforcements (2nd layer) in Node , Design Case 2 , Differences to 7.54, 1 cm 3D = 10.0 cm2/m

(Max=19.8)

M 1 : 130

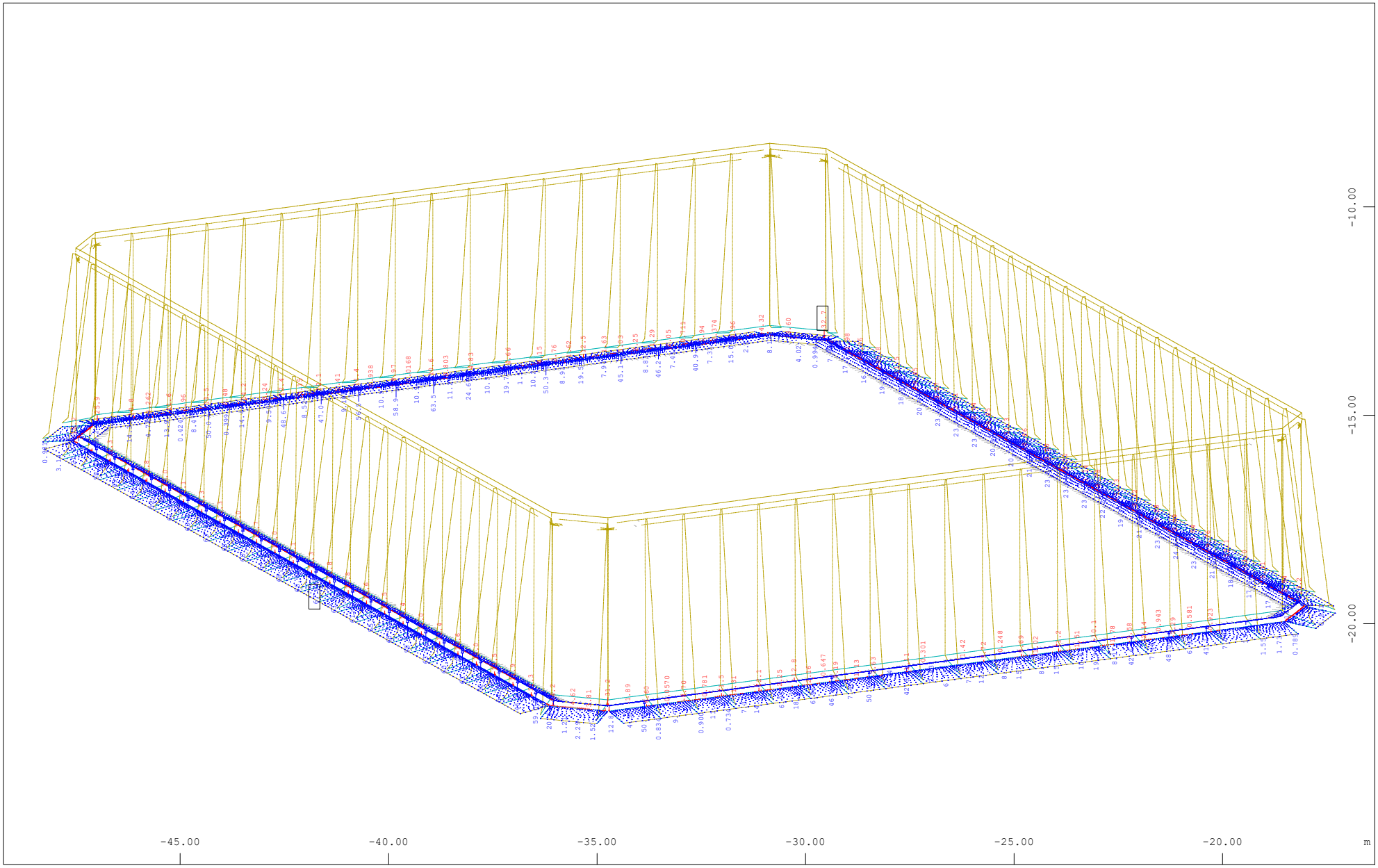


Y
Z X

Sector of system Group 14

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=11.2)

M 1 : 122



Z
Y
X

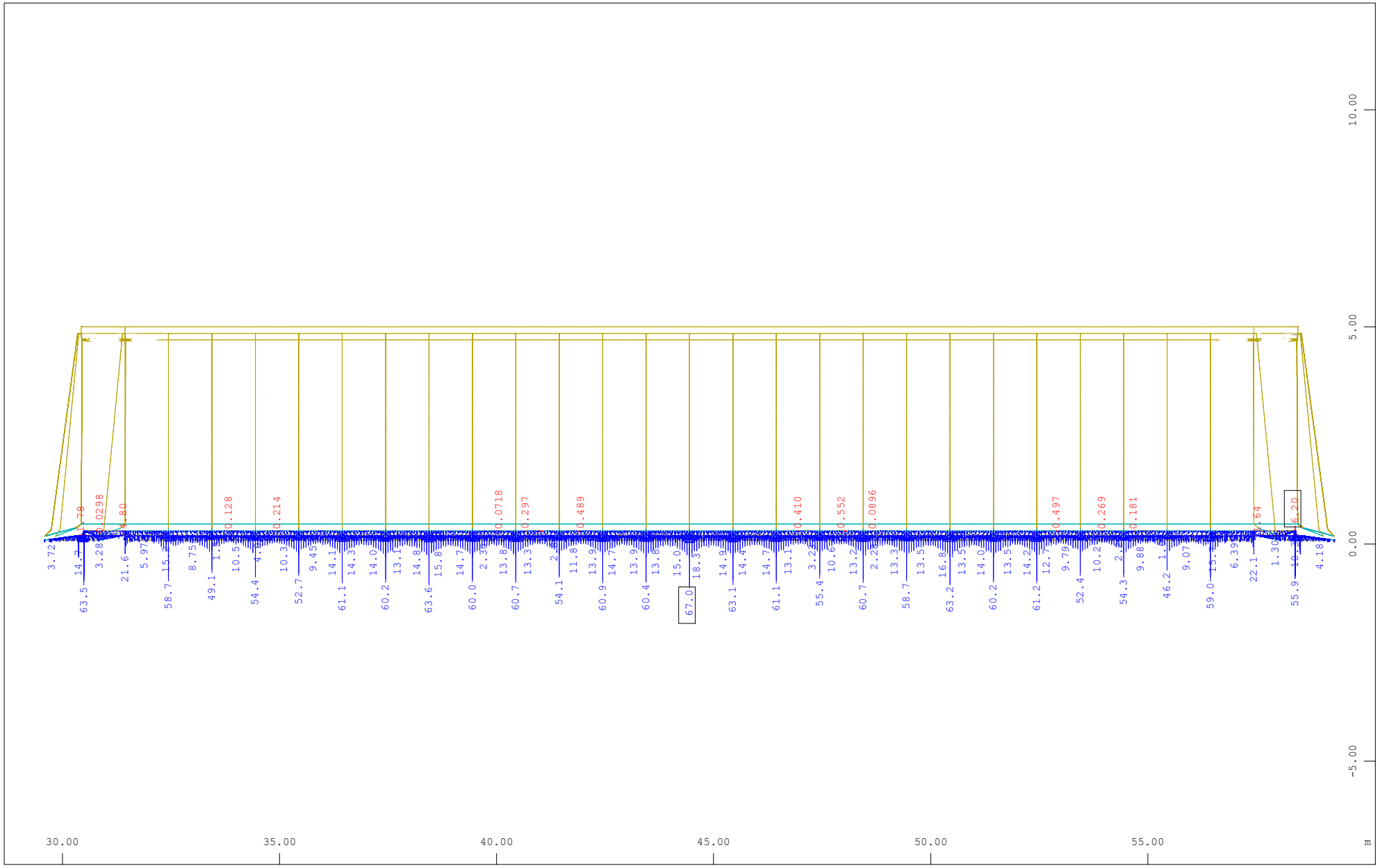
Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global Z, Loadcase 2154 MIN-PY NODE ELU , 1 cm 3D = 200.0 kN

(Min=-32.7) (Max=67.0) (total: 17653.)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962

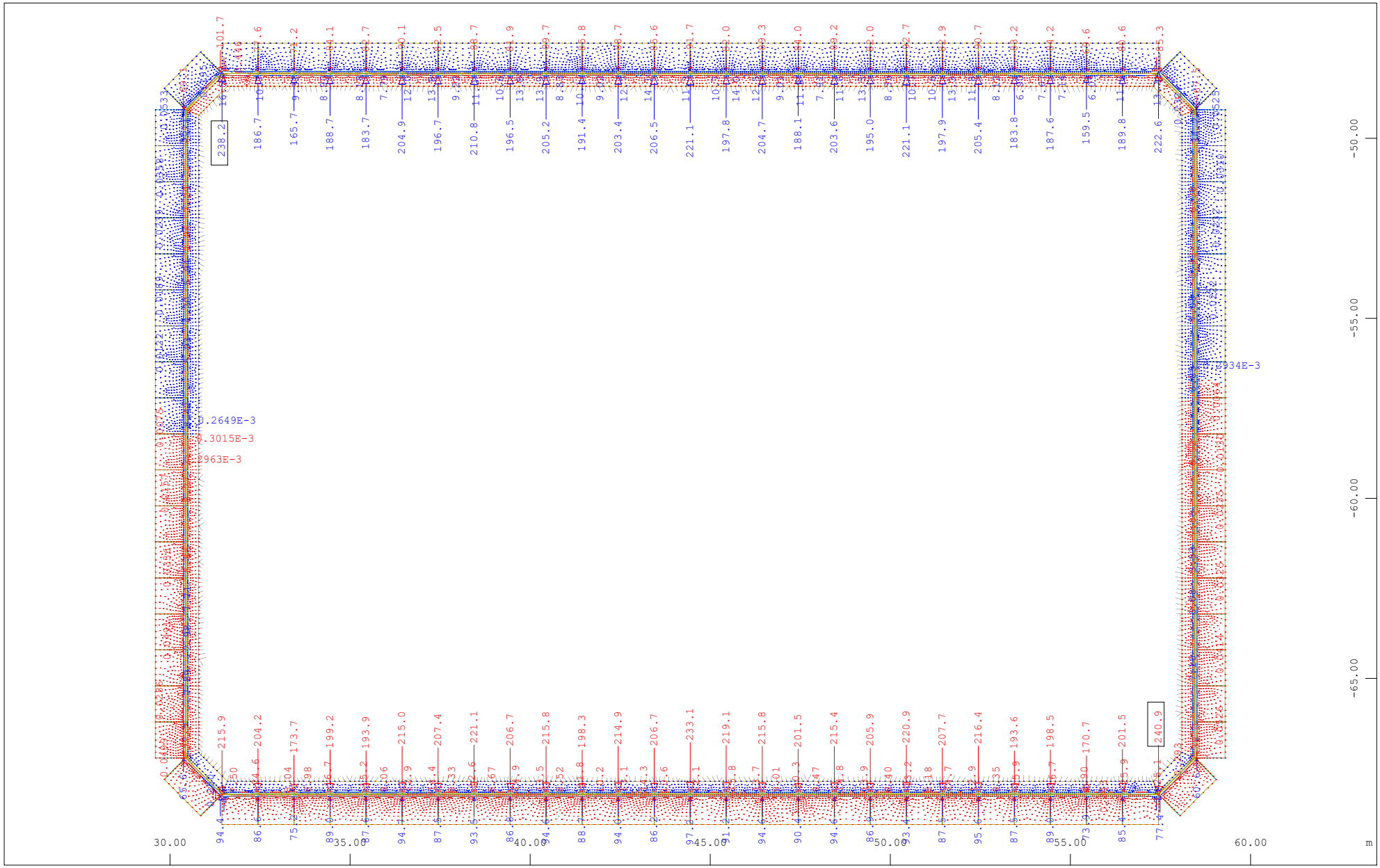


Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global Z, Loadcase 2155 MAX-PZ NODE ELU , 1 cm 3D = 61.7 kN

(Min=-6.20) (Max=67.0) (total: 38611.)

M 1 : 121

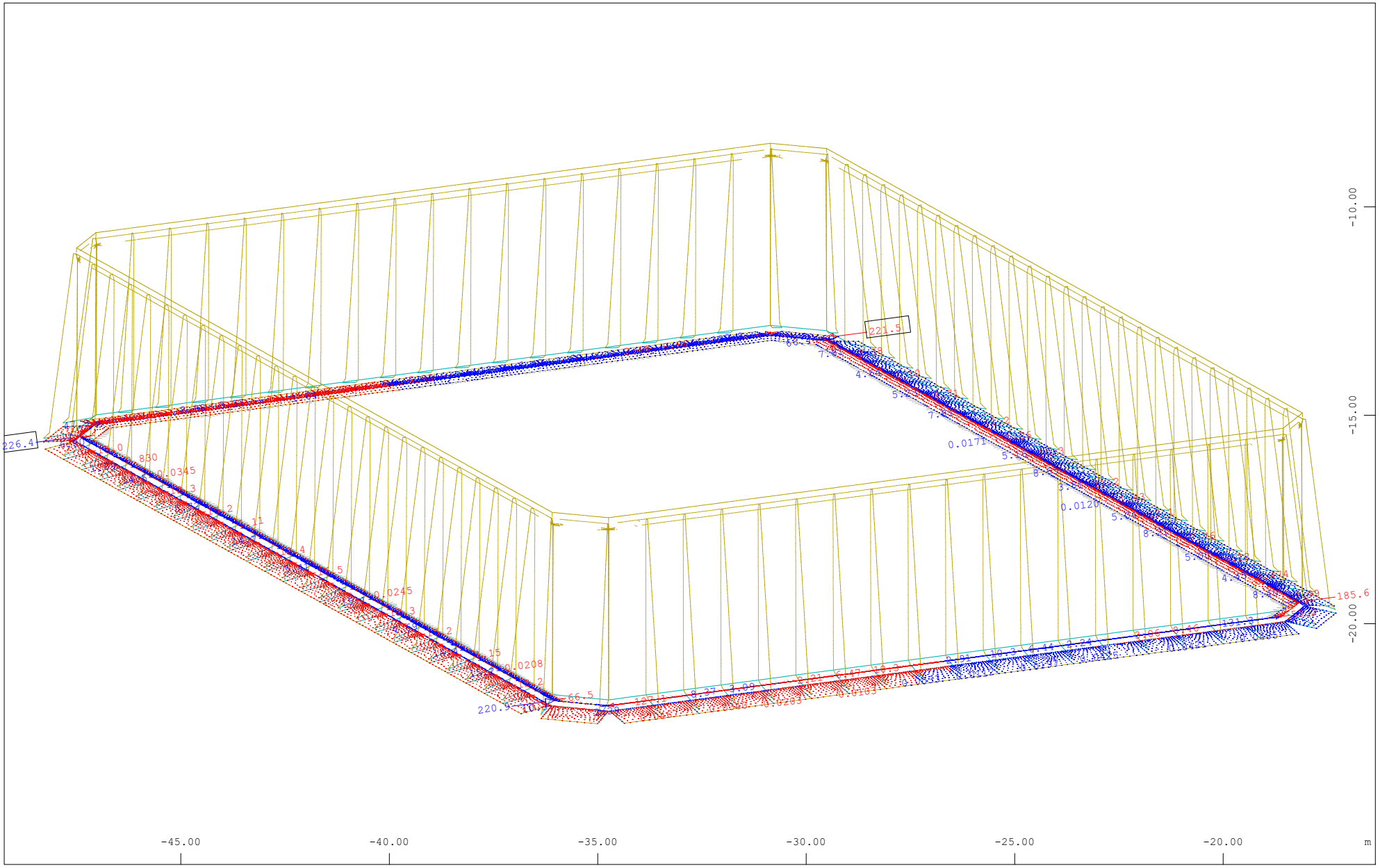


Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global Y, Loadcase 2155 MAX-PZ NODE ELU , 1 cm 3D = 246.9 kN

(Min=-240.9) (Max=238.2) (total: -499.3)

M 1 : 146



Z
Y
X

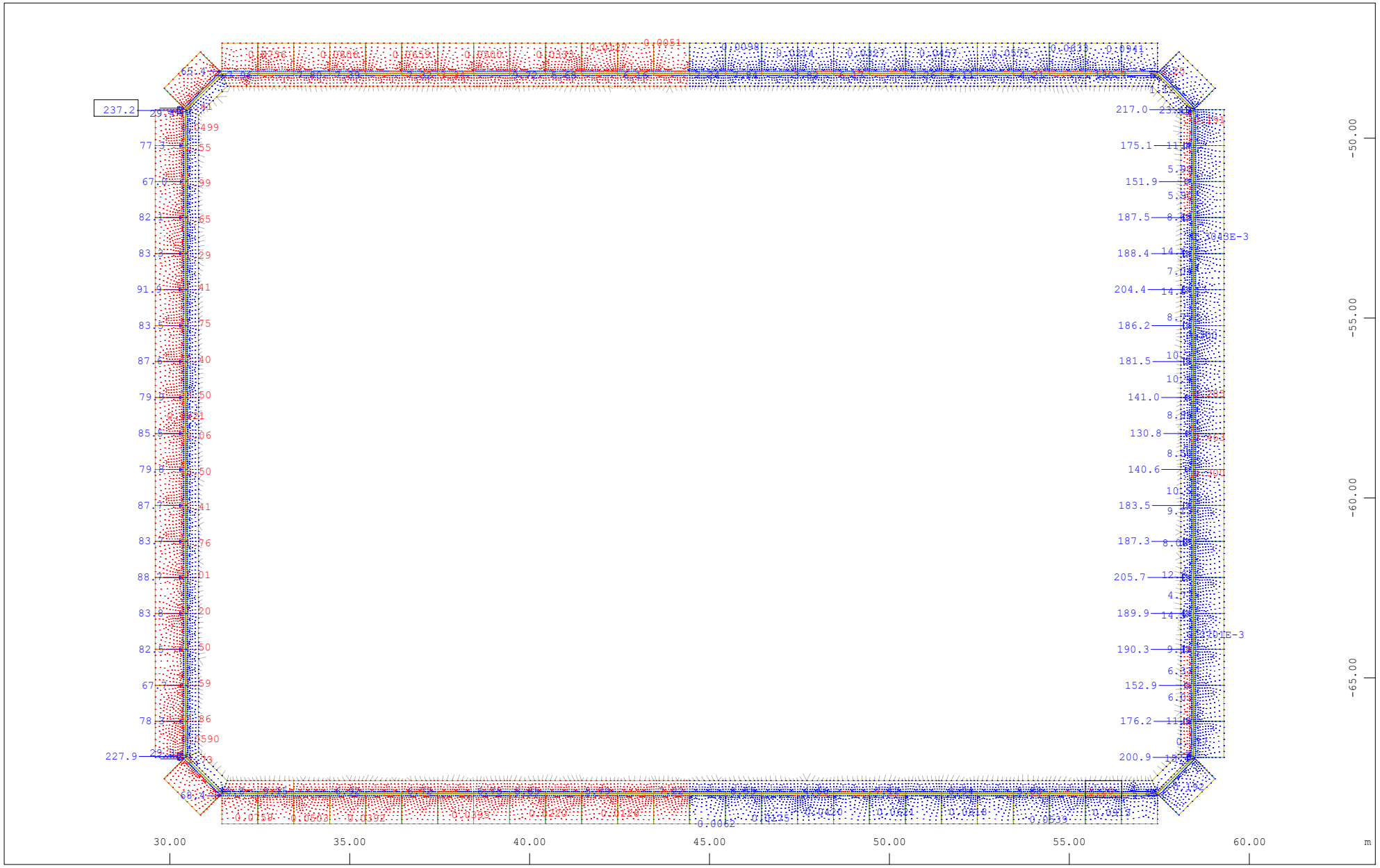
Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global Y, Loadcase 2156 MIN-PZ NODE ELU , 1 cm 3D = 246.9 kN

(Min=-221.5) (Max=226.4) (total: 659.1)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



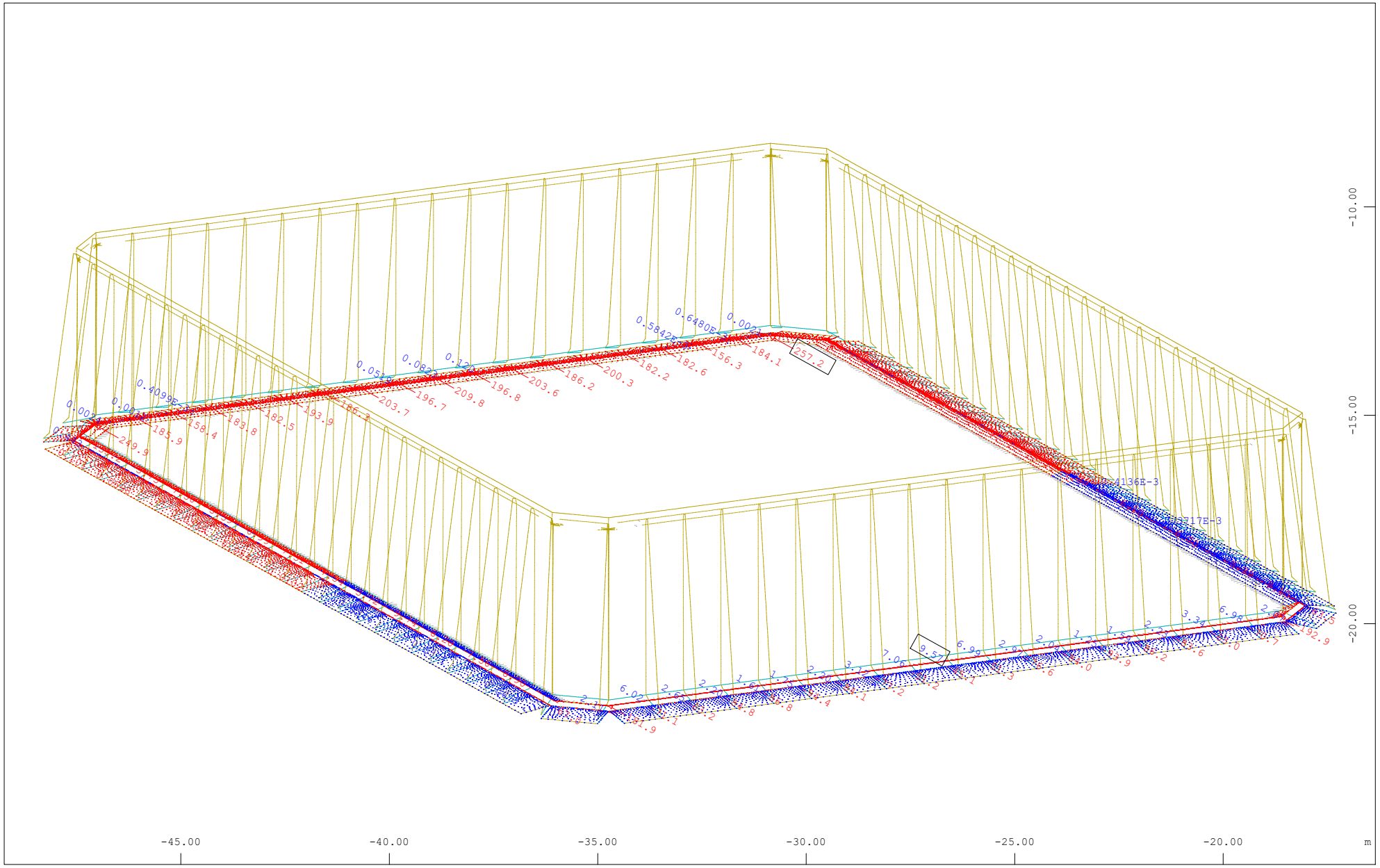
Y
Z X

Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global X, Loadcase 2151 MAX-PX NODE ELU , 1 cm 3D = 246.9 kN

(Min=-5.20) (Max=237.2) (total: 13898.)

M 1 : 146



Z
Y X Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global X, Loadcase 2152 MIN-PX NODE ELU , 1 cm 3D = 246.9 kN

(Min=-257.2) (Max=9.57) (total: -13710.)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962

Materials

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018

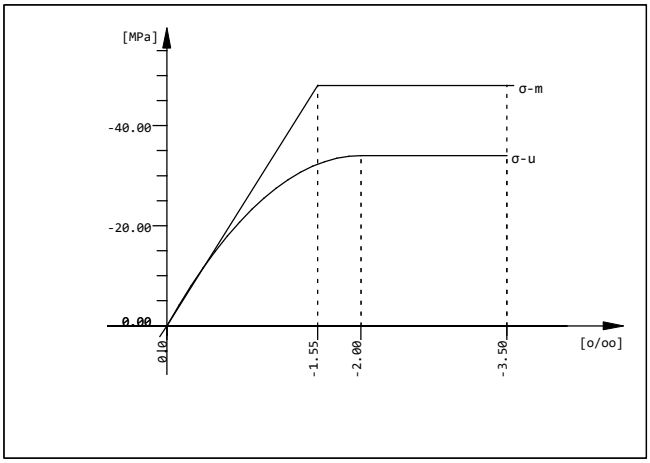
Mat 1 HA 40 (EHE)

Young's modulus	E	30891	[MPa]	Safetyfactor		1.50	[-]
Poisson's ratio	μ	0.20	[-]	Strength	fc	34.00	[MPa]
Shear modulus	G	12871	[MPa]	Nominal strength	fck	40.00	[MPa]
Compression modulus	K	17162	[MPa]	Tensile strength	fctm	3.51	[MPa]
Nominal Weight	γ	25.0	[kN/m3]	Tensile strength	fctk,05	2.46	[MPa]
Mean density	ρ	2400.0	[kg/m3]	Tensile strength	fctk,95	4.56	[MPa]
Elongation coefficient	α	1.00E-05	[1/K]	Bond strength	fbd	3.68	[MPa]
				Service strength	fcm	48.00	[MPa]
				Fatigue strength	fcd,fat	19.04	[MPa]
				Tensile strength	fctd	1.64	[MPa]
				Tensile failure energy	Gf	0.15	[N/mm]

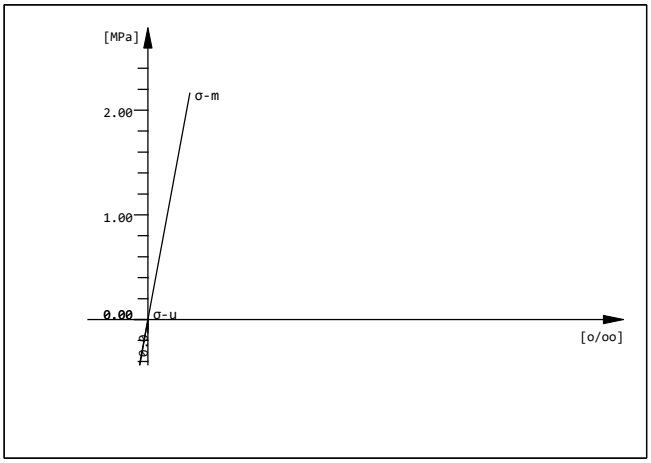
Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	0.000	0.00	30891
defined stress range	-1.554	-48.00	0
	-3.500	-48.00	0
	Safetyfactor		1.50

Stress-Strain for ultimate load	**ε[o/oo]**	**σ-u[MPa]**	**E-t[MPa]**
Is only valid within the defined	0.000	0.00	34000
stress range	-2.000	-34.00	0
	-3.500	-34.00	0
	Safetyfactor		1.50

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HA 40 (EHE)



HA 40 (EHE)

Mat 2 B 500 (EHE)

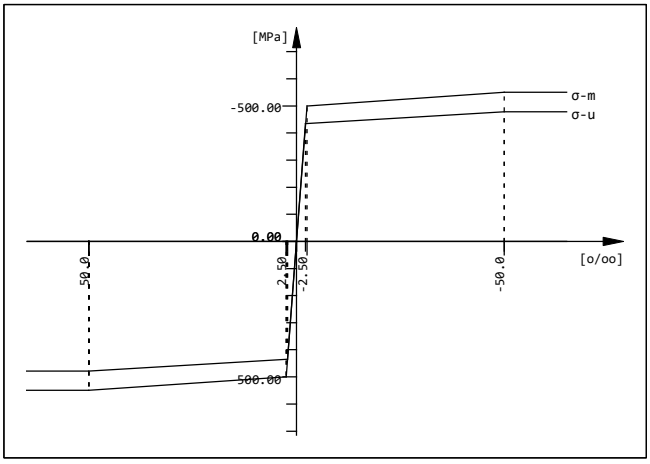
Young's modulus	E	200000	[MPa]	Safetyfactor		1.15	[-]
Poisson's ratio	μ	0.30	[-]	Yield stress	fy	500.00	[MPa]
Shear modulus	G	76923	[MPa]	Compressive yield	fyc	500.00	[MPa]
Compression modulus	K	166667	[MPa]	Tensile strength	ft	550.00	[MPa]
Nominal Weight	γ	78.5	[kN/m3]	Compressive strength	fc	550.00	[MPa]
Mean density	ρ	7850.0	[kg/m3]	Ultimate strain		50.00	[o/oo]
Elongation coefficient	α	1.20E-05	[1/K]	relative bond coeff.		1.00	[-]
max. thickness	t-max	32.00	[mm]	EN 1992 bond coeff.	k1	0.80	[-]
				Hardening modulus	Eh	0.00	[MPa]
				Proportional limit	fp	500.00	[MPa]
				Dynamic allowance	σ-dyn	150.00	[MPa]

Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	1000.000	550.00	0
defined stress range	50.000	550.00	0
	2.500	500.00	1053

Materials

Stress-Strain for serviceability	ε[o/oo]	σ-m[MPa]	E-t[MPa]
	0.000	0.00	200000
	-2.500	-500.00	1053
	-50.000	-550.00	0
	-1000.000	-550.00	0
	Safetyfactor		1.15

Stress-Strain for ultimate load	ε[o/oo]	σ-u[MPa]	E-t[MPa]
Is also extended beyond the	1000.000	478.26	0
defined stress range	50.000	478.26	0
	2.174	434.78	909
	0.000	0.00	200000
	-2.174	-434.78	909
	-50.000	-478.26	0
	-1000.000	-478.26	0
	Safetyfactor		(1.15)



B 500 (EHE)

Mat 12 B 500 (EHE)

Young's modulus	E	200000	[MPa]	Safetyfactor		1.15	[-]
Poisson's ratio	μ	0.30	[-]	Yield stress	fy	500.00	[MPa]
Shear modulus	G	76923	[MPa]	Compressive yield	fyc	500.00	[MPa]
Compression modulus	K	166667	[MPa]	Tensile strength	ft	550.00	[MPa]
Nominal Weight	γ	78.5	[kN/m3]	Compressive strength	fc	550.00	[MPa]
Mean density	ρ	7850.0	[kg/m3]	Ultimate strain		50.00	[o/oo]
Elongation coefficient	α	1.20E-05	[1/K]	relative bond coeff.		1.00	[-]
max. thickness	t-max	32.00	[mm]	EN 1992 bond coeff.	k1	0.80	[-]
				Hardening modulus	Eh	0.00	[MPa]
				Proportional limit	fp	500.00	[MPa]
				Dynamic allowance	σ-dyn	150.00	[MPa]

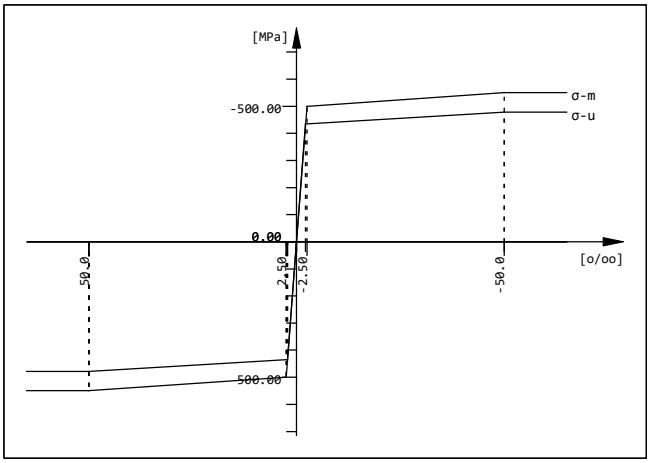
Stress-Strain for serviceability	ε[o/oo]	σ-m[MPa]	E-t[MPa]
Is also extended beyond the	1000.000	550.00	0
defined stress range	50.000	550.00	0
	2.500	500.00	1053
	0.000	0.00	200000
	-2.500	-500.00	1053
	-50.000	-550.00	0
	-1000.000	-550.00	0
	Safetyfactor		1.15

Stress-Strain for ultimate load	ε[o/oo]	σ-u[MPa]	E-t[MPa]
Is also extended beyond the	1000.000	478.26	0
defined stress range	50.000	478.26	0
	2.174	434.78	909

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Materials

Stress-Strain for ultimate load	**ε[o/oo]**	**σ-u[MPa]**	**E-t[MPa]**
	0.000	0.00	200000
	-2.174	-434.78	909
	-50.000	-478.26	0
	-1000.000	-478.26	0
	Safetyfactor		(1.15)



B 500 (EHE)

Mat 71 HA 25 (EHE)

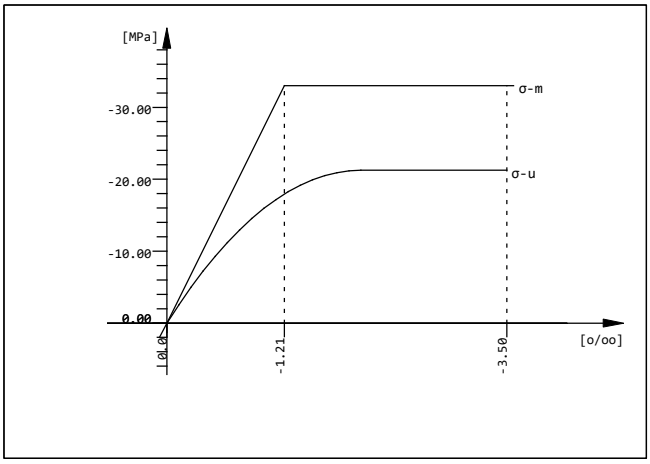
Young's modulus	E	27264	[MPa]	Safetyfactor		1.50	[-]
Poisson's ratio	μ	0.20	[-]	Strength	fc	21.25	[MPa]
Shear modulus	G	11360	[MPa]	Nominal strength	fck	25.00	[MPa]
Compression modulus	K	15147	[MPa]	Tensile strength	fctm	2.56	[MPa]
Nominal Weight	γ	25.0	[kN/m3]	Tensile strength	fctk,05	1.80	[MPa]
Mean density	ρ	2400.0	[kg/m3]	Tensile strength	fctk,95	3.33	[MPa]
Elongation coefficient	α	1.00E-05	[1/K]	Bond strength	fbd	2.69	[MPa]
				Service strength	fcm	33.00	[MPa]
				Fatigue strength	fcd,fat	12.75	[MPa]
				Tensile strength	fctd	1.20	[MPa]
				Tensile failure energy	Gf	0.14	[N/mm]

Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	0.000	0.00	27264
defined stress range	-1.210	-33.00	0
	-3.500	-33.00	0
	Safetyfactor		1.50

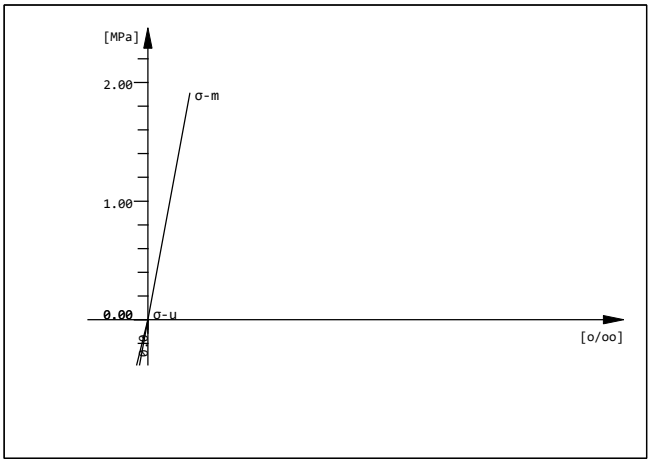
Stress-Strain for ultimate load	**ε[o/oo]**	**σ-u[MPa]**	**E-t[MPa]**
Is only valid within the defined	0.000	0.00	21250
stress range	-2.000	-21.25	0
	-3.500	-21.25	0
	Safetyfactor		1.50

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Materials



HA 25 (EHE)



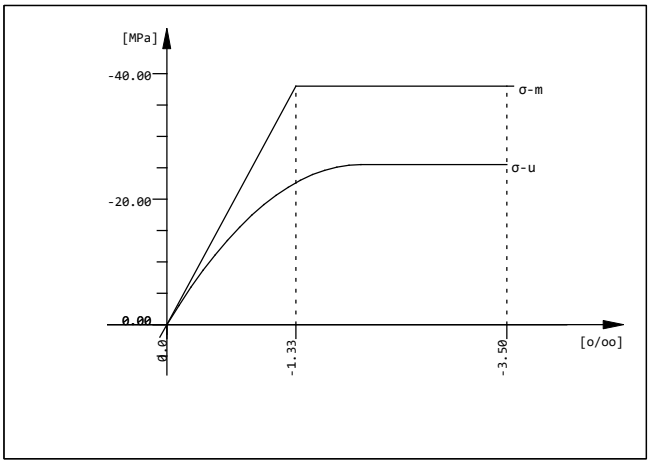
HA 25 (EHE)

Mat 73 HA 30 (EHE)

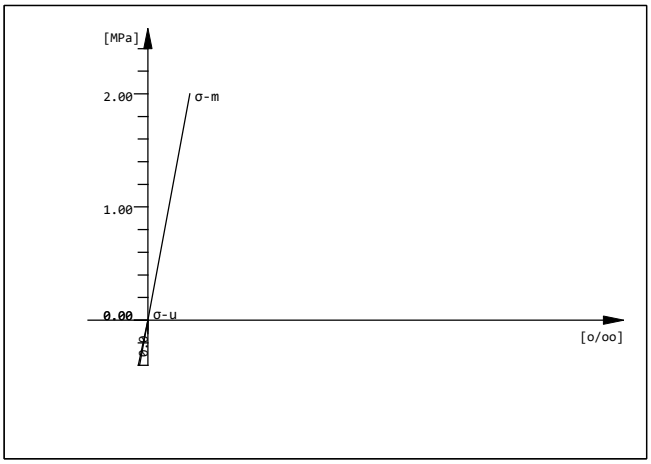
Young's modulus	E	28577	[MPa]	Safetyfactor		1.50	[-]
Poisson's ratio	μ	0.20	[-]	Strength	fc	25.50	[MPa]
Shear modulus	G	11907	[MPa]	Nominal strength	fck	30.00	[MPa]
Compression modulus	K	15876	[MPa]	Tensile strength	fctm	2.90	[MPa]
Nominal Weight	γ	25.0	[kN/m3]	Tensile strength	fctk,05	2.03	[MPa]
Mean density	ρ	2400.0	[kg/m3]	Tensile strength	fctk,95	3.77	[MPa]
Elongation coefficient	α	1.00E-05	[1/K]	Bond strength	fbd	3.04	[MPa]
				Service strength	fcm	38.00	[MPa]
				Fatigue strength	fcd,fat	14.96	[MPa]
				Tensile strength	fctd	1.35	[MPa]
				Tensile failure energy	Gf	0.14	[N/mm]

Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	0.000	0.00	28577
defined stress range	-1.330	-38.00	0
	-3.500	-38.00	0
	Safetyfactor		1.50

Stress-Strain for ultimate load	**ε[o/oo]**	**σ-u[MPa]**	**E-t[MPa]**
Is only valid within the defined	0.000	0.00	25500
stress range	-2.000	-25.50	0
	-3.500	-25.50	0
	Safetyfactor		1.50



HA 30 (EHE)



HA 30 (EHE)

Mat 74 B 500 (EHE)

Young's modulus	E	200000	[MPa]	Safetyfactor		1.15	[-]
Poisson's ratio	μ	0.30	[-]	Yield stress	fy	500.00	[MPa]

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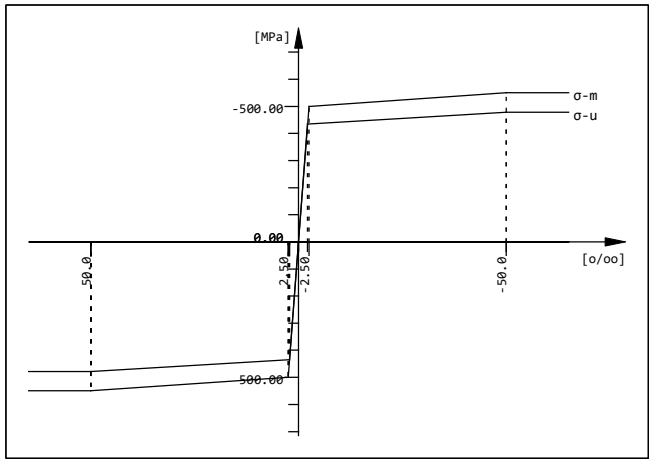
Materials

Mat 74 B 500 (EHE)

Shear modulus	G	76923	[MPa]	Compressive yield	fyc	500.00	[MPa]
Compression modulus	K	166667	[MPa]	Tensile strength	ft	550.00	[MPa]
Nominal Weight	γ	78.5	[kN/m3]	Compressive strength	fc	550.00	[MPa]
Mean density	ρ	7850.0	[kg/m3]	Ultimate strain		50.00	[o/oo]
Elongation coefficient	α	1.20E-05	[1/K]	relative bond coeff.		1.00	[-]
max. thickness	t-max	32.00	[mm]	EN 1992 bond coeff.	k1	0.80	[-]
				Hardening modulus	Eh	0.00	[MPa]
				Proportional limit	fp	500.00	[MPa]
				Dynamic allowance	σ-dyn	150.00	[MPa]

Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	1000.000	550.00	0
defined stress range	50.000	550.00	0
	2.500	500.00	1053
	0.000	0.00	200000
	-2.500	-500.00	1053
	-50.000	-550.00	0
	-1000.000	-550.00	0
	Safetyfactor		1.15

Stress-Strain for ultimate load	**ε[o/oo]**	**σ-u[MPa]**	**E-t[MPa]**
Is also extended beyond the	1000.000	478.26	0
defined stress range	50.000	478.26	0
	2.174	434.78	909
	0.000	0.00	200000
	-2.174	-434.78	909
	-50.000	-478.26	0
	-1000.000	-478.26	0
	Safetyfactor		(1.15)



B 500 (EHE)

Thermal material constants

Mat	T[°C]	S[kJ/K/m3]	Kxx[W/K/m]	Kyy[W/K/m]	Kzz[W/K/m]	
1	AUTO	2.16E+03	1.951E+00			HA 40 (EHE)
2	AUTO	3.45E+03	5.333E+01			B 500 (EHE)
3	AUTO	3.45E+03	5.333E+01			A 37 (EA-95)
4	AUTO	2.16E+03	1.951E+00			HA 40 (EHE)
5	AUTO	2.16E+03	1.951E+00			HA 40 (EHE)
11	AUTO	2.16E+03	1.951E+00			HA 25 (EHE)
12	AUTO	3.45E+03	5.333E+01			B 500 (EHE)
71	AUTO	2.16E+03	1.951E+00			HA 25 (EHE)
72	AUTO	2.16E+03	1.951E+00			HA 40 (EHE)
73	AUTO	2.16E+03	1.951E+00			HA 30 (EHE)
74	AUTO	3.45E+03	5.333E+01			B 500 (EHE)

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Materials

Thermal material constants

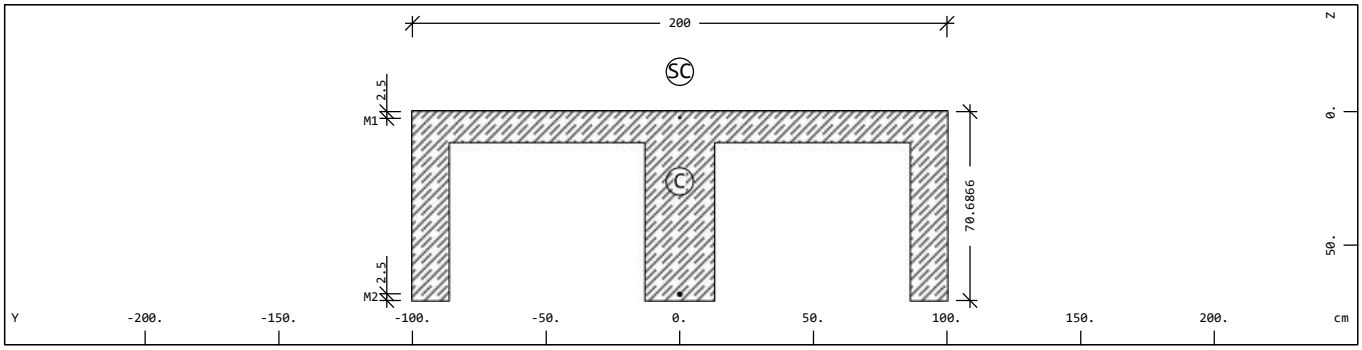
Mat	T[°C]	S[kJ/K/m3]	Kxx[W/K/m]	Kyy[W/K/m]	Kzz[W/K/m]	
91	AUTO	2.16E+03	1.951E+00			HA 40 (EHE)_Sin_PP

Mat	material number	S[kJ/K/m3]	Heat capacity
T[°C]	Temperature	Kxx[W/K/m],Kyy[W/K/m],Kzz[W/K/m]	Heat conductivity

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Sections

Cross section No. 1 - Sección Muro



Cross section No. 1 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	5.5344E-01	2.164E-01	2.637E-02	0.00	0.00	30891	1383.6	2.222E-01
2	5.418E-03	2.773E-01	2.222E-01	26.20	-14.97	12871	(BEAM)	2.637E-02

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-26.20	158.17	2.818E-01	2	4.970E+01	6.371E+00
	100.00	44.49	49.36	5.534E-01		9.366E+00	4.925E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.4483	0.4483	1.095E-02	0.130	1.071E-11	-2.365E-10	0.00	115.57

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	5.5344E-01	2.164E-01	2.637E-02	0.00	20594	1383.6	2.222E-01
	5.418E-03	2.773E-01	2.222E-01	26.20	8581		2.637E-02

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

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Sections

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	7.771		14.24			621.552	65.932	555.620		0.00	26.20

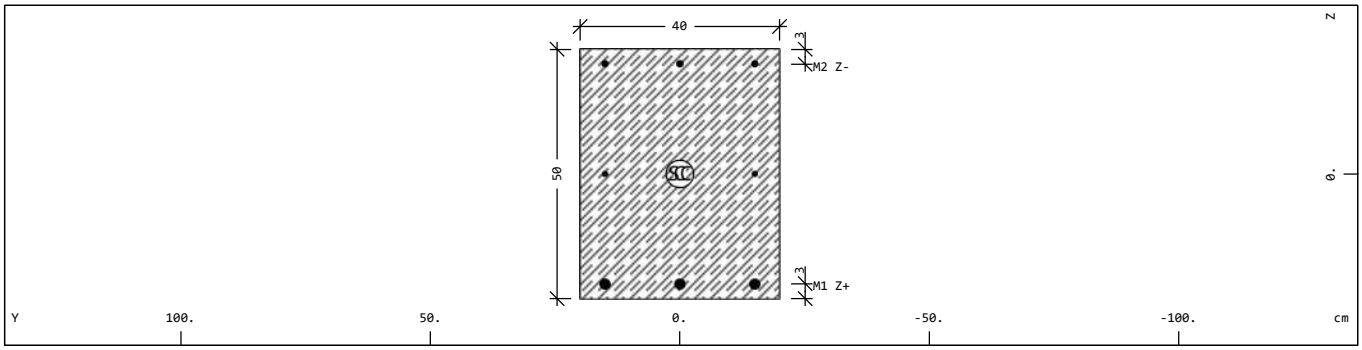
Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	68.19				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Cross section No. 3 - B/H = 40 / 50 cm



Cross section No. 3 - B/H = 40 / 50 cm

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
5	2.0000E-01	1.667E-01	4.167E-03	0.00	0.00	30891	500.0	
2	5.495E-03	1.667E-01	2.667E-03	0.00	0.00	12871	(CENTR)	

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-20.00	-25.00	26.67	1.123E-01	2	4.005E+01	7.500E+00
	20.00	25.00	33.33	2.000E-01			7.500E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0082	0.0082	3.651E-06	0.000	0.000E+00	0.000E+00	0.00	0.00

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance

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Sections

CMS[m4]	warping shear resistance

Rectangular cross-section/T-beam

H[cm]	Ho[cm]	Aso[cm2]	Do[mm]	So[mm]	a[cm]	B-eff[cm]
B[cm]	Bo[cm]	Asu[cm2]	Du[mm]	Su[mm]	a-min[cm]	incl[°]
		As-type	Ds[mm]	Ss[mm]	a-max[cm]	Ass[cm2/m]
50.00		3.39	12	30.0	15.00	11.11
40.00		9.42	20	30.0	4.00	90.0
		ASYM	10	50.0	35.00	

H[cm]	height	B[cm]	width
Ho[cm]	upper height of section	Bo[cm]	upper width of section
Aso[cm2],Asu[cm2]	reinforcement area	a-min[cm]	minimum distance of bars
Do[mm],Du[mm],Ds[mm]	bar diameter	incl[°]	inclination of transverse reinforcements
So[mm],Su[mm],Ss[mm]	static distance	a-max[cm]	maximum distance of bars
a[cm]	distance of bars	Ass[cm2/m]	area of transverse reinforcements
B-eff[cm]	effective width		

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	1.800		22.22	40.00	50.00	17.083	10.417	6.667		0.00	0.00

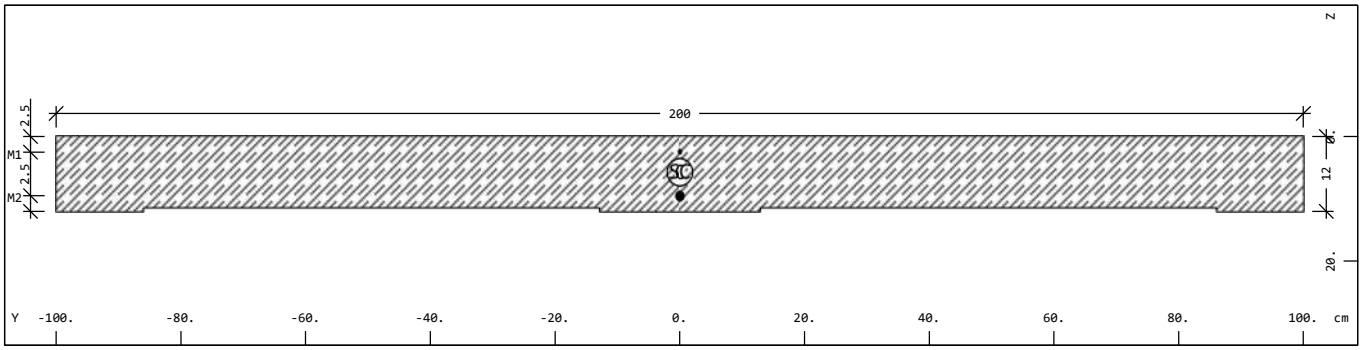
Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1 Z+	5	2	9.42	9.42		20	0.00	22.00	30.00			
M2 Z-	5	2	3.39	3.39		12	0.00	-22.00	30.00			
M3 Y+-	5	2	1.58	1.58	1.58	10	0.00	0.00	88.00			

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Cross section No. 11 - Sección Muro



Cross section No. 11 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	2.3067E-01	1.926E-01	2.566E-04	0.00	0.00	30891	576.7	7.730E-02
2	9.896E-04	1.953E-01	7.730E-02	5.77	5.69	12871	(BEAM)	2.566E-04

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

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Sections

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-5.77	133.99	1.183E-01	2	1.480E+02	8.105E+00
	100.00	6.23	7.71	2.307E-01		1.785E+01	6.658E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0584	0.0584	8.560E-05	0.063	-1.575E-12	-3.770E-12	0.00	9.61

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	2.3067E-01	1.926E-01	2.566E-04	0.00	20594	576.7	7.730E-02
	9.896E-04	1.953E-01	7.730E-02	5.77	8581		2.566E-04

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

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Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	4.266		10.82			193.890	0.642	193.248		0.00	5.77

Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

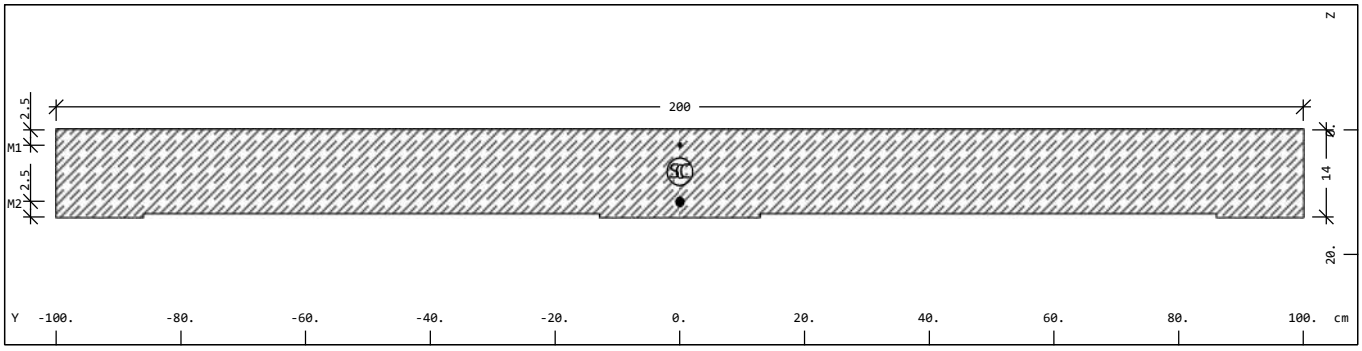
Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	9.50				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Sections

Cross section No. 12 - Sección Muro



Cross section No. 12 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	2.7067E-01	2.260E-01	4.142E-04	0.00	0.00	30891	676.7	9.063E-02
2	1.585E-03	2.315E-01	9.063E-02	6.77	6.69	12871	(BEAM)	4.142E-04

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-6.77	133.89	1.393E-01	2	1.219E+02	7.027E+00
	100.00	7.23	9.04	2.707E-01		1.494E+01	5.679E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0672	0.0672	1.372E-04	0.075	-3.954E-12	-6.025E-12	0.00	7.01

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	2.7067E-01	2.260E-01	4.142E-04	0.00	20594	676.7	9.063E-02
	1.585E-03	2.315E-01	9.063E-02	6.77	8581		4.142E-04

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

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Sections

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	4.306		12.57			227.617	1.036	226.582		0.00	6.77

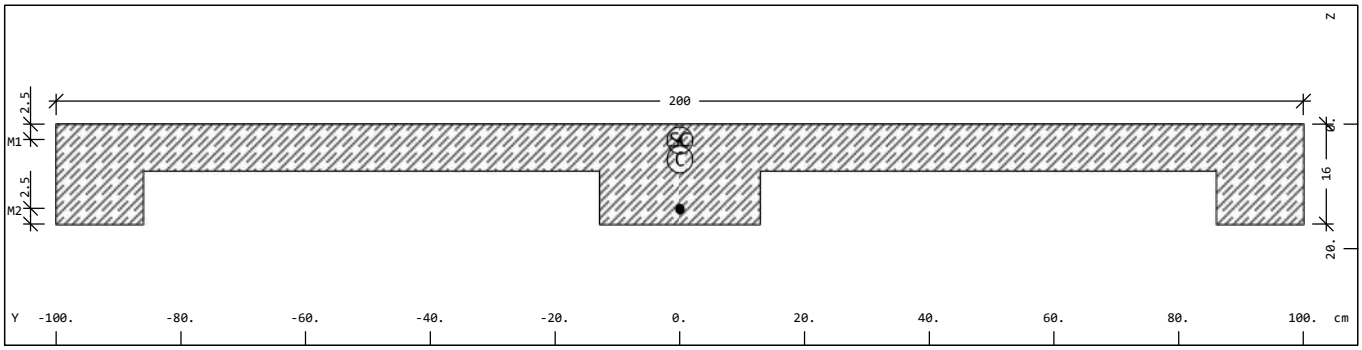
Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	11.50				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Cross section No. 13 - Sección Muro



Cross section No. 13 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	1.9615E-01	1.452E-01	3.256E-04	0.00	0.00	30891	490.4	7.086E-02
2	6.219E-04	3.275E-02	7.086E-02	5.64	2.59	12871	(BEAM)	3.256E-04

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-5.64	143.59	9.985E-02	2	3.099E+02	1.459E+01
	100.00	10.41	10.24	1.962E-01		5.837E+01	4.376E+01

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0975	0.0975	1.340E-04	0.011	4.023E-11	-4.135E-12	0.00	112.65

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance

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Sections

CMS[m4]	warping shear resistance

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	1.9615E-01	1.452E-01	3.256E-04	0.00	20594	490.4	7.086E-02
	6.219E-04	3.275E-02	7.086E-02	5.64	8581		3.256E-04

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	4.663		8.41			177.971	0.814	177.157		0.00	5.64

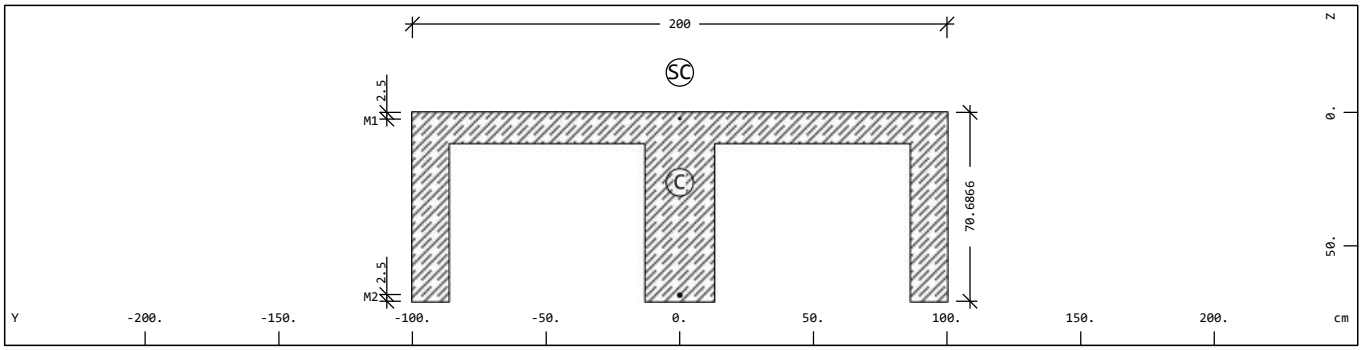
Mat	material number		t-min,t-max	thickness	
periphery-O/-I	peripheral area per length		thet-p,thet-y,thet-z,thet-yz	rotational mass	
deff	effective depth		yg,zg	ordinate of the mass centre	

Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	13.55				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Cross section No. 14 - Sección Muro



Cross section No. 14 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	5.5344E-01	2.166E-01	2.637E-02	0.00	0.00	30891	1383.6	2.222E-01
2	5.432E-03	2.775E-01	2.222E-01	26.20	-14.95	12871	(BEAM)	2.637E-02

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

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Sections

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-26.20	158.17	2.818E-01	2	4.789E+01	6.347E+00
	100.00	44.49	49.36	5.534E-01		9.499E+00	5.209E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.4484	0.4484	1.096E-02	0.129	-8.122E-12	-2.466E-10	0.00	115.53

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	5.5344E-01	2.166E-01	2.637E-02	0.00	20594	1383.6	2.222E-01
	5.432E-03	2.775E-01	2.222E-01	26.20	8581		2.637E-02

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

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Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	7.771		14.24			621.552	65.932	555.620		0.00	26.20

Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

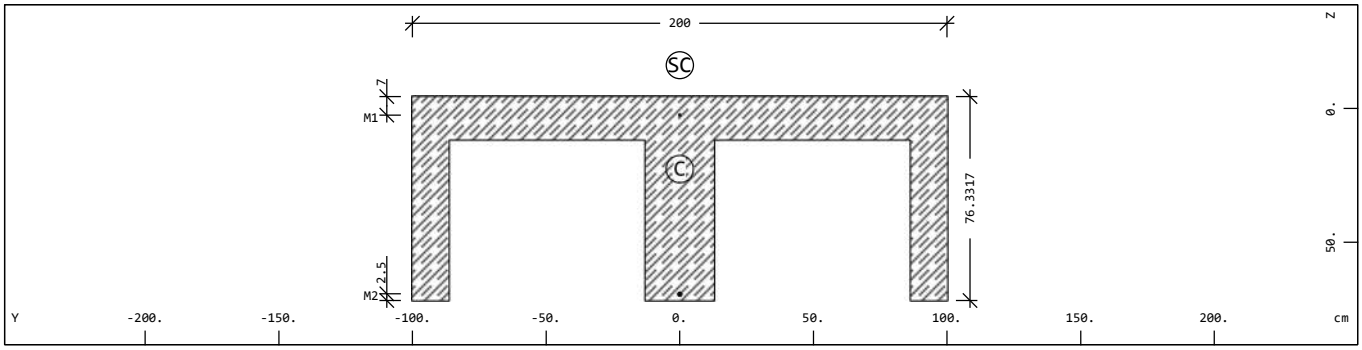
Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	68.19				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Sections

Cross section No. 15 - Sección Muro



Cross section No. 15 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	6.5116E-01	2.908E-01	3.415E-02	0.00	0.00	30891	1627.9	2.555E-01
2	7.642E-03	3.137E-01	2.555E-01	22.66	-16.22	12871	(BEAM)	3.415E-02

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-27.16	154.86	3.323E-01	2	4.074E+01	4.814E+00
	100.00	49.17	52.31	6.512E-01		9.119E+00	4.686E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.4896	0.4896	1.403E-02	0.143	5.764E-10	-2.749E-10	0.00	114.65

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	6.5116E-01	2.908E-01	3.415E-02	0.00	20594	1627.9	2.555E-01
	7.642E-03	3.137E-01	2.555E-01	22.66	8581		3.415E-02

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

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Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	7.925		16.43			724.080	85.363	638.717		0.00	22.66

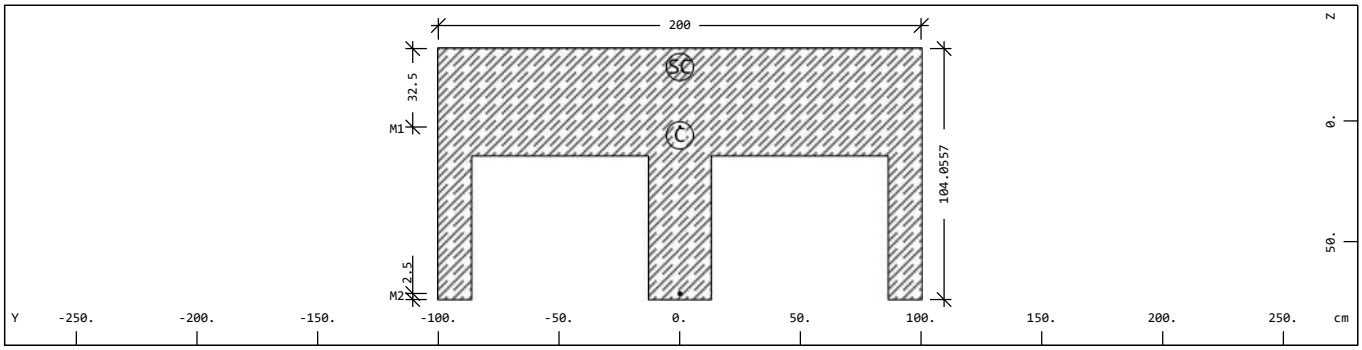
Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	69.33				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Cross section No. 16 - Sección Muro



Cross section No. 16 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	1.2124E+00	7.381E-01	8.815E-02	0.00	0.00	30891	3031.0	4.423E-01
2	5.894E-02	6.191E-01	4.423E-01	6.07	-22.19	12871	(BEAM)	8.815E-02

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-36.07	144.88	6.267E-01	2	1.135E+01	2.034E+00
	100.00	67.99	67.77	1.212E+00		7.403E+00	3.366E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.6435	0.6435	3.144E-02	0.230	7.404E-10	-7.798E-10	0.00	96.21

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance

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Sections

CMS[m4]	warping shear resistance

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	1.2124E+00	7.381E-01	8.815E-02	0.00	20594	3031.0	4.423E-01
	5.894E-02	6.191E-01	4.423E-01	6.07	8581		8.815E-02

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	8.461		28.66			1326.039	220.363	1105.676		0.00	6.07

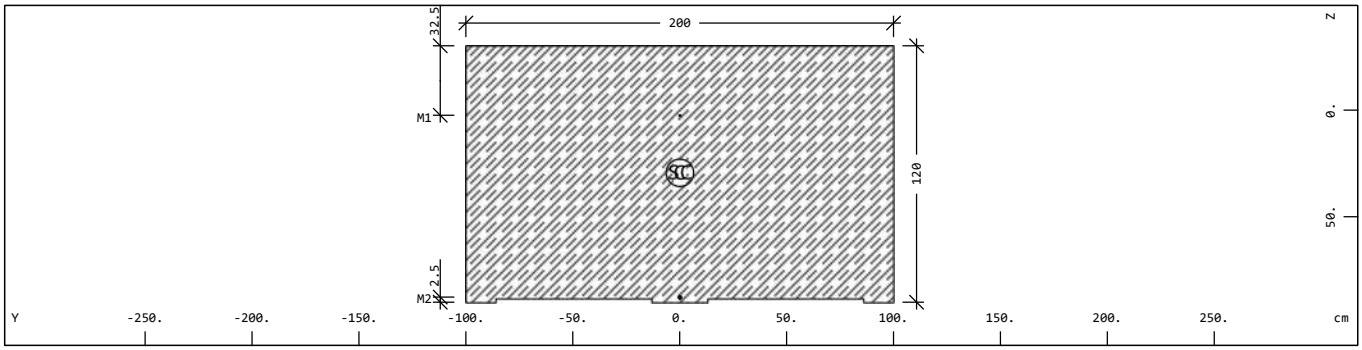
Mat	material number		t-min,t-max		thickness
periphery-O/-I	peripheral area per length		thet-p,thet-y,thet-z,thet-yz		rotational mass
deff	effective depth		yg,zg		ordinate of the mass centre

Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	71.56				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Cross section No. 17 - Sección Muro



Cross section No. 17 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	2.3736E+00	1.982E+00	2.787E-01	0.00	0.00	30891	5934.1	7.924E-01
2	7.012E-01	1.987E+00	7.924E-01	29.34	29.19	12871	(BEAM)	2.787E-01

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

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Sections

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-59.34	133.51	1.321E+00	2	2.084E+00	8.624E-01
	100.00	60.66	79.14	2.374E+00		2.027E+00	6.274E-01

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.2816	0.2816	2.242E-02	0.227	-7.123E-10	-1.545E-09	0.00	0.57

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	2.3736E+00	1.982E+00	2.787E-01	0.00	20594	5934.1	7.924E-01
	7.012E-01	1.987E+00	7.924E-01	29.34	8581		2.787E-01

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

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Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	6.472		73.35			2677.657	696.729	1980.928		0.00	29.34

Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

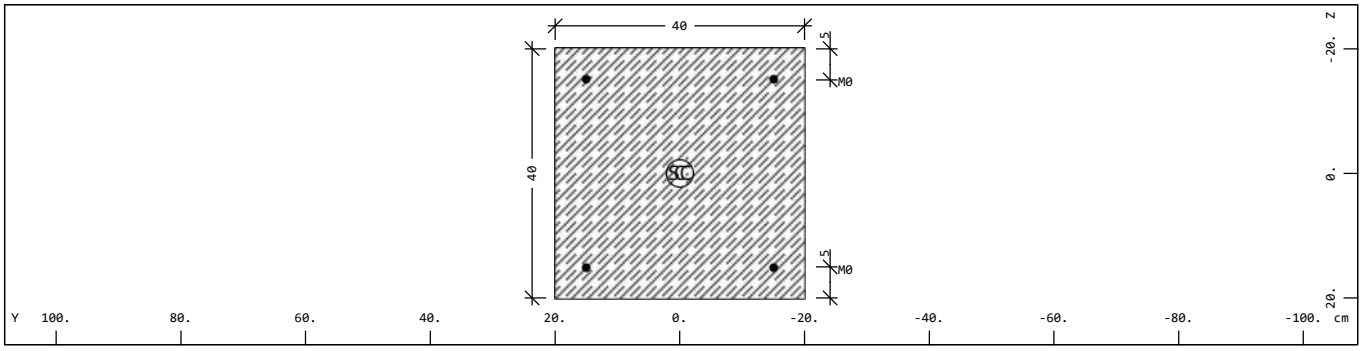
Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	87.50				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Sections

Cross section No. 21 - B/H = 40 / 40 cm



Cross section No. 21 - B/H = 40 / 40 cm

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
4	1.6000E-01	1.333E-01	2.133E-03	0.00	0.00	30891	400.0	
2	3.599E-03	1.333E-01	2.133E-03	0.00	0.00	12871	(COMPR)	

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-20.00	-20.00	26.67	9.000E-02	2	5.556E+01	9.375E+00
	20.00	20.00	26.67	1.600E-01			9.375E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0058	0.0058	5.506E-07	0.000	0.000E+00	0.000E+00	0.00	0.00

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Rectangular cross-section/T-beam

H[cm]	Ho[cm]	Aso[cm2]	Do[mm]	So[mm]	a[cm]	B-eff[cm]
B[cm]	Bo[cm]	Asu[cm2]	Du[mm]	Su[mm]	a-min[cm]	incl[°]
		As-type	Ds[mm]	Ss[mm]	a-max[cm]	Ass[cm2/m]
40.00		4.52	12	50.0		10.00
40.00			12	50.0	3.20	90.0
		CORN:1	12	50.0	30.00	

H[cm]	height	B[cm]	width
Ho[cm]	upper height of section	Bo[cm]	upper width of section
Aso[cm2],Asu[cm2]	reinforcement area	a-min[cm]	minimum distance of bars
Do[mm],Du[mm],Ds[mm]	bar diameter	incl[°]	inclination of transverse reinforcements
So[mm],Su[mm],Ss[mm]	static distance	a-max[cm]	maximum distance of bars
a[cm]	distance of bars	Ass[cm2/m]	area of transverse reinforcements
B-eff[cm]	effective width		

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Sections

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	1.600		20.00	40.00	40.00	10.667	5.333	5.333		0.00	0.00

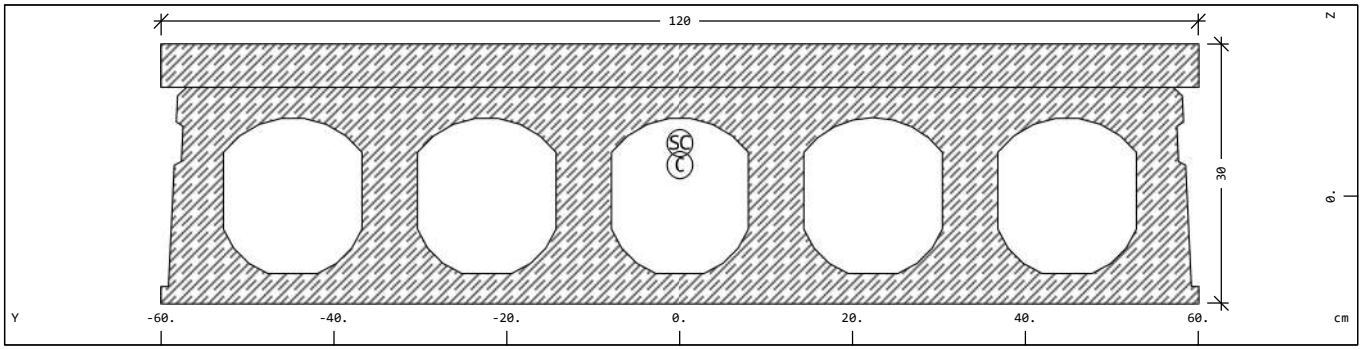
Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M0	4	2	4.52	4.52		12	0.00	0.00	120.00			

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Cross section No. 22 - Placa_Alveolar_120



Cross section No. 22

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	2.2148E-01	1.418E-01	2.186E-03	-0.00	-0.00	30891	571.3	2.713E-02
2	6.415E-03	1.100E-01	2.713E-02	-3.61	-6.14	12871	(BEAM)	2.186E-03
			2.304E-07					-90.00

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-60.00	-13.98	80.61	1.807E-01	2	6.469E+01	1.385E+01
	60.00	16.02	21.90	2.285E-01		7.430E+01	1.721E+01

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0671	0.0671	1.736E-04	0.010	5.233E-08	2.222E-09	0.01	10.90

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance

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Sections

CMS[m4]	warping shear resistance

Partial cross sections

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	1.6852E-01	9.847E-02	1.258E-03	-0.00	30891	421.3	2.077E-02
	4.768E-03	1.078E-01	2.077E-02	0.00	12871		1.258E-03
			4.343E-07				-90.00
11	6.0000E-02	4.908E-02	1.250E-05	0.00	27264	150.0	7.200E-03
	1.867E-03	2.510E-03	7.200E-03	-15.09	11360		1.250E-05

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	2.2148E-01	1.418E-01	2.186E-03	-0.00	20594	571.3	2.713E-02
	6.415E-03	1.100E-01	2.713E-02	-3.61	8581		2.186E-03
			2.304E-07				-90.00

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	5.386	2.846				75.620	5.693	69.927	0.001	-0.00	-3.96
1	2.886	2.846	11.68			55.071	3.144	51.927	0.001	-0.00	0.00
11	2.500		4.80			18.031	0.031	18.000		0.00	-15.09

Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

Reinforcement global values

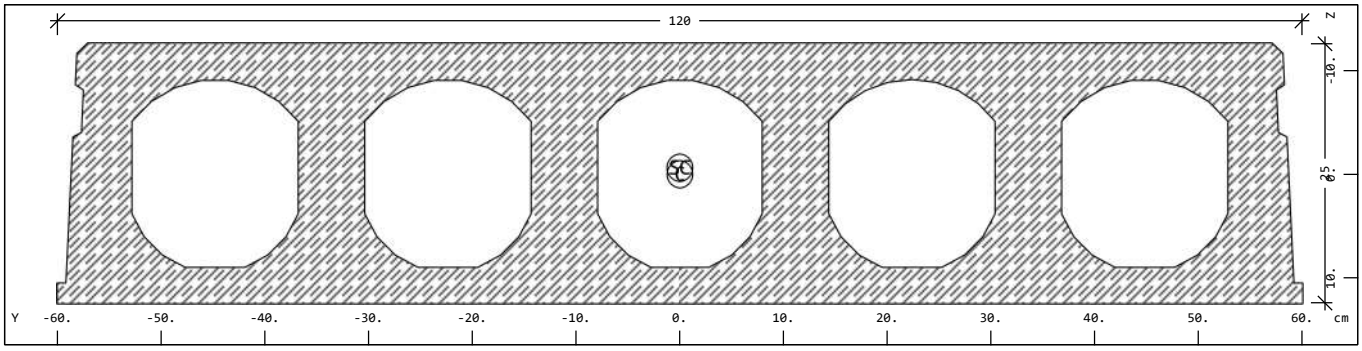
Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	0	2	0.00	0.00			0.00	0.00				
M2	0	2	0.00	0.00			0.00	0.00				
M3	0	2	0.00	0.00			0.00	0.00				
M4	0	2	0.00	0.00			0.00	0.00				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

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Sections

Cross section No. 22.1 = CS 10 - 10. Partial section



Cross section No. 22

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	1.6852E-01	9.721E-02	1.258E-03	-0.00	-0.00	30891	421.3	2.077E-02
2	3.941E-03	8.576E-02	2.077E-02	0.00	-0.63	12871	(BEAM)	1.258E-03
			4.343E-07					-90.00

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-60.00	-12.59	80.80	2.835E-01	2	7.548E+01	1.998E+01
	60.00	12.41	18.84	1.685E-01		7.627E+01	1.835E+01

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0583	0.0583	1.116E-04	0.009	1.937E-07	5.128E-10	0.01	5.04

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	1.6852E-01	9.721E-02	1.258E-03	-0.00	20594	421.3	2.077E-02
	3.941E-03	8.576E-02	2.077E-02	0.00	8581		1.258E-03
			4.343E-07				-90.00

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

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Sections

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	2.886	2.846	11.68			55.071	3.144	51.927	0.001	-0.00	0.00

Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

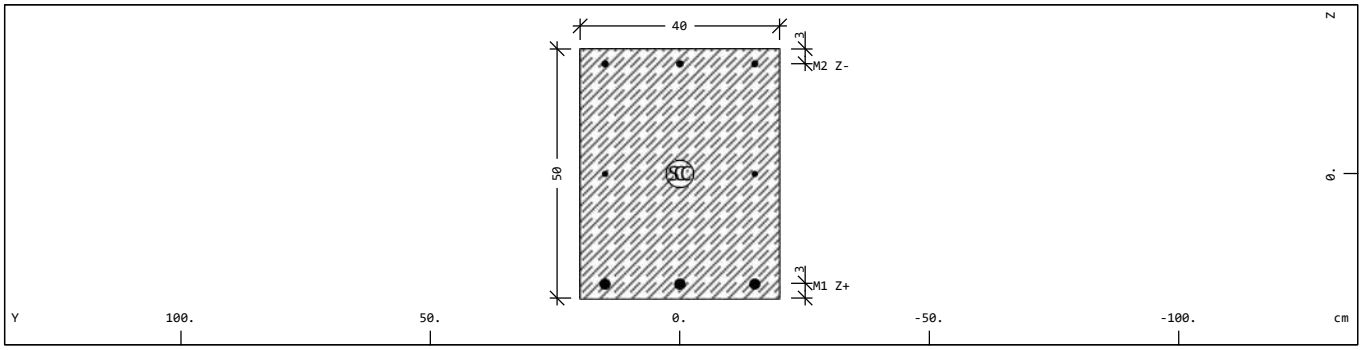
Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	0	2	0.00	0.00			0.00	0.00				
M2	0	2	0.00	0.00			0.00	0.00				
M3	0	2	0.00	0.00			0.00	0.00				
M4	0	2	0.00	0.00			0.00	0.00				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Cross section No. 22.2 = CS 20 - 20. Partial section

Cross section No. 23 - B/H = 40 / 50 cm



Cross section No. 23 - B/H = 40 / 50 cm

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
5	2.0000E-01	1.667E-01	4.167E-03	0.00	0.00	30891	500.0	
2	5.495E-03	1.667E-01	2.667E-03	0.00	0.00	12871	(CENTR)	

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-20.00	-25.00	26.67	1.123E-01	2	4.005E+01	7.500E+00
	20.00	25.00	33.33	2.000E-01			7.500E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

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Sections

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0082	0.0082	3.651E-06	0.000	0.000E+00	0.000E+00	0.00	0.00

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Rectangular cross-section/T-beam

H[cm]	Ho[cm]	Aso[cm2]	Do[mm]	So[mm]	a[cm]	B-eff[cm]
B[cm]	Bo[cm]	Asu[cm2]	Du[mm]	Su[mm]	a-min[cm]	incl[°]
		As-type	Ds[mm]	Ss[mm]	a-max[cm]	Ass[cm2/m]
50.00		3.39	12	30.0	15.00	11.11
40.00		9.42	20	30.0	4.00	90.0
		ASYM	10	50.0	35.00	

H[cm]	height	B[cm]	width
Ho[cm]	upper height of section	Bo[cm]	upper width of section
Aso[cm2],Asu[cm2]	reinforcement area	a-min[cm]	minimum distance of bars
Do[mm],Du[mm],Ds[mm]	bar diameter	incl[°]	inclination of transverse reinforcements
So[mm],Su[mm],Ss[mm]	static distance	a-max[cm]	maximum distance of bars
a[cm]	distance of bars	Ass[cm2/m]	area of transverse reinforcements
B-eff[cm]	effective width		

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	1.800		22.22	40.00	50.00	17.083	10.417	6.667		0.00	0.00

Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

Reinforcement global values

Layer	Mref	Mat	As [cm2]	As-min [cm2]	As-max [cm2]	D [mm]	yr [cm]	zr [cm]	L-tors [cm]	N-p [kN]	My-p [kNm]	Mz-p [kNm]
M1 Z+	5	2	9.42	9.42		20	0.00	22.00	30.00			
M2 Z-	5	2	3.39	3.39		12	0.00	-22.00	30.00			
M3 Y+-	5	2	1.58	1.58	1.58	10	0.00	0.00	88.00			

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

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Generation of Node and Element Loads

Actions

type	part	sup	Designation	γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2
G	G	perm	dead load	1.35	1.00	1.00	1.00	1.00	1.00
	1		Peso propio						
	12		CM_Pendientes						
	13		CM_Paneles						
	14		CM_Imperm						
L	Q	excl	live loading	1.60	0.00	1.00	0.75	0.75	0.20
	21		SC_Uso						
Q	Q	cond	variable load	1.50	0.00	1.00	0.00	0.00	0.00
	2		Agua						
S	Q	cond	snow loading	1.60	0.00	1.00	0.60	0.20	0.00
	41		Nieve						
W	Q	excl	wind loading	1.60	0.00	1.00	0.60	0.50	0.00
	31		Viento N-S						
	32		Viento E-O						

type action — γ-u,γ-f,γ-a partial safety factors for unfavourable/favourable/accidental
part partition of the action — ψ_0,ψ_1,ψ_2 combination coefficients
sup superposition type

Load Case 1 (G) Peso propio

Factor forces and moments 1.000
Factor dead weight DL-ZZ -1.000
unfavourable partial safety factor 1.350
favourable partial safety factor 1.000
Combination coefficient ψ_0 1.000 (rare)
Combination coefficient ψ_1 1.000 (frequent)
Combination coefficient ψ_2 1.000 (permanent)

Load Case 2 (Q) Agua

Factor forces and moments 1.000
unfavourable partial safety factor 1.500
favourable partial safety factor 0.000

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Volume	QGRP 12			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 13			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 14			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 31			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 32			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 33			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 34			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent

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Generation of Node and Element Loads

Load Case 12 (G) CM_Pendientes

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			58.023	-58.207	5.124	PG	1.50 [kN/m]
				58.023	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			58.023	-67.638	5.124	PG	1.50 [kN/m]
				58.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-58.207	5.124	PG	1.50 [kN/m]
				55.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-68.217	5.124	PG	1.50 [kN/m]
				55.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-58.207	5.124	PG	1.50 [kN/m]
				54.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-68.217	5.124	PG	1.50 [kN/m]
				54.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-58.207	5.124	PG	1.50 [kN/m]
				53.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-68.217	5.124	PG	1.50 [kN/m]
				53.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-58.207	5.124	PG	1.50 [kN/m]
				52.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-68.217	5.124	PG	1.50 [kN/m]
				52.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-58.207	5.124	PG	1.50 [kN/m]
				50.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-68.217	5.124	PG	1.50 [kN/m]
				50.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-58.207	5.124	PG	1.50 [kN/m]
				49.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-58.207	5.124	PG	1.50 [kN/m]
				56.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-68.217	5.124	PG	1.50 [kN/m]
				56.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-68.217	5.124	PG	1.50 [kN/m]
				49.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-58.207	5.124	PG	1.50 [kN/m]

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				48.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-68.217	5.124	PG	1.50 [kN/m]
				48.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-58.207	5.124	PG	1.50 [kN/m]
				47.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-68.217	5.124	PG	1.50 [kN/m]
				47.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-68.217	5.124	PG	1.50 [kN/m]
				44.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-58.207	5.124	PG	1.50 [kN/m]
				35.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-68.217	5.124	PG	1.50 [kN/m]
				34.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-58.207	5.124	PG	1.50 [kN/m]
				34.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-68.217	5.124	PG	1.50 [kN/m]
				33.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-58.207	5.124	PG	1.50 [kN/m]
				33.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-68.217	5.124	PG	1.50 [kN/m]
				32.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-58.207	5.124	PG	1.50 [kN/m]
				32.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-68.217	5.160	PG	0.94 [kN/m]
				45.043	-58.207	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-58.207	5.124	PG	1.50 [kN/m]
				46.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-68.217	5.124	PG	1.50 [kN/m]
				46.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-58.207	5.124	PG	1.50 [kN/m]
				30.863	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-67.638	5.124	PG	1.50 [kN/m]
				30.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-58.207	5.160	PG	0.94 [kN/m]
				45.043	-48.197	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-58.207	5.124	PG	1.50 [kN/m]
				44.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-68.217	5.124	PG	1.50 [kN/m]

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				42.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-58.207	5.124	PG	1.50 [kN/m]
				42.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-68.217	5.124	PG	1.50 [kN/m]
				41.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-58.207	5.124	PG	1.50 [kN/m]
				41.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-68.217	5.124	PG	1.50 [kN/m]
				40.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-58.207	5.124	PG	1.50 [kN/m]
				40.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-68.217	5.124	PG	1.50 [kN/m]
				39.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-58.207	5.124	PG	1.50 [kN/m]
				39.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-68.217	5.124	PG	1.50 [kN/m]
				38.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-58.207	5.124	PG	1.50 [kN/m]
				38.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-68.217	5.124	PG	1.50 [kN/m]
				36.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-58.207	5.124	PG	1.50 [kN/m]
				36.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-68.217	5.124	PG	1.50 [kN/m]
				35.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300001	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300002	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300003	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300004	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300005	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300006	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300007	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300008	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300009	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300010	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300011	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300012	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300013	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300014	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300015	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300016	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300017	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300018	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300019	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300020	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300021	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300022	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300023	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300024	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300025	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300026	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300027	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300028	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300029	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300030	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300031	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300032	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300033	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300034	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300035	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300036	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300037	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300038	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300039	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300040	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300041	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300042	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300043	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300044	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300045	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300046	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300047	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300048	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300049	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300050	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300051	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300052	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300053	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300054	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300055	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300056	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300057	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300058	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300059	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300060	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300061	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300062	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300063	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300064	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300065	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300066	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300067	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300068	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300069	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300070	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300071	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300072	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300073	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300074	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300075	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300076	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300077	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300078	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300079	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300080	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300081	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300082	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300083	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300084	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300085	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300086	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300087	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300088	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300089	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300090	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300091	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300092	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300093	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300094	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300095	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300096	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300097	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300098	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300099	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300100	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300101	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300102	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300103	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300104	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300105	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300106	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300107	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300108	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300109	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300110	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300111	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300112	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300113	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300114	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300115	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300116	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300117	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300118	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300119	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300120	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300121	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300122	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300123	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300124	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300125	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300126	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300127	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300128	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300129	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300130	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300131	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300132	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300133	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300134	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300135	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300136	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300137	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300138	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300139	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300140	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300141	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300142	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300143	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300144	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300145	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300146	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300147	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300148	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300149	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300150	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300151	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300152	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300153	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300154	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300155	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300156	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300157	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300158	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300159	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300160	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300161	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300162	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300163	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300164	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300165	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300166	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300167	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300168	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300169	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300170	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300171	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300172	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300173	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300174	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300175	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300176	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300177	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300178	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300179	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300180	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300181	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300182	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300183	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300184	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300185	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300186	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300187	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300188	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300189	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300190	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300191	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300192	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300193	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300194	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300195	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300196	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300197	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300198	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300199	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300200	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300201	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300202	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300203	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300204	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300205	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300206	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300207	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300208	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300209	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300210	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300211	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300212	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300213	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300214	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300215	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300216	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300217	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300218	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300219	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300220	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300221	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300222	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300223	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300224	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300225	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300226	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300227	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300228	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300229	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300230	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300231	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300232	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300233	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300234	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300235	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300236	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300237	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300238	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300239	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300240	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300241	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300242	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300243	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300244	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300245	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300246	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300247	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300248	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300249	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300250	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300251	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300252	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300253	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300254	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300255	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300256	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300257	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300258	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300259	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300260	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300261	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300262	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300263	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300264	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300265	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300266	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300267	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300268	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300269	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300270	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300271	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300272	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300273	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300274	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300275	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300276	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300277	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300278	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300279	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300280	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300281	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300282	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300283	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300284	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300285	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300286	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300287	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300288	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300289	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300290	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300291	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300292	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300293	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300294	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300295	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300296	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300297	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300298	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300299	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300300	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300301	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300302	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300303	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300304	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300305	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300306	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300307	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300308	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300309	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300310	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300311	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300312	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300313	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300314	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300315	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300316	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300317	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300318	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300319	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300320	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300321	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300322	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300323	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300324	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300325	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300326	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300327	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300328	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300329	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300330	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300331	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300332	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300333	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300334	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300335	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300336	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300337	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300338	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300339	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300340	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300341	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300342	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300343	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300344	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300345	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300346	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300347	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300348	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300349	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300350	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300351	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300352	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300353	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300354	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300355	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300356	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300357	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300358	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300359	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300360	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300361	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300362	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300363	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300364	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300365	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300366	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300367	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300368	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300369	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300370	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300371	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300372	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300373	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300374	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300375	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300376	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300377	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300378	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300379	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300380	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300381	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300382	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300383	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300384	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300385	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300386	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300387	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300388	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300389	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300390	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300391	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300392	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300393	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300394	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300395	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300396	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300397	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300398	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300399	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300400	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300401	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300402	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300403	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300404	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300405	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300406	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300407	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300408	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300409	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300410	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300411	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300412	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300413	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300414	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300415	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300416	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300417	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300418	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300419	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300420	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300421	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300422	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300423	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300424	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300425	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300426	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300427	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300428	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300429	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300430	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300431	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300432	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300433	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300434	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300435	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300436	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300437	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300438	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300439	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300440	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300441	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300442	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300443	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300444	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300445	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300446	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300447	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300448	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300449	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300450	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300451	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300452	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300453	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300454	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300455	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300456	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300457	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300458	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300459	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300460	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300461	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300462	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300463	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300464	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300465	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300466	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300467	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300468	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300469	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300470	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300471	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300472	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300473	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300474	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300475	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300476	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300477	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300478	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300479	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300480	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300481	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300482	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300483	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300484	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300485	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300486	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300487	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300488	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300489	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300490	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300491	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300492	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300493	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300494	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300495	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300496	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300497	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300498	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300499	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300500	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300501	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300502	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300503	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300504	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300505	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300506	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300507	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300508	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300509	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300510	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300511	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300512	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300513	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300514	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300515	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300516	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300517	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300518	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300519	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300520	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300521	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300522	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300523	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300524	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300525	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300526	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300527	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300528	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300529	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300530	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300531	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300532	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300533	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300534	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300535	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300536	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300537	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300538	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300539	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300540	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300541	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300542	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300543	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300544	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300545	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300546	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300547	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300548	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300549	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300550	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300551	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300552	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300553	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300554	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300555	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300556	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300557	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300558	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300559	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300560	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300561	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300562	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300563	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300564	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300565	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300566	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300567	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300568	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300569	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300570	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300571	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300572	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300573	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300574	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300575	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300576	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300577	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300578	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300579	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300580	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300581	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300582	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300583	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300584	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300585	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300586	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300587	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300588	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300589	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300590	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300591	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300592	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300593	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300594	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300595	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300596	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300597	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300598	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300599	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300600	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300601	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300602	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300603	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300604	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300605	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300606	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300607	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300608	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300609	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300610	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300611	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300612	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300613	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300614	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300615	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300616	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300617	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300618	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300619	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300620	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300621	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300622	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300623	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300624	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300625	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300626	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300627	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300628	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300629	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300630	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300631	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300632	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300633	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300634	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300635	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300636	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300637	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300638	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300639	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300640	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300641	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300642	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300643	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300644	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300645	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300646	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300647	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300648	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300649	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300650	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300651	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300652	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300653	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300654	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300655	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300656	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300657	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300658	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300659	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300660	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300661	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300662	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300663	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300664	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300665	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300666	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300667	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300668	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300669	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300670	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300671	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300672	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300673	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300674	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300675	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300676	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300677	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300678	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300679	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300680	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300681	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300682	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300683	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300684	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300685	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300686	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300687	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300688	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300689	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300690	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300691	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300692	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300693	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300694	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300695	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300696	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300697	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300698	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300699	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300700	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300701	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300702	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300703	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300704	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300705	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300706	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300707	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300708	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300709	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300710	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300711	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300712	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300713	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300714	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300715	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300716	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300717	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300718	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300719	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300720	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300721	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300722	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300723	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300724	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300725	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300726	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300727	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300728	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300729	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300730	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300731	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300732	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300733	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300734	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300735	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300736	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300737	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300738	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300739	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300740	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300741	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300742	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300743	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300744	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300745	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300746	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300747	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300748	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300749	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300750	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300751	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300752	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300753	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300754	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300755	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300756	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300757	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300758	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300759	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300760	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300761	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300762	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300763	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300764	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300765	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300766	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300767	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300768	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300769	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300770	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300771	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300772	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300773	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300774	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300775	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300776	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300777	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300778	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300779	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300780	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300781	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300782	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300783	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300784	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300785	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300786	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300787	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300788	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300789	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300790	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300791	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300792	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300793	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300794	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300795	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300796	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300797	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300798	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300799	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300800	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300801	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300802	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300803	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300804	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300805	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300806	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300807	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300808	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300809	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300810	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300811	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300812	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

Load Case 13 (G) CM_Paneles

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			58.023	-58.207	5.124	PG	1.50 [kN/m]
				58.023	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			58.023	-67.638	5.124	PG	1.50 [kN/m]

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				58.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-58.207	5.124	PG	1.50 [kN/m]
				55.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-68.217	5.124	PG	1.50 [kN/m]
				55.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-58.207	5.124	PG	1.50 [kN/m]
				54.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-68.217	5.124	PG	1.50 [kN/m]
				54.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-58.207	5.124	PG	1.50 [kN/m]
				53.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-68.217	5.124	PG	1.50 [kN/m]
				53.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-58.207	5.124	PG	1.50 [kN/m]
				52.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-68.217	5.124	PG	1.50 [kN/m]
				52.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-58.207	5.124	PG	1.50 [kN/m]
				50.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-68.217	5.124	PG	1.50 [kN/m]
				50.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-58.207	5.124	PG	1.50 [kN/m]
				56.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-68.217	5.124	PG	1.50 [kN/m]
				56.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-58.207	5.124	PG	1.50 [kN/m]
				49.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-68.217	5.124	PG	1.50 [kN/m]
				49.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-58.207	5.124	PG	1.50 [kN/m]
				48.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-68.217	5.124	PG	1.50 [kN/m]
				48.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-58.207	5.124	PG	1.50 [kN/m]
				47.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-68.217	5.124	PG	1.50 [kN/m]
				47.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-68.217	5.124	PG	1.50 [kN/m]

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				44.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-58.207	5.124	PG	1.50 [kN/m]
				35.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-68.217	5.124	PG	1.50 [kN/m]
				34.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-58.207	5.124	PG	1.50 [kN/m]
				34.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-68.217	5.124	PG	1.50 [kN/m]
				33.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-58.207	5.124	PG	1.50 [kN/m]
				33.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-68.217	5.124	PG	1.50 [kN/m]
				32.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-58.207	5.124	PG	1.50 [kN/m]
				32.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-68.217	5.160	PG	0.94 [kN/m]
				45.043	-58.207	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-58.207	5.124	PG	1.50 [kN/m]
				46.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-68.217	5.124	PG	1.50 [kN/m]
				46.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-58.207	5.124	PG	1.50 [kN/m]
				30.863	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-67.638	5.124	PG	1.50 [kN/m]
				30.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-58.207	5.160	PG	0.94 [kN/m]
				45.043	-48.197	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-58.207	5.124	PG	1.50 [kN/m]
				44.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-68.217	5.124	PG	1.50 [kN/m]
				42.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-58.207	5.124	PG	1.50 [kN/m]
				42.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-68.217	5.124	PG	1.50 [kN/m]
				41.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-58.207	5.124	PG	1.50 [kN/m]
				41.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-68.217	5.124	PG	1.50 [kN/m]

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				40.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-58.207	5.124	PG	1.50 [kN/m]
				40.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-68.217	5.124	PG	1.50 [kN/m]
				39.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-58.207	5.124	PG	1.50 [kN/m]
				39.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-68.217	5.124	PG	1.50 [kN/m]
				38.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-58.207	5.124	PG	1.50 [kN/m]
				38.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-68.217	5.124	PG	1.50 [kN/m]
				36.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-58.207	5.124	PG	1.50 [kN/m]
				36.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-68.217	5.124	PG	1.50 [kN/m]
				35.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300001	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300002	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300003	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300004	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300005	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300006	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300007	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300008	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300009	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300010	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300011	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300012	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300013	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300014	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300015	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300016	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300017	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300018	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300019	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300020	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300021	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300022	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300023	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300024	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300025	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300026	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300027	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300028	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300029	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300030	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300031	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300032	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300033	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300034	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300035	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300036	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300037	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300038	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300039	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300040	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300041	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300042	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300043	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300044	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300045	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300046	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300047	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300048	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300049	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300050	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300051	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300052	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300053	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300054	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300055	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300056	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300057	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300058	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300059	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300060	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300061	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300062	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300063	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300064	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300065	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300066	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300067	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300068	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300069	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300070	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300071	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300072	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300073	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300074	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300075	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300076	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300077	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300078	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300079	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300080	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300081	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300082	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300083	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300084	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300085	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300086	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300087	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300088	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300089	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300090	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300091	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300092	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300093	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300094	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300095	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300096	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300097	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300098	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300099	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300100	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300101	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300102	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300103	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300104	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300105	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300106	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300107	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300108	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300109	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300110	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300111	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300112	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300113	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300114	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300115	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300116	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300117	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300118	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300119	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300120	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300121	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300122	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300123	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300124	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300125	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300126	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300127	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300128	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300129	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300130	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300131	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300132	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300133	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300134	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300135	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300136	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300137	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300138	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300139	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300140	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300141	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300142	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300143	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300144	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300145	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300146	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300147	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300148	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300149	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300150	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300151	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300152	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300153	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300154	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300155	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300156	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300157	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300158	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300159	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300160	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300161	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300162	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300163	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300164	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300165	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300166	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300167	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300168	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300169	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300170	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300171	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300172	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300173	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300174	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300175	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300176	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300177	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300178	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300179	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300180	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300181	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300182	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300183	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300184	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300185	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300186	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300187	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300188	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300189	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300190	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300191	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300192	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300193	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300194	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300195	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300196	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300197	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300198	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300199	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300200	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300201	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300202	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300203	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300204	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300205	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300206	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300207	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300208	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300209	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300210	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300211	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300212	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300213	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300214	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300215	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300216	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300217	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300218	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300219	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300220	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300221	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300222	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300223	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300224	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300225	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300226	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300227	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300228	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300229	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300230	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300231	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300232	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300233	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300234	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300235	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300236	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300237	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300238	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300239	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300240	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300241	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300242	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300243	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300244	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300245	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300246	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300247	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300248	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300249	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300250	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300251	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300252	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300253	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300254	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300255	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300256	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300257	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300258	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300259	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300260	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300261	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300262	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300263	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300264	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300265	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300266	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300267	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300268	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300269	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300270	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300271	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300272	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300273	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300274	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300275	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300276	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300277	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300278	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300279	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300280	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300281	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300282	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300283	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300284	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300285	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300286	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300287	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300288	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300289	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300290	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300291	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300292	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300293	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300294	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300295	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300296	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300297	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300298	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300299	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300300	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300301	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300302	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300303	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300304	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300305	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300306	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300307	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300308	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300309	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300310	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300311	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300312	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300313	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300314	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300315	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300316	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300317	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300318	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300319	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300320	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300321	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300322	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300323	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300324	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300325	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300326	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300327	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300328	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300329	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300330	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300331	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300332	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300333	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300334	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300335	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300336	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300337	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300338	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300339	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300340	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300341	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300342	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300343	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300344	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300345	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300346	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300347	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300348	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300349	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300350	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300351	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300352	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300353	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300354	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300355	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300356	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300357	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300358	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300359	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300360	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300361	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300362	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300363	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300364	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300365	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300366	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300367	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300368	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300369	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300370	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300371	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300372	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300373	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300374	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300375	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300376	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300377	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300378	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300379	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300380	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300381	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300382	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300383	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300384	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300385	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300386	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300387	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300388	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300389	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300390	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300391	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300392	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300393	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300394	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300395	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300396	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300397	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300398	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300399	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300400	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300401	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300402	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300403	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300404	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300405	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300406	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300407	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300408	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300409	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300410	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300411	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300412	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300413	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300414	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300415	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300416	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300417	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300418	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300419	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300420	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300421	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300422	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300423	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300424	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300425	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300426	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300427	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300428	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300429	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300430	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300431	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300432	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300433	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300434	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300435	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300436	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300437	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300438	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300439	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300440	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300441	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300442	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300443	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300444	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300445	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300446	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300447	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300448	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300449	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300450	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300451	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300452	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300453	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300454	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300455	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300456	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300457	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300458	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300459	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300460	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300461	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300462	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300463	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300464	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300465	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300466	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300467	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300468	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300469	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300470	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300471	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300472	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300473	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300474	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300475	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300476	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300477	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300478	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300479	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300480	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300481	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300482	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300483	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300484	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300485	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300486	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300487	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300488	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300489	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300490	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300491	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300492	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300493	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300494	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300495	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300496	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300497	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300498	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300499	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300500	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300501	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300502	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300503	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300504	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300505	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300506	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300507	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300508	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300509	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300510	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300511	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300512	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300513	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300514	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300515	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300516	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300517	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300518	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300519	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300520	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300521	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300522	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300523	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300524	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300525	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300526	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300527	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300528	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300529	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300530	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300531	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300532	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300533	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300534	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300535	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300536	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300537	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300538	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300539	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300540	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300541	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300542	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300543	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300544	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300545	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300546	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300547	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300548	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300549	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300550	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300551	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300552	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300553	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300554	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300555	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300556	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300557	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300558	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300559	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300560	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300561	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300562	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300563	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300564	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300565	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300566	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300567	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300568	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300569	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300570	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300571	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300572	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300573	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300574	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300575	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300576	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300577	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300578	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300579	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300580	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300581	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300582	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300583	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300584	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300585	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300586	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300587	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300588	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300589	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300590	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300591	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300592	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300593	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300594	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300595	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300596	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300597	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300598	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300599	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300600	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300601	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300602	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300603	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300604	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300605	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300606	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300607	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300608	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300609	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300610	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300611	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300612	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300613	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300614	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300615	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300616	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300617	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300618	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300619	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300620	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300621	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300622	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300623	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300624	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300625	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300626	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300627	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300628	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300629	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300630	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300631	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300632	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300633	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300634	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300635	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300636	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300637	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300638	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300639	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300640	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300641	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300642	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300643	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300644	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300645	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300646	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300647	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300648	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300649	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300650	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300651	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300652	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300653	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300654	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300655	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300656	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300657	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300658	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300659	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300660	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300661	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300662	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300663	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300664	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300665	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300666	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300667	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300668	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300669	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300670	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300671	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300672	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300673	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300674	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300675	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300676	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300677	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300678	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300679	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300680	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300681	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300682	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300683	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300684	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300685	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300686	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300687	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300688	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300689	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300690	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300691	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300692	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300693	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300694	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300695	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300696	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300697	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300698	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300699	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300700	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300701	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300702	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300703	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300704	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300705	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300706	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300707	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300708	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300709	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300710	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300711	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300712	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300713	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300714	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300715	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300716	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300717	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300718	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300719	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300720	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300721	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300722	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300723	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300724	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300725	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300726	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300727	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300728	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300729	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300730	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300731	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300732	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300733	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300734	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300735	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300736	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300737	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300738	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300739	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300740	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300741	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300742	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300743	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300744	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300745	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300746	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300747	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300748	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300749	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300750	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300751	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300752	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300753	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300754	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300755	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300756	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300757	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300758	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300759	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300760	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300761	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300762	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300763	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300764	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300765	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300766	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300767	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300768	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300769	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300770	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300771	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300772	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300773	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300774	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300775	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300776	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300777	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300778	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300779	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300780	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300781	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300782	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300783	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300784	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300785	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300786	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300787	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300788	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300789	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300790	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300791	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300792	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300793	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300794	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300795	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300796	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300797	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300798	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300799	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300800	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300801	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300802	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300803	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300804	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300805	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300806	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300807	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300808	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300809	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300810	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300811	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300812	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Load Case 14 (G) CM_Imperm

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			58.023	-58.207	5.124	PG	2.25 [kN/m]
				58.023	-48.777	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			58.023	-67.638	5.124	PG	2.25 [kN/m]
				58.023	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-58.207	5.124	PG	2.25 [kN/m]
				55.623	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-68.217	5.124	PG	2.25 [kN/m]
				55.623	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-58.207	5.124	PG	2.25 [kN/m]
				54.423	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-68.217	5.124	PG	2.25 [kN/m]

Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				54.423	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-58.207	5.124	PG	2.25 [kN/m]
				53.223	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-68.217	5.124	PG	2.25 [kN/m]
				53.223	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-58.207	5.124	PG	2.25 [kN/m]
				52.023	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-68.217	5.124	PG	2.25 [kN/m]
				52.023	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-58.207	5.124	PG	2.25 [kN/m]
				50.823	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-68.217	5.124	PG	2.25 [kN/m]
				50.823	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-58.207	5.124	PG	2.25 [kN/m]
				56.823	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-68.217	5.124	PG	2.25 [kN/m]
				56.823	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-58.207	5.124	PG	2.25 [kN/m]
				49.623	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-68.217	5.124	PG	2.25 [kN/m]
				49.623	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-58.207	5.124	PG	2.25 [kN/m]
				48.423	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-68.217	5.124	PG	2.25 [kN/m]
				48.423	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-58.207	5.124	PG	2.25 [kN/m]
				47.223	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-68.217	5.124	PG	2.25 [kN/m]
				47.223	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-68.217	5.124	PG	2.25 [kN/m]
				44.063	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-68.217	5.124	PG	2.25 [kN/m]
				35.663	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-58.207	5.124	PG	2.25 [kN/m]
				35.663	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-68.217	5.124	PG	2.25 [kN/m]
				34.463	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-58.207	5.124	PG	2.25 [kN/m]

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				34.463	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-68.217	5.124	PG	2.25 [kN/m]
				33.263	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-58.207	5.124	PG	2.25 [kN/m]
				33.263	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-68.217	5.124	PG	2.25 [kN/m]
				32.063	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-58.207	5.124	PG	2.25 [kN/m]
				32.063	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-68.217	5.160	PG	1.40 [kN/m]
				45.043	-58.207	5.160		1.40 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-58.207	5.124	PG	2.25 [kN/m]
				46.023	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-68.217	5.124	PG	2.25 [kN/m]
				46.023	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-58.207	5.124	PG	2.25 [kN/m]
				30.863	-48.777	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-67.638	5.124	PG	2.25 [kN/m]
				30.863	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-58.207	5.160	PG	1.40 [kN/m]
				45.043	-48.197	5.160		1.40 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-58.207	5.124	PG	2.25 [kN/m]
				44.063	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-68.217	5.124	PG	2.25 [kN/m]
				42.863	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-58.207	5.124	PG	2.25 [kN/m]
				42.863	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-68.217	5.124	PG	2.25 [kN/m]
				41.663	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-58.207	5.124	PG	2.25 [kN/m]
				41.663	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-68.217	5.124	PG	2.25 [kN/m]
				40.463	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-58.207	5.124	PG	2.25 [kN/m]
				40.463	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-68.217	5.124	PG	2.25 [kN/m]
				39.263	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-58.207	5.124	PG	2.25 [kN/m]

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				39.263	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-68.217	5.124	PG	2.25 [kN/m]
				38.063	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-58.207	5.124	PG	2.25 [kN/m]
				38.063	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-68.217	5.124	PG	2.25 [kN/m]
				36.863	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-58.207	5.124	PG	2.25 [kN/m]
				36.863	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300001	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300002	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300003	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300004	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300005	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300006	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300007	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300008	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300009	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300010	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300011	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300012	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300013	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300014	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300015	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300016	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300017	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300018	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300019	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300020	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300021	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300022	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300023	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300024	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300025	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300026	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300027	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300028	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300029	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300030	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300031	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300032	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300033	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300034	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300035	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300036	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300037	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300038	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300039	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300040	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300041	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300042	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300043	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300044	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300045	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300046	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300047	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300048	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300049	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300050	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300051	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300052	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300053	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300054	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300055	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300056	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300057	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300058	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300059	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300060	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300061	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300062	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300063	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300064	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300065	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300066	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300067	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300068	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300069	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300070	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300071	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300072	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300073	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300074	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300075	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300076	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300077	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300078	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300079	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300080	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300081	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300082	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300083	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300084	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300085	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300086	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300087	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300088	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300089	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300090	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300091	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300092	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300093	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300094	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300095	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300096	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300097	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300098	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300099	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300100	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300101	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300102	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300103	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300104	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300105	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300106	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300107	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300108	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300109	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300110	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300111	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300112	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300113	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300114	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300115	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300116	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300117	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300118	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300119	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300120	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300121	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300122	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300123	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300124	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300125	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300126	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300127	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300128	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300129	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300130	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300131	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300132	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300133	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300134	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300135	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300136	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300137	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300138	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300139	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300140	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300141	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300142	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300143	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300144	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300145	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300146	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300147	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300148	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300149	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300150	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300151	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300152	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300153	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300154	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300155	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300156	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300157	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300158	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300159	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300160	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300161	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300162	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300163	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300164	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300165	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300166	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300167	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300168	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300169	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300170	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300171	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300172	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300173	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300174	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300175	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300176	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300177	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300178	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300179	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300180	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300181	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300182	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300183	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300184	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300185	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300186	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300187	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300188	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300189	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300190	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300191	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300192	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300193	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300194	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300195	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300196	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300197	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300198	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300199	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300200	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300201	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300202	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300203	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300204	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300205	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300206	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300207	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300208	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300209	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300210	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300211	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300212	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300213	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300214	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300215	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300216	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300217	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300218	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300219	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300220	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300221	PG	0.000	0.589	1.40	1.40	[kN/m]	0.000	0.000	0.000	0.000	
4300222	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300223	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300224	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300225	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300226	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300227	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300228	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300229	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300230	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300231	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300232	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300233	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300234	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300235	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300236	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300237	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300238	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300239	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300240	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300241	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300242	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300243	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300244	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300245	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300246	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300247	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300248	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300249	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300250	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300251	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300252	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300253	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300254	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300255	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300256	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300257	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300258	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300259	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300260	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300261	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300262	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300263	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300264	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300265	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300266	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300267	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300268	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300269	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300270	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300271	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300272	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300273	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300274	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300275	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300276	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300277	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300278	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300279	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300280	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300281	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300282	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300283	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300284	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300285	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300286	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300287	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300288	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300289	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300290	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300291	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300292	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300293	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300294	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300295	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300296	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300297	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300298	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300299	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300300	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300301	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300302	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300303	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300304	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300305	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300306	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300307	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300308	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300309	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300310	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300311	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300312	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300313	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300314	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300315	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300316	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300317	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300318	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300319	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300320	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300321	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300322	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300323	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300324	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300325	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300326	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300327	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300328	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300329	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300330	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300331	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300332	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300333	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300334	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300335	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300336	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300337	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300338	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300339	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300340	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300341	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300342	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300343	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300344	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300345	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300346	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300347	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300348	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300349	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300350	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300351	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300352	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300353	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300354	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300355	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300356	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300357	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300358	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300359	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300360	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300361	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300362	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300363	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300364	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300365	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300366	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300367	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300368	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300369	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300370	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300371	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300372	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300373	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300374	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300375	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300376	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300377	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300378	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300379	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300380	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300381	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300382	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300383	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300384	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300385	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300386	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300387	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300388	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300389	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300390	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300391	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300392	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300393	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300394	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300395	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300396	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300397	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300398	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300399	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300400	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300401	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300402	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300403	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300404	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300405	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300406	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300407	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300408	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300409	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300410	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300411	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300412	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300413	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300414	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300415	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300416	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300417	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300418	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300419	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300420	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300421	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300422	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300423	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300424	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300425	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300426	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300427	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300428	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300429	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300430	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300431	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300432	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300433	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300434	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300435	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300436	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300437	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300438	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300439	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300440	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300441	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300442	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300443	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300444	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300445	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300446	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300447	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300448	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300449	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300450	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300451	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300452	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300453	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300454	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300455	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300456	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300457	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300458	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300459	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300460	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300461	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300462	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300463	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300464	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300465	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300466	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300467	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300468	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300469	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300470	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300471	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300472	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300473	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300474	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300475	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300476	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300477	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300478	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300479	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300480	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300481	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300482	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300483	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300484	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300485	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300486	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300487	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300488	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300489	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300490	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300491	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300492	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300493	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300494	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300495	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300496	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300497	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300498	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300499	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300500	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300501	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300502	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300503	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300504	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300505	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300506	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300507	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300508	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300509	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300510	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300511	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300512	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300513	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300514	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300515	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300516	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300517	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300518	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300519	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300520	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300521	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300522	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300523	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300524	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300525	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300526	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300527	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300528	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300529	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300530	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300531	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300532	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300533	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300534	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300535	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300536	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300537	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300538	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300539	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300540	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300541	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300542	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300543	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300544	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300545	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300546	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300547	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300548	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300549	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300550	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300551	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300552	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300553	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300554	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300555	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300556	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300557	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300558	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300559	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300560	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300561	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300562	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300563	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300564	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300565	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300566	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300567	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300568	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300569	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300570	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300571	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300572	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300573	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300574	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300575	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300576	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300577	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300578	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300579	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300580	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300581	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300582	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300583	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300584	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300585	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300586	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300587	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300588	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300589	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300590	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300591	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300592	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300593	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300594	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300595	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300596	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300597	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300598	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300599	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300600	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300601	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300602	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300603	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300604	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300605	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300606	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300607	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300608	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300609	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300610	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300611	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300612	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300613	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300614	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300615	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300616	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300617	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300618	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300619	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300620	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300621	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300622	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300623	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300624	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300625	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300626	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300627	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300628	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300629	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300630	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300631	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300632	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300633	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300634	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300635	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300636	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300637	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300638	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300639	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300640	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300641	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300642	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300643	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300644	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300645	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300646	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300647	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300648	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300649	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300650	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300651	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300652	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300653	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300654	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300655	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300656	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300657	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300658	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300659	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300660	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300661	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300662	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300663	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300664	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300665	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300666	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300667	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300668	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300669	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300670	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300671	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300672	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300673	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300674	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300675	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300676	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300677	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300678	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300679	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300680	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300681	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300682	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300683	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300684	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300685	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300686	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300687	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300688	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300689	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300690	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300691	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300692	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300693	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300694	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300695	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300696	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300697	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300698	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300699	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300700	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300701	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300702	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300703	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300704	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300705	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300706	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300707	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300708	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300709	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300710	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300711	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300712	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300713	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300714	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300715	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300716	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300717	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300718	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300719	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300720	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300721	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300722	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300723	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300724	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300725	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300726	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300727	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300728	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300729	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300730	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300731	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300732	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300733	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300734	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300735	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300736	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300737	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300738	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300739	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300740	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300741	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300742	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300743	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300744	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300745	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300746	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300747	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300748	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300749	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300750	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300751	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300752	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300753	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300754	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300755	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300756	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300757	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300758	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300759	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300760	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300761	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300762	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300763	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300764	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300765	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300766	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300767	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300768	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300769	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300770	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300771	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300772	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300773	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300774	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300775	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300776	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300777	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300778	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300779	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300780	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300781	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300782	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300783	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300784	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300785	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300786	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300787	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300788	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300789	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300790	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300791	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300792	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300793	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300794	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300795	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300796	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300797	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300798	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300799	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300800	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300801	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300802	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300803	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300804	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300805	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300806	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300807	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300808	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300809	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300810	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300811	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	
4300812	PG	0.000	0.589	2.25	2.25	[kN/m]	0.000	0.000	0.000	0.000	

Load Case 21 (L) SC_Uso

Factor forces and moments		1.000
unfavourable partial safety factor		1.600
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.750 (rare)
Combination coefficient	ψ_1	0.750 (frequent)
Combination coefficient	ψ_2	0.200 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			58.023	-58.207	5.124	PG	1.50 [kN/m]
				58.023	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			58.023	-67.638	5.124	PG	1.50 [kN/m]
				58.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-58.207	5.124	PG	1.50 [kN/m]
				55.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-68.217	5.124	PG	1.50 [kN/m]
				55.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-58.207	5.124	PG	1.50 [kN/m]
				54.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-68.217	5.124	PG	1.50 [kN/m]
				54.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-58.207	5.124	PG	1.50 [kN/m]
				53.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-68.217	5.124	PG	1.50 [kN/m]
				53.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-58.207	5.124	PG	1.50 [kN/m]
				52.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-68.217	5.124	PG	1.50 [kN/m]

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				52.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-58.207	5.124	PG	1.50 [kN/m]
				50.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-68.217	5.124	PG	1.50 [kN/m]
				50.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-58.207	5.124	PG	1.50 [kN/m]
				56.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-68.217	5.124	PG	1.50 [kN/m]
				56.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-58.207	5.124	PG	1.50 [kN/m]
				49.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-68.217	5.124	PG	1.50 [kN/m]
				49.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-58.207	5.124	PG	1.50 [kN/m]
				48.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-68.217	5.124	PG	1.50 [kN/m]
				48.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-58.207	5.124	PG	1.50 [kN/m]
				47.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-68.217	5.124	PG	1.50 [kN/m]
				47.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-68.217	5.124	PG	1.50 [kN/m]
				44.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-68.217	5.124	PG	1.50 [kN/m]
				35.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-58.207	5.124	PG	1.50 [kN/m]
				35.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-68.217	5.124	PG	1.50 [kN/m]
				34.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-58.207	5.124	PG	1.50 [kN/m]
				34.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-68.217	5.124	PG	1.50 [kN/m]
				33.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-58.207	5.124	PG	1.50 [kN/m]
				33.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-68.217	5.124	PG	1.50 [kN/m]
				32.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-58.207	5.124	PG	1.50 [kN/m]

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				32.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-68.217	5.160	PG	0.94 [kN/m]
				45.043	-58.207	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-58.207	5.124	PG	1.50 [kN/m]
				46.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-68.217	5.124	PG	1.50 [kN/m]
				46.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-58.207	5.124	PG	1.50 [kN/m]
				30.863	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-67.638	5.124	PG	1.50 [kN/m]
				30.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-58.207	5.160	PG	0.94 [kN/m]
				45.043	-48.197	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-58.207	5.124	PG	1.50 [kN/m]
				44.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-68.217	5.124	PG	1.50 [kN/m]
				42.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-58.207	5.124	PG	1.50 [kN/m]
				42.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-68.217	5.124	PG	1.50 [kN/m]
				41.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-58.207	5.124	PG	1.50 [kN/m]
				41.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-68.217	5.124	PG	1.50 [kN/m]
				40.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-58.207	5.124	PG	1.50 [kN/m]
				40.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-68.217	5.124	PG	1.50 [kN/m]
				39.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-58.207	5.124	PG	1.50 [kN/m]
				39.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-68.217	5.124	PG	1.50 [kN/m]
				38.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-58.207	5.124	PG	1.50 [kN/m]
				38.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-68.217	5.124	PG	1.50 [kN/m]
				36.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-58.207	5.124	PG	1.50 [kN/m]

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				36.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300001	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300002	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300003	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300004	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300005	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300006	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300007	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300008	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300009	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300010	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300011	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300012	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300013	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300014	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300015	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300016	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300017	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300018	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300019	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300020	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300021	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300022	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300023	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300024	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300025	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300026	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300027	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300028	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300029	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300030	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300031	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300032	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300033	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300034	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300035	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300036	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300037	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300038	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300039	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300040	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300041	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300042	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300043	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300044	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300045	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300046	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300047	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300048	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300049	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300050	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300051	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300052	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300053	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300054	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300055	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300056	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300057	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300058	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300059	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300060	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300061	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300062	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300063	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300064	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300065	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300066	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300067	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300068	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300069	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300070	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300071	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300072	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300073	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300074	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300075	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300076	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300077	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300078	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300079	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300080	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300081	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300082	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300083	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300084	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300085	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300086	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300087	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300088	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300089	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300090	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300091	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300092	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300093	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300094	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300095	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300096	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300097	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300098	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300099	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300100	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300101	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300102	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300103	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300104	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300105	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300106	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300107	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300108	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300109	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300110	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300111	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300112	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300113	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300114	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300115	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300116	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300117	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300118	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300119	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300120	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300121	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300122	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300123	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300124	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300125	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300126	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300127	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300128	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300129	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300130	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300131	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300132	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300133	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300134	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300135	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300136	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300137	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300138	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300139	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300140	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300141	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300142	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300143	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300144	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300145	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300146	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300147	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300148	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300149	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300150	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300151	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300152	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300153	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300154	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300155	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300156	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300157	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300158	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300159	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300160	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300161	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300162	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300163	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300164	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300165	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300166	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300167	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300168	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300169	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300170	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300171	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300172	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300173	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300174	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300175	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300176	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300177	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300178	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300179	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300180	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300181	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300182	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300183	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300184	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300185	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300186	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300187	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300188	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300189	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300190	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300191	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300192	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300193	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300194	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300195	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300196	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300197	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300198	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300199	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300200	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300201	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300202	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300203	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300204	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300205	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300206	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300207	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300208	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300209	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300210	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300211	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300212	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300213	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300214	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300215	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300216	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300217	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300218	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300219	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300220	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300221	PG	0.000	0.589	0.94	0.94	[kN/m]	0.000	0.000	0.000	0.000	
4300222	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300223	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300224	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300225	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300226	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300227	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300228	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300229	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300230	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300231	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300232	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300233	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300234	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300235	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300236	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300237	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300238	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300239	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300240	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300241	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300242	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300243	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300244	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300245	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300246	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300247	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300248	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300249	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300250	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300251	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300252	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300253	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300254	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300255	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300256	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300257	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300258	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300259	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300260	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300261	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300262	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300263	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300264	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300265	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300266	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300267	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300268	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300269	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300270	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300271	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300272	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300273	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300274	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300275	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300276	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300277	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300278	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300279	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300280	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300281	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300282	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300283	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300284	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300285	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300286	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300287	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300288	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300289	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300290	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300291	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300292	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300293	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300294	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300295	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300296	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300297	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300298	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300299	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300300	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300301	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300302	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300303	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300304	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300305	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300306	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300307	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300308	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300309	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300310	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300311	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300312	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300313	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300314	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300315	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300316	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300317	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300318	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300319	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300320	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300321	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300322	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300323	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300324	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300325	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300326	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300327	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300328	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300329	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300330	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300331	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300332	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300333	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300334	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300335	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300336	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300337	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300338	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300339	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300340	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300341	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300342	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300343	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300344	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300345	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300346	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300347	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300348	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300349	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300350	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300351	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300352	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300353	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300354	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300355	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300356	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300357	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300358	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300359	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300360	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300361	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300362	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300363	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300364	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300365	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300366	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300367	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300368	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300369	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300370	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300371	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300372	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300373	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300374	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300375	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300376	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300377	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300378	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300379	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300380	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300381	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300382	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300383	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300384	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300385	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300386	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300387	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300388	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300389	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300390	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300391	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300392	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300393	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300394	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300395	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300396	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300397	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300398	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300399	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300400	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300401	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300402	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300403	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300404	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300405	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300406	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300407	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300408	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300409	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300410	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300411	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300412	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300413	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300414	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300415	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300416	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300417	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300418	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300419	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300420	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300421	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300422	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300423	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300424	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300425	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300426	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300427	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300428	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300429	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300430	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300431	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300432	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300433	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300434	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300435	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300436	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300437	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300438	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300439	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300440	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300441	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300442	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300443	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300444	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300445	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300446	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300447	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300448	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300449	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300450	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300451	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300452	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300453	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300454	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300455	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300456	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300457	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300458	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300459	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300460	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300461	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300462	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300463	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300464	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300465	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300466	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300467	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300468	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300469	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300470	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300471	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300472	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300473	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300474	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300475	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300476	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300477	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300478	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300479	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300480	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300481	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300482	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300483	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300484	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300485	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300486	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300487	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300488	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300489	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300490	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300491	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300492	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300493	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300494	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300495	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300496	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300497	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300498	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300499	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300500	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300501	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300502	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300503	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300504	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300505	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300506	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300507	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300508	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300509	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300510	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300511	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300512	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300513	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300514	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300515	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300516	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300517	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300518	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300519	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300520	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300521	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300522	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300523	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300524	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300525	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300526	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300527	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300528	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300529	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300530	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300531	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300532	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300533	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300534	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300535	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300536	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300537	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300538	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300539	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300540	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300541	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300542	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300543	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300544	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300545	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300546	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300547	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300548	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300549	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300550	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300551	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300552	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300553	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300554	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300555	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300556	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300557	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300558	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300559	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300560	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300561	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300562	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300563	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300564	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300565	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300566	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300567	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300568	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300569	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300570	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300571	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300572	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300573	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300574	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300575	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300576	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300577	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300578	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300579	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300580	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300581	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300582	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300583	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300584	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300585	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300586	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300587	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300588	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300589	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300590	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300591	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300592	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300593	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300594	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300595	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300596	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300597	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300598	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300599	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300600	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300601	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300602	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300603	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300604	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300605	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300606	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300607	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300608	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300609	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300610	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300611	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300612	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300613	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300614	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300615	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300616	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300617	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300618	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300619	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300620	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300621	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300622	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300623	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300624	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300625	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300626	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300627	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300628	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300629	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300630	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300631	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300632	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300633	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300634	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300635	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300636	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300637	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300638	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300639	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300640	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300641	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300642	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300643	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300644	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300645	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300646	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300647	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300648	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300649	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300650	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300651	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300652	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300653	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300654	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300655	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300656	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300657	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300658	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300659	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300660	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300661	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300662	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300663	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300664	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300665	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300666	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300667	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300668	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300669	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300670	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300671	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300672	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300673	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300674	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300675	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300676	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300677	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300678	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300679	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300680	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300681	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300682	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300683	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300684	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300685	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300686	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300687	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300688	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300689	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300690	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300691	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300692	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300693	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300694	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300695	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300696	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300697	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300698	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300699	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300700	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300701	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300702	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300703	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300704	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300705	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300706	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300707	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300708	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300709	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300710	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300711	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300712	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300713	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300714	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300715	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300716	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300717	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300718	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300719	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300720	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300721	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300722	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300723	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300724	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300725	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300726	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300727	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300728	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300729	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300730	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300731	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300732	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300733	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300734	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300735	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300736	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300737	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300738	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300739	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300740	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300741	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300742	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300743	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300744	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300745	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300746	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300747	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300748	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300749	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300750	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300751	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300752	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300753	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300754	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300755	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300756	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300757	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300758	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300759	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300760	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300761	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300762	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300763	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300764	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300765	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300766	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300767	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300768	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300769	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300770	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300771	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300772	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300773	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300774	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300775	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300776	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300777	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300778	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300779	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300780	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300781	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300782	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300783	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300784	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300785	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300786	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300787	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300788	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300789	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300790	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300791	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300792	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300793	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300794	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300795	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300796	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300797	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300798	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300799	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300800	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300801	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300802	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300803	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300804	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300805	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300806	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300807	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300808	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300809	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300810	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300811	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	
4300812	PG	0.000	0.589	1.50	1.50	[kN/m]	0.000	0.000	0.000	0.000	

Load Case 31 (W) Viento N-S

Factor forces and moments 1.000
unfavourable partial safety factor 1.600
favourable partial safety factor 0.000
Combination coefficient ψ_0 0.600 (rare)
Combination coefficient ψ_1 0.500 (frequent)
Combination coefficient ψ_2 0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Volume	QGRP 31			-52.121	-48.141	4.850	PXX	1.00 [kN/m2]
				-52.121	-48.141	-95.150		1.00 [kN/m2]
						activated		100.00 percent
Volume	QGRP 33			-25.529	-48.141	4.850	PXX	-0.40 [kN/m2]
				-25.529	-48.141	-95.150		-0.40 [kN/m2]
						activated		100.00 percent
Volume	QGRP 32			-35.433	-48.141	4.850	PYY	-1.10 [kN/m2]
				-35.433	-48.141	-95.150		-1.10 [kN/m2]
						activated		100.00 percent

Load Case 32 (W) Viento E-O

Factor forces and moments 1.000
unfavourable partial safety factor 1.600
favourable partial safety factor 0.000
Combination coefficient ψ_0 0.600 (rare)
Combination coefficient ψ_1 0.500 (frequent)
Combination coefficient ψ_2 0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Volume	QGRP 32			-52.121	-77.738	4.850	PYY	1.00 [kN/m2]
				-52.121	-77.738	-95.150		1.00 [kN/m2]
						activated		100.00 percent
Volume	QGRP 34			-25.529	-77.738	4.850	PYY	0.40 [kN/m2]
				-25.529	-77.738	-95.150		0.40 [kN/m2]
						activated		100.00 percent
Volume	QGRP 33			-35.433	-77.738	4.850	PXX	1.10 [kN/m2]
				-35.433	-77.738	-95.150		1.10 [kN/m2]
						activated		100.00 percent

Load Case 41 (S) Nieve

Factor forces and moments 1.000
unfavourable partial safety factor 1.600
favourable partial safety factor 0.000
Combination coefficient ψ_0 0.600 (rare)
Combination coefficient ψ_1 0.200 (frequent)
Combination coefficient ψ_2 0.000 (permanent)

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			58.023	-58.207	5.124	PG	0.30 [kN/m]
				58.023	-48.777	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			58.023	-67.638	5.124	PG	0.30 [kN/m]
				58.023	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-58.207	5.124	PG	0.30 [kN/m]
				55.623	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-68.217	5.124	PG	0.30 [kN/m]
				55.623	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-58.207	5.124	PG	0.30 [kN/m]
				54.423	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-68.217	5.124	PG	0.30 [kN/m]
				54.423	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-58.207	5.124	PG	0.30 [kN/m]
				53.223	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-68.217	5.124	PG	0.30 [kN/m]
				53.223	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-58.207	5.124	PG	0.30 [kN/m]
				52.023	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-68.217	5.124	PG	0.30 [kN/m]
				52.023	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-58.207	5.124	PG	0.30 [kN/m]
				50.823	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-68.217	5.124	PG	0.30 [kN/m]
				50.823	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-58.207	5.124	PG	0.30 [kN/m]
				49.623	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-68.217	5.124	PG	0.30 [kN/m]
				49.623	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-58.207	5.124	PG	0.30 [kN/m]
				48.423	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-68.217	5.124	PG	0.30 [kN/m]
				48.423	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-58.207	5.124	PG	0.30 [kN/m]
				47.223	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-68.217	5.124	PG	0.30 [kN/m]
				47.223	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-68.217	5.124	PG	0.30 [kN/m]
				44.063	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			56.823	-58.207	5.124	PG	0.30 [kN/m]
				56.823	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-68.217	5.124	PG	0.30 [kN/m]
				56.823	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-58.207	5.124	PG	0.30 [kN/m]
				30.863	-48.777	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-67.638	5.124	PG	0.30 [kN/m]
				30.863	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-58.207	5.160	PG	0.19 [kN/m]
				45.043	-48.197	5.160		0.19 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-58.207	5.124	PG	0.30 [kN/m]
				44.063	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-68.217	5.124	PG	0.30 [kN/m]
				42.863	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-58.207	5.124	PG	0.30 [kN/m]
				42.863	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-68.217	5.124	PG	0.30 [kN/m]
				41.663	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-58.207	5.124	PG	0.30 [kN/m]
				41.663	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-68.217	5.124	PG	0.30 [kN/m]
				40.463	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-58.207	5.124	PG	0.30 [kN/m]
				40.463	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-68.217	5.124	PG	0.30 [kN/m]
				39.263	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-58.207	5.124	PG	0.30 [kN/m]
				39.263	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-68.217	5.124	PG	0.30 [kN/m]
				38.063	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-58.207	5.124	PG	0.30 [kN/m]
				38.063	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-68.217	5.124	PG	0.30 [kN/m]
				36.863	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-58.207	5.124	PG	0.30 [kN/m]
				36.863	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-68.217	5.124	PG	0.30 [kN/m]
				35.663	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent

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Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			35.663	-58.207	5.124	PG	0.30 [kN/m]
				35.663	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-68.217	5.124	PG	0.30 [kN/m]
				34.463	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-58.207	5.124	PG	0.30 [kN/m]
				34.463	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-68.217	5.124	PG	0.30 [kN/m]
				33.263	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-58.207	5.124	PG	0.30 [kN/m]
				33.263	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-68.217	5.124	PG	0.30 [kN/m]
				32.063	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-58.207	5.124	PG	0.30 [kN/m]
				32.063	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-68.217	5.160	PG	0.19 [kN/m]
				45.043	-58.207	5.160		0.19 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-58.207	5.124	PG	0.30 [kN/m]
				46.023	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-68.217	5.124	PG	0.30 [kN/m]
				46.023	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300001	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300002	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300003	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300004	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300005	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300006	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300007	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300008	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300009	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300010	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300011	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300012	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300013	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300014	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300015	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300016	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300017	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300018	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300019	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300020	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300021	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300022	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300023	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300024	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300025	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300026	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300027	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300028	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300029	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300030	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300031	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300032	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300033	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300034	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300035	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300036	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300037	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300038	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300039	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300040	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300041	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300042	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300043	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300044	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300045	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300046	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300047	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300048	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300049	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300050	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300051	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300052	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300053	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300054	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300055	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300056	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300057	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300058	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300059	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300060	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300061	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300062	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300063	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300064	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300065	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300066	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300067	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300068	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300069	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300070	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300071	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300072	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300073	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300074	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300075	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300076	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300077	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300078	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300079	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300080	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300081	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300082	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300083	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300084	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300085	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300086	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300087	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300088	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300089	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300090	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300091	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300092	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300093	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300094	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300095	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300096	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300097	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300098	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300099	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300100	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300101	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300102	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300103	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300104	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300105	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300106	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300107	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300108	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300109	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300110	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300111	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300112	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300113	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300114	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300115	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300116	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300117	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300118	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300119	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300120	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300121	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300122	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300123	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300124	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300125	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300126	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300127	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300128	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300129	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300130	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300131	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300132	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300133	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300134	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300135	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300136	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300137	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300138	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300139	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300140	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300141	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300142	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300143	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300144	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300145	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300146	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300147	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300148	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300149	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300150	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300151	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300152	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300153	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300154	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300155	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300156	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300157	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300158	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300159	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300160	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300161	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300162	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300163	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300164	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300165	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300166	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300167	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300168	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300169	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300170	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300171	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300172	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300173	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300174	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300175	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300176	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300177	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300178	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300179	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300180	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300181	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300182	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300183	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300184	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300185	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300186	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300187	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300188	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300189	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300190	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300191	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300192	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300193	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300194	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300195	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300196	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300197	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300198	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300199	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300200	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300201	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300202	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300203	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300204	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300205	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300206	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300207	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300208	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300209	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300210	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300211	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300212	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300213	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300214	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300215	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300216	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300217	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300218	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300219	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300220	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300221	PG	0.000	0.589	0.19	0.19	[kN/m]	0.000	0.000	0.000	0.000	
4300222	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300223	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300224	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300225	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300226	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300227	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300228	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300229	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300230	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300231	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300232	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300233	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300234	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300235	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300236	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300237	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300238	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300239	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300240	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300241	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300242	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300243	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300244	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300245	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300246	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300247	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300248	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300249	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300250	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300251	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300252	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300253	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300254	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300255	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300256	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300257	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300258	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300259	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300260	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300261	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300262	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300263	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300264	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300265	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300266	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300267	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300268	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300269	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300270	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300271	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300272	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300273	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300274	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300275	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300276	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300277	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300278	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300279	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300280	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300281	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300282	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300283	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300284	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300285	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300286	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300287	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300288	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300289	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300290	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300291	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300292	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300293	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300294	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300295	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300296	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300297	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300298	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300299	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300300	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300301	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300302	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300303	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300304	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300305	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300306	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300307	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300308	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300309	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300310	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300311	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300312	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300313	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300314	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300315	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300316	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300317	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300318	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300319	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300320	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300321	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300322	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300323	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300324	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300325	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300326	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300327	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300328	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300329	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300330	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300331	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300332	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300333	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300334	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300335	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300336	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300337	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300338	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300339	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300340	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300341	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300342	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300343	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300344	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300345	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300346	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300347	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300348	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300349	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300350	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300351	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300352	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300353	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300354	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300355	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300356	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300357	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300358	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300359	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300360	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300361	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300362	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300363	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300364	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300365	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300366	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300367	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300368	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300369	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300370	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300371	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300372	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300373	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300374	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300375	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300376	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300377	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300378	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300379	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300380	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300381	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300382	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300383	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300384	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300385	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300386	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300387	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300388	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300389	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300390	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300391	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300392	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300393	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300394	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300395	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300396	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300397	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300398	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300399	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300400	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300401	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300402	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300403	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300404	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300405	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300406	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300407	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300408	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300409	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300410	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300411	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300412	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300413	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300414	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300415	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300416	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300417	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300418	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300419	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300420	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300421	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300422	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300423	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300424	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300425	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300426	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300427	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300428	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300429	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300430	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300431	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300432	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300433	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300434	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300435	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300436	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300437	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300438	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300439	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300440	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300441	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300442	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300443	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300444	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300445	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300446	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300447	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300448	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300449	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300450	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300451	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300452	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300453	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300454	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300455	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300456	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300457	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300458	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300459	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300460	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300461	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300462	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300463	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300464	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300465	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300466	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300467	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300468	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300469	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300470	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300471	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300472	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300473	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300474	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300475	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300476	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300477	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300478	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300479	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300480	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300481	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300482	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300483	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300484	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300485	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300486	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300487	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300488	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300489	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300490	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300491	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300492	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300493	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300494	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300495	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300496	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300497	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300498	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300499	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300500	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300501	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300502	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300503	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300504	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300505	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300506	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300507	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300508	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300509	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300510	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300511	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300512	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300513	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300514	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300515	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300516	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300517	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300518	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300519	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300520	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300521	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300522	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300523	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300524	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300525	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300526	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300527	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300528	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300529	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300530	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300531	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300532	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300533	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300534	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300535	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300536	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300537	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300538	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300539	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300540	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300541	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300542	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300543	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300544	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300545	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300546	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300547	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300548	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300549	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300550	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300551	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300552	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300553	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300554	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300555	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300556	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300557	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300558	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300559	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300560	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300561	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300562	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300563	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300564	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300565	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300566	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300567	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300568	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300569	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300570	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300571	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300572	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300573	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300574	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300575	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300576	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300577	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300578	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300579	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300580	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300581	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300582	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300583	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300584	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300585	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300586	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300587	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300588	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300589	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300590	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300591	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300592	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300593	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300594	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300595	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300596	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300597	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300598	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300599	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300600	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300601	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300602	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300603	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300604	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300605	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300606	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300607	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300608	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300609	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300610	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300611	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300612	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300613	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300614	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300615	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300616	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300617	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300618	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300619	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300620	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300621	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300622	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300623	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300624	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300625	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300626	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300627	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300628	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300629	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300630	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300631	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300632	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300633	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300634	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300635	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300636	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300637	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300638	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300639	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300640	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300641	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300642	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300643	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300644	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300645	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300646	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300647	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300648	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300649	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300650	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300651	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300652	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300653	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300654	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300655	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300656	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300657	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300658	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300659	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300660	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300661	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300662	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300663	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300664	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300665	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300666	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300667	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300668	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300669	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300670	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300671	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300672	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300673	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300674	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300675	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300676	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300677	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300678	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300679	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300680	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300681	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300682	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300683	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300684	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300685	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300686	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300687	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300688	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300689	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300690	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300691	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300692	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300693	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300694	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300695	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300696	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300697	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300698	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300699	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300700	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300701	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300702	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300703	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300704	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300705	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300706	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300707	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300708	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300709	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300710	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300711	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300712	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300713	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300714	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300715	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300716	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300717	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300718	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300719	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300720	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300721	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300722	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300723	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300724	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300725	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300726	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300727	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300728	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300729	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300730	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300731	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300732	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300733	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300734	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300735	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300736	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300737	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300738	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300739	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300740	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300741	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300742	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300743	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300744	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300745	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300746	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300747	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300748	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300749	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300750	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300751	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300752	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300753	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300754	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300755	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300756	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300757	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300758	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300759	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300760	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300761	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300762	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300763	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300764	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300765	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300766	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300767	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300768	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300769	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300770	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300771	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300772	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300773	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300774	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300775	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300776	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300777	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300778	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
4300779	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300780	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300781	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300782	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300783	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300784	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300785	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300786	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300787	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300788	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300789	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300790	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300791	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300792	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300793	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300794	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300795	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300796	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300797	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300798	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300799	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300800	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300801	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300802	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300803	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300804	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300805	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300806	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300807	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300808	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300809	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300810	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300811	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	
4300812	PG	0.000	0.589	0.30	0.30	[kN/m]	0.000	0.000	0.000	0.000	

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The following nodes have been detected to connect beams+springs with wall elements. The adjacent quad elements will get an internal inplane torsional stiffness to transform the bending moment into pairs of forces on the quad nodes (see CTRL INPL and CTRL SPRI):

1041	1042	1045	1046	1047	1048	1062	1065	1073	1080
1087	1094	1101	1116	1117	1120	1121	1122	1123	1137
1140	1143	1148	1155	1171	1174	1177	1191	1194	1197
1202	1209	1225	1228	1231	1245	1248	1251	1256	1263
1279	1282	1285	1298	1299	1302	1303	1304	1305	1309
1310	1316	1317	1332	1333	1336	1337	1338	1339	1353
1356	1359	1364	1371	1387	1390	1393	1407	1410	1413
1418	1425	1441	1444	1447	1461	1464	1467	1472	1479
1495	1498	1501	1515	1518	1521	1526	1533	1549	1552
1555	1569	1572	1575	1580	1587	1603	1606	1609	1623
1626	1629	1634	1641	1657	1660	1663	1677	1680	1683
1697	1700	1703	1708	1715	1731	1734	1737	1751	1754
1757	1762	1769	1785	1788	1791	1805	1808	1811	1816
1823	1846	1861	1862	1865	1866	1867	1868	1882	1885
1888	1893	1900	1916	1919	1922	1936	1939	1942	1947
1954	1970	1973	1976	1990	1993	1996	2001	2008	2024
2027	2030	2044	2047	2050	2055	2062	2078	2081	2084
2098	2101	2104	2109	2116	2132	2135	2138	2152	2155
2158	2163	2170	2186	2189	2192	2206	2209	2212	2217
2224	2240	2243	2246	2260	2263	2266	2279	2280	2283
2284	2285	2286	2300	2303	2306	2311	2318	2334	2337
2340	2354	2357	2360	2365	2372	2388	2391	2394	2408
2411	2414	2419	2426	2442	2445	2448	2453	2460	2476
2479	2482	2496	2499	2502	2507	2514	2530	2533	2536
2550	2553	2556	2561	2568	2584	2587	2590	2604	2607
2610	2615	2622	2637	2638	2641	2642	2643	2644	2658
2661	2664	2669	2676	2692	2695	2698	2712	2715	2718
2723	2730	2746	2749	2752	2766	2769	2772	2777	2784
2800	2803	2806	2831	2838	2854	2857	2860	2865	2872
2888	2891	2894	2908	2911	2914	2919	2926	2942	2945
2948	2962	2965	2968	2973	2980	2996	2999	3002	3027
3034	3042	3045	3048	3054	3057	3060	3065	3072	3078
3079	3085	3086	3102	3105	3108	3122	3125	3133	3148
3149	3152	3153	3154	3155	3180	3199	3200	3201	3202
3206	3207	3213	3214	3230	3233	3236	3250	3253	3261
3276	3277	3280	3281	3282	3283	3308	3327	3328	3329
3330	3334	3335	3341	3342	3358	3361	3364	3381	3389
3396	3412	3415	3416	3417	3418	3443	3458	3459	3462
3463	3464	3465	3490	3509	3510	3511	3512	3533	3535
3537	3539	3541	3567	3707	3711	3712	3718	3722	3723
3729	3732	3735	3739	3740	3790	3791	3792	3793	3794
3795	3796	3797	3798	3799	3800	3801	3802	3803	3804
3805	3806	3807	3808	3809	3810	3811	3812	3813	3814
3815	3816	3817	3818	3819	3820	3821	3822	3823	3824
3825	3826	3827	3828	3829	3830	3831	3832	3833	3834
3835	3836	3837	3838	3839	3840	3872	3873	3874	3875
3876	3877	3878	3879	3880	3881	3882	3883	3884	3885
3886	3887	3888	3889	3890	3891	3892	3893	3894	3895
3896	3897	3898	3899	3900	3901	3902	3903	3904	3905
3906	3907	3908	3909	3910	3911	3912	3913	3914	3915
3916	3917	3918	3919	3920	3921	3922	3940	3941	3942
3943	3944	3945	3946	3947	3948	3949	3950	3951	3952
3953	3954	3955	3956	3957	3958	3959	3960	3961	3962
3963	3964	3965	3966	3967	3968	3969	3970	3971	3972
3973	4019	4020	4021	4022	4023	4024	4025	4026	4027
4028	4029	4030	4031	4032	4033	4034	4035	4036	4037
4038	4039	4040	4041	4042	4043	4044	4045	4046	4047

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The following nodes have been detected to connect beams+springs with wall elements. The adjacent quad elements will get an internal inplane torsional stiffness to transform the bending moment into pairs of forces on the quad nodes (see CTRL INPL and CTRL SPRI):

4048	4049	4050	4051	4052	4053	4054	4055	4056	4057
4058	4059	4060	4061	4062	4063	4064	4065	4066	4067
4068	4069	4101	4102	4103	4104	4105	4106	4107	4108
4109	4110	4111	4112	4113	4114	4115	4116	4117	4118
4119	4120	4121	4122	4123	4124	4125	4126	4127	4128
4129	4130	4131	4132	4133	4134	4135	4136	4137	4138
4139	4140	4141	4142	4143	4144	4145	4146	4147	4148
4149	4150	4151	4183	4184	4185	4186	4187	4188	4189
4190	4191	4192	4193	4194	4195	4196	4197	4198	4199
4200	4201	4202	4203	4204	4205	4206	4207	4208	4209
4210	4211	4212	4213	4214	4215	4216	4217	4218	4219
4220	4221	4222	4223	4224	4225	4226	4227	4228	4229
4230	4231	4232	4233	4265	4266	4267	4268	4269	4270
4271	4272	4273	4274	4275	4276	4277	4278	4279	4280
4281	4282	4283	4284	4285	4286	4287	4288	4289	4290
4291	4292	4293	4294	4295	4296	4297	4298	4299	4300
4301	4302	4303	4304	4305	4306	4307	4308	4309	4310
4311	4312	4313	4314	4315	4347	4348	4349	4350	4351
4352	4353	4354	4355	4356	4357	4358	4359	4360	4361
4362	4363	4364	4365	4366	4367	4368	4369	4370	4371
4372	4373	4374	4375	4376	4377	4378	4379	4380	4381
4382	4383	4384	4385	4386	4387	4388	4389	4390	4391
4392	4393	4394	4395	4396	4397	4429	4430	4431	4432
4433	4434	4435	4436	4437	4438	4439	4440	4441	4442
4443	4444	4445	4446	4447	4448	4449	4450	4451	4452
4453	4454	4455	4456	4457	4458	4459	4460	4461	4462
4463	4464	4465	4466	4467	4468	4469	4470	4471	4472
4473	4474	4475	4476	4477	4478	4479	4526	4527	4528
4529	4530	4531	4532	4533	4534	4535	4536	4537	4538
4539	4540	4541	4542	4543	4544	4545	4546	4547	4548
4549	4550	4551	4552	4553	4554	4555	4556	4557	4558
4559	4560	4561	4562	4563	4564	4565	4566	4567	4568
4569	4570	4571	4572	4573	4574	4575	4576	4577	4578
4579	4607	4608	4609	4610	4611	4612	4613	4614	4615
4616	4617	4618	4619	4620	4635	4636	4637	4638	4639
4640	4641	4642	4643	4644	4645	4646	4647	4648	4649
4650	4651	4652	4653	4654	4655	4656	4657	4658	4659
4660	4661	4662	4663	4664	4665	4666	4667	4668	4669
4670	4671	4672	4673	4674	4675	4676	4677	4678	4679
4680	4681	4682	4683	4684	4685	4717	4718	4719	4720
4721	4722	4723	4724	4725	4726	4727	4728	4729	4730
4731	4732	4733	4734	4735	4736	4737	4738	4739	4740
4741	4742	4743	4744	4745	4746	4747	4748	4749	4750
4751	4752	4753	4754	4755	4756	4757	4758	4759	4760
4761	4762	4763	4764	4765	4766	4767	4799	4800	4801
4802	4803	4804	4805	4806	4807	4808	4809	4810	4811
4812	4813	4814	4815	4816	4817	4818	4819	4820	4821
4822	4823	4824	4825	4826	4827	4828	4829	4830	4831
4832	4833	4834	4835	4836	4837	4838	4839	4840	4841
4842	4843	4844	4845	4846	4847	4848	4849	4881	4882
4883	4884	4885	4886	4887	4888	4889	4890	4891	4892
4893	4894	4895	4896	4897	4898	4899	4900	4901	4902
4903	4904	4905	4906	4907	4908	4909	4910	4911	4912
4913	4914	4915	4916	4917	4918	4919	4920	4921	4922
4923	4924	4925	4926	4927	4928	4929	4930	4931	4963
4964	4965	4966	4967	4968	4969	4970	4971	4972	4973
4974	4975	4976	4977	4978	4979	4980	4981	4982	4983

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The following nodes have been detected to connect beams+springs with wall elements. The adjacent quad elements will get an internal inplane torsional stiffness to transform the bending moment into pairs of forces on the quad nodes (see CTRL INPL and CTRL SPRI):

4984	4985	4986	4987	4988	4989	4990	4991	4992	4993
4994	4995	4996	4997	4998	4999	5000	5001	5002	5003
5004	5005	5006	5007	5008	5009	5010	5011	5012	5013
5045	5046	5047	5048	5049	5050	5051	5052	5053	5054
5055	5056	5057	5058	5059	5060	5061	5062	5063	5064
5065	5066	5067	5068	5069	5070	5071	5072	5073	5074
5075	5076	5077	5078	5079	5080	5081	5082	5083	5084
5085	5086	5087	5088	5089	5090	5091	5092	5093	5094
5095	5127	5128	5129	5130	5131	5132	5133	5134	5135
5136	5137	5138	5139	5140	5141	5142	5143	5144	5145
5146	5147	5148	5149	5150	5151	5152	5153	5154	5155
5156	5157	5158	5159	5160	5161	5162	5163	5164	5165
5166	5167	5168	5169	5170	5171	5172	5173	5174	5175
5176	5177	5209	5210	5211	5212	5213	5214	5215	5216
5217	5218	5219	5220	5221	5222	5223	5224	5225	5226
5227	5228	5229	5230	5231	5232	5233	5234	5235	5236
5237	5238	5239	5240	5241	5242	5243	5244	5245	5246
5247	5248	5249	5250	5251	5252	5253	5254	5255	5256
5257	5258	5259	5291	5292	5293	5294	5295	5296	5297
5298	5299	5300	5301	5302	5303	5304	5305	5306	5307
5308	5309	5310	5311	5312	5313	5314	5315	5316	5317
5318	5319	5320	5321	5322	5323	5324	5325	5326	5327
5328	5329	5330	5331	5332	5333	5334	5335	5336	5337
5338	5339	5340	5341	5373	5374	5375	5376	5377	5378
5379	5380	5381	5382	5383	5384	5385	5386	5387	5388
5389	5390	5391	5392	5393	5394	5395	5396	5397	5398
5399	5400	5401	5402	5403	5404	5405	5406	5407	5408
5409	5410	5411	5412	5413	5414	5415	5416	5417	5418
5419	5420	5421	5422	5423	5455	5456	5457	5458	5459
5460	5461	5462	5463	5464	5465	5466	5467	5468	5469
5470	5471	5472	5473	5474	5475	5476	5477	5478	5479
5480	5481	5482	5483	5484	5485	5486	5487	5488	5489
5490	5491	5492	5493	5494	5495	5496	5497	5498	5499
5500	5501	5502	5503	5504	5505	5537	5538	5539	5540
5541	5542	5543	5544	5545	5546	5547	5548	5549	5550
5551	5552	5553	5554	5555	5556	5557	5558	5559	5560
5561	5562	5563	5564	5565	5566	5567	5568	5569	5570
5571	5572	5573	5574	5575	5576	5577	5578	5579	5580
5581	5582	5583	5584	5585	5586	5587	5619	5620	5621
5622	5623	5624	5625	5626	5627	5628	5629	5630	5631
5632	5633	5634	5635	5636	5637	5638	5639	5640	5641
5642	5643	5644	5645	5646	5647	5648	5649	5650	5651
5652	5653	5654	5655	5656	5657	5658	5659	5660	5661
5662	5663	5664	5665	5666	5667	5668	5669	5701	5702
5703	5704	5705	5706	5707	5708	5709	5710	5711	5712
5713	5714	5715	5716	5717	5718	5719	5720	5721	5722
5723	5724	5725	5726	5727	5728	5729	5730	5731	5732
5733	5734	5735	5736	5737	5738	5739	5740	5741	5742
5743	5744	5745	5746	5747	5748	5749	5750	5751	5752
5753	5754	5755	5756	5757	5758	5759	5760	5761	5762
5763	5764	5765	5766	5767	5768	5800	5801	5802	5803
5804	5805	5806	5807	5808	5809	5810	5811	5812	5813
5814	5815	5816	5817	5818	5819	5820	5821	5822	5823
5824	5825	5826	5827	5828	5829	5830	5831	5832	5833
5834	5835	5836	5837	5838	5839	5840	5841	5842	5843
5844	5845	5846	5847	5848	5849	5850	5882	5883	5884
5885	5886	5887	5888	5889	5890	5891	5892	5893	5894

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5895	5896	5897	5898	5899	5900	5901	5902	5903	5904
5905	5906	5907	5908	5909	5910	5911	5912	5913	5914
5915	5916	5917	5918	5919	5920	5921	5922	5923	5924
5925	5926	5927	5928	5929	5930	5931	5932	5964	5965
5966	5967	5968	5969	5970	5971	5972	5973	5974	5975
5976	5977	5978	5979	5980	5981	5982	5983	5984	5985
5986	5987	5988	5989	5990	5991	5992	5993	5994	5995
5996	5997	5998	5999	6000	6001	6002	6003	6004	6005
6006	6007	6008	6009	6010	6011	6012	6013	6014	6046
6047	6048	6049	6050	6051	6052	6053	6054	6055	6056
6057	6058	6059	6060	6061	6062	6063	6064	6065	6066
6067	6068	6069	6070	6071	6072	6073	6074	6075	6076
6077	6078	6079	6080	6081	6082	6083	6084	6085	6086
6087	6088	6089	6090	6091	6092	6093	6094	6095	6096
6128	6129	6130	6131	6132	6133	6134	6135	6136	6137
6138	6139	6140	6141	6142	6143	6144	6145	6146	6147
6148	6149	6150	6151	6152	6153	6154	6155	6156	6157
6158	6159	6160	6161	6162	6163	6164	6165	6166	6167
6168	6169	6170	6171	6172	6173	6174	6175	6176	6177
6178	6238	6239	6240	6241	6242	6243	6244	6245	6246
6247	6248	6249	6250	6251	6252	6253	6254	6255	6256
6257	6258	6259	6260	6261	6262	6263	6264	6265	6266
6267	6268	6269	6270	6271	6272	6273	6274	6275	6276
6277	6278	6279	6280	6281	6282	6283	6284	6285	6286
6287	6288	6320	6321	6322	6323	6324	6325	6326	6327
6328	6329	6330	6331	6332	6333	6334	6335	6336	6337
6338	6339	6340	6341	6342	6343	6344	6345	6346	6347
6348	6349	6350	6351	6352	6353	6354	6355	6356	6357
6358	6359	6360	6361	6362	6363	6364	6365	6366	6367
6368	6369	6370	6402	6403	6404	6405	6406	6407	6408
6409	6410	6411	6412	6413	6414	6415	6416	6417	6418
6419	6420	6421	6422	6423	6424	6425	6426	6427	6428
6429	6430	6431	6432	6433	6434	6435	6436	6437	6438
6439	6440	6441	6442	6443	6444	6445	6446	6447	6448
6449	6450	6451	6452	6484	6485	6486	6487	6488	6489
6490	6491	6492	6493	6494	6495	6496	6497	6498	6499
6500	6501	6502	6503	6504	6505	6506	6507	6508	6509
6510	6511	6512	6513	6514	6515	6516	6517	6518	6519
6520	6521	6522	6523	6524	6525	6526	6527	6528	6529
6530	6531	6532	6533	6534	6566	6567	6568	6569	6570
6571	6572	6573	6574	6575	6576	6577	6578	6579	6580
6581	6582	6583	6584	6585	6586	6587	6588	6589	6590
6591	6592	6593	6594	6595	6596	6597	6598	6599	6600
6601	6602	6603	6604	6605	6606	6607	6608	6609	6610
6611	6612	6613	6614	6615	6616	6648	6649	6650	6651
6652	6653	6654	6655	6656	6657	6658	6659	6660	6661
6662	6663	6664	6665	6666	6667	6668	6669	6670	6671
6672	6673	6674	6675	6676	6677	6678	6679	6680	6681
6682	6683	6684	6685	6686	6687	6688	6689	6690	6691
6692	6693	6694	6695	6696	6697	6698	6730	6731	6732
6733	6734	6735	6736	6737	6738	6739	6740	6741	6742
6743	6744	6745	6746	6747	6748	6749	6750	6751	6752
6753	6754	6755	6756	6757	6758	6759	6760	6761	6762
6763	6764	6765	6766	6767	6768	6769	6770	6771	6772
6773	6774	6775	6776	6777	6778	6779	6780	6812	6813
6814	6815	6816	6817	6818	6819	6820	6821	6822	6823
6824	6825	6826	6827	6828	6829	6830	6831	6832	6833

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The following nodes have been detected to connect beams+springs with wall elements. The adjacent quad elements will get an internal inplane torsional stiffness to transform the bending moment into pairs of forces on the quad nodes (see CTRL INPL and CTRL SPRI):

6834	6835	6836	6837	6838	6839	6840	6841	6842	6843
6844	6845	6846	6847	6848	6849	6850	6851	6852	6853
6854	6855	6856	6857	6858	6859	6860	6861	6862	6894
6895	6896	6897	6898	6899	6900	6901	6902	6903	6904
6905	6906	6907	6908	6909	6910	6911	6912	6913	6914
6915	6916	6917	6918	6919	6920	6921	6922	6923	6924
6925	6926	6927	6928	6929	6930	6931	6932	6933	6934
6935	6936	6937	6938	6939	6940	6941	6942	6943	6944
6976	6977	6978	6979	6980	6981	6982	6983	6984	6985
6986	6987	6988	6989	6990	6991	6992	6993	6994	6995
6996	6997	6998	6999	7000	7001	7002	7003	7004	7005
7006	7007	7008	7009	7010	7011	7012	7013	7014	7015
7016	7017	7018	7019	7020	7021	7022	7023	7024	7025
7026	7058	7059	7060	7061	7062	7063	7064	7065	7066
7067	7068	7069	7070	7071	7072	7073	7074	7075	7076
7077	7078	7079	7080	7081	7082	7083	7084	7085	7086
7087	7088	7089	7090	7091	7092	7093	7094	7095	7096
7097	7098	7099	7100	7101	7102	7103	7104	7105	7106
7107	7108	7140	7141	7142	7143	7144	7145	7146	7147
7148	7149	7150	7151	7152	7153	7154	7155	7156	7157
7158	7159	7160	7161	7162	7163	7164	7165	7166	7167
7168	7169	7170	7171	7172	7173	7174	7175	7176	7177
7178	7179	7180	7181	7182	7183	7184	7185	7186	7187
7188	7189	7190	7222	7223	7224	7225	7226	7227	7228
7229	7230	7231	7232	7233	7234	7235	7236	7237	7238
7239	7240	7241	7242	7243	7244	7245	7246	7247	7248
7249	7250	7251	7252	7253	7254	7255	7256	7257	7258
7259	7260	7261	7262	7263	7264	7265	7266	7267	7268
7269	7270	7271	7272	7304	7305	7306	7307	7308	7309
7310	7311	7312	7313	7314	7315	7316	7317	7318	7319
7320	7321	7322	7323	7324	7325	7326	7327	7328	7329
7330	7331	7332	7333	7334	7335	7336	7337	7338	7339
7340	7341	7342	7343	7344	7345	7346	7347	7348	7349
7350	7351	7352	7353	7354	7386	7387	7388	7389	7390
7391	7392	7393	7394	7395	7396	7397	7398	7399	7400
7401	7402	7403	7404	7405	7406	7407	7408	7409	7410
7411	7412	7413	7414	7415	7416	7417	7418	7419	7420
7421	7422	7423	7424	7425	7426	7427	7428	7429	7430
7431	7432	7433	7434	7435	7436	7468	7469	7470	7471
7472	7473	7474	7475	7476	7477	7478	7479	7480	7481
7482	7483	7484	7499	7500	7501	7502	7503	7504	7505
7506	7507	7508	7509	7510	7511	7512	7513	7514	7515
7516	7517	7518	7519	7520	7521	7522	7523	7524	7525
7526	7527	7528	7529	7530	7531	7532	7533	7534	7535
7536	7537	7538	7539	7540	7541	7542	7543	7544	7545
7546	7547	7548	7549	7581	7582	7583	7584	7585	7586
7587	7588	7589	7590	7591	7592	7593	7594	7595	7596
7597	7598	7599	7600	7601	7602	7603	7604	7605	7606
7607	7608	7609	7610	7611	7612	7613	7614	7615	7616
7617	7618	7619	7620	7621	7622	7623	7624	7625	7626
7627	7628	7629	7630	7631	7663	7664	7665	7666	7667
7668	7669	7670	7671	7672	7673	7674	7675	7676	7677
7678	7679	7680	7681	7682	7683	7684	7685	7686	7687
7688	7689	7690	7691	7692	7693	7694	7695	7696	7697
7698	7699	7700	7701	7702	7703	7704	7705	7706	7707
7708	7709	7710	7711	7712	7713	7745	7746	7747	7748
7749	7750	7751	7752	7753	7754	7755	7756	7757	7758

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The following nodes have been detected to connect beams+springs with wall elements. The adjacent quad elements will get an internal inplane torsional stiffness to transform the bending moment into pairs of forces on the quad nodes (see CTRL INPL and CTRL SPRI):

7759	7760	7761	7762	7763	7764	7765	7766	7767	7768
7769	7770	7771	7772	7773	7774	7775	7776	7777	7778
7779	7780	7781	7782	7783	7784	7785	7786	7787	7788
7789	7790	7791	7792	7793	7794	7795	7827	7828	7829
7830	7831	7832	7833	7834	7835	7836	7837	7838	7839
7840	7841	7842	7843	7844	7845	7846	7847	7848	7849
7850	7851	7852	7853	7854	7855	7856	7857	7858	7859
7860	7861	7862	7863	7864	7865	7866	7867	7868	7869
7870	7871	7872	7873	7874	7875	7876	7877	7909	7910
7911	7912	7913	7914	7915	7916	7917	7918	7919	7920
7921	7922	7923	7924	7925	7926	7927	7928	7929	7930
7931	7932	7933	7934	7935	7936	7937	7938	7939	7940
7941	7942	7943	7944	7945	7946	7947	7948	7949	7950
7951	7952	7953	7954	7955	7956	7957	7958	7959	7991
7992	7993	7994	7995	7996	7997	7998	7999	8000	8001
8002	8003	8004	8005	8006	8007	8008	8009	8010	8011
8012	8013	8014	8015	8016	8017	8018	8019	8020	8021
8022	8023	8024	8025	8026	8027	8028	8029	8030	8031
8032	8033	8034	8035	8036	8037	8038	8039	8040	8041
8073	8074	8075	8076	8077	8078	8079	8080	8081	8082
8083	8084	8085	8086	8087	8088	8089	8090	8091	8092
8093	8094	8095	8096	8097	8098	8099	8100	8101	8102
8103	8104	8105	8106	8138	8139	8140	8141	8142	8143
8144	8145	8146	8147	8148	8149	8150	8151	8152	8153
8154	8155	8156	8157	8158	8159	8160	8161	8162	8163
8164	8165	8166	8167	8168	8169	8170	8171	8172	8173
8174	8175	8176	8177	8178	8179	8180	8181	8182	8183
8184	8185	8186	8187	8188	8220	8221	8222	8223	8224
8225	8226	8227	8228	8229	8230	8231	8232	8233	8234
8235	8236	8237	8238	8239	8240	8241	8242	8243	8244
8245	8246	8247	8248	8249	8250	8251	8252	8253	8254
8255	8256	8257	8258	8259	8260	8261	8262	8263	8264
8265	8266	8267	8268	8269	8270	8302	8303	8304	8305
8306	8307	8308	8309	8310	8311	8312	8313	8314	8315
8316	8317	8318	8319	8320	8321	8322	8323	8324	8325
8326	8327	8328	8329	8330	8331	8332	8333	8334	8335
8336	8337	8338	8339	8340	8341	8342	8343	8344	8345
8346	8347	8348	8349	8350	8351	8352	8384	8385	8386
8387	8388	8389	8390	8391	8392	8393	8394	8395	8396
8397	8398	8399	8400	8401	8402	8403	8404	8405	8406
8407	8408	8409	8410	8411	8412	8413	8414	8415	8416
8417	8418	8419	8420	8421	8422	8423	8424	8425	8426
8427	8428	8429	8430	8431	8432	8433	8434	8466	8467
8468	8469	8470	8471	8472	8473	8474	8475	8476	8477
8478	8479	8480	8481	8482	8483	8484	8485	8486	8487
8488	8489	8490	8491	8492	8493	8494	8495	8496	8497
8498	8499	8500	8501	8502	8503	8504	8505	8506	8507
8508	8509	8510	8511	8512	8513	8514	8515	8516	8548
8549	8550	8551	8552	8553	8554	8555	8556	8557	8558
8559	8560	8561	8562	8563	8564	8565	8566	8567	8568
8569	8570	8571	8572	8573	8574	8575	8576	8577	8578
8579	8580	8581	8582	8583	8584	8585	8586	8587	8588
8589	8590	8591	8592	8593	8594	8595	8596	8597	8598
8630	8631	8632	8633	8634	8635	8636	8637	8638	8639
8640	8641	8642	8643	8644	8645	8646	8647	8648	8649
8650	8651	8652	8653	8654	8655	8656	8657	8658	8659
8660	8661	8662	8663	8664	8665	8666	8667	8668	8669

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The following nodes have been detected to connect beams+springs with wall elements. The adjacent quad elements will get an internal inplane torsional stiffness to transform the bending moment into pairs of forces on the quad nodes (see CTRL INPL and CTRL SPRI):

8670	8671	8672	8673	8674	8675	8676	8677	8678	8679
8680	8712	8713	8714	8715	8716	8717	8718	8719	8720
8721	8722	8723	8724	8725	8726	8727	8728	8729	8730
8731	8732	8733	8734	8735	8736	8737	8738	8739	8740
8741	8742	8743	8744	8745	8746	8747	8748	8749	8750
8751	8752	8753	8754	8755	8756	8757	8758	8759	8760
8761	8762	8794	8795	8796	8797	8798	8799	8800	8801
8802	8803	8804	8805	8806	8807	8808	8809	8810	8811
8812	8813	8814	8815	8816	8817	8818	8819	8820	8821
8822	8823	8824	8825	8826	8827	8828	8829	8830	8831
8832	8833	8834	8835	8836	8837	8838	8839	8840	8841
8842	8843	8844	8876	8877	8878	8879	8880	8881	8882
8883	8884	8885	8886	8887	8888	8889	8890	8891	8892
8893	8894	8895	8896	8897	8898	8899	8900	8901	8902
8903	8904	8905	8906	8907	8908	8909	8910	8911	8912
8913	8914	8915	8916	8917	8918	8919	8920	8921	8922
8923	8924	8925	8926	8958	8959	8960	8961	8962	8963
8964	8965	8966	8967	8968	8969	8970	8971	8972	8973
8974	8975	8976	8977	8978	8979	8980	8981	8982	8983
8984	8985	8986	8987	8988	8989	8990	8991	8992	8993
8994	8995	8996	8997	8998	8999	9000	9001	9002	9003
9004	9005	9006	9007	9008	9040	9041	9042	9043	9044
9045	9046	9047	9048	9049	9050	9051	9052	9053	9054
9055	9056	9057	9058	9059	9060	9061	9062	9063	9064
9065	9066	9067	9068	9069	9070	9071	9072	9073	9074
9075	9076	9077	9078	9079	9080	9081	9082	9083	9084
9085	9086	9087	9088	9089	9090	9122	9123	9124	9125
9126	9127	9128	9129	9130	9131	9132	9133	9134	9135
9136	9137	9138	9139	9140	9141	9142	9143	9144	9145
9146	9147	9148	9149	9150	9151	9152	9153	9154	9155
9156	9157	9158	9159	9160	9161	9162	9163	9164	9165
9166	9167	9168	9169	9170	9171	9172	9204	9205	9206
9207	9208	9209	9210	9211	9212	9213	9214	9215	9216
9217	9218	9219	9220	9221	9222	9223	9224	9225	9226
9227	9228	9229	9230	9231	9232	9233	9234	9235	9236
9237	9238	9239	9240	9241	9242	9243	9244	9245	9246
9247	9248	9249	9250	9251	9252	9253	9254	9272	9273
9274	9275	9276	9277	9278	9279	9280	9281	9282	9283
9284	9285	9286	9287	9288	9289	9290	9291	9292	9293
9294	9295	9296	9297	9298	9299	9300	9301	9302	9303
9304	9305	9306	9307	9308	9309	9310	9311	9312	9313
9314	9315	9316	9317	9318	9319	9320	9321	9322	9354
9355	9356	9357	9358	9359	9360	9361	9362	9363	9364
9365	9366	9367	9368	9369	9370	9371	9372	9373	9374
9375	9376	9377	9378	9379	9380	9381	9382	9383	9384
9385	9386	9387	9388	9389	9390	9391	9392	9393	9394
9395	9396	9397	9398	9399	9400	9401	9402	9403	9404
9436	9437	9438	9439	9440	9441	9442	9443	9444	9445
9446	9447	9448	9449	9450	9451	9452	9453	9454	9455
9456	9457	9458	9459	9460	9461	9462	9463	9464	9465
9466	9467	9468	9469	9470	9471	9472	9473	9474	9475
9476	9477	9478	9479	9480	9481	9482	9483	9484	9485
9486	9518	9519	9520	9521	9522	9523	9524	9525	9526
9527	9528	9529	9530	9531	9532	9533	9534	9535	9536
9537	9538	9539	9540	9541	9542	9543	9544	9545	9546
9547	9548	9549	9550	9551	9552	9553	9554	9555	9556
9557	9558	9559	9560	9561	9562	9563	9564	9565	9566

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The following nodes have been detected to connect beams+springs with wall elements. The adjacent quad elements will get an internal inplane torsional stiffness to transform the bending moment into pairs of forces on the quad nodes (see CTRL INPL and CTRL SPRI):

9567	9568	9600	9601	9602	9603	9604	9605	9606	9607
9608	9609	9610	9611	9612	9613	9614	9615	9616	9617
9618	9619	9620	9621	9622	9623	9624	9625	9626	9627
9628	9629	9630	9631	9632	9633	9634	9635	9636	9637
9638	9639	9640	9641	9642	9643	9644	9645	9646	9647
9648	9649	9650	9682	9683	9684	9685	9686	9687	9688
9689	9690	9691	9692	9693	9694	9695	9696	9697	9698
9699	9700	9701	9702	9703	9704	9705	9706	9707	9708
9709	9710	9711	9712	9713	9714	9715	9716	9717	9718
9719	9720	9721	9722	9723	9724	9725	9726	9727	9728
9729	9730	9731	9732	9764	9765	9766	9767	9768	9769
9770	9771	9772	9773	9774	9775	9776	9777	9778	9779
9780	9781	9782	9783	9784	9785	9786	9787	9788	9789
9790	9791	9792	9793	9794	9795	9796	9797	9798	9799
9800	9801	9802	9803	9804	9805	9806	9807	9808	9809
9810	9811	9812	9813	9814	9832	9833	9834	9835	9836
9837	9838	9839	9840	9841	9842	9843	9844	9845	9846
9847	9848	9849	9850	9851	9852	9853	9854	9855	9856
9857	9858	9859	9860	9861	9862	9863	9864	9865	9866
9867	9868	9869	9870	9871	9872	9873	9874	9875	9876
9877	9878	9879	9880	9881	9882	9914	9915	9916	9917
9918	9919	9920	9921	9922	9923	9924	9925	9926	9927
9928	9929	9930	9931	9932	9933	9934	9935	9936	9937
9938	9939	9940	9941	9942	9943	9944	9945	9946	9947
9948	9949	9950	9951	9952	9953	9954	9955	9956	9957
9958	9959	9960	9961	9962	9963	9964	9982	9983	9984
9985	9986	9987	9988	9989	9990	9991	9992	9993	9994
9995	9996	9997	9998	9999	10000	10001	10002	10003	10004
10005	10006	10007	10008	10009	10010	10011	10012	10013	10014
10015	10016	10017	10018	10019	10020	10021	10022	10023	10024
10025	10026	10027	10028	10029	10030	10031	10032	10064	10065
10066	10067	10068	10069	10070	10071	10072	10073	10074	10075
10076	10077	10078	10079	10080	10081	10082	10083	10084	10085
10086	10087	10088	10089	10090	10091	10092	10093	10094	10095
10096	10097	10098	10099	10100	10101	10102	10103	10104	10105
10106	10107	10108	10109	10110	10111	10112	10113	10114	10139
10140	10141	10142	10143	10144	10145	10146	10147	10148	10149
10150	10151	10152	10153	10154	10155	10156	10157	10158	10159
10160	10161	10162	10163	10164	10165	10166	10167	10168	10169
10170	10171	10172	10173	10174	10175	10176	10177	10178	10179
10180	10181	10182	10183	10184	10185	10186	10187	10188	10189
10190	10191	10192	10193	10194	10195	10196	10228	10229	10230
10231	10232	10233	10234	10235	10236	10237	10238	10239	10240
10241	10242	10243	10244	10245	10246	10247	10248	10249	10250
10251	10252	10253	10254	10255	10256	10257	10258	10259	10260
10261	10262	10263	10264	10265	10266	10267	10268	10269	10270
10271	10272	10273	10274	10275	10276	10277	10278	10296	10297
10298	10299	10300	10301	10302	10303	10304	10305	10306	10307
10308	10309	10325	10326	10327	10328	10329	10330	10331	10332
10333	10334	10335	10336	10337	10338	10339	10340	10341	10342
10343	10344	10345	10346	10347	10348	10349	10350	10351	10352
10353	10354	10355	10356	10357	10358	10359	10360	10361	10362
10363	10364	10365	10366	10367	10368	10369	10370	10371	10372
10373	10374	10375	10376	10377	10378	10406	10407	10408	10409
10410	10411	10412	10413	10414	10415	10416	10417	10418	10419
10420	10421	10422	10423	10424	10425	10426	10427	10428	10429
10430	10431	10432	10433	10434	10435	10436	10437	10438	10439

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The following nodes have been detected to connect beams+springs with wall elements. The adjacent quad elements will get an internal inplane torsional stiffness to transform the bending moment into pairs of forces on the quad nodes (see CTRL INPL and CTRL SPRI):

10440	10441	10442	10443	10444	10445	10446	10447	10448	10449
10450	10451	10452	10453	10454	10455	10456	10457	10458	10459
10460	10461	10462	10463	10464	10465	10466	10467	10468	10469
10470	10502	10503	10504	10505	10506	10507	10508	10509	10510
10511	10512	10513	10514	10515	10516	10517	10518	10519	10520
10521	10522	10523	10524	10525	10526	10527	10528	10529	10530
10531	10532	10533	10534	10535	10536	10537	10538	10539	10540
10541	10542	10543	10544	10545	10546	10547	10548	10549	10550
10551	10552	10577	10578	10579	10580	10581	10582	10583	10584
10585	10586	10587	10588	10589	10590	10591	10592	10593	10594
10595	10596	10597	10598	10599	10600	10601	10602	10603	10604
10605	10606	10607	10608	10609	10610	10611	10612	10613	10614
10615	10616	10617	10618	10619	10620	10621	10622	10623	10624
10625	10626	10627	10628	10629	10630	10631	10632	10633	10634
10666	10667	10668	10669	10670	10671	10672	10673	10674	10675
10676	10677	10678	10679	10680	10681	10682	10683	10684	10685
10686	10687	10688	10689	10690	10691	10692	10693	10694	10695
10696	10697	10698	10699	10700	10701	10702	10703	10704	10705
10706	10707	10708	10709	10710	10711	10712	10713	10714	10715
10716	10734	10735	10736	10737	10738	10739	10740	10741	10742
10743	10744	10745	10746	10747	10763	10764	10765	10766	10767
10768	10769	10770	10771	10772	10773	10774	10775	10776	10777
10778	10779	10780	10781	10782	10783	10784	10785	10786	10787
10788	10789	10790	10791	10792	10793	10794	10795	10796	10797
10798	10799	10800	10801	10802	10803	10804	10805	10806	10807
10808	10809	10810	10811	10812	10813	10814	10815	10816	10844
10845	10846	10847	10848	10849	10850	10851	10852	10853	10854
10855	10856	10857	10872	10873	10874	10875	10876	10877	10878
10879	10880	10881	10882	10883	10884	10885	10886	10887	10888
10889	10890	10891	10892	10893	10894	10895	10896	10897	10898
10899	10900	10901	10902	10903	10904	10905	10906	10907	10908
10909	10910	10911	10912	10913	10914	10915	10916	10917	10918
10919	10920	10921	10922	10954	10955	10956	10957	10958	10959
10960	10961	10962	10963	10964	10965	10966	10967	10968	10969
10970	10971	10972	10973	10974	10975	10976	10977	10978	10979
10980	10981	10982	10983	10984	10985	10986	10987	10988	10989
10990	10991	10992	10993	10994	10995	10996	10997	10998	10999
11000	11001	11002	11003	11004	11029	11030	11031	11032	11033
11034	11035	11036	11037	11038	11039	11040	11041	11042	11043
11044	11045	11046	11047	11048	11049	11050	11051	11052	11053
11054	11055	11056	11057	11058	11059	11060	11061	11062	11063
11064	11065	11066	11067	11068	11069	11070	11071	11072	11073
11074	11075	11076	11077	11078	11079	11080	11081	11082	11083
11084	11085	11086	11118	11119	11120	11121	11122	11123	11124
11125	11126	11127	11128	11129	11130	11131	11132	11133	11134
11135	11136	11137	11138	11139	11140	11141	11142	11143	11144
11145	11146	11147	11148	11149	11150	11151	11152	11153	11154
11155	11156	11157	11158	11159	11160	11161	11162	11163	11164
11165	11166	11167	11168	11186	11187	11188	11189	11190	11191
11192	11193	11194	11195	11196	11197	11198	11199	11207	11208
11209	11210	11211	11212	11213	11214	11215	11216	11217	11218
11219	11220	11221	11222	11223	11224	11225	11226	11227	11228
11229	11230	11231	11232	11233	11234	11235	11236	11237	11238
11239	11240	11241	11242	11243	11244	11245	11246	11247	11248
11249	11250	11251	11252	11253	11254	11255	11256	11257	11258
11259	11260	11261	11262	11263	11264	11296	11297	11298	11299
11300	11301	11302	11303	11304	11305	11306	11307	11308	11309

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The following nodes have been detected to connect beams+springs with wall elements. The adjacent quad elements will get an internal inplane torsional stiffness to transform the bending moment into pairs of forces on the quad nodes (see CTRL INPL and CTRL SPRI):

11310	11311	11312	11313	11314	11315	11316	11317	11318	11319
11320	11321	11322	11323	11324	11325	11326	11327	11328	11329
11330	11331	11332	11333	11334	11335	11336	11337	11338	11339
11340	11341	11342	11343	11344	11345	11346	11364	11365	11366
11367	11368	11369	11370	11371	11372	11373	11374	11375	11376
11377	11393	11394	11395	11396	11397	11398	11399	11400	11401
11402	11403	11404	11405	11406	11407	11408	11409	11410	11411
11412	11413	11414	11415	11416	11417	11418	11419	11420	11421
11422	11423	11424	11425	11426	11427	11428	11429	11430	11431
11432	11433	11434	11435	11436	11437	11438	11439	11440	11441
11442	11443	11444	11445	11446	11474	11475	11476	11477	11478
11479	11480	11481	11482	11483	11484	11485	11486	11487	

Load Case 2 (Q) AGUA

Factor forces and moments	1.000
unfavourable partial safety factor	1.500
favourable partial safety factor	0.000

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Volume	QGRP 12			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 13			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 14			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 31			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 32			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 33			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent
Volume	QGRP 34			9.898	-48.141	4.850	Pz	0.00 [kN/m2]
				9.898	-48.141	-95.150		1000.00 [kN/m2]
		Agua				activated		100.00 percent

Load Case 12 (G) CM_PEND

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			58.023	-58.207	5.124	PG	1.50 [kN/m]
				58.023	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			58.023	-67.638	5.124	PG	1.50 [kN/m]
				58.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-58.207	5.124	PG	1.50 [kN/m]
				55.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-68.217	5.124	PG	1.50 [kN/m]
				55.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-58.207	5.124	PG	1.50 [kN/m]
				54.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-68.217	5.124	PG	1.50 [kN/m]
				54.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-58.207	5.124	PG	1.50 [kN/m]
				53.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-68.217	5.124	PG	1.50 [kN/m]
				53.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-58.207	5.124	PG	1.50 [kN/m]
				52.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-68.217	5.124	PG	1.50 [kN/m]
				52.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-58.207	5.124	PG	1.50 [kN/m]
				50.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-68.217	5.124	PG	1.50 [kN/m]
				50.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-58.207	5.124	PG	1.50 [kN/m]
				49.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-58.207	5.124	PG	1.50 [kN/m]
				56.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-68.217	5.124	PG	1.50 [kN/m]
				56.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-68.217	5.124	PG	1.50 [kN/m]
				49.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-58.207	5.124	PG	1.50 [kN/m]
				48.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-68.217	5.124	PG	1.50 [kN/m]
				48.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-58.207	5.124	PG	1.50 [kN/m]
				47.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-68.217	5.124	PG	1.50 [kN/m]
				47.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			44.063	-68.217	5.124	PG	1.50 [kN/m]
				44.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-58.207	5.124	PG	1.50 [kN/m]
				35.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-68.217	5.124	PG	1.50 [kN/m]
				34.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-58.207	5.124	PG	1.50 [kN/m]
				34.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-68.217	5.124	PG	1.50 [kN/m]
				33.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-58.207	5.124	PG	1.50 [kN/m]
				33.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-68.217	5.124	PG	1.50 [kN/m]
				32.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-58.207	5.124	PG	1.50 [kN/m]
				32.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-68.217	5.160	PG	0.94 [kN/m]
				45.043	-58.207	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-58.207	5.124	PG	1.50 [kN/m]
				46.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-68.217	5.124	PG	1.50 [kN/m]
				46.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-58.207	5.124	PG	1.50 [kN/m]
				30.863	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-67.638	5.124	PG	1.50 [kN/m]
				30.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-58.207	5.160	PG	0.94 [kN/m]
				45.043	-48.197	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-58.207	5.124	PG	1.50 [kN/m]
				44.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-68.217	5.124	PG	1.50 [kN/m]
				42.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-58.207	5.124	PG	1.50 [kN/m]
				42.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-68.217	5.124	PG	1.50 [kN/m]
				41.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-58.207	5.124	PG	1.50 [kN/m]
				41.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			40.463	-68.217	5.124	PG	1.50 [kN/m]
				40.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-58.207	5.124	PG	1.50 [kN/m]
				40.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-68.217	5.124	PG	1.50 [kN/m]
				39.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-58.207	5.124	PG	1.50 [kN/m]
				39.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-68.217	5.124	PG	1.50 [kN/m]
				38.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-58.207	5.124	PG	1.50 [kN/m]
				38.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-68.217	5.124	PG	1.50 [kN/m]
				36.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-58.207	5.124	PG	1.50 [kN/m]
				36.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-68.217	5.124	PG	1.50 [kN/m]
				35.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent

Load Case 13 (G) CM_PANE

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			58.023	-58.207	5.124	PG	1.50 [kN/m]
				58.023	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			58.023	-67.638	5.124	PG	1.50 [kN/m]
				58.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-58.207	5.124	PG	1.50 [kN/m]
				55.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-68.217	5.124	PG	1.50 [kN/m]
				55.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-58.207	5.124	PG	1.50 [kN/m]
				54.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-68.217	5.124	PG	1.50 [kN/m]
				54.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			53.223	-58.207	5.124	PG	1.50 [kN/m]
				53.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-68.217	5.124	PG	1.50 [kN/m]
				53.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-58.207	5.124	PG	1.50 [kN/m]
				52.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-68.217	5.124	PG	1.50 [kN/m]
				52.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-58.207	5.124	PG	1.50 [kN/m]
				50.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-68.217	5.124	PG	1.50 [kN/m]
				50.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-58.207	5.124	PG	1.50 [kN/m]
				56.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-68.217	5.124	PG	1.50 [kN/m]
				56.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-58.207	5.124	PG	1.50 [kN/m]
				49.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-68.217	5.124	PG	1.50 [kN/m]
				49.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-58.207	5.124	PG	1.50 [kN/m]
				48.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-68.217	5.124	PG	1.50 [kN/m]
				48.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-58.207	5.124	PG	1.50 [kN/m]
				47.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-68.217	5.124	PG	1.50 [kN/m]
				47.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-68.217	5.124	PG	1.50 [kN/m]
				44.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-58.207	5.124	PG	1.50 [kN/m]
				35.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-68.217	5.124	PG	1.50 [kN/m]
				34.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-58.207	5.124	PG	1.50 [kN/m]
				34.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-68.217	5.124	PG	1.50 [kN/m]
				33.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			33.263	-58.207	5.124	PG	1.50 [kN/m]
				33.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-68.217	5.124	PG	1.50 [kN/m]
				32.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-58.207	5.124	PG	1.50 [kN/m]
				32.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-68.217	5.160	PG	0.94 [kN/m]
				45.043	-58.207	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-58.207	5.124	PG	1.50 [kN/m]
				46.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-68.217	5.124	PG	1.50 [kN/m]
				46.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-58.207	5.124	PG	1.50 [kN/m]
				30.863	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-67.638	5.124	PG	1.50 [kN/m]
				30.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-58.207	5.160	PG	0.94 [kN/m]
				45.043	-48.197	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-58.207	5.124	PG	1.50 [kN/m]
				44.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-68.217	5.124	PG	1.50 [kN/m]
				42.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-58.207	5.124	PG	1.50 [kN/m]
				42.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-68.217	5.124	PG	1.50 [kN/m]
				41.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-58.207	5.124	PG	1.50 [kN/m]
				41.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-68.217	5.124	PG	1.50 [kN/m]
				40.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-58.207	5.124	PG	1.50 [kN/m]
				40.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-68.217	5.124	PG	1.50 [kN/m]
				39.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-58.207	5.124	PG	1.50 [kN/m]
				39.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-68.217	5.124	PG	1.50 [kN/m]
				38.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			38.063	-58.207	5.124	PG	1.50 [kN/m]
				38.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-68.217	5.124	PG	1.50 [kN/m]
				36.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-58.207	5.124	PG	1.50 [kN/m]
				36.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-68.217	5.124	PG	1.50 [kN/m]
				35.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent

Load Case 14 (G) CM_IMPE

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			58.023	-58.207	5.124	PG	2.25 [kN/m]
				58.023	-48.777	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			58.023	-67.638	5.124	PG	2.25 [kN/m]
				58.023	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-58.207	5.124	PG	2.25 [kN/m]
				55.623	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-68.217	5.124	PG	2.25 [kN/m]
				55.623	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-58.207	5.124	PG	2.25 [kN/m]
				54.423	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-68.217	5.124	PG	2.25 [kN/m]
				54.423	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-58.207	5.124	PG	2.25 [kN/m]
				53.223	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-68.217	5.124	PG	2.25 [kN/m]
				53.223	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-58.207	5.124	PG	2.25 [kN/m]
				52.023	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-68.217	5.124	PG	2.25 [kN/m]
				52.023	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-58.207	5.124	PG	2.25 [kN/m]
				50.823	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			50.823	-68.217	5.124	PG	2.25 [kN/m]
				50.823	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-58.207	5.124	PG	2.25 [kN/m]
				56.823	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-68.217	5.124	PG	2.25 [kN/m]
				56.823	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-58.207	5.124	PG	2.25 [kN/m]
				49.623	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-68.217	5.124	PG	2.25 [kN/m]
				49.623	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-58.207	5.124	PG	2.25 [kN/m]
				48.423	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-68.217	5.124	PG	2.25 [kN/m]
				48.423	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-58.207	5.124	PG	2.25 [kN/m]
				47.223	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-68.217	5.124	PG	2.25 [kN/m]
				47.223	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-68.217	5.124	PG	2.25 [kN/m]
				44.063	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-68.217	5.124	PG	2.25 [kN/m]
				35.663	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-58.207	5.124	PG	2.25 [kN/m]
				35.663	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-68.217	5.124	PG	2.25 [kN/m]
				34.463	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-58.207	5.124	PG	2.25 [kN/m]
				34.463	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-68.217	5.124	PG	2.25 [kN/m]
				33.263	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-58.207	5.124	PG	2.25 [kN/m]
				33.263	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-68.217	5.124	PG	2.25 [kN/m]
				32.063	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-58.207	5.124	PG	2.25 [kN/m]
				32.063	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-68.217	5.160	PG	1.40 [kN/m]
				45.043	-58.207	5.160		1.40 [kN/m]
						activated		100.00 percent

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			46.023	-58.207	5.124	PG	2.25 [kN/m]
				46.023	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-68.217	5.124	PG	2.25 [kN/m]
				46.023	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-58.207	5.124	PG	2.25 [kN/m]
				30.863	-48.777	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-67.638	5.124	PG	2.25 [kN/m]
				30.863	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-58.207	5.160	PG	1.40 [kN/m]
				45.043	-48.197	5.160		1.40 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-58.207	5.124	PG	2.25 [kN/m]
				44.063	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-68.217	5.124	PG	2.25 [kN/m]
				42.863	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-58.207	5.124	PG	2.25 [kN/m]
				42.863	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-68.217	5.124	PG	2.25 [kN/m]
				41.663	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-58.207	5.124	PG	2.25 [kN/m]
				41.663	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-68.217	5.124	PG	2.25 [kN/m]
				40.463	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-58.207	5.124	PG	2.25 [kN/m]
				40.463	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-68.217	5.124	PG	2.25 [kN/m]
				39.263	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-58.207	5.124	PG	2.25 [kN/m]
				39.263	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-68.217	5.124	PG	2.25 [kN/m]
				38.063	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-58.207	5.124	PG	2.25 [kN/m]
				38.063	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-68.217	5.124	PG	2.25 [kN/m]
				36.863	-58.207	5.124		2.25 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-58.207	5.124	PG	2.25 [kN/m]
				36.863	-48.197	5.124		2.25 [kN/m]
						activated		100.00 percent

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Load Case 21 (L) SC_CUBIERTA

Factor forces and moments		1.000
unfavourable partial safety factor		1.600
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.750 (rare)
Combination coefficient	ψ_1	0.750 (frequent)
Combination coefficient	ψ_2	0.200 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			58.023	-58.207	5.124	PG	1.50 [kN/m]
				58.023	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			58.023	-67.638	5.124	PG	1.50 [kN/m]
				58.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-58.207	5.124	PG	1.50 [kN/m]
				55.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-68.217	5.124	PG	1.50 [kN/m]
				55.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-58.207	5.124	PG	1.50 [kN/m]
				54.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-68.217	5.124	PG	1.50 [kN/m]
				54.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-58.207	5.124	PG	1.50 [kN/m]
				53.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-68.217	5.124	PG	1.50 [kN/m]
				53.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-58.207	5.124	PG	1.50 [kN/m]
				52.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-68.217	5.124	PG	1.50 [kN/m]
				52.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-58.207	5.124	PG	1.50 [kN/m]
				50.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-68.217	5.124	PG	1.50 [kN/m]
				50.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-58.207	5.124	PG	1.50 [kN/m]
				56.823	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-68.217	5.124	PG	1.50 [kN/m]
				56.823	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-58.207	5.124	PG	1.50 [kN/m]
				49.623	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-68.217	5.124	PG	1.50 [kN/m]
				49.623	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-58.207	5.124	PG	1.50 [kN/m]

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				48.423	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-68.217	5.124	PG	1.50 [kN/m]
				48.423	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-58.207	5.124	PG	1.50 [kN/m]
				47.223	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-68.217	5.124	PG	1.50 [kN/m]
				47.223	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-68.217	5.124	PG	1.50 [kN/m]
				44.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-68.217	5.124	PG	1.50 [kN/m]
				35.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-58.207	5.124	PG	1.50 [kN/m]
				35.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-68.217	5.124	PG	1.50 [kN/m]
				34.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-58.207	5.124	PG	1.50 [kN/m]
				34.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-68.217	5.124	PG	1.50 [kN/m]
				33.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-58.207	5.124	PG	1.50 [kN/m]
				33.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-68.217	5.124	PG	1.50 [kN/m]
				32.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-58.207	5.124	PG	1.50 [kN/m]
				32.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-68.217	5.160	PG	0.94 [kN/m]
				45.043	-58.207	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-58.207	5.124	PG	1.50 [kN/m]
				46.023	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-68.217	5.124	PG	1.50 [kN/m]
				46.023	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-58.207	5.124	PG	1.50 [kN/m]
				30.863	-48.777	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-67.638	5.124	PG	1.50 [kN/m]
				30.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-58.207	5.160	PG	0.94 [kN/m]
				45.043	-48.197	5.160		0.94 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-58.207	5.124	PG	1.50 [kN/m]

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ASE

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				44.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-68.217	5.124	PG	1.50 [kN/m]
				42.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-58.207	5.124	PG	1.50 [kN/m]
				42.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-68.217	5.124	PG	1.50 [kN/m]
				41.663	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-58.207	5.124	PG	1.50 [kN/m]
				41.663	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-68.217	5.124	PG	1.50 [kN/m]
				40.463	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-58.207	5.124	PG	1.50 [kN/m]
				40.463	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-68.217	5.124	PG	1.50 [kN/m]
				39.263	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-58.207	5.124	PG	1.50 [kN/m]
				39.263	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-68.217	5.124	PG	1.50 [kN/m]
				38.063	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-58.207	5.124	PG	1.50 [kN/m]
				38.063	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-68.217	5.124	PG	1.50 [kN/m]
				36.863	-58.207	5.124		1.50 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-58.207	5.124	PG	1.50 [kN/m]
				36.863	-48.197	5.124		1.50 [kN/m]
						activated		100.00 percent

Load Case 31 (W) VIENTO+

Factor forces and moments		1.000
unfavourable partial safety factor		1.600
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Volume	QGRP 31			-52.121	-48.141	4.850	PXX	1.00 [kN/m2]
				-52.121	-48.141	-95.150		1.00 [kN/m2]
						activated		100.00 percent
Volume	QGRP 33			-25.529	-48.141	4.850	PXX	-0.40 [kN/m2]
				-25.529	-48.141	-95.150		-0.40 [kN/m2]
						activated		100.00 percent
Volume	QGRP 32			-35.433	-48.141	4.850	PYY	-1.10 [kN/m2]

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				-35.433	-48.141	-95.150		-1.10 [kN/m2]
						activated		100.00 percent

Load Case 32 (W) VIENTO-

Factor forces and moments		1.000
unfavourable partial safety factor		1.600
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Volume	QGRP 32			-52.121	-77.738	4.850	PYY	1.00 [kN/m2]
				-52.121	-77.738	-95.150		1.00 [kN/m2]
						activated		100.00 percent
Volume	QGRP 34			-25.529	-77.738	4.850	PYY	0.40 [kN/m2]
				-25.529	-77.738	-95.150		0.40 [kN/m2]
						activated		100.00 percent
Volume	QGRP 33			-35.433	-77.738	4.850	PXX	1.10 [kN/m2]
				-35.433	-77.738	-95.150		1.10 [kN/m2]
						activated		100.00 percent

Load Case 41 (S) NIEVE

Factor forces and moments		1.000
unfavourable partial safety factor		1.600
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.200 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	qgrp 34			58.023	-58.207	5.124	PG	0.30 [kN/m]
				58.023	-48.777	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			58.023	-67.638	5.124	PG	0.30 [kN/m]
				58.023	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-58.207	5.124	PG	0.30 [kN/m]
				55.623	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			55.623	-68.217	5.124	PG	0.30 [kN/m]
				55.623	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-58.207	5.124	PG	0.30 [kN/m]
				54.423	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			54.423	-68.217	5.124	PG	0.30 [kN/m]
				54.423	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-58.207	5.124	PG	0.30 [kN/m]
				53.223	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			53.223	-68.217	5.124	PG	0.30 [kN/m]

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				53.223	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-58.207	5.124	PG	0.30 [kN/m]
				52.023	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			52.023	-68.217	5.124	PG	0.30 [kN/m]
				52.023	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-58.207	5.124	PG	0.30 [kN/m]
				50.823	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			50.823	-68.217	5.124	PG	0.30 [kN/m]
				50.823	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-58.207	5.124	PG	0.30 [kN/m]
				49.623	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			49.623	-68.217	5.124	PG	0.30 [kN/m]
				49.623	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-58.207	5.124	PG	0.30 [kN/m]
				48.423	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			48.423	-68.217	5.124	PG	0.30 [kN/m]
				48.423	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-58.207	5.124	PG	0.30 [kN/m]
				47.223	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			47.223	-68.217	5.124	PG	0.30 [kN/m]
				47.223	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-68.217	5.124	PG	0.30 [kN/m]
				44.063	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-58.207	5.124	PG	0.30 [kN/m]
				56.823	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			56.823	-68.217	5.124	PG	0.30 [kN/m]
				56.823	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-58.207	5.124	PG	0.30 [kN/m]
				30.863	-48.777	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			30.863	-67.638	5.124	PG	0.30 [kN/m]
				30.863	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-58.207	5.160	PG	0.19 [kN/m]
				45.043	-48.197	5.160		0.19 [kN/m]
						activated		100.00 percent
Line	qgrp 34			44.063	-58.207	5.124	PG	0.30 [kN/m]
				44.063	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-68.217	5.124	PG	0.30 [kN/m]
				42.863	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			42.863	-58.207	5.124	PG	0.30 [kN/m]

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				42.863	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-68.217	5.124	PG	0.30 [kN/m]
				41.663	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			41.663	-58.207	5.124	PG	0.30 [kN/m]
				41.663	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-68.217	5.124	PG	0.30 [kN/m]
				40.463	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			40.463	-58.207	5.124	PG	0.30 [kN/m]
				40.463	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-68.217	5.124	PG	0.30 [kN/m]
				39.263	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			39.263	-58.207	5.124	PG	0.30 [kN/m]
				39.263	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-68.217	5.124	PG	0.30 [kN/m]
				38.063	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			38.063	-58.207	5.124	PG	0.30 [kN/m]
				38.063	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-68.217	5.124	PG	0.30 [kN/m]
				36.863	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			36.863	-58.207	5.124	PG	0.30 [kN/m]
				36.863	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-68.217	5.124	PG	0.30 [kN/m]
				35.663	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			35.663	-58.207	5.124	PG	0.30 [kN/m]
				35.663	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-68.217	5.124	PG	0.30 [kN/m]
				34.463	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			34.463	-58.207	5.124	PG	0.30 [kN/m]
				34.463	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-68.217	5.124	PG	0.30 [kN/m]
				33.263	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			33.263	-58.207	5.124	PG	0.30 [kN/m]
				33.263	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-68.217	5.124	PG	0.30 [kN/m]
				32.063	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			32.063	-58.207	5.124	PG	0.30 [kN/m]
				32.063	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			45.043	-68.217	5.160	PG	0.19 [kN/m]

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ASE

Loads

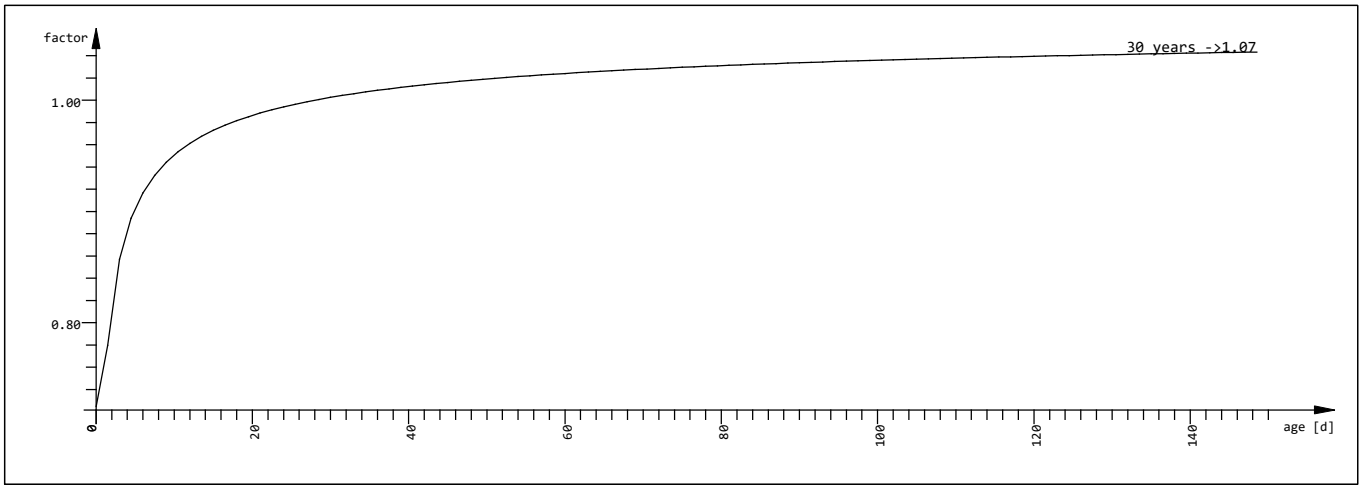
Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
				45.043	-58.207	5.160		0.19 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-58.207	5.124	PG	0.30 [kN/m]
				46.023	-48.197	5.124		0.30 [kN/m]
						activated		100.00 percent
Line	qgrp 34			46.023	-68.217	5.124	PG	0.30 [kN/m]
				46.023	-58.207	5.124		0.30 [kN/m]
						activated		100.00 percent

Sum of Loadings

Loadcase	Σ(Loads) X[kN]	Y[kN]	Z[kN]	Designation
2	-0.1	0.1	-25698.3	AGUA
12	0.0	0.0	-706.0	CM_PEND
13	0.0	0.0	-706.0	CM_PANE
14	0.0	0.0	-1058.8	CM_IMPE
21	0.0	0.0	-706.0	SC_CUBIERTA
31	54.9	-125.6	0.0	VIENTO+
32	100.7	159.9	0.0	VIENTO-
41	0.0	0.0	-141.2	NIEVE

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Construction stage CS 10 SITUACION_ORIGINAL



Development of stiffness concrete mno: 1

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creep step CS 15 C+S A T DÍAS

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018

Materials

Mat	Classification
1	HA 40 (EHE)
2	B 500 (EHE)
3	A 37 (EA-95)
4	HA 40 (EHE)
5	HA 40 (EHE)
11	HA 25 (EHE)
12	B 500 (EHE)
71	HA 25 (EHE)
72	HA 40 (EHE)
73	HA 30 (EHE)
74	B 500 (EHE)
91	HA 40 (EHE)_Sin_PP

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Construction stage CS 15 C+S A T DÍAS

creep+shrinkage creep-step 1 load case 4015
Primary state for displacements of total system is load case 4010

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creep step CS 16 C+S A T DÍAS

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018

Materials

Mat	Classification
1	HA 40 (EHE)
2	B 500 (EHE)
3	A 37 (EA-95)
4	HA 40 (EHE)
5	HA 40 (EHE)
11	HA 25 (EHE)
12	B 500 (EHE)
71	HA 25 (EHE)
72	HA 40 (EHE)
73	HA 30 (EHE)
74	B 500 (EHE)
91	HA 40 (EHE)_Sin_PP

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Construction stage CS 16 C+S A T DÍAS

creep+shrinkage creep-step 1 load case 4016
Primary state for displacements of total system is load case 4015

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creep step CS 17 C+S A T DÍAS

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018

Materials

Mat	Classification
1	HA 40 (EHE)
2	B 500 (EHE)
3	A 37 (EA-95)
4	HA 40 (EHE)
5	HA 40 (EHE)
11	HA 25 (EHE)
12	B 500 (EHE)
71	HA 25 (EHE)
72	HA 40 (EHE)
73	HA 30 (EHE)
74	B 500 (EHE)
91	HA 40 (EHE)_Sin_PP

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Construction stage CS  17 C+S A T DÍAS

 creep+shrinkage creep-step   1 load case 4017
 Primary state for displacements of total system is load case 4016
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Construction stage CS 20 CAPA_COMPRESION

Primary state for displacements of total system is load case 4017

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Construction stage CS 30 CM_CUBIERTA

Primary state for displacements of total system is load case 4020

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creep step CS 35 C+S A T DÍAS

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018

Materials

Mat	Classification
1	HA 40 (EHE)
2	B 500 (EHE)
3	A 37 (EA-95)
4	HA 40 (EHE)
5	HA 40 (EHE)
11	HA 25 (EHE)
12	B 500 (EHE)
71	HA 25 (EHE)
72	HA 40 (EHE)
73	HA 30 (EHE)
74	B 500 (EHE)
91	HA 40 (EHE)_Sin_PP

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Construction stage CS  35 C+S A T DÍAS

 creep+shrinkage creep-step   1 load case 4035
 Primary state for displacements of total system is load case 4030
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creep step CS 36 C+S A T DÍAS

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018

Materials

Mat	Classification
1	HA 40 (EHE)
2	B 500 (EHE)
3	A 37 (EA-95)
4	HA 40 (EHE)
5	HA 40 (EHE)
11	HA 25 (EHE)
12	B 500 (EHE)
71	HA 25 (EHE)
72	HA 40 (EHE)
73	HA 30 (EHE)
74	B 500 (EHE)
91	HA 40 (EHE)_Sin_PP

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Construction stage CS 36 C+S A T DÍAS

creep+shrinkage creep-step 1 load case 4036
Primary state for displacements of total system is load case 4035

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creep step CS 37 C+S A T DÍAS

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018

Materials

Mat	Classification
1	HA 40 (EHE)
2	B 500 (EHE)
3	A 37 (EA-95)
4	HA 40 (EHE)
5	HA 40 (EHE)
11	HA 25 (EHE)
12	B 500 (EHE)
71	HA 25 (EHE)
72	HA 40 (EHE)
73	HA 30 (EHE)
74	B 500 (EHE)
91	HA 40 (EHE)_Sin_PP

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Construction stage CS 37 C+S A T DÍAS

creep+shrinkage creep-step 1 load case 4037
Primary state for displacements of total system is load case 4036

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Analysis of all 7000-combination forces
to check prestress normal force after C+S in WING

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018

Selected Beam Elements

Selection	NoA	NoE	x[m]	Type	CS
BEAM	all elements				AUTO

NoA,NoE range of element numbers
x[m] x-ordinate of beam section or station on axis
Type element type
CS construction stage

Reinforcement will be accounted for sectional values with a factor of 1.00
Reinforcements saved as Design case No. 1

Considered Load Cases

LC	ACT	REF	CS	Designation	γ-u	γ-f	ψ_0	ψ_1	ψ_2	SUP
5010	G_1	CS	CS 10	SITUACION_ORIGINAL	1.50	1.00	1.00	1.00	1.00	G PERM
5015	C	CS	CS 15	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
5016	C	CS	CS 16	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
5017	C	CS	CS 17	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
5020	G_2	CS	CS 20	CAPA_COMPRESION	1.50	1.00	1.00	1.00	1.00	G PERM
5030	G_2	CS	CS 30	CM_CUBIERTA	1.50	1.00	1.00	1.00	1.00	G PERM
5035	C	CS	CS 35	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
5036	C	CS	CS 36	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
5037	C	CS	CS 37	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
6015	C	CS	CS 15	15 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM
6016	C	CS	CS 16	16 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM
6017	C	CS	CS 17	17 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM
6035	C	CS	CS 35	35 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM
6036	C	CS	CS 36	36 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM
6037	C	CS	CS 37	37 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM

LC load case
ACT action
REF reference point for forces and moments
CS section the load case is acting on
SUP action type, group and superposition category

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Elastic Stress Check

Maximum results are saved to load case 7999 GlobalMAX SIGMA

Stresses

Beam	x[m]	SNo	LC	Mat	σ-x	σ+x	Δσ	τ	σ-I	σ-II	σ-v	N[kN]
Total			min	1	0.00	0.00		0.00	0.36	-0.36	0.63	
Total			max	1	-13.88	13.53		0.97	13.53	-13.88	13.88	
Total			min	2	0.00	-104.19						
Total			max	2	-335.32	231.93						
Total			min	4	-1.11	-3.32		0.00	0.00	0.00	0.00	
Total			max	4	-13.66	7.39		0.39	0.00	0.00	0.00	
Total			min	5	4.61	-0.05		0.00	0.00	0.00	0.00	
Total			max	5	-22.67	21.51		2.46	0.00	0.00	0.00	
Total			min	11	1.64	-3.05		0.00	0.00	-0.00	0.08	
Total			max	11	-4.76	1.88		0.21	1.91	-4.76	4.76	

σ-x longitud. compressive stress
σ+x longitud. tensile stress
Δσ range of reinforcement stress
τ shear stress
σ-I principal tensile stress
σ-II principal compressive stress
σ-v von Mises stress
N[kN] partial normal force in composite section

Sum of G, sum of P and sum of C for WING plots

Selected Beam Elements

Selection	NoA	NoE	x[m]	Type	CS
BEAM	all elements				AUTO

NoA,NoE range of element numbers
x[m] x-ordinate of beam section or station on axis
Type element type
CS construction stage

Reinforcement will be accounted for sectional values with a factor of 1.00
Reinforcements saved as Design case No. 1

Considered Load Cases

LC	ACT	REF	CS	Designation	γ-u	γ-f	ψ_0	ψ_1	ψ_2	SUP
5010	G_1	CS	CS 10	SITUACION_ORIGINAL	1.50	1.00	1.00	1.00	1.00	G PERM
5015	C	CS	CS 15	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
5016	C	CS	CS 16	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
5017	C	CS	CS 17	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
5020	G_2	CS	CS 20	CAPA_COMPRESION	1.50	1.00	1.00	1.00	1.00	G PERM
5030	G_2	CS	CS 30	CM_CUBIERTA	1.50	1.00	1.00	1.00	1.00	G PERM
5035	C	CS	CS 35	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
5036	C	CS	CS 36	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
5037	C	CS	CS 37	C+S A T DÍAS	1.35	1.00	1.00	1.00	1.00	P PERM
6015	C	CS	CS 15	15 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM
6016	C	CS	CS 16	16 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM
6017	C	CS	CS 17	17 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM
6035	C	CS	CS 35	35 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM
6036	C	CS	CS 36	36 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM
6037	C	CS	CS 37	37 C+S A T DÍAS	1.00	1.00	1.00	1.00	1.00	P PERM

LC load case
ACT action
REF reference point for forces and moments
CS section the load case is acting on
SUP action type, group and superposition category

Elastic Stress Check

Stresses

Beam	x[m]	SNo	LC	Mat	σ-x	σ+x	Δσ	τ	σ-I	σ-II	σ-v	N[kN]
Total			min	1	0.00	0.00		0.00	0.69	-0.91	1.57	
Total			max	1	-8.80	11.37		0.97	11.37	-8.80	11.37	
Total			min	2	0.00	-81.29						
Total			max	2	-205.22	129.02						
Total			min	4	0.24	-3.62		0.00	0.00	0.00	0.00	
Total			max	4	-12.35	5.70		0.30	0.00	0.00	0.00	
Total			min	5	4.44	-0.15		0.00	0.00	0.00	0.00	
Total			max	5	-22.59	18.98		2.44	0.00	0.00	0.00	
Total			min	11	2.63	-3.05		0.00	0.00	0.00	0.34	
Total			max	11	-4.76	3.40		0.21	3.40	-4.76	4.76	

σ-x longitud. compressive stress
σ+x longitud. tensile stress
Δσ range of reinforcement stress
τ shear stress
σ-I principal tensile stress
σ-II principal compressive stress
σ-v von Mises stress
N[kN] partial normal force in composite section

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Superposition according to EHE Instrucción de hormigòn estructural 2008

Combination rule Number 103

SLS characteristic combination

Superposition according to manual MAXIMA formula 2.4

$$E_{d,rare} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus Q_{k,1} \oplus \sum_{i>1} \psi_{0,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS characteristic combination

Load Case selection and Actions

Act	Part	Superposition Factors γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2	Fact	Type	Designation
	LC									
C	P	1.00	1.00	1.00	1.00	1.00	1.00			creep + shrinkage
	5015							1.00	PERM	C+S A T DÍAS
	5016							1.00	PERM	C+S A T DÍAS
	5017							1.00	PERM	C+S A T DÍAS
	5035							1.00	PERM	C+S A T DÍAS
	5036							1.00	PERM	C+S A T DÍAS
	5037							1.00	PERM	C+S A T DÍAS
G	G	1.35	0.80	1.00	1.00	1.00	1.00			dead load
	5010							1.00	PERM	SITUACION_ORIGINAL
	5020							1.00	PERM	CAPA_COMPRESION
	5030							1.00	PERM	CM_CUBIERTA
L	Q	1.50	0.00	1.00	0.00	0.00	0.00			live loading
	21							1.00	A9	SC_CUBIERTA
Q	Q	1.20	0.90	1.00	1.00	1.00	1.00			variable load
	2							1.00	COND	AGUA
S	Q	1.60	0.00	1.00	0.60	0.20	0.00			snow loading
	41							1.00	COND	NIEVE
W	Q	1.60	0.00	1.00	0.60	0.50	0.00			wind loading
	31							1.00	A10	VIENTO+
	32							1.00	A10	VIENTO-

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

Generated Load Cases

Number	Combination	Designation
1101	103	MAXR-MX QUAD RARA
1102	103	MINR-MX QUAD RARA
1103	103	MAXR-MY QUAD RARA
1104	103	MINR-MY QUAD RARA
1105	103	MAXR-MXY QUAD RARA
1106	103	MINR-MXY QUAD RARA
1101	103	MAXR-MX QUAK RARA
1102	103	MINR-MX QUAK RARA
1103	103	MAXR-MY QUAK RARA
1104	103	MINR-MY QUAK RARA
1105	103	MAXR-MXY QUAK RARA
1106	103	MINR-MXY QUAK RARA
1107	103	MAXR-VX QUAD RARA
1108	103	MINR-VX QUAD RARA

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Generated Load Cases

Number	Combination	Designation
1107	103	MAXR-VX QUAK RARA
1108	103	MINR-VX QUAK RARA
1109	103	MAXR-VY QUAD RARA
1110	103	MINR-VY QUAD RARA
1109	103	MAXR-VY QUAK RARA
1110	103	MINR-VY QUAK RARA
1111	103	MAXR-NXX QUAD RARA
1112	103	MINR-NXX QUAD RARA
1113	103	MAXR-NYY QUAD RARA
1114	103	MINR-NYY QUAD RARA
1115	103	MAXR-NXY QUAD RARA
1116	103	MINR-NXY QUAD RARA
1111	103	MAXR-NXX QUAK RARA
1112	103	MINR-NXX QUAK RARA
1113	103	MAXR-NYY QUAK RARA
1114	103	MINR-NYY QUAK RARA
1115	103	MAXR-NXY QUAK RARA
1116	103	MINR-NXY QUAK RARA
1117	103	MAXR-P QUAD RARA
1118	103	MINR-P QUAD RARA
1171	103	MAXR-SXO QUAD RARA
1172	103	MINR-SXO QUAD RARA
1173	103	MAXR-SYO QUAD RARA
1174	103	MINR-SYO QUAD RARA
1175	103	MAXRSXYO QUAD RARA
1176	103	MINRSXYO QUAD RARA
1177	103	MAXR-SXU QUAD RARA
1178	103	MINR-SXU QUAD RARA
1179	103	MAXR-SYU QUAD RARA
1180	103	MINR-SYU QUAD RARA
1181	103	MAXRSXYU QUAD RARA
1182	103	MINRSXYU QUAD RARA
1171	103	MAXR-SXO QUAK RARA
1172	103	MINR-SXO QUAK RARA
1173	103	MAXR-SYO QUAK RARA
1174	103	MINR-SYO QUAK RARA
1175	103	MAXRSXYO QUAK RARA
1176	103	MINRSXYO QUAK RARA
1177	103	MAXR-SXU QUAK RARA
1178	103	MINR-SXU QUAK RARA
1179	103	MAXR-SYU QUAK RARA
1180	103	MINR-SYU QUAK RARA
1181	103	MAXRSXYU QUAK RARA
1182	103	MINRSXYU QUAK RARA
1151	103	MAXR-PX NODE RARA
1152	103	MINR-PX NODE RARA
1153	103	MAXR-PY NODE RARA
1154	103	MINR-PY NODE RARA
1155	103	MAXR-PZ NODE RARA
1156	103	MINR-PZ NODE RARA
1171	103	MAXR-UX NODE RARA
1172	103	MINR-UX NODE RARA
1173	103	MAXR-UY NODE RARA
1174	103	MINR-UY NODE RARA
1175	103	MAXR-UZ NODE RARA
1176	103	MINR-UZ NODE RARA
1121	103	MAXR-N BEAM RARA
1122	103	MINR-N BEAM RARA

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Generated Load Cases

Number	Combination	Designation
1129	103	MAXR-MY BEAM RARA
1130	103	MINR-MY BEAM RARA
1131	103	MAXR-MZ BEAM RARA
1132	103	MINR-MZ BEAM RARA
1127	103	MAXR-MT BEAM RARA
1128	103	MINR-MT BEAM RARA
1123	103	MAXR-VY BEAM RARA
1124	103	MINR-VY BEAM RARA
1125	103	MAXR-VZ BEAM RARA
1126	103	MINR-VZ BEAM RARA

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	50	0.000	2	AGUA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			21	SC_CUBIERTA	0.0	0.00	-2.75	0.00	56.53	0.00	0.00		...
			31	VIENTO+	0.0	0.00	0.00	0.00	0.00	-0.00	0.00		...
			32	VIENTO-	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			41	NIEVE	0.0	0.00	-0.55	0.00	11.31	0.00	0.00		...
			5010	SITUACION_O	0.0	0.00	-7.33	0.00	181.25	0.00	0.00		...
			5015	C+S A T DÍA	734.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5016	C+S A T DÍA	315.5	0.00	0.00	0.00	0.00	0.00	0.00		...
			5017	C+S A T DÍA	-86.5	0.00	0.00	0.00	0.00	0.00	0.00		...
			5020	CAPA_COMPRE	0.0	0.00	-2.75	0.00	56.53	0.00	0.00		...
			5030	CM_CUBIERTA	0.0	0.00	-9.63	0.00	197.84	0.00	0.00		...
			5035	C+S A T DÍA	84.2	0.00	0.00	0.00	0.00	0.00	0.00		...
			5036	C+S A T DÍA	-20.6	0.00	0.00	0.00	0.00	0.00	0.00		...
			5037	C+S A T DÍA	10.7	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 1037.4460*,			SumGF = 1037.4460			
LC	5015	5016	5017	5035	5036	5037	
FacGU	1.00	1.00	1.00	1.00	1.00	1.00	
FacGF	1.00	1.00	1.00	1.00	1.00	1.00	
Act	G: SumGU = 0.0000*,			SumGF = 0.0000			
LC	5010	5020	5030				
FacGU	1.00	1.00	1.00				
FacGF	1.00	1.00	1.00				
Act	L: SumQ1 = 0.0000*,			SumQI = 0.0000			
LC	21						
FacQ1	0.00						
FacQI	0.00						
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	2						
FacQ1	0.00						
FacQI	0.00						
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	41						
FacQ1	0.00						
FacQI	0.00						
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	31	32					
FacQ1	0.00	0.00					
FacQI	0.00	0.00					

Act	action
SumGU,SumGF	sums of the permanent loads acting unfavourable and favourable, * = decisive
SumQ1,SumQ2,SumQ3	sum of the variable loads for 1st, 2nd, 3rd leading variable action, * = decisive
SumQI	sum of the variable loads for accompanying variable actions, * =

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	decisive
LC	number of the load case
FacGU,FacGF	factors of the permanent loads acting unfavourable and favourable
FacQ1,FacQ2,FacQ3	factors of the variable loads for 1st, 2nd, 3rd leading variable action
FacQI	factors of the variable loads for accompanying variable actions
LCW	loadcase-wise consideration

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

LC number of the load case
Fact resulting factors, - = load case is not considered

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	50	0.000	1121	MAXR-N	1037.4	0.00	-19.72	-0.00	435.62	0.00	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41	1	0.000	2	AGUA	0.0	-7.38	0.00	0.00	0.00	-33.58	0.00		...
			21	SC_CUBIERTA	-75.0	0.07	0.00	0.00	0.00	0.30	0.00		...
			31	VIENTO+	0.0	0.27	0.00	0.00	0.00	1.21	0.00		...
			32	VIENTO-	0.0	-0.74	0.00	0.00	-0.00	-3.38	0.00		...
			41	NIEVE	-15.0	0.01	0.00	0.00	0.00	0.06	0.00		...
			5010	SITUACION_O	-259.1	-0.40	0.00	0.00	0.00	-1.83	0.00		...
			5015	C+S A T DÍA	0.0	1.25	0.00	0.00	-0.00	5.70	0.00		...
			5016	C+S A T DÍA	0.0	-0.48	0.00	0.00	0.00	-2.18	0.00		...
			5017	C+S A T DÍA	0.0	0.37	0.00	0.00	0.00	1.70	0.00		...
			5020	CAPA_COMPRE	-75.1	0.08	0.00	0.00	0.00	0.35	0.00		...
			5030	CM_CUBIERTA	-262.4	0.27	0.00	0.00	0.00	1.21	0.00		...
			5035	C+S A T DÍA	0.0	-0.62	0.00	0.00	-0.00	-2.81	0.00		...
			5036	C+S A T DÍA	0.0	0.26	0.00	0.00	0.00	1.17	0.00		...
			5037	C+S A T DÍA	0.0	-0.08	0.00	0.00	0.00	-0.37	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 0.0000*, SumGF = 0.0000					
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -596.5004*, SumGF = -596.5004					
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -74.9832*, SumQI = 0.0000					
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000, SumQI = 0.0000*					
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -15.0147, SumQI = -9.0088*					
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 0.0000, SumQI = 0.0000*					
LC	31	32				

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Determination of Sums and Leading Variable Action

FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41	1	0.000	1122	MINR-N	-680.5	-6.50	0.00	0.00	0.00	-29.58	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	49	0.600	2	AGUA	24.7	0.00	0.00	0.00	0.00	0.00	0.00	...
			21	SC_CUBIERTA	-4.6	0.00	4.76	0.00	56.53	0.00	0.00	...
			31	VIENTO+	-1.1	0.00	0.00	0.00	0.00	-0.00	0.00	...
			32	VIENTO-	2.7	0.00	0.00	0.00	0.00	0.00	0.00	...
			41	NIEVE	-0.9	0.00	0.95	0.00	11.31	0.00	0.00	...
			5010	SITUACION_O	-11.3	0.00	13.76	0.00	181.25	0.00	0.00	...
			5015	C+S A T DÍA	-3.8	0.00	0.00	0.00	0.00	0.00	0.00	...
			5016	C+S A T DÍA	-4.9	0.00	0.00	0.00	0.00	0.00	0.00	...
			5017	C+S A T DÍA	-2.6	0.00	0.00	0.00	0.00	0.00	0.00	...
			5020	CAPA_COMPRE	-4.6	0.00	4.76	0.00	56.53	0.00	0.00	...
			5030	CM_CUBIERTA	-16.2	0.00	16.64	0.00	197.84	0.00	0.00	...
			5035	C+S A T DÍA	3.0	0.00	0.00	0.00	0.00	0.00	0.00	...
			5036	C+S A T DÍA	-1.4	0.00	0.00	0.00	0.00	0.00	0.00	...
			5037	C+S A T DÍA	0.3	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0000*,			SumGF = -0.0000		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 435.6152*,			SumGF = 435.6152		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 56.5252*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 11.3050,			SumQI = 6.7830*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

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Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	49	0.600	1129	MAXR-MY	-20.5	0.00	40.48	-0.00	498.92	0.00	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	22	0.520	2	AGUA	39.4	0.00	-5.33	0.00	-31.96	0.00	0.00		...
			21	SC_CUBIERTA	-4.7	0.00	-41.93	0.00	-42.86	0.00	0.00		...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	1.16	0.00	0.00		...
			32	VIENTO-	4.2	0.00	-0.54	0.00	-3.24	-0.01	0.00		...
			41	NIEVE	-0.9	0.00	-8.39	0.00	-8.57	0.00	0.00		...
			5010	SITUACION_O	-10.4	0.00	-136.26	0.00	-141.38	0.00	0.00		...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	-10.00	-0.00	0.00		...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	-1.29	0.00	0.00		...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	-1.12	0.00	0.00		...
			5020	CAPA_COMPRE	-4.8	0.00	-41.92	0.00	-42.80	0.00	0.00		...
			5030	CM_CUBIERTA	-16.8	0.00	-146.71	0.00	-149.81	0.00	0.00		...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	-3.05	0.00	0.00		...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	1.25	0.00	0.00		...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	-0.39	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -14.5943*,			SumGF = -14.5943		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -334.0032*,			SumGF = -334.0032		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -42.8617*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -31.9606,			SumQI = -31.9606*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -8.5724,			SumQI = -5.1434*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -3.2370,			SumQI = -1.9422*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										

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Determined Factors

factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	22	0.520	1130	MINR-MY	-5.2	0.00	-379.93	0.01	-430.51	0.00	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	39	0.569	2	AGUA	0.5	-22.49	0.00	0.00	-0.00	44.99	0.00		...
			21	SC_CUBIERTA	-72.9	-3.64	0.00	0.00	0.00	11.12	0.00		...
			31	VIENTO+	0.2	0.63	0.00	0.00	0.00	-1.27	0.00		...
			32	VIENTO-	-0.3	-1.84	-0.00	-0.00	-0.00	3.73	0.00		...
			41	NIEVE	-14.6	-0.73	0.00	0.00	0.00	2.22	0.00		...
			5010	SITUACION_O	-237.5	-10.71	0.00	0.00	0.00	33.84	0.00		...
			5015	C+S A T DÍA	-17.8	8.15	0.00	0.00	-0.00	-18.66	0.00		...
			5016	C+S A T DÍA	13.2	-10.44	0.00	0.00	0.01	23.71	0.00		...
			5017	C+S A T DÍA	-1.2	0.10	0.00	0.00	0.00	-0.57	0.00		...
			5020	CAPA_COMPRE	-72.8	-3.61	0.00	0.00	0.00	11.08	0.00		...
			5030	CM_CUBIERTA	-254.9	-12.65	0.00	0.00	0.00	38.77	0.00		...
			5035	C+S A T DÍA	-1.8	-0.18	0.00	0.00	0.00	0.42	0.00		...
			5036	C+S A T DÍA	1.2	-0.25	0.00	0.00	0.00	0.58	0.00		...
			5037	C+S A T DÍA	-0.2	-0.07	0.00	0.00	0.00	0.15	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU =	5.6305*,	SumGF =	5.6305		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	83.6935*,	SumGF =	83.6935		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	11.1189*,	SumQI =	0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 =	44.9883,	SumQI =	44.9883*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 =	2.2238,	SumQI =	1.3343*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 =	3.7348,	SumQI =	2.2409*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	39	0.569	1131	MAXR-MZ	-653.3	-57.33	0.00	-0.00	0.00	149.01	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	23	0.649	2	AGUA	5.3	-17.29	0.00	0.00	0.00	31.76	0.00	...
			21	SC_CUBIERTA	-70.9	4.55	0.00	0.00	0.00	-13.51	0.00	...
			31	VIENTO+	-0.2	0.82	0.00	-0.00	0.00	-1.35	0.00	...
			32	VIENTO-	0.6	-1.91	-0.00	0.00	0.00	3.59	0.00	...
			41	NIEVE	-14.2	0.91	0.00	0.00	0.00	-2.70	0.00	...
			5010	SITUACION_O	-225.4	11.63	0.00	0.00	0.00	-39.26	0.00	...
			5015	C+S A T DÍA	-1.1	2.45	0.00	0.00	0.00	-6.47	0.00	...
			5016	C+S A T DÍA	-1.5	4.78	0.00	0.00	0.00	-8.92	0.00	...
			5017	C+S A T DÍA	-0.6	2.01	0.00	0.00	0.00	-3.76	0.00	...
			5020	CAPA_COMPRE	-70.9	4.56	0.00	0.00	0.00	-13.54	0.00	...
			5030	CM_CUBIERTA	-248.1	15.98	0.00	0.00	0.00	-47.41	0.00	...
			5035	C+S A T DÍA	0.7	-2.54	0.00	-0.00	0.00	4.18	0.00	...
			5036	C+S A T DÍA	-0.3	1.24	0.00	0.00	0.00	-2.06	0.00	...
			5037	C+S A T DÍA	0.1	-0.29	0.00	0.00	0.00	0.43	0.00	...

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -16.5981*,			SumGF = -16.5981		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -100.2142*,			SumGF = -100.2142		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -13.5082*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = -2.7016,			SumQI = -1.6210*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -1.3458,			SumQI = -0.8075*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	23	0.649	1132	MINR-MZ	-626.6	45.41	0.00	0.00	0.00	-132.75	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	12	0.000	2	AGUA	39.4	0.00	-5.33	0.00	0.00	-0.00	0.00		...
			21	SC_CUBIERTA	-4.7	0.00	33.15	0.00	0.00	0.00	0.00		...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	0.00	-0.00	0.00		...
			32	VIENTO-	4.2	0.00	-0.54	0.00	0.00	0.00	0.00		...
			41	NIEVE	-0.9	0.00	6.63	0.00	0.00	0.00	0.00		...
			5010	SITUACION_O	-10.4	0.00	104.60	0.00	0.00	0.00	0.00		...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	0.00	0.00	0.00		...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	0.00	0.00	0.00		...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	0.00	0.00	0.00		...
			5020	CAPA_COMPRE	-4.8	0.00	33.16	0.00	0.00	0.00	0.00		...
			5030	CM_CUBIERTA	-16.8	0.00	116.04	0.00	0.00	0.00	0.00		...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	0.00	0.00	0.00		...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	0.00	0.00	0.00		...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	0.00	0.00	0.00		...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0041*,		SumGF =	0.0041	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	0.0030*,		SumGF =	0.0030	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0003,		SumQI =	0.0000*	
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0001,		SumQI =	0.0000*	
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 =	0.0023*,		SumQI =	0.0014	
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	12	0.000	1127	MAXR-MT	-38.2	0.00	254.81	0.01	0.00	0.01	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	32	0.000	2	AGUA	0.5	-22.49	0.00	0.00	0.00	-57.34	0.00		...
			21	SC_CUBIERTA	-72.9	-3.64	0.00	0.00	0.00	-5.43	0.00		...
			31	VIENTO+	0.2	0.63	0.00	0.00	-0.00	1.59	0.00		...
			32	VIENTO-	-0.3	-1.84	-0.00	-0.00	0.00	-4.65	0.00		...
			41	NIEVE	-14.6	-0.73	0.00	0.00	0.00	-1.09	0.00		...
			5010	SITUACION_O	-255.7	-10.71	0.00	0.00	-0.00	-14.91	0.00		...
			5015	C+S A T DÍA	-17.8	8.15	0.00	0.00	0.00	18.42	0.00		...
			5016	C+S A T DÍA	13.2	-10.44	0.00	0.00	0.00	-23.77	0.00		...
			5017	C+S A T DÍA	-1.2	0.10	0.00	0.00	0.00	-0.13	0.00		...
			5020	CAPA_COMPRE	-72.8	-3.61	0.00	0.00	0.00	-5.36	0.00		...
			5030	CM_CUBIERTA	-254.9	-12.65	0.00	0.00	-0.00	-18.77	0.00		...
			5035	C+S A T DÍA	-1.8	-0.18	0.00	0.00	-0.01	-0.40	0.00		...
			5036	C+S A T DÍA	1.2	-0.25	0.00	0.00	0.00	-0.56	0.00		...
			5037	C+S A T DÍA	-0.2	-0.07	0.00	0.00	0.00	-0.14	0.00		...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0001*,		SumGF =	0.0001	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	-0.0001*,		SumGF =	-0.0001	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	-0.0004,		SumQI =	0.0000*	
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	-0.0001,		SumQI =	-0.0000*	
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 =	-0.0026*,		SumQI =	-0.0016	
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	32	0.000	1128	MINR-MT	-599.2	-31.94	0.00	-0.00	-0.01	-50.93	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	18	0.000	2	AGUA	5.3	-17.29	0.00	0.00	-0.00	-35.55	0.00		...
			21	SC_CUBIERTA	-70.9	4.55	0.00	0.00	0.00	4.19	0.00		...
			31	VIENTO+	-0.2	0.82	0.00	-0.00	-0.00	1.86	0.00		...
			32	VIENTO-	0.6	-1.91	-0.00	0.00	0.01	-3.87	0.00		...
			41	NIEVE	-14.2	0.91	0.00	0.00	0.00	0.84	0.00		...
			5010	SITUACION_O	-240.9	11.63	0.00	0.00	0.00	6.03	0.00		...
			5015	C+S A T DÍA	-1.1	2.45	0.00	0.00	0.00	3.06	0.00		...
			5016	C+S A T DÍA	-1.5	4.78	0.00	0.00	0.00	9.68	0.00		...
			5017	C+S A T DÍA	-0.6	2.01	0.00	0.00	0.00	4.08	0.00		...
			5020	CAPA_COMPRE	-70.9	4.56	0.00	0.00	0.00	4.22	0.00		...
			5030	CM_CUBIERTA	-248.1	15.98	0.00	0.00	0.00	14.79	0.00		...
			5035	C+S A T DÍA	0.7	-2.54	0.00	-0.00	0.00	-5.71	0.00		...
			5036	C+S A T DÍA	-0.3	1.24	0.00	0.00	0.00	2.76	0.00		...
			5037	C+S A T DÍA	0.1	-0.29	0.00	0.00	0.00	-0.68	0.00		...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	7.6544*,		SumGF =	7.6544	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	32.1749*,		SumGF =	32.1749	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	4.5459*,		SumQI =	0.0000	
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.9092,		SumQI =	0.5455*	
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 =	0.8237,		SumQI =	0.4942*	
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	18	0.000	1123	MAXR-VY	-642.2	45.41	0.00	0.00	0.00	44.06	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	33	0.000	2	AGUA	0.5	-22.49	0.00	0.00	0.00	-44.55	0.00	...
			21	SC_CUBIERTA	-72.9	-3.64	0.00	0.00	0.00	-3.36	0.00	...
			31	VIENTO+	0.2	0.63	0.00	0.00	-0.00	1.23	0.00	...
			32	VIENTO-	-0.3	-1.84	-0.00	-0.00	0.00	-3.60	0.00	...
			41	NIEVE	-14.6	-0.73	0.00	0.00	0.00	-0.67	0.00	...
			5010	SITUACION_O	-253.4	-10.71	0.00	0.00	-0.00	-8.81	0.00	...
			5015	C+S A T DÍA	-17.8	8.15	0.00	0.00	-0.00	13.79	0.00	...
			5016	C+S A T DÍA	13.2	-10.44	0.00	0.00	0.00	-17.84	0.00	...
			5017	C+S A T DÍA	-1.2	0.10	0.00	0.00	0.00	-0.18	0.00	...
			5020	CAPA_COMPRE	-72.8	-3.61	0.00	0.00	0.00	-3.31	0.00	...
			5030	CM_CUBIERTA	-254.9	-12.65	0.00	0.00	-0.00	-11.58	0.00	...
			5035	C+S A T DÍA	-1.8	-0.18	0.00	0.00	-0.01	-0.30	0.00	...
			5036	C+S A T DÍA	1.2	-0.25	0.00	0.00	0.00	-0.42	0.00	...
			5037	C+S A T DÍA	-0.2	-0.07	0.00	0.00	0.00	-0.11	0.00	...

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -2.6846*,			SumGF = -2.6846		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -26.9754*,			SumGF = -26.9754		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -3.6377*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -22.4890,			SumQI = -22.4890*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.7275,			SumQI = -0.4365*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -1.8425,			SumQI = -1.1055*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	33	0.000	1124	MINR-VY	-669.2	-57.33	0.00	-0.00	-0.01	-79.23	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	34	0.000	2	AGUA	17.3	0.00	-5.29	0.00	31.76	0.00	0.00		...
			21	SC_CUBIERTA	-4.5	0.00	41.71	0.00	-41.56	0.00	0.00		...
			31	VIENTO+	-0.8	0.00	0.22	0.00	-1.35	0.00	0.00		...
			32	VIENTO-	1.9	-0.00	-0.60	-0.00	3.59	-0.00	0.00		...
			41	NIEVE	-0.9	0.00	8.34	0.00	-8.31	0.00	0.00		...
			5010	SITUACION_O	-11.6	0.00	133.90	0.00	-127.19	-0.00	0.00		...
			5015	C+S A T DÍA	-2.4	0.00	1.08	0.00	-6.47	0.00	0.00		...
			5016	C+S A T DÍA	-4.8	0.00	1.49	0.00	-8.92	-0.00	0.00		...
			5017	C+S A T DÍA	-2.0	0.00	0.63	0.00	-3.76	0.00	0.00		...
			5020	CAPA_COMPRE	-4.6	0.00	41.72	0.00	-41.60	0.00	0.00		...
			5030	CM_CUBIERTA	-16.0	0.00	146.01	0.00	-145.60	-0.00	0.00		...
			5035	C+S A T DÍA	2.5	0.00	-0.70	-0.00	4.18	0.00	0.00		...
			5036	C+S A T DÍA	-1.2	0.00	0.34	0.00	-2.06	0.00	0.00		...
			5037	C+S A T DÍA	0.3	0.00	-0.07	0.00	0.43	0.00	0.00		...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	2.7663*,		SumGF =	2.7663	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	321.6320*,		SumGF =	321.6320	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	41.7118*,		SumQI =	0.0000	
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	8.3424,		SumQI =	5.0054*	
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 =	0.2243,		SumQI =	0.1346*	
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42:	34	0.000	1125	MAXR-VZ	-45.4	0.00	371.25	0.00	-378.35	-0.00	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42:	22	0.520	2	AGUA	39.4	0.00	-5.33	0.00	-31.96	0.00	0.00	...
			21	SC_CUBIERTA	-4.7	0.00	-41.93	0.00	-42.86	0.00	0.00	...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	1.16	0.00	0.00	...
			32	VIENTO-	4.2	0.00	-0.54	0.00	-3.24	-0.01	0.00	...
			41	NIEVE	-0.9	0.00	-8.39	0.00	-8.57	0.00	0.00	...
			5010	SITUACION_O	-10.4	0.00	-136.26	0.00	-141.38	0.00	0.00	...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	-10.00	-0.00	0.00	...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	-1.29	0.00	0.00	...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	-1.12	0.00	0.00	...
			5020	CAPA_COMPRE	-4.8	0.00	-41.92	0.00	-42.80	0.00	0.00	...
			5030	CM_CUBIERTA	-16.8	0.00	-146.71	0.00	-149.81	0.00	0.00	...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	-3.05	0.00	0.00	...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	1.25	0.00	0.00	...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	-0.39	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -2.4324*,			SumGF = -2.4324		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -324.8898*,			SumGF = -324.8898		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -41.9272*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -5.3268,			SumQI = -5.3268*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -8.3854,			SumQI = -5.0313*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -0.5395,			SumQI = -0.3237*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	22	0.520	1126	MINR-VZ	-5.2	0.00	-379.93	0.01	-430.51	0.00	0.00	...

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	2	AGUA	37.95	32.43	0.37	66.97	0.11	106.99	103.90
		21	SC_CUBIERTA	34.51	25.62	-0.02	119.53	0.96	-1.28	-2.45
		31	VIENTO+	-0.40	-1.22	0.06	-2.01	-0.01	-1.08	0.95
		32	VIENTO-	1.60	3.29	-0.06	5.66	0.01	2.35	-0.50
		41	NIEVE	6.90	5.12	-0.00	23.91	0.19	-0.26	-0.49
		5010	SITUACION_O	108.76	101.72	-0.11	415.49	3.35	-20.26	-0.80
		5015	C+S A T DÍA	-42.81	8.68	-0.16	12.91	0.20	-205.67	-238.84
		5016	C+S A T DÍA	52.28	-6.71	0.19	-0.83	-0.13	-247.55	-162.48
		5017	C+S A T DÍA	1.46	-0.42	0.01	3.57	0.02	691.66	658.60
		5020	CAPA_COMPRE	34.44	25.90	-0.02	119.34	0.96	-7.00	-1.05
		5030	CM_CUBIERTA	120.56	90.63	-0.08	417.70	3.35	-24.39	-3.59
		5035	C+S A T DÍA	0.59	12.83	-0.01	5.24	0.04	-299.67	-307.12
		5036	C+S A T DÍA	1.52	-5.75	0.01	-2.04	-0.02	161.48	166.51
		5037	C+S A T DÍA	0.17	1.84	0.00	0.64	0.00	-28.79	-30.01

Determination of Sums and Leading Variable Action

Act	C: SumGU = 13.2174*,			SumGF = 13.2174		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 263.7581*,			SumGF = 263.7581		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 34.5115*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 37.9453,			SumQI = 37.9453*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 6.9023,			SumQI = 4.1414*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 1.6009,			SumQI = 0.9605*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	1101	MAXR-MX	354.53	291.82	0.14	1176.26	8.96	126.76	182.08

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204779	2	AGUA	-368.92	26.75	-82.89	943.96	309.69	1355.61	556.18
		21	SC_CUBIERTA	-8.71	-0.56	0.05	0.51	-0.80	23.65	6.99
		31	VIENTO+	-21.35	0.39	0.70	16.60	-0.65	47.51	6.14
		32	VIENTO-	20.57	2.30	-5.60	11.49	13.61	-35.56	5.06
		41	NIEVE	-1.74	-0.11	0.01	0.10	-0.16	4.73	1.40
		5010	SITUACION_O	-1.21	33.92	-46.48	-143.18	40.58	-120.16	-87.60
		5015	C+S A T DÍA	-297.77	-65.31	66.48	240.84	-170.02	-334.10	-284.68
		5016	C+S A T DÍA	254.42	66.77	-65.88	-293.60	108.37	144.71	205.60
		5017	C+S A T DÍA	26.62	-3.66	-1.02	66.24	44.02	298.57	97.74
		5020	CAPA_COMPRE	-5.84	1.88	-3.66	-32.92	1.03	-24.72	-13.83
		5030	CM_CUBIERTA	-20.40	6.20	-12.66	-115.52	3.63	-87.09	-48.34
		5035	C+S A T DÍA	-32.96	25.72	-42.04	-48.40	-26.11	-316.90	-152.80
		5036	C+S A T DÍA	17.30	-7.25	13.23	16.81	13.43	118.70	60.50
		5037	C+S A T DÍA	-2.80	2.07	-4.42	-11.33	-2.64	-21.23	-11.93

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -35.2008*,			SumGF = -35.2008		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -27.4509*,			SumGF = -27.4509		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -8.7056*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -368.9204,			SumQI = -368.9204*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -1.7413,			SumQI = -1.0448*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -21.3523,			SumQI = -12.8114*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204779	1102	MINR-MX	-454.13	86.71	-178.86	633.45	320.71	1068.37	332.37

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	2	AGUA	37.95	32.43	0.37	66.97	0.11	106.99	103.90
		21	SC_CUBIERTA	34.51	25.62	-0.02	119.53	0.96	-1.28	-2.45
		31	VIENTO+	-0.40	-1.22	0.06	-2.01	-0.01	-1.08	0.95
		32	VIENTO-	1.60	3.29	-0.06	5.66	0.01	2.35	-0.50
		41	NIEVE	6.90	5.12	-0.00	23.91	0.19	-0.26	-0.49
		5010	SITUACION_O	108.76	101.72	-0.11	415.49	3.35	-20.26	-0.80
		5015	C+S A T DÍA	-42.81	8.68	-0.16	12.91	0.20	-205.67	-238.84
		5016	C+S A T DÍA	52.28	-6.71	0.19	-0.83	-0.13	-247.55	-162.48
		5017	C+S A T DÍA	1.46	-0.42	0.01	3.57	0.02	691.66	658.60
		5020	CAPA_COMPRE	34.44	25.90	-0.02	119.34	0.96	-7.00	-1.05
		5030	CM_CUBIERTA	120.56	90.63	-0.08	417.70	3.35	-24.39	-3.59
		5035	C+S A T DÍA	0.59	12.83	-0.01	5.24	0.04	-299.67	-307.12
		5036	C+S A T DÍA	1.52	-5.75	0.01	-2.04	-0.02	161.48	166.51
		5037	C+S A T DÍA	0.17	1.84	0.00	0.64	0.00	-28.79	-30.01

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 10.4718*,			SumGF = 10.4718		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 218.2447*,			SumGF = 218.2447		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 25.6235*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 32.4328,			SumQI = 32.4328*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 5.1247,			SumQI = 3.0748*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 3.2940,			SumQI = 1.9764*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	1103	MAXR-MY	354.53	291.82	0.14	1176.26	8.96	126.76	182.08

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1107801	2	AGUA	-106.83	-209.61	122.22	817.34	-630.68	-580.33	-172.71
		21	SC_CUBIERTA	-2.12	-2.75	2.05	1.47	0.70	-23.54	-28.17
		31	VIENTO+	0.23	3.59	-1.24	-14.35	12.86	-4.92	-3.62
		32	VIENTO-	-2.73	-12.77	5.41	49.37	-43.20	-5.54	-4.21
		41	NIEVE	-0.42	-0.55	0.41	0.29	0.14	-4.71	-5.63
		5010	SITUACION_O	-20.33	-24.32	18.37	-29.79	17.37	165.08	-44.40
		5015	C+S A T DÍA	-169.42	-70.77	80.91	36.72	-5.33	885.66	404.38
		5016	C+S A T DÍA	143.91	60.28	-68.25	-33.95	1.06	-467.53	-341.44
		5017	C+S A T DÍA	18.70	8.37	-8.91	12.40	-4.74	-446.57	-83.31
		5020	CAPA_COMPRE	-3.70	-2.46	2.41	-18.97	14.33	4.87	-20.72
		5030	CM_CUBIERTA	-12.97	-8.58	8.40	-66.86	50.57	17.40	-72.54
		5035	C+S A T DÍA	-27.52	-37.25	24.66	50.44	-54.19	146.15	-89.04
		5036	C+S A T DÍA	13.04	14.70	-10.27	-15.43	18.15	-60.21	27.38
		5037	C+S A T DÍA	-0.17	-2.81	1.34	1.80	-4.27	-34.76	-37.19

Determination of Sums and Leading Variable Action

Act	C: SumGU = -27.4885*,			SumGF = -27.4885		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -35.3574*,			SumGF = -35.3574		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -2.7489,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -209.6132,			SumQI = -209.6132*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.5499,			SumQI = -0.3300*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -12.7660*,			SumQI = -7.6596		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1107801	1104	MINR-MY	-168.28	-285.56	176.53	803.25	-640.84	-378.61	-437.18

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204615	2	AGUA	-356.28	24.30	94.24	-887.14	281.48	1257.89	515.55
		21	SC_CUBIERTA	4.09	4.28	4.13	-17.34	8.98	-3.06	1.28
		31	VIENTO+	29.16	1.03	-0.72	32.05	-3.29	-74.93	-17.46
		32	VIENTO-	1.33	2.61	4.15	-18.27	6.67	1.93	4.04
		41	NIEVE	0.82	0.86	0.83	-3.47	1.80	-0.61	0.26
		5010	SITUACION_O	30.69	43.79	54.27	17.87	62.17	-45.88	-52.98
		5015	C+S A T DÍA	-328.72	-76.49	-64.59	-116.26	-206.47	-418.26	-275.40
		5016	C+S A T DÍA	280.97	78.07	67.94	159.75	133.77	213.32	198.89
		5017	C+S A T DÍA	30.56	-4.01	-0.45	-22.84	52.48	313.59	85.14
		5020	CAPA_COMPRE	7.83	6.37	6.92	-12.19	11.51	4.65	-2.60
		5030	CM_CUBIERTA	27.34	21.84	24.03	-42.75	40.33	15.36	-9.13
		5035	C+S A T DÍA	6.33	36.84	51.77	-92.20	0.29	-244.80	-105.68
		5036	C+S A T DÍA	4.14	-11.21	-16.91	36.45	5.34	93.37	43.48
		5037	C+S A T DÍA	2.10	3.57	5.53	-6.24	0.60	-10.15	-7.81

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	43.3044*,		SumGF =	43.3044	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	85.2171*,		SumGF =	85.2171	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	4.1321*,		SumQI =	0.0000	
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 =	94.2366,		SumQI =	94.2366*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 =	0.8265,		SumQI =	0.4959*	
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 =	4.1518,		SumQI =	2.4911*	
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204615	1105	MAXR-MXY	-289.66	129.43	229.88	-995.92	395.58	1176.83	393.29

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204356	2	AGUA	-356.76	27.46	-78.25	-922.72	-294.51	1291.44	552.94
		21	SC_CUBIERTA	4.23	4.38	-4.14	-17.40	-9.00	-2.82	1.38
		31	VIENTO+	33.63	8.63	-11.66	-17.42	-14.71	-71.29	-5.67
		32	VIENTO-	-3.86	-7.01	10.31	47.32	17.45	-2.75	-10.81
		41	NIEVE	0.85	0.88	-0.83	-3.48	-1.80	-0.56	0.28
		5010	SITUACION_O	32.02	45.49	-54.81	21.86	-66.05	-50.67	-55.88
		5015	C+S A T DÍA	-337.72	-77.51	69.63	-127.53	212.75	-419.69	-300.14
		5016	C+S A T DÍA	288.31	79.12	-71.85	169.15	-138.72	223.25	220.60
		5017	C+S A T DÍA	31.52	-4.15	-0.51	-21.46	-53.59	310.06	89.12
		5020	CAPA_COMPRE	8.02	6.52	-6.94	-11.82	-11.47	4.33	-2.54
		5030	CM_CUBIERTA	28.10	22.43	-24.15	-41.25	-40.26	14.25	-8.93
		5035	C+S A T DÍA	7.07	38.23	-50.99	-91.49	1.00	-252.09	-110.65
		5036	C+S A T DÍA	4.00	-11.69	16.55	36.35	-6.08	96.00	45.71
		5037	C+S A T DÍA	2.22	3.73	-5.51	-6.07	-0.52	-10.66	-7.76

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -42.6701*,			SumGF = -42.6701		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -85.8985*,			SumGF = -85.8985		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -4.1372,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -78.2452,			SumQI = -78.2452*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.8276,			SumQI = -0.4965*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -11.6642*,			SumQI = -6.9985		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	1.00	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204356	1106	MINR-MXY	-259.07	138.78	-218.97	-1014.49	-413.24	1134.60	416.99

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 139.9710*,			SumGF = 139.9710		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 318.2646*,			SumGF = 318.2646		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 28.6919*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 1554.8691,			SumQI = 1554.8691*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 5.7392,			SumQI = 3.4435*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 26.9777,			SumQI = 16.1866*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

RARA

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	1107	MAXR-VX	-82.78	-20.83	-12.78	2061.43	923.18	3187.88	583.14

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304424	2	AGUA	-58.73	-23.31	9.60	-1470.77	407.24	2225.63	77.01
		21	SC_CUBIERTA	-1.11	-0.07	0.16	-25.77	6.19	46.90	6.62
		31	VIENTO+	0.97	0.62	-0.16	24.48	-7.53	-6.77	3.80
		32	VIENTO-	-3.51	-1.86	0.57	-86.60	25.36	61.87	-6.94
		41	NIEVE	-0.22	-0.01	0.03	-5.16	1.24	9.38	1.32
		5010	SITUACION_O	-7.29	-1.70	1.16	-163.39	42.80	206.49	15.09
		5015	C+S A T DÍA	8.30	2.67	-1.50	94.21	9.93	350.32	77.78
		5016	C+S A T DÍA	-8.91	-2.88	1.62	-107.54	-8.65	-324.04	-79.67
		5017	C+S A T DÍA	1.77	0.54	-0.33	24.71	-1.13	16.37	13.81
		5020	CAPA_COMPRE	-1.25	-0.12	0.19	-28.45	6.93	45.14	6.10
		5030	CM_CUBIERTA	-4.32	-0.37	0.64	-97.76	23.99	157.37	20.99
		5035	C+S A T DÍA	-8.52	-2.29	1.43	-185.19	45.40	248.36	9.46
		5036	C+S A T DÍA	3.26	0.86	-0.55	71.25	-18.40	-100.23	-4.06
		5037	C+S A T DÍA	-1.33	-0.37	0.23	-27.24	6.38	27.95	-0.04

Determination of Sums and Leading Variable Action

Act	C: SumGU = -129.7990*,			SumGF = -129.7990		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -289.6043*,			SumGF = -289.6043		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -25.7718,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -1470.768,			SumQI = -1470.768*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -5.1551,			SumQI = -3.0931*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -86.5982*,			SumQI = -51.9589		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304424	1108	MINR-VX	-80.67	-28.85	13.09	-1979.86	540.60	2920.86	130.31

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2204964	2	AGUA	-92.17	-2.95	39.16	-1439.06	2109.73	1214.26	2260.61
		21	SC_CUBIERTA	-1.55	0.31	0.43	-22.40	22.32	38.25	117.98
		31	VIENTO+	1.61	0.23	-0.81	14.41	-36.07	9.84	5.29
		32	VIENTO-	-5.64	-0.60	2.66	-61.55	123.75	4.64	41.95
		41	NIEVE	-0.31	0.06	0.09	-4.48	4.47	7.65	23.60
		5010	SITUACION_O	-10.70	0.24	4.02	-120.90	176.83	137.21	451.47
		5015	C+S A T DÍA	9.18	6.90	-6.94	-245.01	29.08	221.26	-814.60
		5016	C+S A T DÍA	-10.42	-6.68	7.10	205.82	-11.67	-208.89	704.82
		5017	C+S A T DÍA	2.36	0.86	-1.08	9.42	-4.53	7.87	-9.33
		5020	CAPA_COMPRE	-1.76	0.27	0.53	-22.25	24.01	36.11	119.68
		5030	CM_CUBIERTA	-6.02	0.96	1.76	-77.28	82.56	126.13	417.02
		5035	C+S A T DÍA	-12.63	-0.57	5.10	-150.54	218.83	165.58	443.18
		5036	C+S A T DÍA	4.70	0.23	-1.89	60.15	-80.29	-64.15	-145.50
		5037	C+S A T DÍA	-1.85	-0.23	0.79	-15.38	24.82	16.47	55.17

Determination of Sums and Leading Variable Action

Act	C: SumGU = 176.2350*,			SumGF = 176.2350		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 283.4033*,			SumGF = 283.4033		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 22.3213,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 2109.7283,			SumQI = 2109.7283*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 4.4652,			SumQI = 2.6791*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 123.7506*,			SumQI = 74.2504		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2204964	1109	MAXR-VY	-125.14	-1.52	51.26	-1859.27	2695.80	1661.07	3538.64

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2200564	2	AGUA	43.30	-3.52	-42.05	1120.77	-2109.30	956.60	2223.62
		21	SC_CUBIERTA	0.56	-0.17	-0.63	17.34	-22.72	31.67	117.97
		31	VIENTO+	-2.20	0.03	1.97	-29.64	92.07	17.84	12.87
		32	VIENTO-	0.45	-0.01	-0.48	15.45	-22.40	22.45	47.68
		41	NIEVE	0.11	-0.03	-0.13	3.47	-4.55	6.33	23.59
		5010	SITUACION_O	4.62	-0.18	-4.74	93.53	-177.42	113.02	445.28
		5015	C+S A T DÍA	-5.09	-6.61	5.73	174.55	-15.64	146.72	-804.35
		5016	C+S A T DÍA	5.59	6.46	-6.06	-147.03	3.91	-140.61	699.88
		5017	C+S A T DÍA	-1.19	-0.90	1.14	-7.22	4.46	8.49	-8.98
		5020	CAPA_COMPRE	0.66	-0.13	-0.73	17.24	-24.12	29.93	118.93
		5030	CM_CUBIERTA	2.27	-0.47	-2.50	59.69	-83.61	104.82	416.06
		5035	C+S A T DÍA	5.56	0.47	-5.71	116.11	-216.41	132.80	439.34
		5036	C+S A T DÍA	-2.06	-0.16	2.12	-46.08	80.02	-51.49	-145.13
		5037	C+S A T DÍA	0.86	0.23	-0.86	11.92	-24.31	13.01	53.84

Determination of Sums and Leading Variable Action

Act	C: SumGU = -167.9768*,			SumGF = -167.9768		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -285.1572*,			SumGF = -285.1572		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -22.7230*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -2109.299,			SumQI = -2109.299*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -4.5452,			SumQI = -2.7271*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -22.4023,			SumQI = -13.4414*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2200564	1110	MINR-VY	55.40	-5.01	-54.65	1422.16	-2601.32	1362.21	3599.22

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 228.3769*,			SumGF = 228.3769		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 434.7367*,			SumGF = 434.7367		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 48.8989*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 2407.5496,			SumQI = 2407.5496*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 9.7811,			SumQI = 5.8687*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 104.0833,			SumQI = 62.4500*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	1111	MAXR-NXX	-82.78	-20.83	-12.78	2061.43	923.18	3187.88	583.14

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3205522	2	AGUA	-0.08	0.00	-0.00	0.57	-0.07	-28.68	0.00
		21	SC_CUBIERTA	-0.12	0.02	-0.05	15.24	-7.35	-160.47	-176.15
		31	VIENTO+	-0.04	0.00	0.00	-0.00	-0.01	-5.46	-0.01
		32	VIENTO-	0.04	0.00	0.00	-0.02	0.01	3.58	0.01
		41	NIEVE	-0.02	0.00	-0.01	3.05	-1.47	-32.10	-35.23
		5010	SITUACION_O	-0.34	0.05	-0.14	42.86	-20.63	-444.92	-494.77
		5015	C+S A T DÍA	-0.49	-0.00	-0.01	2.43	0.22	110.51	-1.06
		5016	C+S A T DÍA	0.28	0.00	0.01	-2.42	-0.19	-72.83	0.84
		5017	C+S A T DÍA	0.21	0.00	-0.00	0.49	0.00	-31.41	0.04
		5020	CAPA_COMPRE	-0.12	0.02	-0.05	15.24	-7.35	-160.72	-176.16
		5030	CM_CUBIERTA	-0.42	0.06	-0.17	53.35	-25.71	-562.48	-616.54
		5035	C+S A T DÍA	-0.04	0.00	-0.00	0.24	-0.02	-22.90	-0.03
		5036	C+S A T DÍA	0.07	0.00	0.00	-0.18	-0.00	4.87	-0.00
		5037	C+S A T DÍA	-0.02	0.00	0.00	0.03	-0.00	-2.82	0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -14.5681*,			SumGF = -14.5681		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -1168.125*,			SumGF = -1168.125		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -160.4719*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -28.6789,			SumQI = -28.6789*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -32.0954,			SumQI = -19.2572*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -5.4581,			SumQI = -3.2749*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3205522	1112	MINR-NXX	-1.11	0.15	-0.41	129.67	-61.99	-1394.38	-1484.98

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2205387	2	AGUA	-91.95	-0.92	38.27	-1447.38	2104.87	1223.91	2226.79
		21	SC_CUBIERTA	-1.52	0.34	0.40	-22.50	21.96	38.62	116.84
		31	VIENTO+	1.05	0.65	-0.93	-19.48	-28.62	105.18	144.86
		32	VIENTO-	2.82	-0.14	-1.01	52.12	-58.07	-74.52	-124.03
		41	NIEVE	-0.30	0.07	0.08	-4.50	4.39	7.72	23.37
		5010	SITUACION_O	-10.60	0.47	3.87	-121.22	175.71	137.11	443.58
		5015	C+S A T DÍA	9.09	6.75	-6.88	-243.70	23.42	226.86	-804.47
		5016	C+S A T DÍA	-10.24	-6.48	6.98	205.11	-8.44	-213.21	698.42
		5017	C+S A T DÍA	2.37	0.83	-1.07	9.38	-4.64	8.37	-7.66
		5020	CAPA_COMPRE	-1.73	0.32	0.50	-22.28	23.60	36.31	118.27
		5030	CM_CUBIERTA	-5.93	1.11	1.65	-77.39	81.14	126.87	412.13
		5035	C+S A T DÍA	-12.46	-0.28	4.91	-150.76	216.23	166.74	437.19
		5036	C+S A T DÍA	4.64	0.14	-1.83	60.23	-79.32	-64.57	-143.22
		5037	C+S A T DÍA	-1.83	-0.17	0.76	-15.41	24.53	16.56	54.39

Determination of Sums and Leading Variable Action

Act	C: SumGU = 234.6545*,			SumGF = 234.6545		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 973.9786*,			SumGF = 973.9786		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 116.8366*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 2226.7917,			SumQI = 2226.7917*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 23.3682,			SumQI = 14.0209*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 144.8621,			SumQI = 86.9173*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2205387	1113	MAXR-NYY	-119.72	2.53	47.04	-1840.30	2564.52	1771.29	3653.20

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	2	AGUA	3.41	0.06	-0.27	22.33	-1.99	99.96	-0.01
		21	SC_CUBIERTA	-0.19	0.09	0.02	-9.90	-19.81	-123.53	-416.96
		31	VIENTO+	0.03	0.00	-0.01	0.64	-0.07	-4.19	-0.00
		32	VIENTO-	-0.15	-0.00	0.02	-1.33	0.13	-3.10	0.00
		41	NIEVE	-0.04	0.02	0.00	-1.98	-3.96	-24.71	-83.39
		5010	SITUACION_O	-0.20	0.25	0.02	-25.65	-55.82	-333.23	-1171.14
		5015	C+S A T DÍA	-0.83	-0.00	-0.00	0.78	0.32	-23.73	-0.09
		5016	C+S A T DÍA	0.68	0.00	0.00	-0.74	-0.29	36.34	0.02
		5017	C+S A T DÍA	0.09	0.00	-0.00	0.37	0.00	-18.04	-0.04
		5020	CAPA_COMPRE	-0.18	0.09	0.02	-9.91	-19.81	-123.62	-416.99
		5030	CM_CUBIERTA	-0.65	0.31	0.06	-34.62	-69.35	-432.69	-1459.40
		5035	C+S A T DÍA	0.33	0.01	-0.04	3.52	-0.30	8.37	-0.06
		5036	C+S A T DÍA	-0.08	-0.00	0.02	-1.56	0.12	-4.42	-0.07
		5037	C+S A T DÍA	0.04	0.00	-0.01	0.58	-0.05	2.56	-0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.2451*,			SumGF = -0.2451		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -3047.532*,			SumGF = -3047.532		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -416.9583*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -0.0054,			SumQI = -0.0054*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -83.3917,			SumQI = -50.0350*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -0.0014,			SumQI = -0.0009*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

RARA

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	1114	MINR-NYY	2.42	0.81	-0.19	-55.60	-169.40	-929.38	-3514.78

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306073	2	AGUA	-13.17	7.50	-25.86	642.44	697.05	905.79	936.07
		21	SC_CUBIERTA	-0.38	0.30	-0.53	12.25	14.19	19.01	62.56
		31	VIENTO+	-0.53	0.45	-0.58	17.95	7.42	29.96	65.44
		32	VIENTO-	0.23	-0.32	-0.23	-1.22	17.84	-10.36	-63.81
		41	NIEVE	-0.08	0.06	-0.11	2.45	2.84	3.80	12.51
		5010	SITUACION_O	-1.99	1.53	-3.28	70.79	84.56	96.95	233.84
		5015	C+S A T DÍA	2.82	-2.52	3.04	-14.98	-44.35	-3.57	-348.81
		5016	C+S A T DÍA	-2.86	2.65	-3.33	20.70	46.15	2.44	322.16
		5017	C+S A T DÍA	0.53	-0.49	0.67	-12.44	-7.98	1.32	-34.79
		5020	CAPA_COMPRE	-0.42	0.31	-0.59	13.03	15.35	19.29	63.71
		5030	CM_CUBIERTA	-1.42	1.14	-2.06	45.07	53.77	67.39	222.77
		5035	C+S A T DÍA	-2.35	1.77	-3.74	83.72	86.80	108.21	224.33
		5036	C+S A T DÍA	0.87	-0.68	1.43	-32.92	-34.00	-43.74	-78.49
		5037	C+S A T DÍA	-0.38	0.28	-0.58	12.53	12.63	16.16	31.24

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 155.1663*,			SumGF = 155.1663		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 290.8997*,			SumGF = 290.8997		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 30.0998*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 1686.8730,			SumQI = 1686.8730*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 6.0209,			SumQI = 3.6125*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 58.6381,			SumQI = 35.1829*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

RARA

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306073	1115	MAXR-NXY	-19.11	12.10	-35.24	852.44	930.33	1209.52	1681.35

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106898	2	AGUA	-18.26	6.61	17.67	586.85	-289.24	1208.57	-205.92
		21	SC_CUBIERTA	-0.13	0.55	0.28	3.73	26.18	13.35	-68.87
		31	VIENTO+	1.09	0.38	-0.79	-31.02	42.08	-34.02	-8.33
		32	VIENTO-	-0.14	0.31	0.23	5.44	4.51	16.53	-8.04
		41	NIEVE	-0.03	0.11	0.06	0.75	5.24	2.67	-13.78
		5010	SITUACION_O	-1.46	2.54	2.16	45.88	70.90	86.94	-247.56
		5015	C+S A T DÍA	-0.55	-6.79	-3.21	-14.23	-325.41	182.78	966.86
		5016	C+S A T DÍA	0.25	6.81	3.44	16.90	300.35	-175.47	-901.88
		5017	C+S A T DÍA	0.09	-1.23	-0.70	-4.86	-29.01	24.11	82.83
		5020	CAPA_COMPRE	-0.18	0.60	0.33	5.16	26.32	13.46	-72.54
		5030	CM_CUBIERTA	-0.59	2.07	1.13	16.38	93.30	46.07	-254.11
		5035	C+S A T DÍA	-1.62	3.17	2.71	58.36	61.41	103.52	-214.96
		5036	C+S A T DÍA	0.63	-1.16	-1.02	-22.22	-17.72	-44.97	62.93
		5037	C+S A T DÍA	-0.26	0.53	0.44	8.86	9.82	13.90	-34.69

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -158.0088*,			SumGF = -158.0088		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -214.6952*,			SumGF = -214.6952		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -20.9978*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -1768.211,			SumQI = -1768.211*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -4.2001,			SumQI = -2.5200*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -25.3968,			SumQI = -15.2381*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

RARA

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106898	1116	MINR-NXY	-22.17	13.95	23.40	704.52	-67.25	1483.79	-901.01

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 8805.2148*,			SumGF = 8805.2148		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 19232.215*,			SumGF = 19232.215		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 1812.9563*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 92946.812,			SumQI = 92946.812*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 362.6426,			SumQI = 217.5856*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 2570.6816,			SumQI = 1542.4091*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	1171	MAXR-SXO	-82.78	-20.83	-12.78	2061.43	923.18	3187.88	583.14

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306931	2	AGUA	15.49	-8.24	5.63	390.35	383.12	-28.13	305.82
		21	SC_CUBIERTA	0.04	-0.07	0.04	10.84	6.38	-3.07	-22.63
		31	VIENTO+	-0.34	-0.20	0.03	18.97	10.74	-0.50	3.25
		32	VIENTO-	1.22	0.02	0.20	-13.98	-2.07	-0.12	3.22
		41	NIEVE	0.01	-0.01	0.01	2.17	1.28	-0.61	-4.53
		5010	SITUACION_O	1.34	-0.34	0.44	49.43	33.42	-10.64	-73.87
		5015	C+S A T DÍA	-2.80	-3.92	0.36	-20.19	45.30	2.97	620.77
		5016	C+S A T DÍA	2.95	3.78	-0.22	26.76	-42.11	-11.94	-607.84
		5017	C+S A T DÍA	-0.47	-0.58	-0.03	-8.64	3.97	13.94	96.70
		5020	CAPA_COMPRE	0.09	-0.05	0.05	11.04	6.09	-3.10	-24.57
		5030	CM_CUBIERTA	0.28	-0.22	0.17	38.34	21.96	-10.80	-86.09
		5035	C+S A T DÍA	1.63	-0.18	0.53	58.90	37.22	-13.22	-78.24
		5036	C+S A T DÍA	-0.58	0.14	-0.22	-22.01	-15.83	3.06	17.21
		5037	C+S A T DÍA	0.26	-0.01	0.08	7.99	4.94	0.14	-14.38

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -1047.381*,			SumGF = -1047.381		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -2001.291*,			SumGF = -2001.291		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -80.1123,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -15664.99,			SumQI = -15664.99*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -16.0277,			SumQI = -9.6166*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -1204.249*,			SumQI = -722.5492		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

RARA

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306931	1172	MINR-SXO	19.41	-9.60	6.99	519.29	476.79	-58.19	156.01

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106788	2	AGUA	-3.33	-16.23	-27.97	43.42	-183.06	612.11	2219.97
		21	SC_CUBIERTA	-0.12	-0.27	-0.55	0.43	-3.19	14.42	75.76
		31	VIENTO+	0.00	0.73	1.15	-3.82	4.57	-13.91	-32.58
		32	VIENTO-	-0.07	-0.18	-0.38	0.12	-3.79	9.45	38.38
		41	NIEVE	-0.02	-0.05	-0.11	0.09	-0.64	2.89	15.15
		5010	SITUACION_O	-0.50	-1.77	-3.56	5.30	-24.57	70.26	327.06
		5015	C+S A T DÍA	-0.08	1.08	4.71	-20.18	83.23	-12.32	-130.78
		5016	C+S A T DÍA	0.01	-1.25	-5.00	17.44	-85.22	12.24	152.21
		5017	C+S A T DÍA	0.08	0.31	0.99	-1.97	16.00	-1.73	-59.28
		5020	CAPA_COMPRE	-0.15	-0.33	-0.61	0.84	-4.34	14.79	77.28
		5030	CM_CUBIERTA	-0.44	-1.04	-2.14	2.24	-13.37	51.38	269.71
		5035	C+S A T DÍA	-0.57	-2.02	-4.24	5.90	-39.44	77.37	354.69
		5036	C+S A T DÍA	0.20	0.74	1.60	-1.62	12.30	-30.80	-135.81
		5037	C+S A T DÍA	-0.10	-0.32	-0.67	1.20	-7.09	11.47	48.72

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 4421.9854*,			SumGF = 4421.9854		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 11837.492*,			SumGF = 11837.492		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 1243.3344*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 44862.289,			SumQI = 44862.289*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 248.6822,			SumQI = 149.2093*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 676.5865,			SumQI = 405.9519*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

RARA

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106788	1173	MAXR-SYO	-5.05	-21.24	-37.73	53.11	-251.41	826.59	3231.64

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	2	AGUA	3.41	0.06	-0.27	22.33	-1.99	99.96	-0.01
		21	SC_CUBIERTA	-0.19	0.09	0.02	-9.90	-19.81	-123.53	-416.96
		31	VIENTO+	0.03	0.00	-0.01	0.64	-0.07	-4.19	-0.00
		32	VIENTO-	-0.15	-0.00	0.02	-1.33	0.13	-3.10	0.00
		41	NIEVE	-0.04	0.02	0.00	-1.98	-3.96	-24.71	-83.39
		5010	SITUACION_O	-0.20	0.25	0.02	-25.65	-55.82	-333.23	-1171.14
		5015	C+S A T DÍA	-0.83	-0.00	-0.00	0.78	0.32	-23.73	-0.09
		5016	C+S A T DÍA	0.68	0.00	0.00	-0.74	-0.29	36.34	0.02
		5017	C+S A T DÍA	0.09	0.00	-0.00	0.37	0.00	-18.04	-0.04
		5020	CAPA_COMPRE	-0.18	0.09	0.02	-9.91	-19.81	-123.62	-416.99
		5030	CM_CUBIERTA	-0.65	0.31	0.06	-34.62	-69.35	-432.69	-1459.40
		5035	C+S A T DÍA	0.33	0.01	-0.04	3.52	-0.30	8.37	-0.06
		5036	C+S A T DÍA	-0.08	-0.00	0.02	-1.56	0.12	-4.42	-0.07
		5037	C+S A T DÍA	0.04	0.00	-0.01	0.58	-0.05	2.56	-0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4.8415*,			SumGF = -4.8415		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -25433.16*,			SumGF = -25433.16		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -3479.416*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -24.8195,			SumQI = -24.8195*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -695.8831,			SumQI = -417.5299*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -0.8332,			SumQI = -0.4999*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	1174	MINR-SYO	2.42	0.81	-0.19	-55.60	-169.40	-929.38	-3514.78

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304489	2	AGUA	-13.42	-15.47	-28.99	-42.85	359.32	928.05	2355.83
		21	SC_CUBIERTA	-0.16	0.01	-0.49	3.26	30.22	6.44	-35.77
		31	VIENTO+	0.25	0.43	0.50	3.44	3.23	-10.77	-32.49
		32	VIENTO-	-0.84	-1.25	-1.77	-8.13	4.61	42.49	113.06
		41	NIEVE	-0.03	0.00	-0.10	0.65	6.04	1.29	-7.15
		5010	SITUACION_O	-1.21	-0.79	-3.40	5.98	129.26	52.88	-57.07
		5015	C+S A T DÍA	-0.24	-1.28	3.20	0.59	-324.15	188.90	1370.17
		5016	C+S A T DÍA	0.07	1.10	-3.56	2.30	314.26	-180.09	-1294.15
		5017	C+S A T DÍA	0.07	-0.16	0.74	-0.76	-45.12	24.16	146.15
		5020	CAPA_COMPRE	-0.18	-0.01	-0.56	3.06	32.65	6.15	-40.41
		5030	CM_CUBIERTA	-0.63	-0.05	-1.93	10.89	113.18	21.12	-141.59
		5035	C+S A T DÍA	-1.37	-0.86	-3.98	4.69	136.19	67.88	2.93
		5036	C+S A T DÍA	0.55	0.38	1.53	-1.55	-47.40	-30.98	-27.31
		5037	C+S A T DÍA	-0.20	-0.11	-0.62	0.56	22.37	8.55	-11.35

Determination of Sums and Leading Variable Action

Act	C: SumGU = 4553.8672*,			SumGF = 4553.8672		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 8251.6992*,			SumGF = 8251.6992		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 700.3542,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 50634.453,			SumQI = 50634.453*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 140.0955,			SumQI = 84.0573*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 2737.2930*,			SumQI = 1642.3759		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304489	1175	MAXRSXYO	-17.42	-18.51	-39.37	-24.83	698.78	1129.89	2411.97

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	2	AGUA	-13.94	-15.80	30.66	34.85	332.77	908.39	2332.98
		21	SC_CUBIERTA	-0.16	0.01	0.52	-3.80	31.38	6.64	-37.46
		31	VIENTO+	-0.13	0.27	0.55	-6.88	36.50	23.28	36.47
		32	VIENTO-	-0.39	-1.05	0.49	12.29	-39.08	-1.52	25.00
		41	NIEVE	-0.03	0.00	0.10	-0.76	6.28	1.33	-7.49
		5010	SITUACION_O	-1.23	-0.77	3.60	-8.11	132.01	52.58	-64.06
		5015	C+S A T DÍA	-0.29	-1.56	-3.43	2.70	-338.81	182.59	1387.64
		5016	C+S A T DÍA	0.11	1.36	3.80	-5.84	327.60	-173.07	-1308.98
		5017	C+S A T DÍA	0.05	-0.21	-0.78	0.97	-45.69	21.54	146.01
		5020	CAPA_COMPRE	-0.19	-0.01	0.60	-3.54	33.77	6.27	-42.32
		5030	CM_CUBIERTA	-0.63	-0.04	2.05	-12.75	117.36	21.63	-148.27
		5035	C+S A T DÍA	-1.40	-0.84	4.24	-6.45	137.80	68.04	-3.23
		5036	C+S A T DÍA	0.55	0.35	-1.61	2.38	-47.84	-30.88	-25.16
		5037	C+S A T DÍA	-0.21	-0.12	0.67	-0.66	22.61	8.51	-12.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -4810.858*,			SumGF = -4810.858		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -8659.397*,			SumGF = -8659.397		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -734.6514*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -52672.90,			SumQI = -52672.90*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -146.9561,			SumQI = -88.1737*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -1143.467,			SumQI = -686.0800*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	1176	MINRSXYO	-17.42	-17.46	40.71	-4.85	728.61	1087.00	2242.33

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3307102	2	AGUA	10.66	-4.20	2.80	-345.22	-87.06	312.43	692.25
		21	SC_CUBIERTA	0.15	0.31	-0.08	1.53	9.47	-8.21	-40.17
		31	VIENTO+	1.11	1.21	-0.08	0.12	45.20	-3.38	-47.80
		32	VIENTO-	-1.05	-1.87	0.26	-16.05	-66.14	19.11	94.20
		41	NIEVE	0.03	0.06	-0.02	0.31	1.89	-1.64	-8.03
		5010	SITUACION_O	1.24	0.60	0.06	-12.52	26.77	-1.19	-52.38
		5015	C+S A T DÍA	-2.78	-1.86	-0.55	-46.19	-117.64	-0.17	70.10
		5016	C+S A T DÍA	2.80	2.17	0.50	40.13	127.29	-15.97	-88.76
		5017	C+S A T DÍA	-0.29	-0.61	0.01	-4.18	-29.85	25.32	31.92
		5020	CAPA_COMPRE	0.18	0.34	-0.08	1.76	10.89	-8.47	-42.17
		5030	CM_CUBIERTA	0.60	1.21	-0.29	6.20	37.86	-29.85	-148.09
		5035	C+S A T DÍA	1.63	0.75	0.15	-16.70	38.41	-3.99	-50.33
		5036	C+S A T DÍA	-0.56	-0.24	-0.05	7.17	-13.10	0.57	17.40
		5037	C+S A T DÍA	0.23	0.13	0.02	-1.65	7.28	-0.13	-8.51

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 1175.3243*,			SumGF = 1175.3243		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 1620.4618*,			SumGF = 1620.4618		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 48.5642,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 15517.611,			SumQI = 15517.611*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 9.7200,			SumQI = 5.8320*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 1134.4629*,			SumQI = 680.6777		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	1.00	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3307102	1177	MAXR-SXU	14.84	-0.47	2.47	-370.89	47.19	274.18	368.80

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106753	2	AGUA	-108.13	-20.44	-23.67	331.20	421.25	-46.39	233.79
		21	SC_CUBIERTA	-2.61	0.12	-0.18	5.67	4.54	-2.49	4.37
		31	VIENTO+	3.47	1.41	1.51	-9.45	-15.27	-6.96	-11.13
		32	VIENTO-	-1.74	-0.11	-0.19	5.11	5.69	-2.60	2.41
		41	NIEVE	-0.52	0.02	-0.04	1.13	0.91	-0.50	0.87
		5010	SITUACION_O	-15.08	-0.91	-2.26	35.22	38.78	-11.46	25.23
		5015	C+S A T DÍA	21.98	2.99	6.69	15.09	25.83	-255.88	-235.81
		5016	C+S A T DÍA	-22.72	-2.77	-6.47	-15.61	-19.75	226.92	207.24
		5017	C+S A T DÍA	4.00	0.23	0.70	3.80	0.89	-6.89	-3.08
		5020	CAPA_COMPRE	-2.97	0.19	-0.23	5.31	5.01	-2.35	4.68
		5030	CM_CUBIERTA	-10.00	0.43	-0.77	20.01	17.28	-8.11	16.65
		5035	C+S A T DÍA	-17.92	-1.69	-3.05	38.76	46.89	-3.03	33.87
		5036	C+S A T DÍA	6.51	0.71	1.02	-16.70	-19.91	6.20	-8.42
		5037	C+S A T DÍA	-2.78	-0.22	-0.46	4.17	6.49	0.94	5.06

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -3667.303*,			SumGF = -3667.303		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -8976.645*,			SumGF = -8976.645		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -838.8163*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -34333.96,			SumQI = -34333.96*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -167.7765,			SumQI = -100.6659*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -565.9207,			SumQI = -339.5524*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106753	1178	MINR-SXU	-151.08	-21.41	-28.81	430.66	531.25	-104.41	285.52

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106787	2	AGUA	-11.93	7.78	-25.17	598.11	664.73	865.67	951.74
		21	SC_CUBIERTA	-0.34	0.29	-0.51	11.54	13.14	18.39	62.84
		31	VIENTO+	0.29	-0.13	1.01	-18.66	-32.31	-21.06	8.59
		32	VIENTO-	-0.21	0.17	-0.33	8.53	6.62	13.08	21.67
		41	NIEVE	-0.07	0.06	-0.10	2.31	2.63	3.68	12.57
		5010	SITUACION_O	-1.78	1.54	-3.15	66.54	79.81	93.37	234.27
		5015	C+S A T DÍA	2.54	-2.62	2.92	-18.56	-41.16	-6.71	-340.53
		5016	C+S A T DÍA	-2.57	2.76	-3.19	23.45	42.78	5.39	316.58
		5017	C+S A T DÍA	0.49	-0.52	0.65	-12.45	-7.97	0.88	-34.05
		5020	CAPA_COMPRE	-0.38	0.31	-0.55	12.43	14.14	18.81	64.04
		5030	CM_CUBIERTA	-1.26	1.13	-1.95	42.58	49.91	65.42	223.91
		5035	C+S A T DÍA	-2.11	1.81	-3.59	78.67	81.49	103.89	226.04
		5036	C+S A T DÍA	0.77	-0.67	1.37	-30.71	-32.41	-41.93	-79.35
		5037	C+S A T DÍA	-0.34	0.30	-0.55	11.79	11.71	15.67	31.32

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2606.1350*,			SumGF = 2606.1350		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 9726.0273*,			SumGF = 9726.0273		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 1104.8077*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 20068.488,			SumQI = 20068.488*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 220.9706,			SumQI = 132.5824*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 451.7419,			SumQI = 271.0452*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106787	1179	MAXR-SYU	-17.08	12.26	-33.97	789.89	881.73	1148.89	1677.35

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3107199	2	AGUA	-46.26	-39.46	6.74	1285.56	-270.52	2251.08	-422.49
		21	SC_CUBIERTA	-0.70	-0.41	0.09	4.44	18.62	43.58	-38.95
		31	VIENTO+	2.36	2.33	-0.35	-74.43	26.74	-21.66	10.52
		32	VIENTO-	-0.52	-0.28	0.08	10.87	1.20	39.01	-7.47
		41	NIEVE	-0.14	-0.08	0.02	0.89	3.72	8.72	-7.79
		5010	SITUACION_O	-5.53	-3.55	0.79	93.62	50.66	194.58	-155.17
		5015	C+S A T DÍA	8.10	0.44	-1.03	8.78	-291.03	398.41	513.89
		5016	C+S A T DÍA	-8.63	-0.81	1.14	14.51	272.55	-370.91	-478.50
		5017	C+S A T DÍA	1.64	0.14	-0.24	-18.51	-23.21	23.27	43.32
		5020	CAPA_COMPRE	-0.85	-0.52	0.11	7.68	19.15	41.42	-41.41
		5030	CM_CUBIERTA	-2.91	-1.72	0.39	23.65	67.61	144.59	-144.45
		5035	C+S A T DÍA	-6.63	-3.68	0.96	123.66	39.75	237.17	-143.24
		5036	C+S A T DÍA	2.47	1.38	-0.36	-48.78	-9.62	-97.85	44.42
		5037	C+S A T DÍA	-1.09	-0.56	0.16	19.35	6.92	25.61	-22.47

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -3856.974*,			SumGF = -3856.974		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -10721.54*,			SumGF = -10721.54		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -956.4773*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -47667.30,			SumQI = -47667.30*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -191.3089,			SumQI = -114.7854*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -399.5504,			SumQI = -239.7303*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3107199	1180	MINR-SYU	-60.79	-48.97	8.81	1521.02	-116.16	2919.58	-854.19

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	2	AGUA	-13.94	-15.80	30.66	34.85	332.77	908.39	2332.98
		21	SC_CUBIERTA	-0.16	0.01	0.52	-3.80	31.38	6.64	-37.46
		31	VIENTO+	-0.13	0.27	0.55	-6.88	36.50	23.28	36.47
		32	VIENTO-	-0.39	-1.05	0.49	12.29	-39.08	-1.52	25.00
		41	NIEVE	-0.03	0.00	0.10	-0.76	6.28	1.33	-7.49
		5010	SITUACION_O	-1.23	-0.77	3.60	-8.11	132.01	52.58	-64.06
		5015	C+S A T DÍA	-0.29	-1.56	-3.43	2.70	-338.81	182.59	1387.64
		5016	C+S A T DÍA	0.11	1.36	3.80	-5.84	327.60	-173.07	-1308.98
		5017	C+S A T DÍA	0.05	-0.21	-0.78	0.97	-45.69	21.54	146.01
		5020	CAPA_COMPRE	-0.19	-0.01	0.60	-3.54	33.77	6.27	-42.32
		5030	CM_CUBIERTA	-0.63	-0.04	2.05	-12.75	117.36	21.63	-148.27
		5035	C+S A T DÍA	-1.40	-0.84	4.24	-6.45	137.80	68.04	-3.23
		5036	C+S A T DÍA	0.55	0.35	-1.61	2.38	-47.84	-30.88	-25.16
		5037	C+S A T DÍA	-0.21	-0.12	0.67	-0.66	22.61	8.51	-12.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 1363.1807*,			SumGF = 1363.1807		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 4630.7808*,			SumGF = 4630.7808		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 363.1046*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 12640.260,			SumQI = 12640.260*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 72.6297,			SumQI = 43.5778*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 632.3146,			SumQI = 379.3888*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	1181	MAXRSXYU	-17.58	-18.26	40.68	6.65	683.27	1072.12	2235.45

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306074	2	AGUA	-2.23	-14.04	-29.53	40.33	-161.97	581.82	2219.72
		21	SC_CUBIERTA	-0.10	-0.23	-0.58	0.44	-2.68	13.79	75.91
		31	VIENTO+	-0.19	-0.18	-0.65	-1.09	-8.09	20.18	96.77
		32	VIENTO-	0.20	-0.31	-0.32	3.56	4.21	-8.07	-61.40
		41	NIEVE	-0.02	-0.05	-0.12	0.09	-0.54	2.76	15.18
		5010	SITUACION_O	-0.38	-1.51	-3.76	4.85	-22.12	67.28	328.80
		5015	C+S A T DÍA	-0.15	0.84	4.90	-17.50	84.08	-15.16	-138.56
		5016	C+S A T DÍA	0.11	-0.98	-5.24	14.80	-85.46	14.21	158.66
		5017	C+S A T DÍA	0.05	0.24	1.04	-1.33	15.98	-1.09	-60.39
		5020	CAPA_COMPRE	-0.11	-0.26	-0.65	0.65	-3.25	14.04	77.24
		5030	CM_CUBIERTA	-0.36	-0.88	-2.25	2.13	-11.21	49.04	269.99
		5035	C+S A T DÍA	-0.42	-1.71	-4.49	5.05	-36.66	73.62	356.08
		5036	C+S A T DÍA	0.17	0.65	1.69	-1.60	12.16	-29.40	-136.29
		5037	C+S A T DÍA	-0.07	-0.27	-0.72	1.01	-6.42	10.98	49.11

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -1442.216*,			SumGF = -1442.216		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -3692.357*,			SumGF = -3692.357		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -264.4146*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -14828.71,			SumQI = -14828.71*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -52.8917,			SumQI = -31.7350*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -559.9770,			SumQI = -335.9862*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306074	1182	MINRSXYU	-3.38	-18.36	-39.84	51.02	-215.33	775.95	3172.56

Relevant Forces in Nodes

Group 14											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3541	2	AGUA	-21.64	16.45	-0.24	69.11	-3.14	132.02	107.14		...
	21	SC_CUBIERTA	37.38	31.33	-0.06	68.77	-42.81	2.65	-2.09		...
	31	VIENTO+	1.23	-0.79	0.07	-1.90	0.05	-2.20	1.23		...
	32	VIENTO-	-3.21	2.03	-0.10	5.48	-0.05	4.98	-0.74		...
	41	NIEVE	7.48	6.27	-0.01	13.75	-8.56	0.53	-0.42		...
	5010	SITUACION_O	123.59	123.05	-0.21	242.25	-151.40	8.02	-13.11		...
	5015	C+S A T DÍA	-18.75	16.03	0.07	19.96	-12.20	-227.18	-232.49		...
	5016	C+S A T DÍA	22.82	-15.17	-0.10	-17.06	9.85	-214.62	-176.60		...
	5017	C+S A T DÍA	1.32	-0.26	0.00	0.91	-0.60	687.01	667.13		...
	5020	CAPA_COMPRE	37.39	31.62	-0.07	68.78	-42.81	2.53	-5.18		...
	5030	CM_CUBIERTA	130.86	110.65	-0.23	240.73	-149.84	8.94	-18.04		...
	5035	C+S A T DÍA	-0.68	13.10	-0.02	0.61	-1.28	-299.61	-311.25		...
	5036	C+S A T DÍA	1.15	-6.12	0.01	-0.81	0.86	162.39	168.42		...
	5037	C+S A T DÍA	-0.14	1.84	-0.00	-0.02	-0.13	-28.89	-30.61		...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	5.7238*,		SumGF =	5.7238	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	291.8421*,		SumGF =	291.8421	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	37.3827*,		SumQI =	0.0000	
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	7.4765,		SumQI =	4.4859*	
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 =	1.2339,		SumQI =	0.7403*	
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 14											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3541	1101	MAXR-MX	340.17	309.36	-0.57	631.23	-395.46	100.24	46.67		...

Relevant Forces in Nodes

Group 12											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1299	2	AGUA	-625.47	72.23	-104.67	935.09	345.19	1593.77	595.27	2	...
	21	SC_CUBIERTA	-13.53	-1.97	1.21	0.53	-1.14	27.67	6.83		...
	31	VIENTO+	-4.42	-9.75	11.68	-37.89	-20.01	-10.02	-17.95		...
	32	VIENTO-	-12.50	0.64	-0.35	11.05	2.95	20.42	3.68		...
	41	NIEVE	-2.71	-0.39	0.24	0.11	-0.23	5.54	1.37		...
	5010	SITUACION_O	23.23	71.19	-69.94	-124.49	20.92	-245.38	-174.74	1	...
	5015	C+S A T DÍA	-539.63	-122.27	127.47	237.30	-165.06	-608.90	-541.60	4	...
	5016	C+S A T DÍA	462.57	123.11	-121.21	-288.51	95.20	481.39	486.27	-5	...
	5017	C+S A T DÍA	46.93	-6.98	-2.91	62.70	54.96	303.95	105.18		...
	5020	CAPA_COMPRE	-6.56	3.91	-4.33	-29.49	-3.04	-49.68	-30.57		...
	5030	CM_CUBIERTA	-22.93	13.02	-14.81	-103.59	-10.58	-174.79	-106.74		...
	5035	C+S A T DÍA	-36.76	59.12	-61.31	-40.64	-36.35	-506.07	-266.52	1	...
	5036	C+S A T DÍA	23.40	-17.42	18.53	13.86	17.22	192.78	108.26	-	...
	5037	C+S A T DÍA	-2.74	4.85	-6.01	-10.49	-3.85	-32.72	-19.48		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -46.2442*,			SumGF = -46.2442		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -6.2625*,			SumGF = -6.2625		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -13.5329*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -625.4677,			SumQI = -625.4677*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -2.7067,			SumQI = -1.6240*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -12.5018,			SumQI = -7.5011*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 12										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
1299	1102	MINR-MX	-700.63	198.95	-238.04	658.95	315.10	997.61	165.18	4

Relevant Forces in Nodes

Group 14										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
3533	2	AGUA	23.44	-5.69	-0.15	26.02	-2.30	119.64	133.12	
	21	SC_CUBIERTA	33.13	35.71	-0.04	72.26	-44.63	0.70	0.89	
	31	VIENTO+	-0.81	0.08	0.00	-0.94	-0.08	-3.31	3.62	
	32	VIENTO-	2.33	-0.35	-0.01	2.63	0.23	2.61	-2.13	
	41	NIEVE	6.63	7.15	-0.01	14.47	-8.94	0.14	0.18	
	5010	SITUACION_O	124.64	132.60	-0.15	249.91	-154.43	2.29	2.47	
	5015	C+S A T DÍA	-3.54	4.35	0.02	1.24	-0.44	-256.88	-236.88	
	5016	C+S A T DÍA	1.28	-4.47	0.00	-0.39	0.23	-138.81	-183.36	
	5017	C+S A T DÍA	-1.18	1.78	0.01	0.33	-0.16	740.74	700.44	
	5020	CAPA_COMPRE	33.17	35.99	-0.04	72.36	-44.69	0.67	0.96	
	5030	CM_CUBIERTA	115.91	125.78	-0.14	252.85	-156.17	2.41	3.43	
	5035	C+S A T DÍA	4.68	21.91	-0.05	-1.11	-0.28	-393.26	-334.51	
	5036	C+S A T DÍA	-1.75	-9.50	0.02	0.49	0.13	206.34	178.43	
	5037	C+S A T DÍA	0.50	3.35	-0.01	-0.18	-0.05	-39.91	-33.93	

Determination of Sums and Leading Variable Action

Act	C: SumGU =	17.4256*,	SumGF =	17.4256		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	294.3716*,	SumGF =	294.3716		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	35.7139*,	SumQI =	0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	7.1512,	SumQI =	4.2907*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 =	0.0788,	SumQI =	0.0473*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 14											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3533	1103	MAXR-MY	310.33	351.85	-0.38	655.88	-405.90	122.38	100.23		...

Relevant Forces in Nodes

Group 11											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3153	2	AGUA	-230.02	-395.27	219.43	817.34	-630.68	-615.69	-378.33	-	...
	21	SC_CUBIERTA	-4.03	-4.59	3.62	1.47	0.70	-24.41	-44.17		...
	31	VIENTO+	0.66	6.12	-1.77	-14.35	12.86	-5.43	-4.56		...
	32	VIENTO-	-6.20	-22.43	8.63	49.37	-43.20	-5.32	-10.64		...
	41	NIEVE	-0.81	-0.92	0.72	0.29	0.14	-4.88	-8.83		...
	5010	SITUACION_O	-36.54	-52.54	36.10	-29.79	17.37	398.58	-99.77	-	...
	5015	C+S A T DÍA	-361.55	-146.20	206.26	36.72	-5.33	1915.40	1135.39	-6	...
	5016	C+S A T DÍA	307.35	121.15	-173.96	-33.95	1.06	-1003.90	-881.58	3	...
	5017	C+S A T DÍA	39.29	19.24	-23.50	12.40	-4.74	-962.77	-299.04	2	...
	5020	CAPA_COMPRE	-6.52	-4.80	5.17	-18.97	14.33	17.50	-43.40		...
	5030	CM_CUBIERTA	-22.85	-16.65	18.07	-66.86	50.57	62.56	-151.61		...
	5035	C+S A T DÍA	-54.06	-76.36	48.72	50.44	-54.19	359.47	-153.38	-	...
	5036	C+S A T DÍA	26.04	29.96	-21.22	-15.43	18.15	-146.23	42.98		...
	5037	C+S A T DÍA	0.31	-5.58	1.80	1.80	-4.27	-66.89	-85.26		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -57.7818*,			SumGF = -57.7818		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -73.9845*,			SumGF = -73.9845		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -4.5874,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -395.2703,			SumQI = -395.2703*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.9177,			SumQI = -0.5506*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -22.4269*,			SumQI = -13.4561		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3153	1104	MINR-MY	-345.23	-550.01	325.92	803.25	-640.84	-50.23	-929.92	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1298	2	AGUA	-537.30	61.52	119.35	-887.14	281.48	1246.84	545.00	-1 ...
	21	SC_CUBIERTA	6.82	6.41	6.83	-17.34	8.98	-3.61	2.29	...
	31	VIENTO+	45.85	1.67	1.72	32.05	-3.29	-75.16	-16.01	...
	32	VIENTO-	3.22	4.58	6.71	-18.27	6.67	0.93	4.91	...
	41	NIEVE	1.36	1.28	1.37	-3.47	1.80	-0.72	0.46	...
	5010	SITUACION_O	65.04	72.40	88.34	17.87	62.17	-84.89	-95.58	- ...
	5015	C+S A T DÍA	-537.61	-110.33	-125.01	-116.26	-206.47	-688.87	-567.21	-4 ...
	5016	C+S A T DÍA	461.56	113.46	126.42	159.75	133.77	528.58	491.78	4 ...
	5017	C+S A T DÍA	50.28	-5.92	0.40	-22.84	52.48	315.59	100.46	- ...
	5020	CAPA_COMPRE	13.65	10.35	11.84	-12.19	11.51	7.70	-3.02	...
	5030	CM_CUBIERTA	47.60	35.57	41.08	-42.75	40.33	25.26	-10.61	...
	5035	C+S A T DÍA	22.40	64.64	84.56	-92.20	0.29	-331.38	-169.33	- ...
	5036	C+S A T DÍA	2.74	-20.21	-27.17	36.45	5.34	129.34	71.96	...
	5037	C+S A T DÍA	4.54	6.28	8.86	-6.24	0.60	-10.44	-7.84	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 68.0546*,				SumGF = 68.0546	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 141.2586*,				SumGF = 141.2586	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 6.8337*,				SumQI = 0.0000	
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 119.3517,				SumQI = 119.3517*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 1.3669,				SumQI = 0.8202*	
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 6.7089,				SumQI = 4.0253*	
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1298	1105	MAXR-MXY	-397.53	237.70	340.34	-995.92	395.58	1134.23	361.13	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3250	2	AGUA	-554.10	70.94	-95.22	-922.72	-294.51	1275.45	593.63	...
	21	SC_CUBIERTA	7.04	6.85	-6.91	-17.40	-9.00	-3.36	2.58	...
	31	VIENTO+	56.77	15.82	-22.01	-17.42	-14.71	-73.46	-1.17	...
	32	VIENTO-	-8.61	-12.87	16.88	47.32	17.45	-0.58	-13.55	...
	41	NIEVE	1.41	1.37	-1.38	-3.48	-1.80	-0.67	0.52	...
	5010	SITUACION_O	67.03	79.24	-90.30	21.86	-66.05	-94.44	-100.20	...
	5015	C+S A T DÍA	-567.54	-114.45	136.93	-127.53	212.75	-721.95	-600.80	...
	5016	C+S A T DÍA	486.05	118.26	-136.21	169.15	-138.72	570.56	519.60	...
	5017	C+S A T DÍA	54.06	-6.73	-1.99	-21.46	-53.59	323.24	109.36	...
	5020	CAPA_COMPRE	14.02	11.14	-12.04	-11.82	-11.47	7.82	-3.25	...
	5030	CM_CUBIERTA	49.04	38.38	-41.85	-41.25	-40.26	25.65	-11.41	...
	5035	C+S A T DÍA	21.87	71.04	-84.28	-91.49	1.00	-355.55	-180.50	...
	5036	C+S A T DÍA	3.39	-22.38	26.87	36.35	-6.08	138.43	76.75	...
	5037	C+S A T DÍA	4.73	6.92	-8.93	-6.07	-0.52	-11.18	-8.35	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -67.6115*,			SumGF = -67.6115		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -144.1875*,			SumGF = -144.1875		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -6.9138,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -95.2249,			SumQI = -95.2249*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -1.3829,			SumQI = -0.8298*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -22.0054*,			SumQI = -13.2032		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	1.00	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3250	1106	MINR-MXY	-363.83	269.02	-329.86	-1014.49	-413.24	1084.17	393.96	...

Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1291	2	AGUA	105.23	4.52	-11.89	1341.16	-1237.64	1827.36	2674.15	-4 ...
	21	SC_CUBIERTA	1.60	0.00	-0.15	22.36	-19.65	61.31	96.52	- ...
	31	VIENTO+	-5.17	-0.43	0.69	-33.86	57.47	55.92	9.06	- ...
	32	VIENTO-	1.18	0.06	-0.12	18.97	-17.06	46.78	54.54	- ...
	41	NIEVE	0.32	0.00	-0.03	4.47	-3.93	12.26	19.31	...
	5010	SITUACION_O	12.22	0.93	-1.48	117.27	-109.08	199.38	373.40	-1 ...
	5015	C+S A T DÍA	-15.51	-7.08	4.45	194.89	348.93	452.53	-243.48	4 ...
	5016	C+S A T DÍA	16.60	7.22	-4.33	-163.75	-372.99	-413.41	202.09	-3 ...
	5017	C+S A T DÍA	-3.20	-1.26	0.54	-8.57	9.03	10.00	-1.55	...
	5020	CAPA_COMPRE	1.88	0.07	-0.18	22.33	-19.91	56.21	94.92	- ...
	5030	CM_CUBIERTA	6.46	0.23	-0.63	77.35	-68.91	197.59	331.80	-1 ...
	5035	C+S A T DÍA	14.47	1.60	-1.92	143.69	-135.19	251.48	409.79	-1 ...
	5036	C+S A T DÍA	-5.41	-0.61	0.67	-56.64	52.46	-99.92	-145.97	...
	5037	C+S A T DÍA	2.30	0.44	-0.29	14.92	-14.69	21.85	46.67	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 124.5317*,			SumGF = 124.5317		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 216.9437*,			SumGF = 216.9437		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 22.3633*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 1341.1582,			SumQI = 1341.1582*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 4.4731,			SumQI = 2.6838*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 18.9685,			SumQI = 11.3811*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]		...
1291	1107	MAXR-VX	137.54	6.10	-15.29	1719.06	-1580.23	2599.80	3882.65	-9	...

Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]		...
3188	2	AGUA	-83.60	-28.94	11.01	-1470.77	407.24	2962.65	371.42	-8	...
	21	SC_CUBIERTA	-1.51	-0.18	0.19	-25.77	6.19	62.30	28.69	-	...
	31	VIENTO+	1.41	0.71	-0.18	24.48	-7.53	-5.12	7.87		...
	32	VIENTO-	-5.03	-2.18	0.65	-86.60	25.36	73.19	-8.40	-	...
	41	NIEVE	-0.30	-0.04	0.04	-5.16	1.24	12.46	5.74	-	...
	5010	SITUACION_O	-9.99	-2.42	1.38	-163.39	42.80	264.34	92.16	-1	...
	5015	C+S A T DÍA	9.73	3.37	-1.98	94.21	9.93	557.88	-40.05	2	...
	5016	C+S A T DÍA	-10.61	-3.63	2.11	-107.54	-8.65	-521.54	26.04	-2	...
	5017	C+S A T DÍA	2.16	0.70	-0.42	24.71	-1.13	32.20	5.15		...
	5020	CAPA_COMPRE	-1.70	-0.24	0.22	-28.45	6.93	59.01	28.33	-	...
	5030	CM_CUBIERTA	-5.86	-0.80	0.76	-97.76	23.99	206.12	98.57	-1	...
	5035	C+S A T DÍA	-11.57	-3.13	1.72	-185.19	45.40	321.00	83.97	-1	...
	5036	C+S A T DÍA	4.44	1.18	-0.65	71.25	-18.40	-130.46	-29.30		...
	5037	C+S A T DÍA	-1.78	-0.49	0.27	-27.24	6.38	34.09	9.77	-	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -129.7990*,			SumGF = -129.7990		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -289.6043*,			SumGF = -289.6043		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -25.7718,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -1470.768,			SumQI = -1470.768*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -5.1551,			SumQI = -3.0931*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -86.5982*,			SumQI = -51.9589		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3188	1108	MINR-VX	-113.98	-36.60	15.10	-1979.86	540.60	3865.97	641.11	-14 ...

Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
12780	2	AGUA	16.93	10.32	45.86	-782.54	1803.10	304.77	2491.61	-3 ...
	21	SC_CUBIERTA	0.57	0.81	0.69	-12.07	16.13	10.75	157.61	- ...
	31	VIENTO+	-0.08	0.07	-0.82	7.93	-33.29	-3.24	10.39	...
	32	VIENTO-	0.60	0.08	2.85	-33.51	110.95	14.32	38.78	...
	41	NIEVE	0.11	0.16	0.14	-2.42	3.23	2.15	31.53	...
	5010	SITUACION_O	2.64	2.67	5.04	-64.73	145.20	51.25	593.15	-1 ...
	5015	C+S A T DÍA	-0.30	6.37	-4.93	-148.05	5.04	-82.48	-1220.62	2 ...
	5016	C+S A T DÍA	0.66	-5.84	5.37	124.79	6.78	64.15	1060.15	-2 ...
	5017	C+S A T DÍA	-0.43	0.58	-1.06	5.58	-2.19	8.35	-14.13	...
	5020	CAPA_COMPRE	0.61	0.80	0.79	-11.91	17.69	11.42	160.97	- ...
	5030	CM_CUBIERTA	2.11	2.85	2.68	-41.39	60.58	39.45	560.85	-1 ...
	5035	C+S A T DÍA	2.94	1.81	6.07	-80.05	180.99	46.24	558.53	-1 ...
	5036	C+S A T DÍA	-1.09	-0.62	-2.25	32.30	-66.00	-16.02	-179.19	...
	5037	C+S A T DÍA	0.42	0.08	0.88	-8.03	20.70	6.43	70.99	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 145.3145*,			SumGF = 145.3145		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 223.4717*,			SumGF = 223.4717		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 16.1263,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 1803.0989,			SumQI = 1803.0989*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 3.2260,			SumQI = 1.9356*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 110.9548*,			SumQI = 66.5729		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
12780	1109	MAXR-VY	25.16	19.20	61.38	-1009.00	2284.78	449.17	4140.00	-6	...

Relevant Forces in Nodes

Group 22											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
17791	2	AGUA	-6.70	-3.88	-35.92	651.19	-1811.67	286.87	2502.04	-2	...
	21	SC_CUBIERTA	-0.22	-0.07	-0.49	9.96	-16.24	7.90	157.63	-	...
	31	VIENTO+	0.04	0.39	1.76	-17.35	85.29	-5.87	21.79	-	...
	32	VIENTO-	-0.14	0.06	-0.39	8.82	-17.84	4.73	56.13		...
	41	NIEVE	-0.04	-0.01	-0.10	1.99	-3.25	1.58	31.53		...
	5010	SITUACION_O	-0.98	-0.06	-3.85	53.31	-145.40	38.62	588.81	-	...
	5015	C+S A T DÍA	0.18	-5.33	4.51	113.57	-0.10	-33.21	-1195.75	2	...
	5016	C+S A T DÍA	-0.24	5.36	-4.74	-95.81	-7.91	20.74	1042.82	-2	...
	5017	C+S A T DÍA	0.10	-1.02	0.83	-4.84	2.29	7.35	-12.20		...
	5020	CAPA_COMPRE	-0.23	-0.04	-0.56	9.83	-17.50	8.26	160.08	-	...
	5030	CM_CUBIERTA	-0.81	-0.16	-1.93	34.05	-60.64	28.47	560.06	-	...
	5035	C+S A T DÍA	-1.11	0.70	-4.63	65.92	-178.90	38.06	557.28	-	...
	5036	C+S A T DÍA	0.44	-0.27	1.72	-26.43	65.90	-13.71	-180.64		...
	5037	C+S A T DÍA	-0.16	0.24	-0.69	6.63	-20.15	4.95	69.85	-	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -138.8610*,			SumGF = -138.8610		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -223.5437*,			SumGF = -223.5437		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -16.2422*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -1811.667,			SumQI = -1811.667*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -3.2490,			SumQI = -1.9494*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -17.8374,			SumQI = -10.7024*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17791	1110	MINR-VY	-9.84	-4.50	-46.05	823.87	-2202.97	398.08	4302.57	-5 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13704	2	AGUA	-64.77	-40.14	-3.22	1279.21	-226.19	3405.14	-84.63	-1 ...
	21	SC_CUBIERTA	-1.04	-0.38	-0.10	4.39	18.73	72.32	-14.97	...
	31	VIENTO+	-0.99	0.03	-0.17	1.43	14.57	171.41	-11.66	...
	32	VIENTO-	-1.43	-1.75	0.10	52.99	-30.35	-143.56	13.36	...
	41	NIEVE	-0.21	-0.08	-0.02	0.88	3.75	14.47	-2.99	...
	5010	SITUACION_O	-8.01	-3.64	-0.65	93.29	53.43	299.35	-54.43	...
	5015	C+S A T DÍA	12.24	1.29	2.02	8.57	-286.64	669.00	229.15	-3 ...
	5016	C+S A T DÍA	-13.12	-1.76	-2.04	16.44	268.64	-628.36	-213.21	3 ...
	5017	C+S A T DÍA	2.52	0.42	0.35	-18.58	-23.64	37.85	25.06	- ...
	5020	CAPA_COMPRE	-1.24	-0.49	-0.12	7.37	19.41	67.15	-15.67	...
	5030	CM_CUBIERTA	-4.28	-1.62	-0.41	23.38	68.16	236.07	-54.74	...
	5035	C+S A T DÍA	-9.80	-4.08	-0.87	124.96	42.72	364.52	-54.90	...
	5036	C+S A T DÍA	3.67	1.56	0.31	-49.71	-10.65	-150.73	16.46	- ...
	5037	C+S A T DÍA	-1.61	-0.64	-0.15	19.54	7.38	36.89	-8.68	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 329.1658*,			SumGF = 329.1658		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 602.5659*,			SumGF = 602.5659		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 72.3181*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 3405.1355,			SumQI = 3405.1355*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 14.4656,			SumQI = 8.6793*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 171.4068,			SumQI = 102.8441*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13704	1111	MAXR-NXX	-86.16	-49.50	-5.01	1510.24	-57.65	4520.71	-239.34		...

Relevant Forces in Nodes

Group 32											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
152	2	AGUA	-0.08	0.00	-0.01	0.59	-0.10	-28.56	-0.00		...
	21	SC_CUBIERTA	-0.23	-0.01	0.00	12.62	-13.58	-314.66	-574.80	1	...
	31	VIENTO+	-0.04	0.00	0.00	0.01	-0.02	-5.36	-0.00		...
	32	VIENTO-	0.04	0.00	0.00	-0.03	0.01	3.48	0.00		...
	41	NIEVE	-0.05	-0.00	0.00	2.52	-2.72	-62.93	-114.96		...
	5010	SITUACION_O	-0.64	-0.02	0.01	35.46	-38.13	-877.93	-1614.45	2	...
	5015	C+S A T DÍA	-0.48	0.00	-0.01	0.45	0.27	119.34	-0.00		...
	5016	C+S A T DÍA	0.28	0.00	0.01	-0.42	-0.23	-80.20	-0.16		...
	5017	C+S A T DÍA	0.21	0.00	-0.00	0.04	-0.00	-31.87	-0.12		...
	5020	CAPA_COMPRE	-0.23	-0.01	0.00	12.62	-13.58	-314.94	-574.88	1	...
	5030	CM_CUBIERTA	-0.79	-0.02	0.02	44.17	-47.52	-1102.19	-2011.93	3	...
	5035	C+S A T DÍA	-0.04	0.00	-0.00	0.00	-0.03	-22.81	-0.16		...
	5036	C+S A T DÍA	0.07	0.00	0.00	-0.02	0.00	4.46	-0.20		...
	5037	C+S A T DÍA	-0.02	0.00	0.00	0.00	-0.00	-2.80	-0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -13.8765*,			SumGF = -13.8765		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -2295.058*,			SumGF = -2295.058		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -314.6607*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -28.5621,			SumQI = -28.5621*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -62.9331,			SumQI = -37.7599*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -5.3578,			SumQI = -3.2147*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 32										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
152	1112	MINR-NXX	-2.00	-0.06	0.03	107.05	-114.53	-2693.13	-4845.69	8 ...

Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3114	2	AGUA	-6.09	-29.21	38.03	-1.07	343.33	1037.35	3696.83	-15 ...
	21	SC_CUBIERTA	0.14	-0.12	-0.25	3.53	-18.77	0.93	29.07	...
	31	VIENTO+	0.22	0.25	-0.73	3.15	-17.06	-23.14	-80.70	...
	32	VIENTO-	-0.63	-1.48	2.69	-5.34	43.26	74.69	262.39	-1 ...
	41	NIEVE	0.03	-0.02	-0.05	0.71	-3.75	0.19	5.82	...
	5010	SITUACION_O	0.02	-2.05	2.16	9.09	-5.38	38.56	177.07	- ...
	5015	C+S A T DÍA	-1.70	-0.48	-1.24	-21.75	-121.16	277.10	1391.34	-3 ...
	5016	C+S A T DÍA	1.67	0.22	1.21	20.19	102.68	-273.04	-1316.84	3 ...
	5017	C+S A T DÍA	-0.29	-0.22	0.44	-4.45	4.35	52.97	161.16	- ...
	5020	CAPA_COMPRE	0.14	-0.15	-0.21	3.89	-19.12	0.50	27.22	...
	5030	CM_CUBIERTA	0.48	-0.53	-0.77	13.45	-67.15	1.18	94.33	...
	5035	C+S A T DÍA	0.07	-2.47	2.72	11.18	-0.78	36.08	166.51	- ...
	5036	C+S A T DÍA	0.01	0.95	-0.99	-4.04	2.77	-18.91	-85.59	...
	5037	C+S A T DÍA	0.02	-0.32	0.34	1.95	-0.26	2.01	7.37	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 323.9346*,			SumGF = 323.9346		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 298.6185*,			SumGF = 298.6185		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 29.0697,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 3696.8274,			SumQI = 3696.8274*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 5.8153,			SumQI = 3.4892*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 262.3882*,			SumQI = 157.4329		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 34											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3114	1113	MAXR-NYY	-6.28	-35.76	44.36	23.53	280.29	1228.59	4585.26	-17	...

Relevant Forces in Nodes

Group 34											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
150	2	AGUA	-0.07	0.00	0.01	-0.61	-0.10	-28.15	0.01		...
	21	SC_CUBIERTA	-0.23	-0.02	-0.00	-14.79	-15.28	-296.18	-656.33	-	...
	31	VIENTO+	0.00	0.00	0.00	0.01	0.00	-1.88	0.00		...
	32	VIENTO-	-0.02	0.00	0.00	-0.00	-0.00	-0.92	0.00		...
	41	NIEVE	-0.05	-0.00	0.00	-2.96	-3.06	-59.24	-131.27		...
	5010	SITUACION_O	-0.64	-0.05	-0.00	-41.56	-42.91	-826.03	-1843.47	-1	...
	5015	C+S A T DÍA	-0.41	0.00	0.01	-0.37	0.18	118.86	-0.12		...
	5016	C+S A T DÍA	0.22	0.00	-0.01	0.34	-0.15	-79.64	-0.06		...
	5017	C+S A T DÍA	0.21	0.00	0.00	-0.03	-0.01	-32.04	-0.11		...
	5020	CAPA_COMPRE	-0.23	-0.02	-0.00	-14.79	-15.28	-296.45	-656.42	-	...
	5030	CM_CUBIERTA	-0.80	-0.06	-0.00	-51.78	-53.48	-1037.48	-2297.30	-1	...
	5035	C+S A T DÍA	-0.04	0.00	0.00	0.00	-0.03	-22.73	-0.16		...
	5036	C+S A T DÍA	0.07	0.00	-0.00	0.02	0.00	4.45	-0.21		...
	5037	C+S A T DÍA	-0.02	0.00	0.00	-0.00	-0.00	-2.77	-0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.6699*,			SumGF = -0.6699		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -4797.188*,			SumGF = -4797.188		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -656.3323*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = -131.2664,			SumQI = -78.7599*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -0.0001,			SumQI = -0.0001*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
150	1114	MINR-NYY	-1.90	-0.14	-0.01	-124.74	-128.79	-2506.70	-5532.95	-3 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13436	2	AGUA	20.09	-6.83	-14.13	-674.31	-261.87	371.40	604.13	20 ...
	21	SC_CUBIERTA	0.53	0.50	-0.19	-6.17	25.51	-8.20	-35.42	...
	31	VIENTO+	0.12	1.68	0.10	16.42	53.05	-2.19	-8.55	...
	32	VIENTO-	-0.77	-0.49	0.49	16.79	-12.31	-9.57	-12.78	- ...
	41	NIEVE	0.11	0.10	-0.04	-1.23	5.10	-1.64	-7.08	...
	5010	SITUACION_O	3.21	1.53	-1.66	-59.15	69.78	-19.42	-103.60	1 ...
	5015	C+S A T DÍA	-7.64	-6.83	2.39	37.57	-315.29	232.45	770.66	2 ...
	5016	C+S A T DÍA	7.44	6.65	-2.65	-38.11	291.46	-238.85	-728.35	-2 ...
	5017	C+S A T DÍA	-0.94	-1.05	0.60	7.05	-27.57	49.97	80.90	...
	5020	CAPA_COMPRE	0.59	0.53	-0.23	-7.54	26.07	-9.23	-37.94	...
	5030	CM_CUBIERTA	2.03	1.82	-0.79	-25.37	91.22	-31.97	-132.92	1 ...
	5035	C+S A T DÍA	3.74	1.86	-2.17	-71.70	61.16	-21.69	-76.22	2 ...
	5036	C+S A T DÍA	-1.32	-0.60	0.84	27.90	-16.51	0.16	14.04	- ...
	5037	C+S A T DÍA	0.59	0.34	-0.36	-10.56	10.21	-1.40	-15.90	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 186.9233*,			SumGF = 186.9233		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 307.6671*,			SumGF = 307.6671		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 31.5109*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 2037.7664,			SumQI = 2037.7664*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 6.3028,			SumQI = 3.7817*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 39.7066,			SumQI = 23.8239*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13436	1115	MAXR-NXY	28.47	-1.01	-18.30	-811.28	-10.93	320.93	330.01	25 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13962	2	AGUA	16.78	-6.79	16.36	643.04	-320.64	117.00	491.99	-21 ...
	21	SC_CUBIERTA	0.56	0.49	0.25	4.48	26.16	-12.66	-38.05	- ...
	31	VIENTO+	0.65	0.99	0.36	4.27	29.21	-2.68	2.07	- ...
	32	VIENTO-	-0.23	-1.70	0.19	20.58	-57.13	6.79	11.13	...
	41	NIEVE	0.11	0.10	0.05	0.90	5.23	-2.53	-7.61	...
	5010	SITUACION_O	3.12	1.56	1.99	51.35	69.73	-43.64	-117.89	-1 ...
	5015	C+S A T DÍA	-8.36	-7.38	-2.72	-15.51	-338.14	217.19	784.23	-2 ...
	5016	C+S A T DÍA	8.11	7.18	2.98	18.63	310.00	-222.86	-739.57	2 ...
	5017	C+S A T DÍA	-1.06	-1.15	-0.63	-5.36	-29.64	47.68	83.11	- ...
	5020	CAPA_COMPRE	0.63	0.51	0.30	5.85	26.53	-13.77	-40.70	- ...
	5030	CM_CUBIERTA	2.12	1.78	1.03	19.20	93.33	-47.83	-142.67	-1 ...
	5035	C+S A T DÍA	3.69	1.93	2.54	65.58	58.42	-49.15	-90.85	-2 ...
	5036	C+S A T DÍA	-1.28	-0.66	-0.97	-25.28	-15.86	10.94	19.50	...
	5037	C+S A T DÍA	0.59	0.35	0.42	9.90	9.56	-4.93	-17.87	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -197.5976*,			SumGF = -197.5976		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -327.8978*,			SumGF = -327.8978		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -33.4557*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -2144.324,			SumQI = -2144.324*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -6.6922,			SumQI = -4.0153*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -69.9628,			SumQI = -41.9777*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13962	1116	MINR-NXY	25.35	-1.52	21.79	774.98	-89.89	-5.15	187.89	-27 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3188	2	AGUA	-83.60	-28.94	11.01	-1470.77	407.24	2962.65	371.42	-8 ...
	21	SC_CUBIERTA	-1.51	-0.18	0.19	-25.77	6.19	62.30	28.69	- ...
	31	VIENTO+	1.41	0.71	-0.18	24.48	-7.53	-5.12	7.87	...
	32	VIENTO-	-5.03	-2.18	0.65	-86.60	25.36	73.19	-8.40	- ...
	41	NIEVE	-0.30	-0.04	0.04	-5.16	1.24	12.46	5.74	- ...
	5010	SITUACION_O	-9.99	-2.42	1.38	-163.39	42.80	264.34	92.16	-1 ...
	5015	C+S A T DÍA	9.73	3.37	-1.98	94.21	9.93	557.88	-40.05	2 ...
	5016	C+S A T DÍA	-10.61	-3.63	2.11	-107.54	-8.65	-521.54	26.04	-2 ...
	5017	C+S A T DÍA	2.16	0.70	-0.42	24.71	-1.13	32.20	5.15	...
	5020	CAPA_COMPRE	-1.70	-0.24	0.22	-28.45	6.93	59.01	28.33	- ...
	5030	CM_CUBIERTA	-5.86	-0.80	0.76	-97.76	23.99	206.12	98.57	-1 ...
	5035	C+S A T DÍA	-11.57	-3.13	1.72	-185.19	45.40	321.00	83.97	-1 ...
	5036	C+S A T DÍA	4.44	1.18	-0.65	71.25	-18.40	-130.46	-29.30	...
	5037	C+S A T DÍA	-1.78	-0.49	0.27	-27.24	6.38	34.09	9.77	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 11965.590*,			SumGF = 11965.590		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 25600.768*,			SumGF = 25600.768		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 2426.1929,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 127821.28,			SumQI = 127821.28*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 485.3082,			SumQI = 291.1849*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 6293.5293*,			SumQI = 3776.1177		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3188	1171	MAXR-SXO	-113.98	-36.60	15.10	-1979.86	540.60	3865.97	641.11	-14 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3083	2	AGUA	32.04	-14.93	3.87	390.35	383.12	-32.58	265.33	-6 ...
	21	SC_CUBIERTA	0.40	-0.03	-0.07	10.84	6.38	-2.23	-12.70	- ...
	31	VIENTO+	0.15	-0.02	-0.18	18.97	10.74	2.13	13.29	- ...
	32	VIENTO-	1.19	-0.50	0.43	-13.98	-2.07	-4.45	-13.22	...
	41	NIEVE	0.08	-0.01	-0.01	2.17	1.28	-0.45	-2.54	...
	5010	SITUACION_O	3.53	-0.49	-0.08	49.43	33.42	-8.26	-43.01	- ...
	5015	C+S A T DÍA	-5.48	-6.62	2.24	-20.19	45.30	-1.49	526.62	1 ...
	5016	C+S A T DÍA	5.80	6.29	-2.06	26.76	-42.11	-20.47	-537.70	- ...
	5017	C+S A T DÍA	-1.00	-0.90	0.25	-8.64	3.97	31.22	112.82	- ...
	5020	CAPA_COMPRE	0.49	-0.02	-0.07	11.04	6.09	-2.31	-14.28	- ...
	5030	CM_CUBIERTA	1.68	-0.13	-0.23	38.34	21.96	-8.03	-50.31	- ...
	5035	C+S A T DÍA	4.24	-0.18	-0.18	58.90	37.22	-19.36	-61.66	- ...
	5036	C+S A T DÍA	-1.55	0.19	0.03	-22.01	-15.83	3.63	13.00	...
	5037	C+S A T DÍA	0.67	-0.00	-0.03	7.99	4.94	1.15	-12.01	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2929.212*,			SumGF = -2929.212		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -6330.285*,			SumGF = -6330.285		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -461.1345,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -34612.63,			SumQI = -34612.63*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -92.2432,			SumQI = -55.3459*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -1331.531*,			SumQI = -798.9188		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3083	1172	MINR-SXO	41.67	-17.29	4.15	519.29	476.79	-61.20	184.05	-9 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
17450	2	AGUA	-16.68	-38.89	17.26	26.46	362.71	571.29	3819.31	-15 ...
	21	SC_CUBIERTA	-0.03	-0.58	0.29	-3.60	31.95	8.79	-22.73	- ...
	31	VIENTO+	1.13	1.88	-0.74	-8.20	9.32	-17.47	-117.95	...
	32	VIENTO-	-0.08	-0.43	0.21	-1.33	11.86	7.69	45.90	- ...
	41	NIEVE	-0.01	-0.12	0.06	-0.72	6.39	1.76	-4.55	...
	5010	SITUACION_O	-1.04	-4.30	1.95	-7.45	134.25	52.13	30.83	- ...
	5015	C+S A T DÍA	-0.22	4.34	-1.10	-2.91	-331.29	36.87	1690.92	-3 ...
	5016	C+S A T DÍA	0.11	-4.71	1.32	-0.09	320.92	-30.67	-1599.71	3 ...
	5017	C+S A T DÍA	-0.04	0.89	-0.32	0.29	-44.76	-1.95	174.99	- ...
	5020	CAPA_COMPRE	-0.07	-0.68	0.34	-3.30	34.16	9.23	-28.11	- ...
	5030	CM_CUBIERTA	-0.20	-2.34	1.14	-11.95	119.13	31.61	-99.86	- ...
	5035	C+S A T DÍA	-1.17	-5.00	2.23	-6.28	140.61	62.33	115.16	-1 ...
	5036	C+S A T DÍA	0.44	1.88	-0.85	2.48	-49.34	-24.54	-76.65	...
	5037	C+S A T DÍA	-0.17	-0.80	0.35	-0.61	22.80	8.04	1.11	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 7682.7324*,			SumGF = 7682.7324		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 6499.3862*,			SumGF = 6499.3862		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 315.9172,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 92208.484,			SumQI = 92208.484*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 63.2090,			SumQI = 37.9254*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 1067.0962*,			SumQI = 640.2578		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
17450	1173	MAXR-SYO	-19.12	-50.12	22.55	-5.12	724.86	723.08	4071.17	-18	...

Relevant Forces in Nodes

Group 31											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1291	2	AGUA	16.17	18.59	38.06	586.85	-289.24	143.80	-1167.22	-17	...
	21	SC_CUBIERTA	0.47	1.00	0.61	3.73	26.18	-13.38	-102.33	-	...
	31	VIENTO+	-0.50	0.10	-1.73	-31.02	42.08	-7.95	11.38		...
	32	VIENTO-	0.26	0.52	0.47	5.44	4.51	0.36	-23.48	-	...
	41	NIEVE	0.09	0.20	0.12	0.75	5.24	-2.68	-20.47		...
	5010	SITUACION_O	2.74	4.78	4.57	45.88	70.90	-44.67	-396.43	-1	...
	5015	C+S A T DÍA	-7.26	-11.09	-6.52	-14.23	-325.41	227.10	1110.04	-3	...
	5016	C+S A T DÍA	7.01	11.01	6.84	16.90	300.35	-231.72	-1026.32	3	...
	5017	C+S A T DÍA	-0.91	-1.79	-1.24	-4.86	-29.01	47.28	81.09	-	...
	5020	CAPA_COMPRE	0.53	1.09	0.73	5.16	26.32	-14.44	-107.12	-	...
	5030	CM_CUBIERTA	1.79	3.76	2.46	16.38	93.30	-50.37	-374.74	-	...
	5035	C+S A T DÍA	3.28	5.62	5.53	58.36	61.41	-48.75	-362.27	-1	...
	5036	C+S A T DÍA	-1.15	-2.03	-2.05	-22.22	-17.72	10.48	115.85		...
	5037	C+S A T DÍA	0.52	0.92	0.89	8.86	9.82	-4.70	-54.06	-	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4636.919*,			SumGF = -4636.919		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -21985.32*,			SumGF = -21985.32		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -2429.352*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -35388.26,			SumQI = -35388.26*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -485.8895,			SumQI = -291.5337*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -866.9821,			SumQI = -520.1893*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1291	1174	MINR-SYO	23.41	32.30	50.22	704.52	-67.25	19.24	-2309.87	-21	...

Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11	...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60		...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74		...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	-	...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12		...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1	...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69		...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	-	...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13		...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62		...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99		...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1	...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	-	...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 5824.4414*,			SumGF = 5824.4414		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 13564.279*,			SumGF = 13564.279		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 1230.0297*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 61541.320,			SumQI = 61541.320*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 246.0411,			SumQI = 147.6246*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 1529.2665,			SumQI = 917.5599*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	1175	MAXRSXYO	2.81	12.67	-58.52	48.23	-222.71	1027.17	2316.58	15	...

Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3188	2	AGUA	13.80	2.23	41.52	-699.24	752.29	148.42	1099.87	-17	...
	21	SC_CUBIERTA	-0.09	0.19	0.61	-12.65	13.27	15.92	85.53	-	...
	31	VIENTO+	-0.49	0.01	-0.82	9.47	-15.35	1.48	10.49		...
	32	VIENTO-	1.34	0.08	2.74	-36.52	50.33	0.84	4.97	-	...
	41	NIEVE	-0.02	0.04	0.12	-2.53	2.65	3.18	17.11	-	...
	5010	SITUACION_O	0.68	0.94	4.54	-76.57	87.72	55.55	306.26	-2	...
	5015	C+S A T DÍA	-0.31	-3.21	-4.20	29.40	-45.34	-189.05	-494.38		...
	5016	C+S A T DÍA	0.58	3.32	4.71	-33.69	51.98	148.97	435.93	-	...
	5017	C+S A T DÍA	-0.26	-0.71	-1.05	14.62	-8.66	19.20	-20.03		...
	5020	CAPA_COMPRE	-0.06	0.22	0.70	-13.70	14.98	16.31	87.16	-	...
	5030	CM_CUBIERTA	-0.21	0.74	2.41	-47.01	51.63	56.97	303.40	-1	...
	5035	C+S A T DÍA	0.92	1.22	5.29	-90.80	91.41	36.71	279.88	-2	...
	5036	C+S A T DÍA	-0.37	-0.44	-2.05	35.66	-35.50	-12.70	-93.47		...
	5037	C+S A T DÍA	0.14	0.22	0.81	-13.55	13.47	8.55	37.24	-	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -6113.215*,			SumGF = -6113.215		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -14221.37*,			SumGF = -14221.37		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -1328.278,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -67794.12,			SumQI = -67794.12*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -265.6920,			SumQI = -159.4152*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -3690.209*,			SumQI = -2214.125		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3188	1176	MINRSXYO	16.23	4.65	55.51	-932.90	1025.90	291.68	1957.11	-25 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3083	2	AGUA	31.16	-4.77	0.40	388.11	-84.65	204.73	948.04	9 ...
	21	SC_CUBIERTA	0.30	-0.60	-0.14	6.01	-11.05	14.00	50.67	...
	31	VIENTO+	-0.00	-1.27	-0.28	14.41	-28.40	14.40	49.86	...
	32	VIENTO-	1.38	1.77	0.42	-7.08	42.18	-13.18	-39.07	...
	41	NIEVE	0.06	-0.12	-0.03	1.20	-2.21	2.80	10.14	...
	5010	SITUACION_O	3.11	-2.01	-0.53	34.47	-27.92	55.92	200.14	...
	5015	C+S A T DÍA	-4.33	3.94	2.85	25.45	-31.13	-155.11	-206.64	2 ...
	5016	C+S A T DÍA	4.66	-3.54	-2.74	-19.27	38.28	133.99	221.61	-2 ...
	5017	C+S A T DÍA	-0.79	0.46	0.44	-0.13	-10.25	-0.30	-69.92	...
	5020	CAPA_COMPRE	0.38	-0.60	-0.15	6.08	-10.39	14.56	51.83	...
	5030	CM_CUBIERTA	1.30	-2.06	-0.51	21.00	-35.95	50.98	181.38	...
	5035	C+S A T DÍA	3.76	-2.32	-0.75	44.58	-26.98	47.41	201.66	...
	5036	C+S A T DÍA	-1.38	0.87	0.26	-17.32	10.95	-20.36	-80.55	- ...
	5037	C+S A T DÍA	0.59	-0.37	-0.13	5.58	-3.04	12.40	35.17	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2916.7808*,			SumGF = 2916.7808		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 6743.5537*,			SumGF = 6743.5537		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 507.1658,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 35967.938,			SumQI = 35967.938*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 101.4504,			SumQI = 60.8702*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 1291.0676*,			SumQI = 774.6406		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3083	1177	MAXR-SXU	39.88	-8.70	-0.46	482.20	-140.22	332.73	1449.73	11 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3138	2	AGUA	-186.66	-26.36	-84.56	-182.05	296.74	-369.65	-32.10	- ...
	21	SC_CUBIERTA	-4.24	-0.83	-2.15	0.46	8.12	-12.88	-46.27	- ...
	31	VIENTO+	2.41	0.00	0.95	3.21	-5.57	-0.82	-5.76	...
	32	VIENTO-	-9.85	-0.61	-4.16	-10.85	19.76	-7.02	7.82	...
	41	NIEVE	-0.85	-0.17	-0.43	0.09	1.62	-2.58	-9.26	...
	5010	SITUACION_O	-25.36	-3.57	-12.03	-7.59	49.49	-63.49	-161.39	- ...
	5015	C+S A T DÍA	27.60	-8.78	9.73	-42.34	-132.68	-365.47	901.39	1 ...
	5016	C+S A T DÍA	-29.07	8.56	-10.41	43.03	137.13	317.31	-828.77	-1 ...
	5017	C+S A T DÍA	4.88	-1.47	1.74	-9.29	-25.35	2.97	67.85	...
	5020	CAPA_COMPRE	-4.76	-0.89	-2.38	0.17	8.96	-14.04	-49.29	- ...
	5030	CM_CUBIERTA	-16.35	-3.00	-8.19	1.90	32.54	-45.71	-170.66	- ...
	5035	C+S A T DÍA	-29.26	-2.88	-13.30	-10.66	58.90	-56.12	-145.90	- ...
	5036	C+S A T DÍA	10.94	1.23	5.04	4.08	-22.26	28.06	34.19	...
	5037	C+S A T DÍA	-4.43	-0.25	-1.95	-0.94	10.02	-5.76	-22.93	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -6488.020*,			SumGF = -6488.020		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -15117.89*,			SumGF = -15117.89		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -1392.552*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -59845.48,			SumQI = -59845.48*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -278.5477,			SumQI = -167.1286*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -3069.542,			SumQI = -1841.725*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]		...
3138	1178	MINR-SXU	-263.12	-38.72	-121.20	-209.68	434.43	-590.55	-454.76	-1	...

Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]		...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11	...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60		...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74		...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	-	...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12		...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1	...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69		...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	-	...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13		...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62		...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99		...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1	...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	-	...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 3201.0674*,			SumGF = 3201.0674		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 9514.0557*,			SumGF = 9514.0557		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 1002.2539*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 29748.641,			SumQI = 29748.641*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 200.4726,			SumQI = 120.2836*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 1304.0581,			SumQI = 782.4349*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	1179	MAXR-SYU	2.81	12.67	-58.52	48.23	-222.71	1027.17	2316.58	15	...

Relevant Forces in Nodes

Group 31											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
73740	2	AGUA	-30.45	-42.27	19.53	1285.56	-270.52	1358.85	-1026.46	-3	...
	21	SC_CUBIERTA	-0.38	-0.50	0.32	4.44	18.62	22.69	-75.93		...
	31	VIENTO+	1.71	2.46	-0.91	-74.43	26.74	-25.49	34.38		...
	32	VIENTO-	-0.29	-0.28	0.26	10.87	1.20	21.33	-15.20		...
	41	NIEVE	-0.08	-0.10	0.06	0.89	3.72	4.54	-15.19		...
	5010	SITUACION_O	-3.28	-3.80	2.52	93.62	50.66	116.25	-311.80		...
	5015	C+S A T DÍA	4.12	-0.76	-4.32	8.78	-291.03	190.91	910.31	-4	...
	5016	C+S A T DÍA	-4.44	0.40	4.60	14.51	272.55	-175.22	-846.32	4	...
	5017	C+S A T DÍA	0.84	-0.16	-0.91	-18.51	-23.21	13.22	68.29	-	...
	5020	CAPA_COMPRE	-0.48	-0.61	0.38	7.68	19.15	22.30	-80.75		...
	5030	CM_CUBIERTA	-1.62	-2.03	1.33	23.65	67.61	77.35	-281.84		...
	5035	C+S A T DÍA	-3.86	-3.65	3.15	123.66	39.75	139.92	-282.77		...
	5036	C+S A T DÍA	1.43	1.36	-1.18	-48.78	-9.62	-57.61	89.80		...
	5037	C+S A T DÍA	-0.63	-0.53	0.52	19.35	6.92	16.69	-43.58		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4938.997*,			SumGF = -4938.997		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -15823.39*,			SumGF = -15823.39		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -1540.392*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -58624.29,			SumQI = -58624.29*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -308.0950,			SumQI = -184.8570*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -504.7601,			SumQI = -302.8561*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
73740	1180	MINR-SYU	-38.96	-52.77	26.14	1521.02	-116.16	1740.88	-1899.28	-2 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	2	AGUA	-6.62	7.76	43.38	34.85	332.77	1128.01	848.25	-13 ...
	21	SC_CUBIERTA	-0.21	0.65	0.69	-3.80	31.38	3.51	-52.11	- ...
	31	VIENTO+	-0.42	1.09	0.70	-6.88	36.50	28.42	-10.20	- ...
	32	VIENTO-	0.36	-1.23	0.83	12.29	-39.08	-1.99	42.25	...
	41	NIEVE	-0.04	0.13	0.14	-0.76	6.28	0.70	-10.42	...
	5010	SITUACION_O	-0.91	2.98	5.00	-8.11	132.01	45.94	-155.56	- ...
	5015	C+S A T DÍA	-0.70	-8.07	-5.36	2.70	-338.81	303.92	1058.95	-2 ...
	5016	C+S A T DÍA	0.50	8.07	5.88	-5.84	327.60	-292.68	-996.59	2 ...
	5017	C+S A T DÍA	0.08	-1.41	-1.16	0.97	-45.69	42.13	110.98	- ...
	5020	CAPA_COMPRE	-0.22	0.71	0.80	-3.54	33.77	2.48	-55.61	- ...
	5030	CM_CUBIERTA	-0.76	2.46	2.75	-12.75	117.36	8.55	-195.01	- ...
	5035	C+S A T DÍA	-1.04	3.61	5.97	-6.45	137.80	64.49	-120.30	-1 ...
	5036	C+S A T DÍA	0.44	-1.30	-2.26	2.38	-47.84	-32.96	26.75	...
	5037	C+S A T DÍA	-0.16	0.61	0.95	-0.66	22.61	7.84	-24.91	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2726.7935*,			SumGF = 2726.7935		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 7284.9102*,			SumGF = 7284.9102		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 562.8932*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 28263.914,			SumQI = 28263.914*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 112.5951,			SumQI = 67.5571*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 968.8098,			SumQI = 581.2859*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	1181	MAXRSXYU	-9.40	15.40	57.20	6.65	683.27	1280.46	463.94	-16 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11 ...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60	...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74	...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	- ...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12	...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1 ...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69	...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	- ...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13	...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62	...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99	...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1 ...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	- ...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2912.788*,			SumGF = -2912.788		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -7235.437*,			SumGF = -7235.437		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -560.0403*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -30440.03,			SumQI = -30440.03*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -112.0257,			SumQI = -67.2154*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -829.3384,			SumQI = -497.6031*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	1182	MINRSXYU	3.55	12.34	-58.29	51.02	-215.33	1003.78	2251.73	15	...

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3153	2	AGUA	234.5	-53.5	13.4	0.00	0.00	0.00
	21	SC_CUBIERTA	10.7	-2.5	-1.5	0.00	0.00	0.00
	31	VIENTO+	-5.0	-0.5	-0.2	0.00	0.00	0.00
	32	VIENTO-	18.9	-0.5	0.4	0.00	0.00	0.00
	41	NIEVE	2.1	-0.5	-0.3	0.00	0.00	0.00
	5010	SITUACION_O	0.9	5.5	-2.0	0.00	0.00	0.00
	5015	C+S A T DÍA	-27.5	37.6	3.3	0.00	0.00	0.00
	5016	C+S A T DÍA	20.1	-20.8	-2.3	0.00	0.00	0.00
	5017	C+S A T DÍA	8.8	-18.3	-0.5	0.00	0.00	0.00
	5020	CAPA_COMPRE	0.8	-0.1	-1.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	2.7	-0.2	-4.5	0.00	0.00	0.00
	5035	C+S A T DÍA	3.1	4.6	2.6	0.00	0.00	0.00
	5036	C+S A T DÍA	-0.8	-2.0	-0.8	0.00	0.00	0.00
	5037	C+S A T DÍA	2.1	-1.7	-0.1	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = 5.7631*,			SumGF = 5.7631		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 4.3430*,			SumGF = 4.3430		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 10.7058*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 234.4832,			SumQI = 234.4832*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 2.1415,			SumQI = 1.2849*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 18.8763,			SumQI = 11.3258*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3153	1151	MAXR-PX	267.9	-52.0	6.4	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3148	2	AGUA	-228.0	109.7	-30.6	0.00	0.00	0.00
	21	SC_CUBIERTA	-10.2	1.3	-3.1	0.00	0.00	0.00
	31	VIENTO+	4.2	-0.2	1.8	0.00	0.00	0.00
	32	VIENTO-	-17.3	2.2	-5.4	0.00	0.00	0.00
	41	NIEVE	-2.0	0.3	-0.6	0.00	0.00	0.00
	5010	SITUACION_O	-5.3	-5.4	-13.0	0.00	0.00	0.00
	5015	C+S A T DÍA	-35.1	-21.0	3.1	0.00	0.00	0.00
	5016	C+S A T DÍA	32.8	20.1	-3.3	0.00	0.00	0.00
	5017	C+S A T DÍA	3.5	5.8	2.3	0.00	0.00	0.00
	5020	CAPA_COMPRE	-0.9	-1.3	-2.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	-3.0	-4.7	-8.1	0.00	0.00	0.00
	5035	C+S A T DÍA	-11.2	-10.9	-6.6	0.00	0.00	0.00
	5036	C+S A T DÍA	4.8	4.4	2.5	0.00	0.00	0.00
	5037	C+S A T DÍA	-0.7	-0.4	-0.8	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -5.7442*,			SumGF = -5.7442		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -9.1816*,			SumGF = -9.1816		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -10.2138*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -228.0303,			SumQI = -228.0303*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -2.0431,			SumQI = -1.2258*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -17.2522,			SumQI = -10.3513*		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3148	1152	MINR-PX	-264.7	99.1	-63.6	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1062	2	AGUA	106.7	226.0	-33.3	0.00	0.00	0.00
	21	SC_CUBIERTA	0.2	4.6	-1.2	0.00	0.00	0.00
	31	VIENTO+	-1.9	16.3	-6.2	0.00	0.00	0.00
	32	VIENTO-	6.0	-8.5	6.7	0.00	0.00	0.00
	41	NIEVE	0.0	0.9	-0.2	0.00	0.00	0.00
	5010	SITUACION_O	-0.6	3.6	-7.1	0.00	0.00	0.00
	5015	C+S A T DÍA	-27.9	38.7	-2.9	0.00	0.00	0.00
	5016	C+S A T DÍA	26.5	-35.5	3.5	0.00	0.00	0.00
	5017	C+S A T DÍA	6.4	-4.1	-0.7	0.00	0.00	0.00
	5020	CAPA_COMPRE	0.6	0.1	-0.2	0.00	0.00	0.00
	5030	CM_CUBIERTA	2.1	0.5	-0.6	0.00	0.00	0.00
	5035	C+S A T DÍA	-6.6	9.0	-0.1	0.00	0.00	0.00
	5036	C+S A T DÍA	2.8	-4.1	-0.2	0.00	0.00	0.00
	5037	C+S A T DÍA	0.4	0.3	0.2	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = 4.3200*,			SumGF = 4.3200		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 4.2175*,			SumGF = 4.2175		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 4.5893,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 226.0370,			SumQI = 226.0370*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 0.9181,			SumQI = 0.5509*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 16.2512*,			SumQI = 9.7507		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	1.00	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1062	1153	MAXR-PY	108.3	251.4	-47.8	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3122	2	AGUA	106.0	-220.7	-31.8	0.00	0.00	0.00
	21	SC_CUBIERTA	0.2	-4.6	-1.2	0.00	0.00	0.00
	31	VIENTO+	-2.4	3.6	-0.5	0.00	0.00	0.00
	32	VIENTO-	6.6	-16.5	-0.5	0.00	0.00	0.00
	41	NIEVE	0.0	-0.9	-0.2	0.00	0.00	0.00
	5010	SITUACION_O	-0.7	-3.7	-7.1	0.00	0.00	0.00
	5015	C+S A T DÍA	-27.8	-38.8	-2.7	0.00	0.00	0.00
	5016	C+S A T DÍA	26.6	35.5	3.4	0.00	0.00	0.00
	5017	C+S A T DÍA	6.3	4.1	-0.8	0.00	0.00	0.00
	5020	CAPA_COMPRE	0.6	-0.2	-0.2	0.00	0.00	0.00
	5030	CM_CUBIERTA	2.0	-0.6	-0.6	0.00	0.00	0.00
	5035	C+S A T DÍA	-6.8	-9.2	-0.1	0.00	0.00	0.00
	5036	C+S A T DÍA	2.8	4.2	-0.2	0.00	0.00	0.00
	5037	C+S A T DÍA	0.3	-0.3	0.2	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4.4200*,			SumGF = -4.4200		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -4.3988*,			SumGF = -4.3988		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -4.6097,			SumQI = 0.0000*		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -220.7316,			SumQI = -220.7316*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.9222,			SumQI = -0.5533*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -16.5405*,			SumQI = -9.9243		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	1.00	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3122	1154	MINR-PY	116.0	-246.6	-40.5	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1279	2	AGUA	-162.9	-0.3	48.7	0.00	0.00	0.00
	21	SC_CUBIERTA	-1.9	-0.0	1.0	0.00	0.00	0.00
	31	VIENTO+	10.0	0.0	-2.9	0.00	0.00	0.00
	32	VIENTO-	0.1	0.0	-0.1	0.00	0.00	0.00
	41	NIEVE	-0.4	0.0	0.2	0.00	0.00	0.00
	5010	SITUACION_O	-1.5	0.0	1.7	0.00	0.00	0.00
	5015	C+S A T DÍA	6.7	0.0	-26.6	0.00	0.00	0.00
	5016	C+S A T DÍA	-10.8	-0.0	18.8	0.00	0.00	0.00
	5017	C+S A T DÍA	-3.6	-0.0	5.7	0.00	0.00	0.00
	5020	CAPA_COMPRE	-0.6	0.0	1.0	0.00	0.00	0.00
	5030	CM_CUBIERTA	-2.2	0.0	3.4	0.00	0.00	0.00
	5035	C+S A T DÍA	0.2	0.0	-0.3	0.00	0.00	0.00
	5036	C+S A T DÍA	-0.7	0.0	0.8	0.00	0.00	0.00
	5037	C+S A T DÍA	-0.1	0.0	0.1	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -1.4193*,			SumGF = -1.4193		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 6.1773*,			SumGF = 6.1773		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 1.0109*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 48.6593,			SumQI = 48.6593*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 0.2022,			SumQI = 0.1213*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1279	1155	MAXR-PZ	-177.5	-0.3	54.5	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3595	2	AGUA	85.0	0.1	-75.5	-0.02	9.17	0.03
	21	SC_CUBIERTA	1.2	0.0	-1.3	-0.00	0.11	0.00
	31	VIENTO+	-5.3	0.0	4.8	0.00	-0.53	-0.00
	32	VIENTO-	-0.1	-0.0	0.1	0.00	-0.00	0.00
	41	NIEVE	0.2	0.0	-0.3	0.00	0.02	0.00
	5010	SITUACION_O	2.3	0.0	-2.5	0.00	-0.03	0.00
	5015	C+S A T DÍA	-7.7	0.0	35.0	0.00	-0.95	-0.00
	5016	C+S A T DÍA	19.5	-0.0	-17.9	-0.01	0.27	0.01
	5017	C+S A T DÍA	2.2	0.0	-6.5	0.00	0.43	0.00
	5020	CAPA_COMPRE	1.0	0.0	-1.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	3.4	0.0	-4.4	-0.00	0.02	0.00
	5035	C+S A T DÍA	1.7	0.0	0.0	0.00	-0.23	0.00
	5036	C+S A T DÍA	0.1	0.0	-0.7	0.00	0.12	0.00
	5037	C+S A T DÍA	0.3	0.0	-0.1	0.00	-0.02	0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 9.8041*,			SumGF = 9.8041		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -8.1127*,			SumGF = -8.1127		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -1.3230*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -75.4936,			SumQI = -75.4936*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.2646,			SumQI = -0.1588*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3595	1156	MINR-PZ	109.1	0.1	-75.3	-0.03	8.90	0.04

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
90	2	AGUA	3.645	0.001	-2.163	0.025	-0.005	0.000
	21	SC_CUBIERTA	0.266	-0.035	-0.128	-0.985	0.796	0.000
	31	VIENTO+	-0.118	-0.038	-0.085	0.008	0.000	-0.000
	32	VIENTO-	0.396	0.049	0.075	-0.008	-0.000	0.000
	41	NIEVE	0.053	-0.007	-0.026	-0.197	0.159	0.000
	5010	SITUACION_O	1.249	0.001	-1.177	-5.014	2.752	0.000
	5015	C+S A T DÍ	0.608	2.203	-2.156	-4.605	2.041	0.000
	5016	C+S A T DÍ	0.760	1.490	-1.242	-3.206	1.582	0.000
	5017	C+S A T DÍ	0.260	0.266	-0.349	-1.105	0.639	0.000
	5020	CAPA_COMPRE	0.244	-0.033	-0.126	-0.918	0.742	0.000
	5030	CM_CUBIERTA	0.854	-0.115	-0.441	-3.211	2.598	0.000
	5035	C+S A T DÍ	0.668	1.632	-1.521	-12.614	1.359	0.000
	5036	C+S A T DÍ	0.024	-0.294	-0.024	-0.252	0.071	0.000
	5037	C+S A T DÍ	0.007	-0.031	-0.006	-0.671	0.036	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = 0.0023,			SumGF = 0.0023		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = 0.0023,			SumGF = 0.0023		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0003,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0036,			SumQI = 0.0036		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0001,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0004,			SumQI = 0.0002		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
90	1171	MAXR-UX	8.855	5.110	-9.301	-32.678	12.708	0.001

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
19689	2	AGUA	-9.697	-0.000	-1.972	0.013	-2.222	-0.303
	21	SC_CUBIERTA	0.014	0.004	-0.045	-0.001	0.008	0.020
	31	VIENTO+	0.895	-0.032	0.065	-0.001	0.220	0.021
	32	VIENTO-	0.028	0.045	0.001	-0.000	0.001	-0.002
	41	NIEVE	0.003	0.001	-0.009	-0.000	0.002	0.004
	5010	SITUACION_O	-0.885	0.011	-0.959	-0.001	-0.158	0.067
	5015	C+S A T DÍ	2.650	-0.948	-1.664	0.136	1.279	0.003
	5016	C+S A T DÍ	1.326	-0.608	-1.138	0.004	-0.093	0.034
	5017	C+S A T DÍ	-0.187	-0.017	-0.383	-0.061	-0.572	0.049
	5020	CAPA_COMPRE	0.005	0.004	-0.046	-0.001	0.006	0.022
	5030	CM_CUBIERTA	0.017	0.013	-0.160	-0.003	0.020	0.077
	5035	C+S A T DÍ	-0.771	0.021	-1.143	-0.010	-0.170	0.067
	5036	C+S A T DÍ	-0.019	0.005	-0.013	-0.003	-0.025	0.004
	5037	C+S A T DÍ	-0.003	0.004	-0.008	-0.003	-0.015	0.004

Determination of Sums and Leading Variable Action

Act	C: SumGU = 0.0030,			SumGF = 0.0030		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0009,			SumGF = -0.0009		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -0.0097,			SumQI = -0.0097		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
19689	1172	MINR-UX	-7.563	-1.515	-7.485	0.072	-1.950	0.024

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
23975	2	AGUA	0.002	10.843	-2.219	-2.463	0.001	0.001
	21	SC_CUBIERTA	0.001	0.208	-0.129	-0.043	0.015	0.001
	31	VIENTO+	0.015	-0.028	-0.002	-0.001	-0.000	-0.000
	32	VIENTO-	0.027	0.425	-0.029	-0.094	-0.000	-0.001
	41	NIEVE	0.000	0.042	-0.026	-0.009	0.003	0.000
	5010	SITUACION_O	0.004	1.674	-1.179	-0.341	0.044	0.004
	5015	C+S A T DÍ	0.078	-0.993	-2.358	1.049	0.042	0.001
	5016	C+S A T DÍ	0.067	-0.434	-1.239	-0.176	0.020	-0.009
	5017	C+S A T DÍ	0.018	0.499	-0.277	-0.626	0.008	0.011
	5020	CAPA_COMPRE	0.001	0.208	-0.128	-0.043	0.014	0.001
	5030	CM_CUBIERTA	0.005	0.729	-0.447	-0.151	0.048	0.005
	5035	C+S A T DÍ	0.008	2.386	-1.542	-0.532	0.028	0.006
	5036	C+S A T DÍ	0.001	0.077	-0.021	-0.038	0.002	0.003
	5037	C+S A T DÍ	0.000	0.006	-0.002	-0.016	0.000	0.000

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 0.0015,			SumGF = 0.0015		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = 0.0026,			SumGF = 0.0026		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0002,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0108,			SumQI = 0.0108		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0004,			SumQI = 0.0003		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
23975	1173	MAXR-UY	0.201	15.483	-9.573	-3.442	0.224	0.025

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
11695	2	AGUA	3.658	0.000	-2.199	-0.033	0.000	0.000
	21	SC_CUBIERTA	0.306	0.000	-0.705	0.959	0.829	0.000
	31	VIENTO+	-0.118	-0.039	-0.002	-0.000	0.000	0.000
	32	VIENTO-	0.396	0.050	-0.027	-0.003	-0.000	0.000
	41	NIEVE	0.061	0.000	-0.142	0.194	0.166	0.000
	5010	SITUACION_O	1.387	-0.180	-4.179	5.007	2.868	0.000
	5015	C+S A T DÍ	0.395	-32.392	-5.156	4.687	2.122	0.000
	5016	C+S A T DÍ	0.441	-1.473	-3.160	3.218	1.647	0.000
	5017	C+S A T DÍ	0.191	1.706	-0.927	1.089	0.662	0.000
	5020	CAPA_COMPRE	0.281	0.000	-0.670	0.903	0.774	0.000
	5030	CM_CUBIERTA	0.982	0.001	-2.319	3.120	2.705	0.000
	5035	C+S A T DÍ	0.709	-0.851	-5.653	6.760	1.393	0.000
	5036	C+S A T DÍ	0.023	0.071	0.183	-0.329	0.074	0.000
	5037	C+S A T DÍ	0.007	-0.037	-0.146	0.237	0.038	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0330,			SumGF = -0.0330		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0002,			SumGF = -0.0002		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = -0.0000,			SumQI = -0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	1.00	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
11695	1174	MINR-UY	7.958	-33.195	-24.228	24.659	12.283	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
30169	2	AGUA	0.054	0.044	-1.666	0.203	-0.038	-0.001
	21	SC_CUBIERTA	0.001	0.000	0.010	0.001	0.000	-0.000
	31	VIENTO+	0.012	-0.033	-0.001	0.000	0.002	0.000
	32	VIENTO-	0.029	0.042	0.008	0.005	-0.004	-0.000
	41	NIEVE	0.000	0.000	0.002	0.000	0.000	0.000
	5010	SITUACION_O	0.002	0.000	-0.222	0.001	-0.007	-0.000
	5015	C+S A T DÍ	-0.483	-0.323	-0.232	-0.006	-0.000	0.002
	5016	C+S A T DÍ	-1.023	-0.731	-0.123	-0.002	-0.002	0.002
	5017	C+S A T DÍ	-0.546	-0.410	-0.068	0.001	-0.003	-0.002
	5020	CAPA_COMPRE	0.001	0.000	0.010	0.001	0.000	-0.000
	5030	CM_CUBIERTA	0.002	-0.000	0.034	0.004	0.000	-0.000
	5035	C+S A T DÍ	-0.074	-0.033	-0.223	-0.003	0.010	-0.001
	5036	C+S A T DÍ	-0.020	-0.014	0.005	0.001	-0.001	-0.000
	5037	C+S A T DÍ	-0.014	-0.012	-0.003	-0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0006,			SumGF = -0.0006		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0002,			SumGF = -0.0002		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.00	-	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
30169	1175	MAXR-UZ	-2.137	-1.498	-0.807	0.002	-0.005	-0.001

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
12134	2	AGUA	3.650	0.001	-2.043	0.030	-0.005	0.000
	21	SC_CUBIERTA	-0.068	-0.003	-3.931	-0.087	-0.094	0.000
	31	VIENTO+	-0.117	-0.039	-0.041	0.009	0.000	0.000
	32	VIENTO-	0.395	0.049	0.037	-0.008	-0.000	0.000
	41	NIEVE	-0.014	-0.001	-0.786	-0.017	-0.019	0.000
	5010	SITUACION_O	0.095	0.001	-19.375	-0.121	-0.324	0.000
	5015	C+S A T DÍ	-0.383	1.032	-18.386	0.067	-0.236	0.000
	5016	C+S A T DÍ	-0.076	0.698	-12.718	-0.046	-0.184	0.000
	5017	C+S A T DÍ	-0.051	0.124	-4.376	-0.052	-0.074	0.000
	5020	CAPA_COMPRE	-0.067	-0.003	-3.670	-0.081	-0.087	0.000
	5030	CM_CUBIERTA	-0.236	-0.009	-12.845	-0.283	-0.306	0.000
	5035	C+S A T DÍ	0.093	2.592	-23.144	0.300	-0.149	0.000
	5036	C+S A T DÍ	-0.008	0.295	0.878	-0.041	-0.008	0.000
	5037	C+S A T DÍ	-0.009	0.138	-0.766	0.011	-0.004	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0585,			SumGF = -0.0585		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0359,			SumGF = -0.0359		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = -0.0039,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -0.0020,			SumQI = -0.0020		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = -0.0008,			SumQI = -0.0005		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = -0.0000,			SumQI = -0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
12134	1176	MINR-UZ	2.861	4.844	-100.871	-0.308	-1.482	0.001

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
13:	4253	2	AGUA	-42.03	-12.2	-0.3	0.3	0.0
		21	SC_CUBIERTA	0.23	0.1	0.0	0.0	0.0
		31	VIENTO+	0.45	0.1	-0.1	0.2	0.0
		32	VIENTO-	-0.40	-0.1	-0.2	-0.3	0.0
		41	NIEVE	0.05	0.0	0.0	0.0	0.0
		5010	SITUACION_O	-5.69	-1.7	0.0	0.0	0.0
		5015	C+S A T DÍA	-0.22	-0.1	2.8	-1.9	0.0
		5016	C+S A T DÍA	0.13	0.0	3.6	-2.8	0.0
		5017	C+S A T DÍA	-0.10	-0.0	0.2	-0.2	0.0
		5020	CAPA_COMPRE	0.23	0.1	0.0	0.0	0.0
		5030	CM_CUBIERTA	0.79	0.2	-0.0	0.0	0.0
		5035	C+S A T DÍA	-0.84	-0.2	-6.1	4.7	0.0
		5036	C+S A T DÍA	0.44	0.1	2.3	-1.8	0.0
		5037	C+S A T DÍA	-0.19	-0.1	-0.7	0.5	0.0

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.7649*,			SumGF = -0.7649		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -4.6793*,			SumGF = -4.6793		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.2341*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0468,			SumQI = 0.0281*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = 0.4506,			SumQI = 0.2704*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
13:	4253	1117	MAXR-P	-4.91	-1.4	2.1	-1.4	0.0

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11:	5191	2	AGUA	-91.82	-1.0	-0.1	2.4	0.3
		21	SC_CUBIERTA	-4.02	-0.0	0.0	0.1	0.0
		31	VIENTO+	-5.62	-0.1	-0.1	0.3	0.0
		32	VIENTO-	5.10	0.1	-0.2	-0.4	-0.0
		41	NIEVE	-0.80	0.0	0.0	0.0	0.0
		5010	SITUACION_O	-36.04	-0.4	-0.0	0.9	0.1
		5015	C+S A T DÍA	-16.88	-0.2	0.8	-3.3	-0.4
		5016	C+S A T DÍA	10.12	0.1	1.0	-5.9	-0.8
		5017	C+S A T DÍA	1.30	0.0	0.0	-0.3	-0.0
		5020	CAPA_COMPRE	-3.99	-0.0	0.0	0.1	0.0
		5030	CM_CUBIERTA	-13.95	-0.2	-0.0	0.3	0.0
		5035	C+S A T DÍA	10.79	0.1	-1.7	9.1	1.2
		5036	C+S A T DÍA	-3.97	-0.0	0.7	-3.4	-0.5
		5037	C+S A T DÍA	1.59	0.0	-0.2	1.0	0.1

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2.9498*,			SumGF = 2.9498		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -53.9846*,			SumGF = -53.9846		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = -4.0204*,			SumQI = 0.0000		
LC	21					
FacQ1	1.00					
FacQI	0.00					
Act	Q: SumQ1 = -91.8179,			SumQI = -91.8179*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.8045,			SumQI = -0.4827*		
LC	41					
FacQ1	1.00					
FacQI	0.60					
Act	W: SumQ1 = -5.6236,			SumQI = -3.3742*		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	1.00	0.60	-	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	5191	1118	MINR-P	-150.73	-1.6	0.4	1.1	0.1

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FREQ

Superposition according to EHE Instrucción de hormigòn estructural 2008

Combination rule Number 102

SLS frequent combination

Superposition according to manual MAXIMA formula 2.5

$$E_{d,frequ} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus \psi_{1,1} \cdot Q_{k,1} \oplus \sum_{i>1} \psi_{2,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS frequent combination

Load Case selection and Actions

Act	Part	Superposition Factors γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2	Fact	Type	Designation
	LC									
C	P	1.00	1.00	1.00	1.00	1.00	1.00			creep + shrinkage
	5015							1.00	PERM	C+S A T DÍAS
	5016							1.00	PERM	C+S A T DÍAS
	5017							1.00	PERM	C+S A T DÍAS
	5035							1.00	PERM	C+S A T DÍAS
	5036							1.00	PERM	C+S A T DÍAS
	5037							1.00	PERM	C+S A T DÍAS
G	G	1.35	0.80	1.00	1.00	1.00	1.00			dead load
	5010							1.00	PERM	SITUACION_ORIGINAL
	5020							1.00	PERM	CAPA_COMPRESION
	5030							1.00	PERM	CM_CUBIERTA
L	Q	1.50	0.00	1.00	0.00	0.00	0.00			live loading
	21							1.00	A9	SC_CUBIERTA
Q	Q	1.20	0.90	1.00	1.00	1.00	1.00			variable load
	2							1.00	COND	AGUA
S	Q	1.60	0.00	1.00	0.60	0.20	0.00			snow loading
	41							1.00	COND	NIEVE
W	Q	1.60	0.00	1.00	0.60	0.50	0.00			wind loading
	31							1.00	A10	VIENTO+
	32							1.00	A10	VIENTO-

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

Generated Load Cases

Number	Combination	Designation
1301	102	MAXF-MX QUAD FRECUENTE
1302	102	MINF-MX QUAD FRECUENTE
1303	102	MAXF-MY QUAD FRECUENTE
1304	102	MINF-MY QUAD FRECUENTE
1305	102	MAXF-MXY QUAD FRECUENTE
1306	102	MINF-MXY QUAD FRECUENTE
1301	102	MAXF-MX QUAK FRECUENTE
1302	102	MINF-MX QUAK FRECUENTE
1303	102	MAXF-MY QUAK FRECUENTE
1304	102	MINF-MY QUAK FRECUENTE
1305	102	MAXF-MXY QUAK FRECUENTE
1306	102	MINF-MXY QUAK FRECUENTE
1307	102	MAXF-VX QUAD FRECUENTE
1308	102	MINF-VX QUAD FRECUENTE

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Generated Load Cases

Number	Combination	Designation
1307	102	MAXF-VX QUAK FRECUENTE
1308	102	MINF-VX QUAK FRECUENTE
1309	102	MAXF-VY QUAD FRECUENTE
1310	102	MINF-VY QUAD FRECUENTE
1309	102	MAXF-VY QUAK FRECUENTE
1310	102	MINF-VY QUAK FRECUENTE
1311	102	MAXF-NXX QUAD FRECUENTE
1312	102	MINF-NXX QUAD FRECUENTE
1313	102	MAXF-NYY QUAD FRECUENTE
1314	102	MINF-NYY QUAD FRECUENTE
1315	102	MAXF-NXY QUAD FRECUENTE
1316	102	MINF-NXY QUAD FRECUENTE
1311	102	MAXF-NXX QUAK FRECUENTE
1312	102	MINF-NXX QUAK FRECUENTE
1313	102	MAXF-NYY QUAK FRECUENTE
1314	102	MINF-NYY QUAK FRECUENTE
1315	102	MAXF-NXY QUAK FRECUENTE
1316	102	MINF-NXY QUAK FRECUENTE
1317	102	MAXF-P QUAD FRECUENTE
1318	102	MINF-P QUAD FRECUENTE
1371	102	MAXF-SXO QUAD FRECUENTE
1372	102	MINF-SXO QUAD FRECUENTE
1373	102	MAXF-SYO QUAD FRECUENTE
1374	102	MINF-SYO QUAD FRECUENTE
1375	102	MAXFSXYO QUAD FRECUENTE
1376	102	MINFSXYO QUAD FRECUENTE
1377	102	MAXF-SXU QUAD FRECUENTE
1378	102	MINF-SXU QUAD FRECUENTE
1379	102	MAXF-SYU QUAD FRECUENTE
1380	102	MINF-SYU QUAD FRECUENTE
1381	102	MAXFSXYU QUAD FRECUENTE
1382	102	MINFSXYU QUAD FRECUENTE
1371	102	MAXF-SXO QUAK FRECUENTE
1372	102	MINF-SXO QUAK FRECUENTE
1373	102	MAXF-SYO QUAK FRECUENTE
1374	102	MINF-SYO QUAK FRECUENTE
1375	102	MAXFSXYO QUAK FRECUENTE
1376	102	MINFSXYO QUAK FRECUENTE
1377	102	MAXF-SXU QUAK FRECUENTE
1378	102	MINF-SXU QUAK FRECUENTE
1379	102	MAXF-SYU QUAK FRECUENTE
1380	102	MINF-SYU QUAK FRECUENTE
1381	102	MAXFSXYU QUAK FRECUENTE
1382	102	MINFSXYU QUAK FRECUENTE
1351	102	MAXF-PX NODE FRECUENTE
1352	102	MINF-PX NODE FRECUENTE
1353	102	MAXF-PY NODE FRECUENTE
1354	102	MINF-PY NODE FRECUENTE
1355	102	MAXF-PZ NODE FRECUENTE
1356	102	MINF-PZ NODE FRECUENTE
1371	102	MAXF-UX NODE FRECUENTE
1372	102	MINF-UX NODE FRECUENTE
1373	102	MAXF-UY NODE FRECUENTE
1374	102	MINF-UY NODE FRECUENTE
1375	102	MAXF-UZ NODE FRECUENTE
1376	102	MINF-UZ NODE FRECUENTE
1321	102	MAXF-N BEAM FRECUENTE
1322	102	MINF-N BEAM FRECUENTE

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FREQ

Generated Load Cases

Number	Combination	Designation
1329	102	MAXF-MY BEAM FRECUENTE
1330	102	MINF-MY BEAM FRECUENTE
1331	102	MAXF-MZ BEAM FRECUENTE
1332	102	MINF-MZ BEAM FRECUENTE
1327	102	MAXF-MT BEAM FRECUENTE
1328	102	MINF-MT BEAM FRECUENTE
1323	102	MAXF-VY BEAM FRECUENTE
1324	102	MINF-VY BEAM FRECUENTE
1325	102	MAXF-VZ BEAM FRECUENTE
1326	102	MINF-VZ BEAM FRECUENTE

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	50	0.000	2	AGUA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			21	SC_CUBIERTA	0.0	0.00	-2.75	0.00	56.53	0.00	0.00		...
			31	VIENTO+	0.0	0.00	0.00	0.00	0.00	-0.00	0.00		...
			32	VIENTO-	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			41	NIEVE	0.0	0.00	-0.55	0.00	11.31	0.00	0.00		...
			5010	SITUACION_O	0.0	0.00	-7.33	0.00	181.25	0.00	0.00		...
			5015	C+S A T DÍA	734.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5016	C+S A T DÍA	315.5	0.00	0.00	0.00	0.00	0.00	0.00		...
			5017	C+S A T DÍA	-86.5	0.00	0.00	0.00	0.00	0.00	0.00		...
			5020	CAPA_COMPRE	0.0	0.00	-2.75	0.00	56.53	0.00	0.00		...
			5030	CM_CUBIERTA	0.0	0.00	-9.63	0.00	197.84	0.00	0.00		...
			5035	C+S A T DÍA	84.2	0.00	0.00	0.00	0.00	0.00	0.00		...
			5036	C+S A T DÍA	-20.6	0.00	0.00	0.00	0.00	0.00	0.00		...
			5037	C+S A T DÍA	10.7	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 1037.4460*,			SumGF = 1037.4460			
LC	5015	5016	5017	5035	5036	5037	
FacGU	1.00	1.00	1.00	1.00	1.00	1.00	
FacGF	1.00	1.00	1.00	1.00	1.00	1.00	
Act	G: SumGU = 0.0000*,			SumGF = 0.0000			
LC	5010	5020	5030				
FacGU	1.00	1.00	1.00				
FacGF	1.00	1.00	1.00				
Act	L: SumQ1 = 0.0000*,			SumQI = 0.0000			
LC	21						
FacQ1	0.00						
FacQI	0.00						
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	2						
FacQ1	0.00						
FacQI	0.00						
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	41						
FacQ1	0.00						
FacQI	0.00						
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	31	32					
FacQ1	0.00	0.00					
FacQI	0.00	0.00					

Act	action
SumGU,SumGF	sums of the permanent loads acting unfavourable and favourable, * = decisive
SumQ1,SumQ2,SumQ3	sum of the variable loads for 1st, 2nd, 3rd leading variable action, * = decisive
SumQI	sum of the variable loads for accompanying variable actions, * =

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	decisive
LC	number of the load case
FacGU,FacGF	factors of the permanent loads acting unfavourable and favourable
FacQ1,FacQ2,FacQ3	factors of the variable loads for 1st, 2nd, 3rd leading variable action
FacQI	factors of the variable loads for accompanying variable actions
LCW	loadcase-wise consideration

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

LC number of the load case
Fact resulting factors, - = load case is not considered

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	50	0.000	1321	MAXF-N	1037.4	0.00	-19.72	-0.00	435.62	0.00	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41	1	0.000	2	AGUA	0.0	-7.38	0.00	0.00	0.00	-33.58	0.00	...
			21	SC_CUBIERTA	-75.0	0.07	0.00	0.00	0.00	0.30	0.00	...
			31	VIENTO+	0.0	0.27	0.00	0.00	0.00	1.21	0.00	...
			32	VIENTO-	0.0	-0.74	0.00	0.00	-0.00	-3.38	0.00	...
			41	NIEVE	-15.0	0.01	0.00	0.00	0.00	0.06	0.00	...
			5010	SITUACION_O	-259.1	-0.40	0.00	0.00	0.00	-1.83	0.00	...
			5015	C+S A T DÍA	0.0	1.25	0.00	0.00	-0.00	5.70	0.00	...
			5016	C+S A T DÍA	0.0	-0.48	0.00	0.00	0.00	-2.18	0.00	...
			5017	C+S A T DÍA	0.0	0.37	0.00	0.00	0.00	1.70	0.00	...
			5020	CAPA_COMPRE	-75.1	0.08	0.00	0.00	0.00	0.35	0.00	...
			5030	CM_CUBIERTA	-262.4	0.27	0.00	0.00	0.00	1.21	0.00	...
			5035	C+S A T DÍA	0.0	-0.62	0.00	0.00	-0.00	-2.81	0.00	...
			5036	C+S A T DÍA	0.0	0.26	0.00	0.00	0.00	1.17	0.00	...
			5037	C+S A T DÍA	0.0	-0.08	0.00	0.00	0.00	-0.37	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 0.0000*,			SumGF = 0.0000		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -596.5004*,			SumGF = -596.5004		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -3.0029*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				

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Determination of Sums and Leading Variable Action

FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41	1	0.000	1322	MINF-N	-599.5	-6.73	0.00	0.00	-0.00	-30.64	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	49	0.600	2	AGUA	24.7	0.00	0.00	0.00	0.00	0.00	0.00	...
			21	SC_CUBIERTA	-4.6	0.00	4.76	0.00	56.53	0.00	0.00	...
			31	VIENTO+	-1.1	0.00	0.00	0.00	0.00	-0.00	0.00	...
			32	VIENTO-	2.7	0.00	0.00	0.00	0.00	0.00	0.00	...
			41	NIEVE	-0.9	0.00	0.95	0.00	11.31	0.00	0.00	...
			5010	SITUACION_O	-11.3	0.00	13.76	0.00	181.25	0.00	0.00	...
			5015	C+S A T DÍA	-3.8	0.00	0.00	0.00	0.00	0.00	0.00	...
			5016	C+S A T DÍA	-4.9	0.00	0.00	0.00	0.00	0.00	0.00	...
			5017	C+S A T DÍA	-2.6	0.00	0.00	0.00	0.00	0.00	0.00	...
			5020	CAPA_COMPRE	-4.6	0.00	4.76	0.00	56.53	0.00	0.00	...
			5030	CM_CUBIERTA	-16.2	0.00	16.64	0.00	197.84	0.00	0.00	...
			5035	C+S A T DÍA	3.0	0.00	0.00	0.00	0.00	0.00	0.00	...
			5036	C+S A T DÍA	-1.4	0.00	0.00	0.00	0.00	0.00	0.00	...
			5037	C+S A T DÍA	0.3	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0000*,			SumGF = -0.0000		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 435.6152*,			SumGF = 435.6152		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 2.2610*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

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Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	49	0.600	1329	MAXF-MY	-17.1	0.00	35.35	-0.00	437.88	0.00	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	22	0.520	2	AGUA	39.4	0.00	-5.33	0.00	-31.96	0.00	0.00		...
			21	SC_CUBIERTA	-4.7	0.00	-41.93	0.00	-42.86	0.00	0.00		...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	1.16	0.00	0.00		...
			32	VIENTO-	4.2	0.00	-0.54	0.00	-3.24	-0.01	0.00		...
			41	NIEVE	-0.9	0.00	-8.39	0.00	-8.57	0.00	0.00		...
			5010	SITUACION_O	-10.4	0.00	-136.26	0.00	-141.38	0.00	0.00		...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	-10.00	-0.00	0.00		...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	-1.29	0.00	0.00		...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	-1.12	0.00	0.00		...
			5020	CAPA_COMPRE	-4.8	0.00	-41.92	0.00	-42.80	0.00	0.00		...
			5030	CM_CUBIERTA	-16.8	0.00	-146.71	0.00	-149.81	0.00	0.00		...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	-3.05	0.00	0.00		...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	1.25	0.00	0.00		...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	-0.39	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -14.5943*,			SumGF = -14.5943		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -334.0032*,			SumGF = -334.0032		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -31.9606,			SumQI = -31.9606*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -1.7145*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -1.6185,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										

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Determined Factors

factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	22	0.520	1330	MINF-MY	-2.6	0.00	-334.33	0.01	-382.27	0.01	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	39	0.569	2	AGUA	0.5	-22.49	0.00	0.00	-0.00	44.99	0.00		...
			21	SC_CUBIERTA	-72.9	-3.64	0.00	0.00	0.00	11.12	0.00		...
			31	VIENTO+	0.2	0.63	0.00	0.00	0.00	-1.27	0.00		...
			32	VIENTO-	-0.3	-1.84	-0.00	-0.00	-0.00	3.73	0.00		...
			41	NIEVE	-14.6	-0.73	0.00	0.00	0.00	2.22	0.00		...
			5010	SITUACION_O	-237.5	-10.71	0.00	0.00	0.00	33.84	0.00		...
			5015	C+S A T DÍA	-17.8	8.15	0.00	0.00	-0.00	-18.66	0.00		...
			5016	C+S A T DÍA	13.2	-10.44	0.00	0.00	0.01	23.71	0.00		...
			5017	C+S A T DÍA	-1.2	0.10	0.00	0.00	0.00	-0.57	0.00		...
			5020	CAPA_COMPRE	-72.8	-3.61	0.00	0.00	0.00	11.08	0.00		...
			5030	CM_CUBIERTA	-254.9	-12.65	0.00	0.00	0.00	38.77	0.00		...
			5035	C+S A T DÍA	-1.8	-0.18	0.00	0.00	0.00	0.42	0.00		...
			5036	C+S A T DÍA	1.2	-0.25	0.00	0.00	0.00	0.58	0.00		...
			5037	C+S A T DÍA	-0.2	-0.07	0.00	0.00	0.00	0.15	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU =	5.6305*,		SumGF =	5.6305	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	83.6935*,		SumGF =	83.6935	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	44.9883,		SumQI =	44.9883*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 =	0.4448,		SumQI =	0.0000*	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	1.8674*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	39	0.569	1331	MAXF-MZ	-571.6	-53.07	0.00	0.00	0.00	136.18	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	23	0.649	2	AGUA	5.3	-17.29	0.00	0.00	0.00	31.76	0.00		...
			21	SC_CUBIERTA	-70.9	4.55	0.00	0.00	0.00	-13.51	0.00		...
			31	VIENTO+	-0.2	0.82	0.00	-0.00	0.00	-1.35	0.00		...
			32	VIENTO-	0.6	-1.91	-0.00	0.00	0.00	3.59	0.00		...
			41	NIEVE	-14.2	0.91	0.00	0.00	0.00	-2.70	0.00		...
			5010	SITUACION_O	-225.4	11.63	0.00	0.00	0.00	-39.26	0.00		...
			5015	C+S A T DÍA	-1.1	2.45	0.00	0.00	0.00	-6.47	0.00		...
			5016	C+S A T DÍA	-1.5	4.78	0.00	0.00	0.00	-8.92	0.00		...
			5017	C+S A T DÍA	-0.6	2.01	0.00	0.00	0.00	-3.76	0.00		...
			5020	CAPA_COMPRE	-70.9	4.56	0.00	0.00	0.00	-13.54	0.00		...
			5030	CM_CUBIERTA	-248.1	15.98	0.00	0.00	0.00	-47.41	0.00		...
			5035	C+S A T DÍA	0.7	-2.54	0.00	-0.00	0.00	4.18	0.00		...
			5036	C+S A T DÍA	-0.3	1.24	0.00	0.00	0.00	-2.06	0.00		...
			5037	C+S A T DÍA	0.1	-0.29	0.00	0.00	0.00	0.43	0.00		...

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -16.5981*,			SumGF = -16.5981		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -100.2142*,			SumGF = -100.2142		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = -0.5403,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -0.6729*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	23	0.649	1332	MINF-MZ	-547.2	40.24	0.00	0.00	0.00	-117.49	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	12	0.000	2	AGUA	39.4	0.00	-5.33	0.00	0.00	-0.00	0.00		...
			21	SC_CUBIERTA	-4.7	0.00	33.15	0.00	0.00	0.00	0.00		...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	0.00	-0.00	0.00		...
			32	VIENTO-	4.2	0.00	-0.54	0.00	0.00	0.00	0.00		...
			41	NIEVE	-0.9	0.00	6.63	0.00	0.00	0.00	0.00		...
			5010	SITUACION_O	-10.4	0.00	104.60	0.00	0.00	0.00	0.00		...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	0.00	0.00	0.00		...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	0.00	0.00	0.00		...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	0.00	0.00	0.00		...
			5020	CAPA_COMPRE	-4.8	0.00	33.16	0.00	0.00	0.00	0.00		...
			5030	CM_CUBIERTA	-16.8	0.00	116.04	0.00	0.00	0.00	0.00		...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	0.00	0.00	0.00		...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	0.00	0.00	0.00		...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0041*,		SumGF =	0.0041	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	0.0030*,		SumGF =	0.0030	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	0.0012*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	12	0.000	1327	MAXF-MT	-39.7	0.00	251.10	0.01	0.00	0.01	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
43:	34	0.589	2	AGUA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			21	SC_CUBIERTA	0.0	0.00	-7.51	0.00	0.00	0.00	0.00		...
			31	VIENTO+	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			32	VIENTO-	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			41	NIEVE	0.0	0.00	-1.50	0.00	0.00	0.00	0.00		...
			5010	SITUACION_O	0.0	0.00	-21.09	0.00	0.00	0.00	0.00		...
			5015	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5016	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5017	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5020	CAPA_COMPRE	0.0	0.00	-7.51	0.00	0.00	0.00	0.00		...
			5030	CM_CUBIERTA	0.0	0.00	-26.28	0.00	0.00	0.00	0.00		...
			5035	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5036	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5037	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0000*,		SumGF =	0.0000	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	-0.0017*,		SumGF =	-0.0017	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
43:	34	0.589	1328	MINF-MT	0.0	0.00	-55.17	-0.00	0.00	0.00	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	18	0.000	2	AGUA	5.3	-17.29	0.00	0.00	-0.00	-35.55	0.00		...
			21	SC_CUBIERTA	-70.9	4.55	0.00	0.00	0.00	4.19	0.00		...
			31	VIENTO+	-0.2	0.82	0.00	-0.00	-0.00	1.86	0.00		...
			32	VIENTO-	0.6	-1.91	-0.00	0.00	0.01	-3.87	0.00		...
			41	NIEVE	-14.2	0.91	0.00	0.00	0.00	0.84	0.00		...
			5010	SITUACION_O	-240.9	11.63	0.00	0.00	0.00	6.03	0.00		...
			5015	C+S A T DÍA	-1.1	2.45	0.00	0.00	0.00	3.06	0.00		...
			5016	C+S A T DÍA	-1.5	4.78	0.00	0.00	0.00	9.68	0.00		...
			5017	C+S A T DÍA	-0.6	2.01	0.00	0.00	0.00	4.08	0.00		...
			5020	CAPA_COMPRE	-70.9	4.56	0.00	0.00	0.00	4.22	0.00		...
			5030	CM_CUBIERTA	-248.1	15.98	0.00	0.00	0.00	14.79	0.00		...
			5035	C+S A T DÍA	0.7	-2.54	0.00	-0.00	0.00	-5.71	0.00		...
			5036	C+S A T DÍA	-0.3	1.24	0.00	0.00	0.00	2.76	0.00		...
			5037	C+S A T DÍA	0.1	-0.29	0.00	0.00	0.00	-0.68	0.00		...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	7.6544*,		SumGF =	7.6544	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	32.1749*,		SumGF =	32.1749	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.1818,		SumQI =	0.0000*	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	0.4119*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	18	0.000	1323	MAXF-VY	-562.8	40.24	0.00	0.00	0.00	39.18	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	33	0.000	2	AGUA	0.5	-22.49	0.00	0.00	0.00	-44.55	0.00	...
			21	SC_CUBIERTA	-72.9	-3.64	0.00	0.00	0.00	-3.36	0.00	...
			31	VIENTO+	0.2	0.63	0.00	0.00	-0.00	1.23	0.00	...
			32	VIENTO-	-0.3	-1.84	-0.00	-0.00	0.00	-3.60	0.00	...
			41	NIEVE	-14.6	-0.73	0.00	0.00	0.00	-0.67	0.00	...
			5010	SITUACION_O	-253.4	-10.71	0.00	0.00	-0.00	-8.81	0.00	...
			5015	C+S A T DÍA	-17.8	8.15	0.00	0.00	-0.00	13.79	0.00	...
			5016	C+S A T DÍA	13.2	-10.44	0.00	0.00	0.00	-17.84	0.00	...
			5017	C+S A T DÍA	-1.2	0.10	0.00	0.00	0.00	-0.18	0.00	...
			5020	CAPA_COMPRE	-72.8	-3.61	0.00	0.00	0.00	-3.31	0.00	...
			5030	CM_CUBIERTA	-254.9	-12.65	0.00	0.00	-0.00	-11.58	0.00	...
			5035	C+S A T DÍA	-1.8	-0.18	0.00	0.00	-0.01	-0.30	0.00	...
			5036	C+S A T DÍA	1.2	-0.25	0.00	0.00	0.00	-0.42	0.00	...
			5037	C+S A T DÍA	-0.2	-0.07	0.00	0.00	0.00	-0.11	0.00	...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	-2.6846*,		SumGF =	-2.6846	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	-26.9754*,		SumGF =	-26.9754	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	-22.4890,		SumQI =	-22.4890*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 =	-0.1455,		SumQI =	0.0000*	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	-0.9213*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	33	0.000	1324	MINF-VY	-587.5	-53.07	0.00	0.00	-0.01	-75.11	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42:	34	0.000	2	AGUA	17.3	0.00	-5.29	0.00	31.76	0.00	0.00	...
			21	SC_CUBIERTA	-4.5	0.00	41.71	0.00	-41.56	0.00	0.00	...
			31	VIENTO+	-0.8	0.00	0.22	0.00	-1.35	0.00	0.00	...
			32	VIENTO-	1.9	-0.00	-0.60	-0.00	3.59	-0.00	0.00	...
			41	NIEVE	-0.9	0.00	8.34	0.00	-8.31	0.00	0.00	...
			5010	SITUACION_O	-11.6	0.00	133.90	0.00	-127.19	-0.00	0.00	...
			5015	C+S A T DÍA	-2.4	0.00	1.08	0.00	-6.47	0.00	0.00	...
			5016	C+S A T DÍA	-4.8	0.00	1.49	0.00	-8.92	-0.00	0.00	...
			5017	C+S A T DÍA	-2.0	0.00	0.63	0.00	-3.76	0.00	0.00	...
			5020	CAPA_COMPRE	-4.6	0.00	41.72	0.00	-41.60	0.00	0.00	...
			5030	CM_CUBIERTA	-16.0	0.00	146.01	0.00	-145.60	-0.00	0.00	...
			5035	C+S A T DÍA	2.5	0.00	-0.70	-0.00	4.18	0.00	0.00	...
			5036	C+S A T DÍA	-1.2	0.00	0.34	0.00	-2.06	0.00	0.00	...
			5037	C+S A T DÍA	0.3	0.00	-0.07	0.00	0.43	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	2.7663*,		SumGF =	2.7663	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	321.6320*,		SumGF =	321.6320	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	1.6685*,		SumQI =	0.0000	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	0.1122,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42:	34	0.000	1325	MAXF-VZ	-40.0	0.00	326.07	0.00	-332.65	-0.00	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42:	22	0.520	2	AGUA	39.4	0.00	-5.33	0.00	-31.96	0.00	0.00	...
			21	SC_CUBIERTA	-4.7	0.00	-41.93	0.00	-42.86	0.00	0.00	...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	1.16	0.00	0.00	...
			32	VIENTO-	4.2	0.00	-0.54	0.00	-3.24	-0.01	0.00	...
			41	NIEVE	-0.9	0.00	-8.39	0.00	-8.57	0.00	0.00	...
			5010	SITUACION_O	-10.4	0.00	-136.26	0.00	-141.38	0.00	0.00	...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	-10.00	-0.00	0.00	...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	-1.29	0.00	0.00	...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	-1.12	0.00	0.00	...
			5020	CAPA_COMPRE	-4.8	0.00	-41.92	0.00	-42.80	0.00	0.00	...
			5030	CM_CUBIERTA	-16.8	0.00	-146.71	0.00	-149.81	0.00	0.00	...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	-3.05	0.00	0.00	...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	1.25	0.00	0.00	...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	-0.39	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -2.4324*,			SumGF = -2.4324		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -324.8898*,			SumGF = -324.8898		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -5.3268,			SumQI = -5.3268*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -1.6771*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -0.2698,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	22	0.520	1326	MINF-VZ	-2.6	0.00	-334.33	0.01	-382.27	0.01	0.00	...

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	2	AGUA	37.95	32.43	0.37	66.97	0.11	106.99	103.90
		21	SC_CUBIERTA	34.51	25.62	-0.02	119.53	0.96	-1.28	-2.45
		31	VIENTO+	-0.40	-1.22	0.06	-2.01	-0.01	-1.08	0.95
		32	VIENTO-	1.60	3.29	-0.06	5.66	0.01	2.35	-0.50
		41	NIEVE	6.90	5.12	-0.00	23.91	0.19	-0.26	-0.49
		5010	SITUACION_O	108.76	101.72	-0.11	415.49	3.35	-20.26	-0.80
		5015	C+S A T DÍA	-42.81	8.68	-0.16	12.91	0.20	-205.67	-238.84
		5016	C+S A T DÍA	52.28	-6.71	0.19	-0.83	-0.13	-247.55	-162.48
		5017	C+S A T DÍA	1.46	-0.42	0.01	3.57	0.02	691.66	658.60
		5020	CAPA_COMPRE	34.44	25.90	-0.02	119.34	0.96	-7.00	-1.05
		5030	CM_CUBIERTA	120.56	90.63	-0.08	417.70	3.35	-24.39	-3.59
		5035	C+S A T DÍA	0.59	12.83	-0.01	5.24	0.04	-299.67	-307.12
		5036	C+S A T DÍA	1.52	-5.75	0.01	-2.04	-0.02	161.48	166.51
		5037	C+S A T DÍA	0.17	1.84	0.00	0.64	0.00	-28.79	-30.01

Determination of Sums and Leading Variable Action

Act	C: SumGU = 13.2174*,			SumGF = 13.2174		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 263.7581*,			SumGF = 263.7581		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 37.9453,			SumQI = 37.9453*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 1.3805*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 0.8004,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	1301	MAXF-MX	316.30	262.17	0.19	1043.77	7.92	126.73	185.02

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204779	2	AGUA	-368.92	26.75	-82.89	943.96	309.69	1355.61	556.18
		21	SC_CUBIERTA	-8.71	-0.56	0.05	0.51	-0.80	23.65	6.99
		31	VIENTO+	-21.35	0.39	0.70	16.60	-0.65	47.51	6.14
		32	VIENTO-	20.57	2.30	-5.60	11.49	13.61	-35.56	5.06
		41	NIEVE	-1.74	-0.11	0.01	0.10	-0.16	4.73	1.40
		5010	SITUACION_O	-1.21	33.92	-46.48	-143.18	40.58	-120.16	-87.60
		5015	C+S A T DÍA	-297.77	-65.31	66.48	240.84	-170.02	-334.10	-284.68
		5016	C+S A T DÍA	254.42	66.77	-65.88	-293.60	108.37	144.71	205.60
		5017	C+S A T DÍA	26.62	-3.66	-1.02	66.24	44.02	298.57	97.74
		5020	CAPA_COMPRE	-5.84	1.88	-3.66	-32.92	1.03	-24.72	-13.83
		5030	CM_CUBIERTA	-20.40	6.20	-12.66	-115.52	3.63	-87.09	-48.34
		5035	C+S A T DÍA	-32.96	25.72	-42.04	-48.40	-26.11	-316.90	-152.80
		5036	C+S A T DÍA	17.30	-7.25	13.23	16.81	13.43	118.70	60.50
		5037	C+S A T DÍA	-2.80	2.07	-4.42	-11.33	-2.64	-21.23	-11.93

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -35.2008*,			SumGF = -35.2008		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -27.4509*,			SumGF = -27.4509		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -368.9204,			SumQI = -368.9204*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.3483,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -10.6761*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204779	1302	MINF-MX	-442.25	87.30	-178.99	631.22	321.68	1037.13	323.92

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	2	AGUA	37.95	32.43	0.37	66.97	0.11	106.99	103.90
		21	SC_CUBIERTA	34.51	25.62	-0.02	119.53	0.96	-1.28	-2.45
		31	VIENTO+	-0.40	-1.22	0.06	-2.01	-0.01	-1.08	0.95
		32	VIENTO-	1.60	3.29	-0.06	5.66	0.01	2.35	-0.50
		41	NIEVE	6.90	5.12	-0.00	23.91	0.19	-0.26	-0.49
		5010	SITUACION_O	108.76	101.72	-0.11	415.49	3.35	-20.26	-0.80
		5015	C+S A T DÍA	-42.81	8.68	-0.16	12.91	0.20	-205.67	-238.84
		5016	C+S A T DÍA	52.28	-6.71	0.19	-0.83	-0.13	-247.55	-162.48
		5017	C+S A T DÍA	1.46	-0.42	0.01	3.57	0.02	691.66	658.60
		5020	CAPA_COMPRE	34.44	25.90	-0.02	119.34	0.96	-7.00	-1.05
		5030	CM_CUBIERTA	120.56	90.63	-0.08	417.70	3.35	-24.39	-3.59
		5035	C+S A T DÍA	0.59	12.83	-0.01	5.24	0.04	-299.67	-307.12
		5036	C+S A T DÍA	1.52	-5.75	0.01	-2.04	-0.02	161.48	166.51
		5037	C+S A T DÍA	0.17	1.84	0.00	0.64	0.00	-28.79	-30.01

Determination of Sums and Leading Variable Action

Act	C: SumGU =	10.4718*,		SumGF =	10.4718	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	218.2447*,		SumGF =	218.2447	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	32.4328,		SumQI =	32.4328*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 =	1.0249,		SumQI =	0.0000*	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	1.6470*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	1303	MAXF-MY	315.72	262.80	0.17	1041.82	7.89	127.96	184.87

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1108869	2	AGUA	-106.40	-215.98	-122.38	799.91	647.22	-464.24	-175.11
		21	SC_CUBIERTA	-2.11	-2.75	-2.05	1.48	-1.09	-22.12	-27.55
		31	VIENTO+	0.62	9.59	3.25	-36.01	-33.69	-14.26	-7.57
		32	VIENTO-	-1.96	-2.70	-1.90	10.08	8.15	-17.59	-11.74
		41	NIEVE	-0.42	-0.55	-0.41	0.30	-0.22	-4.42	-5.51
		5010	SITUACION_O	-20.04	-24.89	-18.33	-21.14	-15.91	171.17	-42.73
		5015	C+S A T DÍA	-170.20	-70.17	-79.92	19.75	-5.00	873.18	413.50
		5016	C+S A T DÍA	144.90	60.02	67.67	-17.01	8.47	-462.43	-347.16
		5017	C+S A T DÍA	18.60	8.51	8.79	9.34	3.72	-442.16	-89.01
		5020	CAPA_COMPRE	-3.69	-2.47	-2.39	-17.06	-14.39	4.96	-20.70
		5030	CM_CUBIERTA	-12.94	-8.58	-8.32	-60.29	-50.88	17.52	-72.56
		5035	C+S A T DÍA	-27.09	-37.63	-24.36	51.06	54.38	149.62	-88.62
		5036	C+S A T DÍA	12.92	14.81	10.15	-15.52	-18.00	-61.40	27.09
		5037	C+S A T DÍA	-0.12	-2.85	-1.32	2.23	4.44	-33.90	-37.66

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -27.3095*,			SumGF = -27.3095		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -35.9419*,			SumGF = -35.9419		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -215.9769,			SumQI = -215.9769*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.1101,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -1.3513*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1108869	1304	MINF-MY	-165.03	-280.58	-171.36	756.31	618.12	-256.48	-438.83

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204615	2	AGUA	-356.28	24.30	94.24	-887.14	281.48	1257.89	515.55
		21	SC_CUBIERTA	4.09	4.28	4.13	-17.34	8.98	-3.06	1.28
		31	VIENTO+	29.16	1.03	-0.72	32.05	-3.29	-74.93	-17.46
		32	VIENTO-	1.33	2.61	4.15	-18.27	6.67	1.93	4.04
		41	NIEVE	0.82	0.86	0.83	-3.47	1.80	-0.61	0.26
		5010	SITUACION_O	30.69	43.79	54.27	17.87	62.17	-45.88	-52.98
		5015	C+S A T DÍA	-328.72	-76.49	-64.59	-116.26	-206.47	-418.26	-275.40
		5016	C+S A T DÍA	280.97	78.07	67.94	159.75	133.77	213.32	198.89
		5017	C+S A T DÍA	30.56	-4.01	-0.45	-22.84	52.48	313.59	85.14
		5020	CAPA_COMPRE	7.83	6.37	6.92	-12.19	11.51	4.65	-2.60
		5030	CM_CUBIERTA	27.34	21.84	24.03	-42.75	40.33	15.36	-9.13
		5035	C+S A T DÍA	6.33	36.84	51.77	-92.20	0.29	-244.80	-105.68
		5036	C+S A T DÍA	4.14	-11.21	-16.91	36.45	5.34	93.37	43.48
		5037	C+S A T DÍA	2.10	3.57	5.53	-6.24	0.60	-10.15	-7.81

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	43.3044*,		SumGF =	43.3044	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	85.2171*,		SumGF =	85.2171	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	94.2366,		SumQI =	94.2366*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 =	0.1653,		SumQI =	0.0000*	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	2.0759*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204615	1305	MAXF-MXY	-294.37	124.38	224.83	-974.68	384.85	1180.06	391.46

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204356	2	AGUA	-356.76	27.46	-78.25	-922.72	-294.51	1291.44	552.94
		21	SC_CUBIERTA	4.23	4.38	-4.14	-17.40	-9.00	-2.82	1.38
		31	VIENTO+	33.63	8.63	-11.66	-17.42	-14.71	-71.29	-5.67
		32	VIENTO-	-3.86	-7.01	10.31	47.32	17.45	-2.75	-10.81
		41	NIEVE	0.85	0.88	-0.83	-3.48	-1.80	-0.56	0.28
		5010	SITUACION_O	32.02	45.49	-54.81	21.86	-66.05	-50.67	-55.88
		5015	C+S A T DÍA	-337.72	-77.51	69.63	-127.53	212.75	-419.69	-300.14
		5016	C+S A T DÍA	288.31	79.12	-71.85	169.15	-138.72	223.25	220.60
		5017	C+S A T DÍA	31.52	-4.15	-0.51	-21.46	-53.59	310.06	89.12
		5020	CAPA_COMPRE	8.02	6.52	-6.94	-11.82	-11.47	4.33	-2.54
		5030	CM_CUBIERTA	28.10	22.43	-24.15	-41.25	-40.26	14.25	-8.93
		5035	C+S A T DÍA	7.07	38.23	-50.99	-91.49	1.00	-252.09	-110.65
		5036	C+S A T DÍA	4.00	-11.69	16.55	36.35	-6.08	96.00	45.71
		5037	C+S A T DÍA	2.22	3.73	-5.51	-6.07	-0.52	-10.66	-7.76

Determination of Sums and Leading Variable Action

Act	C: SumGU = -42.6701*,			SumGF = -42.6701		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -85.8985*,			SumGF = -85.8985		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -78.2452,			SumQI = -78.2452*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.1655,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -5.8321*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204356	1306	MINF-MXY	-276.39	133.94	-212.65	-1003.70	-404.81	1170.58	419.66

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 139.9710*,			SumGF = 139.9710		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 318.2646*,			SumGF = 318.2646		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 1554.8691,			SumQI = 1554.8691*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 1.1478,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 13.4889*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	1307	MAXF-VX	-81.34	-20.80	-12.53	2026.59	907.52	3122.71	549.77

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304424	2	AGUA	-58.73	-23.31	9.60	-1470.77	407.24	2225.63	77.01
		21	SC_CUBIERTA	-1.11	-0.07	0.16	-25.77	6.19	46.90	6.62
		31	VIENTO+	0.97	0.62	-0.16	24.48	-7.53	-6.77	3.80
		32	VIENTO-	-3.51	-1.86	0.57	-86.60	25.36	61.87	-6.94
		41	NIEVE	-0.22	-0.01	0.03	-5.16	1.24	9.38	1.32
		5010	SITUACION_O	-7.29	-1.70	1.16	-163.39	42.80	206.49	15.09
		5015	C+S A T DÍA	8.30	2.67	-1.50	94.21	9.93	350.32	77.78
		5016	C+S A T DÍA	-8.91	-2.88	1.62	-107.54	-8.65	-324.04	-79.67
		5017	C+S A T DÍA	1.77	0.54	-0.33	24.71	-1.13	16.37	13.81
		5020	CAPA_COMPRE	-1.25	-0.12	0.19	-28.45	6.93	45.14	6.10
		5030	CM_CUBIERTA	-4.32	-0.37	0.64	-97.76	23.99	157.37	20.99
		5035	C+S A T DÍA	-8.52	-2.29	1.43	-185.19	45.40	248.36	9.46
		5036	C+S A T DÍA	3.26	0.86	-0.55	71.25	-18.40	-100.23	-4.06
		5037	C+S A T DÍA	-1.33	-0.37	0.23	-27.24	6.38	27.95	-0.04

Determination of Sums and Leading Variable Action

Act	C: SumGU = -129.7990*,			SumGF = -129.7990		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -289.6043*,			SumGF = -289.6043		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -1470.768,			SumQI = -1470.768*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -1.0310,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -43.2991*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304424	1308	MINF-VX	-78.78	-27.91	12.78	-1933.47	527.18	2884.29	132.99

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2204964	2	AGUA	-92.17	-2.95	39.16	-1439.06	2109.73	1214.26	2260.61
		21	SC_CUBIERTA	-1.55	0.31	0.43	-22.40	22.32	38.25	117.98
		31	VIENTO+	1.61	0.23	-0.81	14.41	-36.07	9.84	5.29
		32	VIENTO-	-5.64	-0.60	2.66	-61.55	123.75	4.64	41.95
		41	NIEVE	-0.31	0.06	0.09	-4.48	4.47	7.65	23.60
		5010	SITUACION_O	-10.70	0.24	4.02	-120.90	176.83	137.21	451.47
		5015	C+S A T DÍA	9.18	6.90	-6.94	-245.01	29.08	221.26	-814.60
		5016	C+S A T DÍA	-10.42	-6.68	7.10	205.82	-11.67	-208.89	704.82
		5017	C+S A T DÍA	2.36	0.86	-1.08	9.42	-4.53	7.87	-9.33
		5020	CAPA_COMPRE	-1.76	0.27	0.53	-22.25	24.01	36.11	119.68
		5030	CM_CUBIERTA	-6.02	0.96	1.76	-77.28	82.56	126.13	417.02
		5035	C+S A T DÍA	-12.63	-0.57	5.10	-150.54	218.83	165.58	443.18
		5036	C+S A T DÍA	4.70	0.23	-1.89	60.15	-80.29	-64.15	-145.50
		5037	C+S A T DÍA	-1.85	-0.23	0.79	-15.38	24.82	16.47	55.17

Determination of Sums and Leading Variable Action

Act	C: SumGU = 176.2350*,			SumGF = 176.2350		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 283.4033*,			SumGF = 283.4033		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 2109.7283,			SumQI = 2109.7283*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 0.8930,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 61.8753*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2204964	1309	MAXF-VY	-122.13	-1.26	49.87	-1825.81	2631.24	1654.16	3503.50

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2200564	2	AGUA	43.30	-3.52	-42.05	1120.77	-2109.30	956.60	2223.62
		21	SC_CUBIERTA	0.56	-0.17	-0.63	17.34	-22.72	31.67	117.97
		31	VIENTO+	-2.20	0.03	1.97	-29.64	92.07	17.84	12.87
		32	VIENTO-	0.45	-0.01	-0.48	15.45	-22.40	22.45	47.68
		41	NIEVE	0.11	-0.03	-0.13	3.47	-4.55	6.33	23.59
		5010	SITUACION_O	4.62	-0.18	-4.74	93.53	-177.42	113.02	445.28
		5015	C+S A T DÍA	-5.09	-6.61	5.73	174.55	-15.64	146.72	-804.35
		5016	C+S A T DÍA	5.59	6.46	-6.06	-147.03	3.91	-140.61	699.88
		5017	C+S A T DÍA	-1.19	-0.90	1.14	-7.22	4.46	8.49	-8.98
		5020	CAPA_COMPRE	0.66	-0.13	-0.73	17.24	-24.12	29.93	118.93
		5030	CM_CUBIERTA	2.27	-0.47	-2.50	59.69	-83.61	104.82	416.06
		5035	C+S A T DÍA	5.56	0.47	-5.71	116.11	-216.41	132.80	439.34
		5036	C+S A T DÍA	-2.06	-0.16	2.12	-46.08	80.02	-51.49	-145.13
		5037	C+S A T DÍA	0.86	0.23	-0.86	11.92	-24.31	13.01	53.84

Determination of Sums and Leading Variable Action

Act	C: SumGU = -167.9768*,			SumGF = -167.9768		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -285.1572*,			SumGF = -285.1572		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -2109.299,			SumQI = -2109.299*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.9090,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -11.2011*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2200564	1310	MINF-VY	54.73	-4.82	-53.89	1401.19	-2573.63	1324.50	3462.32

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 228.3769*,			SumGF = 228.3769		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 434.7367*,			SumGF = 434.7367		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 2407.5496,			SumQI = 2407.5496*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 1.9562,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 52.0416*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	1311	MAXF-NXX	-81.34	-20.80	-12.53	2026.59	907.52	3122.71	549.77

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3205522	2	AGUA	-0.08	0.00	-0.00	0.57	-0.07	-28.68	0.00
		21	SC_CUBIERTA	-0.12	0.02	-0.05	15.24	-7.35	-160.47	-176.15
		31	VIENTO+	-0.04	0.00	0.00	-0.00	-0.01	-5.46	-0.01
		32	VIENTO-	0.04	0.00	0.00	-0.02	0.01	3.58	0.01
		41	NIEVE	-0.02	0.00	-0.01	3.05	-1.47	-32.10	-35.23
		5010	SITUACION_O	-0.34	0.05	-0.14	42.86	-20.63	-444.92	-494.77
		5015	C+S A T DÍA	-0.49	-0.00	-0.01	2.43	0.22	110.51	-1.06
		5016	C+S A T DÍA	0.28	0.00	0.01	-2.42	-0.19	-72.83	0.84
		5017	C+S A T DÍA	0.21	0.00	-0.00	0.49	0.00	-31.41	0.04
		5020	CAPA_COMPRE	-0.12	0.02	-0.05	15.24	-7.35	-160.72	-176.16
		5030	CM_CUBIERTA	-0.42	0.06	-0.17	53.35	-25.71	-562.48	-616.54
		5035	C+S A T DÍA	-0.04	0.00	-0.00	0.24	-0.02	-22.90	-0.03
		5036	C+S A T DÍA	0.07	0.00	0.00	-0.18	-0.00	4.87	-0.00
		5037	C+S A T DÍA	-0.02	0.00	0.00	0.03	-0.00	-2.82	0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -14.5681*,			SumGF = -14.5681		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -1168.125*,			SumGF = -1168.125		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -28.6789,			SumQI = -28.6789*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -6.4191*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -2.7290,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3205522	1312	MINF-NXX	-0.95	0.13	-0.36	113.21	-54.05	-1217.79	-1294.74

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2205387	2	AGUA	-91.95	-0.92	38.27	-1447.38	2104.87	1223.91	2226.79
		21	SC_CUBIERTA	-1.52	0.34	0.40	-22.50	21.96	38.62	116.84
		31	VIENTO+	1.05	0.65	-0.93	-19.48	-28.62	105.18	144.86
		32	VIENTO-	2.82	-0.14	-1.01	52.12	-58.07	-74.52	-124.03
		41	NIEVE	-0.30	0.07	0.08	-4.50	4.39	7.72	23.37
		5010	SITUACION_O	-10.60	0.47	3.87	-121.22	175.71	137.11	443.58
		5015	C+S A T DÍA	9.09	6.75	-6.88	-243.70	23.42	226.86	-804.47
		5016	C+S A T DÍA	-10.24	-6.48	6.98	205.11	-8.44	-213.21	698.42
		5017	C+S A T DÍA	2.37	0.83	-1.07	9.38	-4.64	8.37	-7.66
		5020	CAPA_COMPRE	-1.73	0.32	0.50	-22.28	23.60	36.31	118.27
		5030	CM_CUBIERTA	-5.93	1.11	1.65	-77.39	81.14	126.87	412.13
		5035	C+S A T DÍA	-12.46	-0.28	4.91	-150.76	216.23	166.74	437.19
		5036	C+S A T DÍA	4.64	0.14	-1.83	60.23	-79.32	-64.57	-143.22
		5037	C+S A T DÍA	-1.83	-0.17	0.76	-15.41	24.53	16.56	54.39

Determination of Sums and Leading Variable Action

Act	C: SumGU = 234.6545*,			SumGF = 234.6545		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 973.9786*,			SumGF = 973.9786		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 2226.7917,			SumQI = 2226.7917*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 4.6736,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 72.4310*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2205387	1313	MAXF-NYY	-118.12	2.08	46.69	-1813.15	2542.79	1717.52	3507.86

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	2	AGUA	3.41	0.06	-0.27	22.33	-1.99	99.96	-0.01
		21	SC_CUBIERTA	-0.19	0.09	0.02	-9.90	-19.81	-123.53	-416.96
		31	VIENTO+	0.03	0.00	-0.01	0.64	-0.07	-4.19	-0.00
		32	VIENTO-	-0.15	-0.00	0.02	-1.33	0.13	-3.10	0.00
		41	NIEVE	-0.04	0.02	0.00	-1.98	-3.96	-24.71	-83.39
		5010	SITUACION_O	-0.20	0.25	0.02	-25.65	-55.82	-333.23	-1171.14
		5015	C+S A T DÍA	-0.83	-0.00	-0.00	0.78	0.32	-23.73	-0.09
		5016	C+S A T DÍA	0.68	0.00	0.00	-0.74	-0.29	36.34	0.02
		5017	C+S A T DÍA	0.09	0.00	-0.00	0.37	0.00	-18.04	-0.04
		5020	CAPA_COMPRE	-0.18	0.09	0.02	-9.91	-19.81	-123.62	-416.99
		5030	CM_CUBIERTA	-0.65	0.31	0.06	-34.62	-69.35	-432.69	-1459.40
		5035	C+S A T DÍA	0.33	0.01	-0.04	3.52	-0.30	8.37	-0.06
		5036	C+S A T DÍA	-0.08	-0.00	0.02	-1.56	0.12	-4.42	-0.07
		5037	C+S A T DÍA	0.04	0.00	-0.01	0.58	-0.05	2.56	-0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.2451*,			SumGF = -0.2451		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -3047.532*,			SumGF = -3047.532		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -0.0054,			SumQI = -0.0054*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -16.6783*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -0.0007,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	1314	MINF-NYY	2.60	0.72	-0.21	-45.29	-147.96	-793.46	-3064.46

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306073	2	AGUA	-13.17	7.50	-25.86	642.44	697.05	905.79	936.07
		21	SC_CUBIERTA	-0.38	0.30	-0.53	12.25	14.19	19.01	62.56
		31	VIENTO+	-0.53	0.45	-0.58	17.95	7.42	29.96	65.44
		32	VIENTO-	0.23	-0.32	-0.23	-1.22	17.84	-10.36	-63.81
		41	NIEVE	-0.08	0.06	-0.11	2.45	2.84	3.80	12.51
		5010	SITUACION_O	-1.99	1.53	-3.28	70.79	84.56	96.95	233.84
		5015	C+S A T DÍA	2.82	-2.52	3.04	-14.98	-44.35	-3.57	-348.81
		5016	C+S A T DÍA	-2.86	2.65	-3.33	20.70	46.15	2.44	322.16
		5017	C+S A T DÍA	0.53	-0.49	0.67	-12.44	-7.98	1.32	-34.79
		5020	CAPA_COMPRE	-0.42	0.31	-0.59	13.03	15.35	19.29	63.71
		5030	CM_CUBIERTA	-1.42	1.14	-2.06	45.07	53.77	67.39	222.77
		5035	C+S A T DÍA	-2.35	1.77	-3.74	83.72	86.80	108.21	224.33
		5036	C+S A T DÍA	0.87	-0.68	1.43	-32.92	-34.00	-43.74	-78.49
		5037	C+S A T DÍA	-0.38	0.28	-0.58	12.53	12.63	16.16	31.24

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 155.1663*,			SumGF = 155.1663		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 290.8997*,			SumGF = 290.8997		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 1686.8730,			SumQI = 1686.8730*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 1.2042,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 29.3191*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306073	1315	MAXF-NXY	-18.64	11.72	-34.59	836.92	913.69	1185.23	1604.74

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106898	2	AGUA	-18.26	6.61	17.67	586.85	-289.24	1208.57	-205.92
		21	SC_CUBIERTA	-0.13	0.55	0.28	3.73	26.18	13.35	-68.87
		31	VIENTO+	1.09	0.38	-0.79	-31.02	42.08	-34.02	-8.33
		32	VIENTO-	-0.14	0.31	0.23	5.44	4.51	16.53	-8.04
		41	NIEVE	-0.03	0.11	0.06	0.75	5.24	2.67	-13.78
		5010	SITUACION_O	-1.46	2.54	2.16	45.88	70.90	86.94	-247.56
		5015	C+S A T DÍA	-0.55	-6.79	-3.21	-14.23	-325.41	182.78	966.86
		5016	C+S A T DÍA	0.25	6.81	3.44	16.90	300.35	-175.47	-901.88
		5017	C+S A T DÍA	0.09	-1.23	-0.70	-4.86	-29.01	24.11	82.83
		5020	CAPA_COMPRE	-0.18	0.60	0.33	5.16	26.32	13.46	-72.54
		5030	CM_CUBIERTA	-0.59	2.07	1.13	16.38	93.30	46.07	-254.11
		5035	C+S A T DÍA	-1.62	3.17	2.71	58.36	61.41	103.52	-214.96
		5036	C+S A T DÍA	0.63	-1.16	-1.02	-22.22	-17.72	-44.97	62.93
		5037	C+S A T DÍA	-0.26	0.53	0.44	8.86	9.82	13.90	-34.69

Determination of Sums and Leading Variable Action

Act	C: SumGU = -158.0088*,			SumGF = -158.0088		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -214.6952*,			SumGF = -214.6952		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -1768.211,			SumQI = -1768.211*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.8400,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -12.6984*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106898	1316	MINF-NXY	-22.01	13.30	23.07	699.80	-97.02	1467.18	-823.07

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

Determination of Sums and Leading Variable Action

Act	C: SumGU = 8805.2148*,			SumGF = 8805.2148		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 19232.215*,			SumGF = 19232.215		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 92946.812,			SumQI = 92946.812*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 72.5285,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 1285.3408*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	1371	MAXF-SXO	-81.34	-20.80	-12.53	2026.59	907.52	3122.71	549.77

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306931	2	AGUA	15.49	-8.24	5.63	390.35	383.12	-28.13	305.82
		21	SC_CUBIERTA	0.04	-0.07	0.04	10.84	6.38	-3.07	-22.63
		31	VIENTO+	-0.34	-0.20	0.03	18.97	10.74	-0.50	3.25
		32	VIENTO-	1.22	0.02	0.20	-13.98	-2.07	-0.12	3.22
		41	NIEVE	0.01	-0.01	0.01	2.17	1.28	-0.61	-4.53
		5010	SITUACION_O	1.34	-0.34	0.44	49.43	33.42	-10.64	-73.87
		5015	C+S A T DÍA	-2.80	-3.92	0.36	-20.19	45.30	2.97	620.77
		5016	C+S A T DÍA	2.95	3.78	-0.22	26.76	-42.11	-11.94	-607.84
		5017	C+S A T DÍA	-0.47	-0.58	-0.03	-8.64	3.97	13.94	96.70
		5020	CAPA_COMPRE	0.09	-0.05	0.05	11.04	6.09	-3.10	-24.57
		5030	CM_CUBIERTA	0.28	-0.22	0.17	38.34	21.96	-10.80	-86.09
		5035	C+S A T DÍA	1.63	-0.18	0.53	58.90	37.22	-13.22	-78.24
		5036	C+S A T DÍA	-0.58	0.14	-0.22	-22.01	-15.83	3.06	17.21
		5037	C+S A T DÍA	0.26	-0.01	0.08	7.99	4.94	0.14	-14.38

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -1047.381*,			SumGF = -1047.381		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -2001.291*,			SumGF = -2001.291		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -15664.99,			SumQI = -15664.99*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -3.2055,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -602.1243*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306931	1372	MINF-SXO	18.80	-9.60	6.88	524.98	477.06	-57.76	157.12

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106788	2	AGUA	-3.33	-16.23	-27.97	43.42	-183.06	612.11	2219.97
		21	SC_CUBIERTA	-0.12	-0.27	-0.55	0.43	-3.19	14.42	75.76
		31	VIENTO+	0.00	0.73	1.15	-3.82	4.57	-13.91	-32.58
		32	VIENTO-	-0.07	-0.18	-0.38	0.12	-3.79	9.45	38.38
		41	NIEVE	-0.02	-0.05	-0.11	0.09	-0.64	2.89	15.15
		5010	SITUACION_O	-0.50	-1.77	-3.56	5.30	-24.57	70.26	327.06
		5015	C+S A T DÍA	-0.08	1.08	4.71	-20.18	83.23	-12.32	-130.78
		5016	C+S A T DÍA	0.01	-1.25	-5.00	17.44	-85.22	12.24	152.21
		5017	C+S A T DÍA	0.08	0.31	0.99	-1.97	16.00	-1.73	-59.28
		5020	CAPA_COMPRE	-0.15	-0.33	-0.61	0.84	-4.34	14.79	77.28
		5030	CM_CUBIERTA	-0.44	-1.04	-2.14	2.24	-13.37	51.38	269.71
		5035	C+S A T DÍA	-0.57	-2.02	-4.24	5.90	-39.44	77.37	354.69
		5036	C+S A T DÍA	0.20	0.74	1.60	-1.62	12.30	-30.80	-135.81
		5037	C+S A T DÍA	-0.10	-0.32	-0.67	1.20	-7.09	11.47	48.72

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 4421.9854*,			SumGF = 4421.9854		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 11837.492*,			SumGF = 11837.492		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 44862.289,			SumQI = 44862.289*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 49.7364,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 338.2933*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106788	1373	MAXF-SYO	-4.91	-20.93	-37.08	52.62	-247.45	809.49	3142.95

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	2	AGUA	3.41	0.06	-0.27	22.33	-1.99	99.96	-0.01
		21	SC_CUBIERTA	-0.19	0.09	0.02	-9.90	-19.81	-123.53	-416.96
		31	VIENTO+	0.03	0.00	-0.01	0.64	-0.07	-4.19	-0.00
		32	VIENTO-	-0.15	-0.00	0.02	-1.33	0.13	-3.10	0.00
		41	NIEVE	-0.04	0.02	0.00	-1.98	-3.96	-24.71	-83.39
		5010	SITUACION_O	-0.20	0.25	0.02	-25.65	-55.82	-333.23	-1171.14
		5015	C+S A T DÍA	-0.83	-0.00	-0.00	0.78	0.32	-23.73	-0.09
		5016	C+S A T DÍA	0.68	0.00	0.00	-0.74	-0.29	36.34	0.02
		5017	C+S A T DÍA	0.09	0.00	-0.00	0.37	0.00	-18.04	-0.04
		5020	CAPA_COMPRE	-0.18	0.09	0.02	-9.91	-19.81	-123.62	-416.99
		5030	CM_CUBIERTA	-0.65	0.31	0.06	-34.62	-69.35	-432.69	-1459.40
		5035	C+S A T DÍA	0.33	0.01	-0.04	3.52	-0.30	8.37	-0.06
		5036	C+S A T DÍA	-0.08	-0.00	0.02	-1.56	0.12	-4.42	-0.07
		5037	C+S A T DÍA	0.04	0.00	-0.01	0.58	-0.05	2.56	-0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4.8415*,			SumGF = -4.8415		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -25433.16*,			SumGF = -25433.16		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -24.8195,			SumQI = -24.8195*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -139.1766*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -0.4166,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	1374	MINF-SYO	2.60	0.72	-0.21	-45.29	-147.96	-793.46	-3064.46

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304489	2	AGUA	-13.42	-15.47	-28.99	-42.85	359.32	928.05	2355.83
		21	SC_CUBIERTA	-0.16	0.01	-0.49	3.26	30.22	6.44	-35.77
		31	VIENTO+	0.25	0.43	0.50	3.44	3.23	-10.77	-32.49
		32	VIENTO-	-0.84	-1.25	-1.77	-8.13	4.61	42.49	113.06
		41	NIEVE	-0.03	0.00	-0.10	0.65	6.04	1.29	-7.15
		5010	SITUACION_O	-1.21	-0.79	-3.40	5.98	129.26	52.88	-57.07
		5015	C+S A T DÍA	-0.24	-1.28	3.20	0.59	-324.15	188.90	1370.17
		5016	C+S A T DÍA	0.07	1.10	-3.56	2.30	314.26	-180.09	-1294.15
		5017	C+S A T DÍA	0.07	-0.16	0.74	-0.76	-45.12	24.16	146.15
		5020	CAPA_COMPRE	-0.18	-0.01	-0.56	3.06	32.65	6.15	-40.41
		5030	CM_CUBIERTA	-0.63	-0.05	-1.93	10.89	113.18	21.12	-141.59
		5035	C+S A T DÍA	-1.37	-0.86	-3.98	4.69	136.19	67.88	2.93
		5036	C+S A T DÍA	0.55	0.38	1.53	-1.55	-47.40	-30.98	-27.31
		5037	C+S A T DÍA	-0.20	-0.11	-0.62	0.56	22.37	8.55	-11.35

Determination of Sums and Leading Variable Action

Act	C: SumGU = 4553.8672*,			SumGF = 4553.8672		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 8251.6992*,			SumGF = 8251.6992		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 50634.453,			SumQI = 50634.453*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 28.0191,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 1368.6465*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304489	1375	MAXFSXYO	-16.98	-17.88	-38.43	-21.16	692.85	1107.86	2359.73

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	2	AGUA	-13.94	-15.80	30.66	34.85	332.77	908.39	2332.98
		21	SC_CUBIERTA	-0.16	0.01	0.52	-3.80	31.38	6.64	-37.46
		31	VIENTO+	-0.13	0.27	0.55	-6.88	36.50	23.28	36.47
		32	VIENTO-	-0.39	-1.05	0.49	12.29	-39.08	-1.52	25.00
		41	NIEVE	-0.03	0.00	0.10	-0.76	6.28	1.33	-7.49
		5010	SITUACION_O	-1.23	-0.77	3.60	-8.11	132.01	52.58	-64.06
		5015	C+S A T DÍA	-0.29	-1.56	-3.43	2.70	-338.81	182.59	1387.64
		5016	C+S A T DÍA	0.11	1.36	3.80	-5.84	327.60	-173.07	-1308.98
		5017	C+S A T DÍA	0.05	-0.21	-0.78	0.97	-45.69	21.54	146.01
		5020	CAPA_COMPRE	-0.19	-0.01	0.60	-3.54	33.77	6.27	-42.32
		5030	CM_CUBIERTA	-0.63	-0.04	2.05	-12.75	117.36	21.63	-148.27
		5035	C+S A T DÍA	-1.40	-0.84	4.24	-6.45	137.80	68.04	-3.23
		5036	C+S A T DÍA	0.55	0.35	-1.61	2.38	-47.84	-30.88	-25.16
		5037	C+S A T DÍA	-0.21	-0.12	0.67	-0.66	22.61	8.51	-12.19

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4810.858*,			SumGF = -4810.858		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -8659.397*,			SumGF = -8659.397		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -52672.90,			SumQI = -52672.90*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -29.3912,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -571.7333*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	1376	MINFSXYO	-17.24	-17.50	40.08	0.10	689.82	1077.23	2280.64

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3307102	2	AGUA	10.66	-4.20	2.80	-345.22	-87.06	312.43	692.25
		21	SC_CUBIERTA	0.15	0.31	-0.08	1.53	9.47	-8.21	-40.17
		31	VIENTO+	1.11	1.21	-0.08	0.12	45.20	-3.38	-47.80
		32	VIENTO-	-1.05	-1.87	0.26	-16.05	-66.14	19.11	94.20
		41	NIEVE	0.03	0.06	-0.02	0.31	1.89	-1.64	-8.03
		5010	SITUACION_O	1.24	0.60	0.06	-12.52	26.77	-1.19	-52.38
		5015	C+S A T DÍA	-2.78	-1.86	-0.55	-46.19	-117.64	-0.17	70.10
		5016	C+S A T DÍA	2.80	2.17	0.50	40.13	127.29	-15.97	-88.76
		5017	C+S A T DÍA	-0.29	-0.61	0.01	-4.18	-29.85	25.32	31.92
		5020	CAPA_COMPRE	0.18	0.34	-0.08	1.76	10.89	-8.47	-42.17
		5030	CM_CUBIERTA	0.60	1.21	-0.29	6.20	37.86	-29.85	-148.09
		5035	C+S A T DÍA	1.63	0.75	0.15	-16.70	38.41	-3.99	-50.33
		5036	C+S A T DÍA	-0.56	-0.24	-0.05	7.17	-13.10	0.57	17.40
		5037	C+S A T DÍA	0.23	0.13	0.02	-1.65	7.28	-0.13	-8.51

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 1175.3243*,			SumGF = 1175.3243		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 1620.4618*,			SumGF = 1620.4618		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 15517.611,			SumQI = 15517.611*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 1.9440,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 567.2314*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3307102	1377	MAXF-SXU	14.26	-1.11	2.52	-371.14	23.45	276.86	397.52

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106753	2	AGUA	-108.13	-20.44	-23.67	331.20	421.25	-46.39	233.79
		21	SC_CUBIERTA	-2.61	0.12	-0.18	5.67	4.54	-2.49	4.37
		31	VIENTO+	3.47	1.41	1.51	-9.45	-15.27	-6.96	-11.13
		32	VIENTO-	-1.74	-0.11	-0.19	5.11	5.69	-2.60	2.41
		41	NIEVE	-0.52	0.02	-0.04	1.13	0.91	-0.50	0.87
		5010	SITUACION_O	-15.08	-0.91	-2.26	35.22	38.78	-11.46	25.23
		5015	C+S A T DÍA	21.98	2.99	6.69	15.09	25.83	-255.88	-235.81
		5016	C+S A T DÍA	-22.72	-2.77	-6.47	-15.61	-19.75	226.92	207.24
		5017	C+S A T DÍA	4.00	0.23	0.70	3.80	0.89	-6.89	-3.08
		5020	CAPA_COMPRE	-2.97	0.19	-0.23	5.31	5.01	-2.35	4.68
		5030	CM_CUBIERTA	-10.00	0.43	-0.77	20.01	17.28	-8.11	16.65
		5035	C+S A T DÍA	-17.92	-1.69	-3.05	38.76	46.89	-3.03	33.87
		5036	C+S A T DÍA	6.51	0.71	1.02	-16.70	-19.91	6.20	-8.42
		5037	C+S A T DÍA	-2.78	-0.22	-0.46	4.17	6.49	0.94	5.06

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -3667.303*,			SumGF = -3667.303		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -8976.645*,			SumGF = -8976.645		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -34333.96,			SumQI = -34333.96*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -33.5553,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -282.9604*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106753	1378	MINF-SXU	-147.98	-21.53	-28.59	423.80	525.59	-101.36	280.39

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106787	2	AGUA	-11.93	7.78	-25.17	598.11	664.73	865.67	951.74
		21	SC_CUBIERTA	-0.34	0.29	-0.51	11.54	13.14	18.39	62.84
		31	VIENTO+	0.29	-0.13	1.01	-18.66	-32.31	-21.06	8.59
		32	VIENTO-	-0.21	0.17	-0.33	8.53	6.62	13.08	21.67
		41	NIEVE	-0.07	0.06	-0.10	2.31	2.63	3.68	12.57
		5010	SITUACION_O	-1.78	1.54	-3.15	66.54	79.81	93.37	234.27
		5015	C+S A T DÍA	2.54	-2.62	2.92	-18.56	-41.16	-6.71	-340.53
		5016	C+S A T DÍA	-2.57	2.76	-3.19	23.45	42.78	5.39	316.58
		5017	C+S A T DÍA	0.49	-0.52	0.65	-12.45	-7.97	0.88	-34.05
		5020	CAPA_COMPRE	-0.38	0.31	-0.55	12.43	14.14	18.81	64.04
		5030	CM_CUBIERTA	-1.26	1.13	-1.95	42.58	49.91	65.42	223.91
		5035	C+S A T DÍA	-2.11	1.81	-3.59	78.67	81.49	103.89	226.04
		5036	C+S A T DÍA	0.77	-0.67	1.37	-30.71	-32.41	-41.93	-79.35
		5037	C+S A T DÍA	-0.34	0.30	-0.55	11.79	11.71	15.67	31.32

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 2606.1350*,			SumGF = 2606.1350		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 9726.0273*,			SumGF = 9726.0273		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 20068.488,			SumQI = 20068.488*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 44.1941,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 225.8710*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106787	1379	MAXF-SYU	-16.68	11.91	-33.37	776.11	866.35	1126.98	1604.80

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3107199	2	AGUA	-46.26	-39.46	6.74	1285.56	-270.52	2251.08	-422.49
		21	SC_CUBIERTA	-0.70	-0.41	0.09	4.44	18.62	43.58	-38.95
		31	VIENTO+	2.36	2.33	-0.35	-74.43	26.74	-21.66	10.52
		32	VIENTO-	-0.52	-0.28	0.08	10.87	1.20	39.01	-7.47
		41	NIEVE	-0.14	-0.08	0.02	0.89	3.72	8.72	-7.79
		5010	SITUACION_O	-5.53	-3.55	0.79	93.62	50.66	194.58	-155.17
		5015	C+S A T DÍA	8.10	0.44	-1.03	8.78	-291.03	398.41	513.89
		5016	C+S A T DÍA	-8.63	-0.81	1.14	14.51	272.55	-370.91	-478.50
		5017	C+S A T DÍA	1.64	0.14	-0.24	-18.51	-23.21	23.27	43.32
		5020	CAPA_COMPRE	-0.85	-0.52	0.11	7.68	19.15	41.42	-41.41
		5030	CM_CUBIERTA	-2.91	-1.72	0.39	23.65	67.61	144.59	-144.45
		5035	C+S A T DÍA	-6.63	-3.68	0.96	123.66	39.75	237.17	-143.24
		5036	C+S A T DÍA	2.47	1.38	-0.36	-48.78	-9.62	-97.85	44.42
		5037	C+S A T DÍA	-1.09	-0.56	0.16	19.35	6.92	25.61	-22.47

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -3856.974*,			SumGF = -3856.974		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -10721.54*,			SumGF = -10721.54		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -47667.30,			SumQI = -47667.30*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -38.2618,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -199.7752*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3107199	1380	MINF-SYU	-59.95	-48.48	8.69	1514.96	-137.14	2866.87	-809.83

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	2	AGUA	-13.94	-15.80	30.66	34.85	332.77	908.39	2332.98
		21	SC_CUBIERTA	-0.16	0.01	0.52	-3.80	31.38	6.64	-37.46
		31	VIENTO+	-0.13	0.27	0.55	-6.88	36.50	23.28	36.47
		32	VIENTO-	-0.39	-1.05	0.49	12.29	-39.08	-1.52	25.00
		41	NIEVE	-0.03	0.00	0.10	-0.76	6.28	1.33	-7.49
		5010	SITUACION_O	-1.23	-0.77	3.60	-8.11	132.01	52.58	-64.06
		5015	C+S A T DÍA	-0.29	-1.56	-3.43	2.70	-338.81	182.59	1387.64
		5016	C+S A T DÍA	0.11	1.36	3.80	-5.84	327.60	-173.07	-1308.98
		5017	C+S A T DÍA	0.05	-0.21	-0.78	0.97	-45.69	21.54	146.01
		5020	CAPA_COMPRE	-0.19	-0.01	0.60	-3.54	33.77	6.27	-42.32
		5030	CM_CUBIERTA	-0.63	-0.04	2.05	-12.75	117.36	21.63	-148.27
		5035	C+S A T DÍA	-1.40	-0.84	4.24	-6.45	137.80	68.04	-3.23
		5036	C+S A T DÍA	0.55	0.35	-1.61	2.38	-47.84	-30.88	-25.16
		5037	C+S A T DÍA	-0.21	-0.12	0.67	-0.66	22.61	8.51	-12.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 1363.1807*,			SumGF = 1363.1807		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 4630.7808*,			SumGF = 4630.7808		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 12640.260,			SumQI = 12640.260*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 14.5259,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 316.1573*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	1381	MAXFSXYU	-17.37	-18.16	40.05	9.68	652.03	1064.83	2274.90

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306074	2	AGUA	-2.23	-14.04	-29.53	40.33	-161.97	581.82	2219.72
		21	SC_CUBIERTA	-0.10	-0.23	-0.58	0.44	-2.68	13.79	75.91
		31	VIENTO+	-0.19	-0.18	-0.65	-1.09	-8.09	20.18	96.77
		32	VIENTO-	0.20	-0.31	-0.32	3.56	4.21	-8.07	-61.40
		41	NIEVE	-0.02	-0.05	-0.12	0.09	-0.54	2.76	15.18
		5010	SITUACION_O	-0.38	-1.51	-3.76	4.85	-22.12	67.28	328.80
		5015	C+S A T DÍA	-0.15	0.84	4.90	-17.50	84.08	-15.16	-138.56
		5016	C+S A T DÍA	0.11	-0.98	-5.24	14.80	-85.46	14.21	158.66
		5017	C+S A T DÍA	0.05	0.24	1.04	-1.33	15.98	-1.09	-60.39
		5020	CAPA_COMPRE	-0.11	-0.26	-0.65	0.65	-3.25	14.04	77.24
		5030	CM_CUBIERTA	-0.36	-0.88	-2.25	2.13	-11.21	49.04	269.99
		5035	C+S A T DÍA	-0.42	-1.71	-4.49	5.05	-36.66	73.62	356.08
		5036	C+S A T DÍA	0.17	0.65	1.69	-1.60	12.16	-29.40	-136.29
		5037	C+S A T DÍA	-0.07	-0.27	-0.72	1.01	-6.42	10.98	49.11

Determination of Sums and Leading Variable Action

Act	C: SumGU = -1442.216*,			SumGF = -1442.216		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -3692.357*,			SumGF = -3692.357		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -14828.71,			SumQI = -14828.71*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -10.5783,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -279.9885*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306074	1382	MINFSXYU	-3.29	-18.08	-39.16	50.17	-212.75	761.31	3093.68

Relevant Forces in Nodes

Group 14											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3541	2	AGUA	-21.64	16.45	-0.24	69.11	-3.14	132.02	107.14		...
	21	SC_CUBIERTA	37.38	31.33	-0.06	68.77	-42.81	2.65	-2.09		...
	31	VIENTO+	1.23	-0.79	0.07	-1.90	0.05	-2.20	1.23		...
	32	VIENTO-	-3.21	2.03	-0.10	5.48	-0.05	4.98	-0.74		...
	41	NIEVE	7.48	6.27	-0.01	13.75	-8.56	0.53	-0.42		...
	5010	SITUACION_O	123.59	123.05	-0.21	242.25	-151.40	8.02	-13.11		...
	5015	C+S A T DÍA	-18.75	16.03	0.07	19.96	-12.20	-227.18	-232.49		...
	5016	C+S A T DÍA	22.82	-15.17	-0.10	-17.06	9.85	-214.62	-176.60		...
	5017	C+S A T DÍA	1.32	-0.26	0.00	0.91	-0.60	687.01	667.13		...
	5020	CAPA_COMPRE	37.39	31.62	-0.07	68.78	-42.81	2.53	-5.18		...
	5030	CM_CUBIERTA	130.86	110.65	-0.23	240.73	-149.84	8.94	-18.04		...
	5035	C+S A T DÍA	-0.68	13.10	-0.02	0.61	-1.28	-299.61	-311.25		...
	5036	C+S A T DÍA	1.15	-6.12	0.01	-0.81	0.86	162.39	168.42		...
	5037	C+S A T DÍA	-0.14	1.84	-0.00	-0.02	-0.13	-28.89	-30.61		...

Determination of Sums and Leading Variable Action

Act	C: SumGU =	5.7238*,		SumGF =	5.7238	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	291.8421*,		SumGF =	291.8421	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	1.4953*,		SumQI =	0.0000	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	0.6169,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 14											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3541	1301	MAXF-MX	299.06	276.00	-0.55	558.10	-349.25	98.70	48.18		...

Relevant Forces in Nodes

Group 12											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1299	2	AGUA	-625.47	72.23	-104.67	935.09	345.19	1593.77	595.27	2	...
	21	SC_CUBIERTA	-13.53	-1.97	1.21	0.53	-1.14	27.67	6.83		...
	31	VIENTO+	-4.42	-9.75	11.68	-37.89	-20.01	-10.02	-17.95		...
	32	VIENTO-	-12.50	0.64	-0.35	11.05	2.95	20.42	3.68		...
	41	NIEVE	-2.71	-0.39	0.24	0.11	-0.23	5.54	1.37		...
	5010	SITUACION_O	23.23	71.19	-69.94	-124.49	20.92	-245.38	-174.74	1	...
	5015	C+S A T DÍA	-539.63	-122.27	127.47	237.30	-165.06	-608.90	-541.60	4	...
	5016	C+S A T DÍA	462.57	123.11	-121.21	-288.51	95.20	481.39	486.27	-5	...
	5017	C+S A T DÍA	46.93	-6.98	-2.91	62.70	54.96	303.95	105.18		...
	5020	CAPA_COMPRE	-6.56	3.91	-4.33	-29.49	-3.04	-49.68	-30.57		...
	5030	CM_CUBIERTA	-22.93	13.02	-14.81	-103.59	-10.58	-174.79	-106.74		...
	5035	C+S A T DÍA	-36.76	59.12	-61.31	-40.64	-36.35	-506.07	-266.52	1	...
	5036	C+S A T DÍA	23.40	-17.42	18.53	13.86	17.22	192.78	108.26	-	...
	5037	C+S A T DÍA	-2.74	4.85	-6.01	-10.49	-3.85	-32.72	-19.48		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -46.2442*,			SumGF = -46.2442		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -6.2625*,			SumGF = -6.2625		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -625.4677,			SumQI = -625.4677*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.5413,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -6.2509*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 12										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
1299	1302	MINF-MX	-684.23	201.09	-239.36	657.25	316.07	964.57	157.17	4

Relevant Forces in Nodes

Group 14										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
3537	2	AGUA	-102.22	29.20	-0.54	14.03	-0.51	146.50	104.81	
	21	SC_CUBIERTA	33.18	32.02	0.12	67.86	-58.17	-9.09	-7.04	
	31	VIENTO+	9.84	-3.21	-0.07	-0.35	0.06	-6.08	1.17	
	32	VIENTO-	0.26	-0.72	0.04	4.68	-0.56	1.30	-1.70	
	41	NIEVE	6.64	6.40	0.02	13.57	-11.63	-1.82	-1.41	
	5010	SITUACION_O	107.94	127.15	0.32	241.59	-210.05	-37.37	-20.69	
	5015	C+S A T DÍA	-13.98	8.72	0.10	-3.65	3.35	-224.89	-237.63	
	5016	C+S A T DÍA	11.43	-8.19	0.15	0.97	3.24	-223.57	-159.97	
	5017	C+S A T DÍA	5.30	2.73	0.06	11.21	-7.97	680.00	666.42	
	5020	CAPA_COMPRE	34.54	32.31	0.11	71.80	-60.63	-12.28	-5.80	
	5030	CM_CUBIERTA	119.09	115.03	0.43	249.92	-212.90	-43.07	-19.98	
	5035	C+S A T DÍA	-4.95	12.83	-0.06	-6.28	4.14	-292.93	-312.47	
	5036	C+S A T DÍA	3.33	-6.05	0.02	3.72	-2.00	158.84	169.22	
	5037	C+S A T DÍA	-0.75	1.96	-0.01	-0.68	0.47	-27.98	-30.68	

Determination of Sums and Leading Variable Action

Act	C: SumGU =	11.9967*,		SumGF =	11.9967	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	274.4832*,		SumGF =	274.4832	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	29.1992,		SumQI =	29.1992*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 =	1.2809*,		SumQI =	0.0000	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 14										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3537	1303	MAXF-MY	161.05	316.96	0.59	585.35	-485.19	122.88	152.95	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3153	2	AGUA	-230.02	-395.27	219.43	817.34	-630.68	-615.69	-378.33	...
	21	SC_CUBIERTA	-4.03	-4.59	3.62	1.47	0.70	-24.41	-44.17	...
	31	VIENTO+	0.66	6.12	-1.77	-14.35	12.86	-5.43	-4.56	...
	32	VIENTO-	-6.20	-22.43	8.63	49.37	-43.20	-5.32	-10.64	...
	41	NIEVE	-0.81	-0.92	0.72	0.29	0.14	-4.88	-8.83	...
	5010	SITUACION_O	-36.54	-52.54	36.10	-29.79	17.37	398.58	-99.77	...
	5015	C+S A T DÍA	-361.55	-146.20	206.26	36.72	-5.33	1915.40	1135.39	...
	5016	C+S A T DÍA	307.35	121.15	-173.96	-33.95	1.06	-1003.90	-881.58	...
	5017	C+S A T DÍA	39.29	19.24	-23.50	12.40	-4.74	-962.77	-299.04	...
	5020	CAPA_COMPRE	-6.52	-4.80	5.17	-18.97	14.33	17.50	-43.40	...
	5030	CM_CUBIERTA	-22.85	-16.65	18.07	-66.86	50.57	62.56	-151.61	...
	5035	C+S A T DÍA	-54.06	-76.36	48.72	50.44	-54.19	359.47	-153.38	...
	5036	C+S A T DÍA	26.04	29.96	-21.22	-15.43	18.15	-146.23	42.98	...
	5037	C+S A T DÍA	0.31	-5.58	1.80	1.80	-4.27	-66.89	-85.26	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -57.7818*,			SumGF = -57.7818		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -73.9845*,			SumGF = -73.9845		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -395.2703,			SumQI = -395.2703*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.1835,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -11.2134*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3153	1304	MINF-MY	-341.65	-538.25	321.17	778.38	-619.32	-44.64	-919.30	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1298	2	AGUA	-537.30	61.52	119.35	-887.14	281.48	1246.84	545.00	-1 ...
	21	SC_CUBIERTA	6.82	6.41	6.83	-17.34	8.98	-3.61	2.29	...
	31	VIENTO+	45.85	1.67	1.72	32.05	-3.29	-75.16	-16.01	...
	32	VIENTO-	3.22	4.58	6.71	-18.27	6.67	0.93	4.91	...
	41	NIEVE	1.36	1.28	1.37	-3.47	1.80	-0.72	0.46	...
	5010	SITUACION_O	65.04	72.40	88.34	17.87	62.17	-84.89	-95.58	- ...
	5015	C+S A T DÍA	-537.61	-110.33	-125.01	-116.26	-206.47	-688.87	-567.21	-4 ...
	5016	C+S A T DÍA	461.56	113.46	126.42	159.75	133.77	528.58	491.78	4 ...
	5017	C+S A T DÍA	50.28	-5.92	0.40	-22.84	52.48	315.59	100.46	- ...
	5020	CAPA_COMPRE	13.65	10.35	11.84	-12.19	11.51	7.70	-3.02	...
	5030	CM_CUBIERTA	47.60	35.57	41.08	-42.75	40.33	25.26	-10.61	...
	5035	C+S A T DÍA	22.40	64.64	84.56	-92.20	0.29	-331.38	-169.33	- ...
	5036	C+S A T DÍA	2.74	-20.21	-27.17	36.45	5.34	129.34	71.96	...
	5037	C+S A T DÍA	4.54	6.28	8.86	-6.24	0.60	-10.44	-7.84	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 68.0546*,			SumGF = 68.0546		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 141.2586*,			SumGF = 141.2586		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 119.3517,			SumQI = 119.3517*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 0.2734,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 3.3545*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 12											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1298	1305	MAXF-MXY	-405.48	230.06	332.02	-974.68	384.85	1138.19	358.07	-	...

Relevant Forces in Nodes

Group 11											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3463	2	AGUA	-230.46	-396.82	-219.21	810.36	636.93	-603.41	-362.06		...
	21	SC_CUBIERTA	-3.98	-4.65	-3.63	1.72	-0.78	-24.22	-43.28		...
	31	VIENTO+	-10.93	-9.09	-8.22	15.07	10.36	-60.65	-60.86		...
	32	VIENTO-	8.53	-3.12	4.08	11.57	13.75	65.11	61.62		...
	41	NIEVE	-0.80	-0.93	-0.73	0.34	-0.16	-4.84	-8.66		...
	5010	SITUACION_O	-37.29	-52.39	-36.25	-28.86	-17.99	405.52	-101.51		...
	5015	C+S A T DÍA	-365.38	-145.83	-206.52	36.58	4.39	1961.63	1113.20	6	...
	5016	C+S A T DÍA	310.77	120.82	174.28	-33.56	-0.04	-1035.72	-866.30	-3	...
	5017	C+S A T DÍA	39.49	19.11	23.40	12.10	4.87	-977.38	-292.42	-2	...
	5020	CAPA_COMPRE	-6.65	-4.79	-5.20	-18.54	-14.54	18.13	-43.34		...
	5030	CM_CUBIERTA	-23.32	-16.56	-18.18	-65.42	-51.37	64.73	-151.47	-	...
	5035	C+S A T DÍA	-54.79	-76.31	-48.83	50.02	54.29	364.45	-154.87		...
	5036	C+S A T DÍA	26.38	29.88	21.25	-15.22	-18.03	-148.40	43.85	-	...
	5037	C+S A T DÍA	0.28	-5.61	-1.82	1.92	4.33	-68.30	-84.43	-	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -38.2507*,			SumGF = -38.2507		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -59.6258*,			SumGF = -59.6258		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -219.2073,			SumQI = -219.2073*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.1451,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -4.1091*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 11										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3463	1306	MINF-MXY	-346.42	-533.03	-321.19	756.92	608.03	-49.08	-929.78	...

Relevant Forces in Nodes

Group 22										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1291	2	AGUA	105.23	4.52	-11.89	1341.16	-1237.64	1827.36	2674.15	-4 ...
	21	SC_CUBIERTA	1.60	0.00	-0.15	22.36	-19.65	61.31	96.52	- ...
	31	VIENTO+	-5.17	-0.43	0.69	-33.86	57.47	55.92	9.06	- ...
	32	VIENTO-	1.18	0.06	-0.12	18.97	-17.06	46.78	54.54	- ...
	41	NIEVE	0.32	0.00	-0.03	4.47	-3.93	12.26	19.31	...
	5010	SITUACION_O	12.22	0.93	-1.48	117.27	-109.08	199.38	373.40	-1 ...
	5015	C+S A T DÍA	-15.51	-7.08	4.45	194.89	348.93	452.53	-243.48	4 ...
	5016	C+S A T DÍA	16.60	7.22	-4.33	-163.75	-372.99	-413.41	202.09	-3 ...
	5017	C+S A T DÍA	-3.20	-1.26	0.54	-8.57	9.03	10.00	-1.55	...
	5020	CAPA_COMPRE	1.88	0.07	-0.18	22.33	-19.91	56.21	94.92	- ...
	5030	CM_CUBIERTA	6.46	0.23	-0.63	77.35	-68.91	197.59	331.80	-1 ...
	5035	C+S A T DÍA	14.47	1.60	-1.92	143.69	-135.19	251.48	409.79	-1 ...
	5036	C+S A T DÍA	-5.41	-0.61	0.67	-56.64	52.46	-99.92	-145.97	...
	5037	C+S A T DÍA	2.30	0.44	-0.29	14.92	-14.69	21.85	46.67	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 124.5317*,			SumGF = 124.5317		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 216.9437*,			SumGF = 216.9437		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 1341.1582,			SumQI = 1341.1582*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 0.8946,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 9.4842*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1291	1307	MAXF-VX	135.63	6.09	-15.11	1692.12	-1556.51	2526.46	3769.09	-8 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3188	2	AGUA	-83.60	-28.94	11.01	-1470.77	407.24	2962.65	371.42	-8 ...
	21	SC_CUBIERTA	-1.51	-0.18	0.19	-25.77	6.19	62.30	28.69	- ...
	31	VIENTO+	1.41	0.71	-0.18	24.48	-7.53	-5.12	7.87	...
	32	VIENTO-	-5.03	-2.18	0.65	-86.60	25.36	73.19	-8.40	- ...
	41	NIEVE	-0.30	-0.04	0.04	-5.16	1.24	12.46	5.74	- ...
	5010	SITUACION_O	-9.99	-2.42	1.38	-163.39	42.80	264.34	92.16	-1 ...
	5015	C+S A T DÍA	9.73	3.37	-1.98	94.21	9.93	557.88	-40.05	2 ...
	5016	C+S A T DÍA	-10.61	-3.63	2.11	-107.54	-8.65	-521.54	26.04	-2 ...
	5017	C+S A T DÍA	2.16	0.70	-0.42	24.71	-1.13	32.20	5.15	...
	5020	CAPA_COMPRE	-1.70	-0.24	0.22	-28.45	6.93	59.01	28.33	- ...
	5030	CM_CUBIERTA	-5.86	-0.80	0.76	-97.76	23.99	206.12	98.57	-1 ...
	5035	C+S A T DÍA	-11.57	-3.13	1.72	-185.19	45.40	321.00	83.97	-1 ...
	5036	C+S A T DÍA	4.44	1.18	-0.65	71.25	-18.40	-130.46	-29.30	...
	5037	C+S A T DÍA	-1.78	-0.49	0.27	-27.24	6.38	34.09	9.77	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -129.7990*,			SumGF = -129.7990		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -289.6043*,			SumGF = -289.6043		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -1470.768,			SumQI = -1470.768*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -1.0310,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -43.2991*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3188	1308	MINF-VX	-111.28	-35.50	14.75	-1933.47	527.18	3821.90	641.86	-14 ...

Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
12780	2	AGUA	16.93	10.32	45.86	-782.54	1803.10	304.77	2491.61	-3 ...
	21	SC_CUBIERTA	0.57	0.81	0.69	-12.07	16.13	10.75	157.61	- ...
	31	VIENTO+	-0.08	0.07	-0.82	7.93	-33.29	-3.24	10.39	...
	32	VIENTO-	0.60	0.08	2.85	-33.51	110.95	14.32	38.78	...
	41	NIEVE	0.11	0.16	0.14	-2.42	3.23	2.15	31.53	...
	5010	SITUACION_O	2.64	2.67	5.04	-64.73	145.20	51.25	593.15	-1 ...
	5015	C+S A T DÍA	-0.30	6.37	-4.93	-148.05	5.04	-82.48	-1220.62	2 ...
	5016	C+S A T DÍA	0.66	-5.84	5.37	124.79	6.78	64.15	1060.15	-2 ...
	5017	C+S A T DÍA	-0.43	0.58	-1.06	5.58	-2.19	8.35	-14.13	...
	5020	CAPA_COMPRE	0.61	0.80	0.79	-11.91	17.69	11.42	160.97	- ...
	5030	CM_CUBIERTA	2.11	2.85	2.68	-41.39	60.58	39.45	560.85	-1 ...
	5035	C+S A T DÍA	2.94	1.81	6.07	-80.05	180.99	46.24	558.53	-1 ...
	5036	C+S A T DÍA	-1.09	-0.62	-2.25	32.30	-66.00	-16.02	-179.19	...
	5037	C+S A T DÍA	0.42	0.08	0.88	-8.03	20.70	6.43	70.99	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 145.3145*,			SumGF = 145.3145		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 223.4717*,			SumGF = 223.4717		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 1803.0989,			SumQI = 1803.0989*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 0.6452,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 55.4774*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
12780	1309	MAXF-VY	24.79	19.06	59.87	-990.79	2227.36	440.72	4101.69	-6 ...

Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17791	2	AGUA	-6.70	-3.88	-35.92	651.19	-1811.67	286.87	2502.04	-2 ...
	21	SC_CUBIERTA	-0.22	-0.07	-0.49	9.96	-16.24	7.90	157.63	- ...
	31	VIENTO+	0.04	0.39	1.76	-17.35	85.29	-5.87	21.79	- ...
	32	VIENTO-	-0.14	0.06	-0.39	8.82	-17.84	4.73	56.13	...
	41	NIEVE	-0.04	-0.01	-0.10	1.99	-3.25	1.58	31.53	...
	5010	SITUACION_O	-0.98	-0.06	-3.85	53.31	-145.40	38.62	588.81	- ...
	5015	C+S A T DÍA	0.18	-5.33	4.51	113.57	-0.10	-33.21	-1195.75	2 ...
	5016	C+S A T DÍA	-0.24	5.36	-4.74	-95.81	-7.91	20.74	1042.82	-2 ...
	5017	C+S A T DÍA	0.10	-1.02	0.83	-4.84	2.29	7.35	-12.20	...
	5020	CAPA_COMPRE	-0.23	-0.04	-0.56	9.83	-17.50	8.26	160.08	- ...
	5030	CM_CUBIERTA	-0.81	-0.16	-1.93	34.05	-60.64	28.47	560.06	- ...
	5035	C+S A T DÍA	-1.11	0.70	-4.63	65.92	-178.90	38.06	557.28	- ...
	5036	C+S A T DÍA	0.44	-0.27	1.72	-26.43	65.90	-13.71	-180.64	...
	5037	C+S A T DÍA	-0.16	0.24	-0.69	6.63	-20.15	4.95	69.85	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -138.8610*,			SumGF = -138.8610		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -223.5437*,			SumGF = -223.5437		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -1811.667,			SumQI = -1811.667*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.6498,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -8.9187*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17791	1310	MINF-VY	-9.58	-4.43	-45.46	811.83	-2182.99	388.75	4120.41	-5 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13704	2	AGUA	-64.77	-40.14	-3.22	1279.21	-226.19	3405.14	-84.63	-1 ...
	21	SC_CUBIERTA	-1.04	-0.38	-0.10	4.39	18.73	72.32	-14.97	...
	31	VIENTO+	-0.99	0.03	-0.17	1.43	14.57	171.41	-11.66	...
	32	VIENTO-	-1.43	-1.75	0.10	52.99	-30.35	-143.56	13.36	...
	41	NIEVE	-0.21	-0.08	-0.02	0.88	3.75	14.47	-2.99	...
	5010	SITUACION_O	-8.01	-3.64	-0.65	93.29	53.43	299.35	-54.43	...
	5015	C+S A T DÍA	12.24	1.29	2.02	8.57	-286.64	669.00	229.15	-3 ...
	5016	C+S A T DÍA	-13.12	-1.76	-2.04	16.44	268.64	-628.36	-213.21	3 ...
	5017	C+S A T DÍA	2.52	0.42	0.35	-18.58	-23.64	37.85	25.06	- ...
	5020	CAPA_COMPRE	-1.24	-0.49	-0.12	7.37	19.41	67.15	-15.67	...
	5030	CM_CUBIERTA	-4.28	-1.62	-0.41	23.38	68.16	236.07	-54.74	...
	5035	C+S A T DÍA	-9.80	-4.08	-0.87	124.96	42.72	364.52	-54.90	...
	5036	C+S A T DÍA	3.67	1.56	0.31	-49.71	-10.65	-150.73	16.46	- ...
	5037	C+S A T DÍA	-1.61	-0.64	-0.15	19.54	7.38	36.89	-8.68	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 329.1658*,			SumGF = 329.1658		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 602.5659*,			SumGF = 602.5659		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 3405.1355,			SumQI = 3405.1355*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 2.8931,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 85.7034*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13704	1311	MAXF-NXX	-84.90	-49.09	-4.87	1505.18	-80.08	4422.57	-221.41	...

Relevant Forces in Nodes

Group 32										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
152	2	AGUA	-0.08	0.00	-0.01	0.59	-0.10	-28.56	-0.00	...
	21	SC_CUBIERTA	-0.23	-0.01	0.00	12.62	-13.58	-314.66	-574.80	1 ...
	31	VIENTO+	-0.04	0.00	0.00	0.01	-0.02	-5.36	-0.00	...
	32	VIENTO-	0.04	0.00	0.00	-0.03	0.01	3.48	0.00	...
	41	NIEVE	-0.05	-0.00	0.00	2.52	-2.72	-62.93	-114.96	...
	5010	SITUACION_O	-0.64	-0.02	0.01	35.46	-38.13	-877.93	-1614.45	2 ...
	5015	C+S A T DÍA	-0.48	0.00	-0.01	0.45	0.27	119.34	-0.00	...
	5016	C+S A T DÍA	0.28	0.00	0.01	-0.42	-0.23	-80.20	-0.16	...
	5017	C+S A T DÍA	0.21	0.00	-0.00	0.04	-0.00	-31.87	-0.12	...
	5020	CAPA_COMPRE	-0.23	-0.01	0.00	12.62	-13.58	-314.94	-574.88	1 ...
	5030	CM_CUBIERTA	-0.79	-0.02	0.02	44.17	-47.52	-1102.19	-2011.93	3 ...
	5035	C+S A T DÍA	-0.04	0.00	-0.00	0.00	-0.03	-22.81	-0.16	...
	5036	C+S A T DÍA	0.07	0.00	0.00	-0.02	0.00	4.46	-0.20	...
	5037	C+S A T DÍA	-0.02	0.00	0.00	0.00	-0.00	-2.80	-0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -13.8765*,			SumGF = -13.8765		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -2295.058*,			SumGF = -2295.058		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -28.5621,			SumQI = -28.5621*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -12.5866*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -2.6789,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 32										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
152	1312	MINF-NXX	-1.73	-0.05	0.03	93.41	-99.86	-2350.08	-4224.90	7 ...

Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3370	2	AGUA	-7.14	-29.91	-38.07	-49.11	362.52	1260.88	3872.53	16 ...
	21	SC_CUBIERTA	0.14	-0.10	0.26	-3.07	-18.95	-1.00	26.34	...
	31	VIENTO+	0.57	0.68	1.82	-5.89	-42.99	-72.40	-213.27	- ...
	32	VIENTO-	-0.07	-0.80	-0.74	-4.14	-1.12	12.88	41.02	...
	41	NIEVE	0.03	-0.02	0.05	-0.61	-3.79	-0.20	5.27	...
	5010	SITUACION_O	-0.04	-2.09	-2.14	-11.65	-3.81	42.33	178.23	...
	5015	C+S A T DÍA	-1.63	-0.30	0.90	26.14	-115.02	325.03	1407.72	3 ...
	5016	C+S A T DÍA	1.59	0.08	-0.84	-23.84	96.39	-320.75	-1335.66	-3 ...
	5017	C+S A T DÍA	-0.28	-0.23	-0.49	4.05	5.47	59.59	162.04	...
	5020	CAPA_COMPRE	0.15	-0.14	0.23	-3.57	-19.75	-1.64	24.36	...
	5030	CM_CUBIERTA	0.49	-0.48	0.81	-12.01	-67.87	-6.38	84.42	- ...
	5035	C+S A T DÍA	-0.02	-2.51	-2.63	-14.51	-0.74	40.69	169.63	...
	5036	C+S A T DÍA	0.04	0.95	0.96	5.20	2.33	-21.49	-86.85	- ...
	5037	C+S A T DÍA	0.01	-0.33	-0.32	-2.43	-0.49	2.18	7.86	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 324.7419*,			SumGF = 324.7419		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 287.0145*,			SumGF = 287.0145		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 3872.5327,			SumQI = 3872.5327*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 1.0538,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 20.5079*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 34											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3370	1313	MAXF-NYY	-6.86	-35.37	-41.96	-83.80	258.47	1386.88	4504.80	17	...

Relevant Forces in Nodes

Group 34											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
150	2	AGUA	-0.07	0.00	0.01	-0.61	-0.10	-28.15	0.01		...
	21	SC_CUBIERTA	-0.23	-0.02	-0.00	-14.79	-15.28	-296.18	-656.33	-	...
	31	VIENTO+	0.00	0.00	0.00	0.01	0.00	-1.88	0.00		...
	32	VIENTO-	-0.02	0.00	0.00	-0.00	-0.00	-0.92	0.00		...
	41	NIEVE	-0.05	-0.00	0.00	-2.96	-3.06	-59.24	-131.27		...
	5010	SITUACION_O	-0.64	-0.05	-0.00	-41.56	-42.91	-826.03	-1843.47	-1	...
	5015	C+S A T DÍA	-0.41	0.00	0.01	-0.37	0.18	118.86	-0.12		...
	5016	C+S A T DÍA	0.22	0.00	-0.01	0.34	-0.15	-79.64	-0.06		...
	5017	C+S A T DÍA	0.21	0.00	0.00	-0.03	-0.01	-32.04	-0.11		...
	5020	CAPA_COMPRE	-0.23	-0.02	-0.00	-14.79	-15.28	-296.45	-656.42	-	...
	5030	CM_CUBIERTA	-0.80	-0.06	-0.00	-51.78	-53.48	-1037.48	-2297.30	-1	...
	5035	C+S A T DÍA	-0.04	0.00	0.00	0.00	-0.03	-22.73	-0.16		...
	5036	C+S A T DÍA	0.07	0.00	-0.00	0.02	0.00	4.45	-0.21		...
	5037	C+S A T DÍA	-0.02	0.00	0.00	-0.00	-0.00	-2.77	-0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.6699*,			SumGF = -0.6699		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -4797.188*,			SumGF = -4797.188		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = -26.2533*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -0.0001,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
150	1314	MINF-NYY	-1.66	-0.13	-0.00	-108.77	-112.29	-2185.69	-4824.11	-2 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13436	2	AGUA	20.09	-6.83	-14.13	-674.31	-261.87	371.40	604.13	20 ...
	21	SC_CUBIERTA	0.53	0.50	-0.19	-6.17	25.51	-8.20	-35.42	...
	31	VIENTO+	0.12	1.68	0.10	16.42	53.05	-2.19	-8.55	...
	32	VIENTO-	-0.77	-0.49	0.49	16.79	-12.31	-9.57	-12.78	- ...
	41	NIEVE	0.11	0.10	-0.04	-1.23	5.10	-1.64	-7.08	...
	5010	SITUACION_O	3.21	1.53	-1.66	-59.15	69.78	-19.42	-103.60	1 ...
	5015	C+S A T DÍA	-7.64	-6.83	2.39	37.57	-315.29	232.45	770.66	2 ...
	5016	C+S A T DÍA	7.44	6.65	-2.65	-38.11	291.46	-238.85	-728.35	-2 ...
	5017	C+S A T DÍA	-0.94	-1.05	0.60	7.05	-27.57	49.97	80.90	...
	5020	CAPA_COMPRE	0.59	0.53	-0.23	-7.54	26.07	-9.23	-37.94	...
	5030	CM_CUBIERTA	2.03	1.82	-0.79	-25.37	91.22	-31.97	-132.92	1 ...
	5035	C+S A T DÍA	3.74	1.86	-2.17	-71.70	61.16	-21.69	-76.22	2 ...
	5036	C+S A T DÍA	-1.32	-0.60	0.84	27.90	-16.51	0.16	14.04	- ...
	5037	C+S A T DÍA	0.59	0.34	-0.36	-10.56	10.21	-1.40	-15.90	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 186.9233*,			SumGF = 186.9233		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 307.6671*,			SumGF = 307.6671		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 2037.7664,			SumQI = 2037.7664*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 1.2606,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 19.8533*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[
13436	1315	MAXF-NXY	27.86	-1.74	-18.09	-806.01	-44.81	330.33	370.53	25

Relevant Forces in Nodes

Group 33										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[
13962	2	AGUA	16.78	-6.79	16.36	643.04	-320.64	117.00	491.99	-21
	21	SC_CUBIERTA	0.56	0.49	0.25	4.48	26.16	-12.66	-38.05	-
	31	VIENTO+	0.65	0.99	0.36	4.27	29.21	-2.68	2.07	-
	32	VIENTO-	-0.23	-1.70	0.19	20.58	-57.13	6.79	11.13	
	41	NIEVE	0.11	0.10	0.05	0.90	5.23	-2.53	-7.61	
	5010	SITUACION_O	3.12	1.56	1.99	51.35	69.73	-43.64	-117.89	-1
	5015	C+S A T DÍA	-8.36	-7.38	-2.72	-15.51	-338.14	217.19	784.23	-2
	5016	C+S A T DÍA	8.11	7.18	2.98	18.63	310.00	-222.86	-739.57	2
	5017	C+S A T DÍA	-1.06	-1.15	-0.63	-5.36	-29.64	47.68	83.11	-
	5020	CAPA_COMPRE	0.63	0.51	0.30	5.85	26.53	-13.77	-40.70	-
	5030	CM_CUBIERTA	2.12	1.78	1.03	19.20	93.33	-47.83	-142.67	-1
	5035	C+S A T DÍA	3.69	1.93	2.54	65.58	58.42	-49.15	-90.85	-2
	5036	C+S A T DÍA	-1.28	-0.66	-0.97	-25.28	-15.86	10.94	19.50	
	5037	C+S A T DÍA	0.59	0.35	0.42	9.90	9.56	-4.93	-17.87	-

Determination of Sums and Leading Variable Action

Act	C: SumGU = -197.5976*,			SumGF = -197.5976		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -327.8978*,			SumGF = -327.8978		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -2144.324,			SumQI = -2144.324*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -1.3384,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -34.9814*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13962	1316	MINF-NXY	24.67	-2.17	21.47	769.53	-122.12	9.30	230.30	-27 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3188	2	AGUA	-83.60	-28.94	11.01	-1470.77	407.24	2962.65	371.42	-8 ...
	21	SC_CUBIERTA	-1.51	-0.18	0.19	-25.77	6.19	62.30	28.69	- ...
	31	VIENTO+	1.41	0.71	-0.18	24.48	-7.53	-5.12	7.87	...
	32	VIENTO-	-5.03	-2.18	0.65	-86.60	25.36	73.19	-8.40	- ...
	41	NIEVE	-0.30	-0.04	0.04	-5.16	1.24	12.46	5.74	- ...
	5010	SITUACION_O	-9.99	-2.42	1.38	-163.39	42.80	264.34	92.16	-1 ...
	5015	C+S A T DÍA	9.73	3.37	-1.98	94.21	9.93	557.88	-40.05	2 ...
	5016	C+S A T DÍA	-10.61	-3.63	2.11	-107.54	-8.65	-521.54	26.04	-2 ...
	5017	C+S A T DÍA	2.16	0.70	-0.42	24.71	-1.13	32.20	5.15	...
	5020	CAPA_COMPRE	-1.70	-0.24	0.22	-28.45	6.93	59.01	28.33	- ...
	5030	CM_CUBIERTA	-5.86	-0.80	0.76	-97.76	23.99	206.12	98.57	-1 ...
	5035	C+S A T DÍA	-11.57	-3.13	1.72	-185.19	45.40	321.00	83.97	-1 ...
	5036	C+S A T DÍA	4.44	1.18	-0.65	71.25	-18.40	-130.46	-29.30	...
	5037	C+S A T DÍA	-1.78	-0.49	0.27	-27.24	6.38	34.09	9.77	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 11965.590*,			SumGF = 11965.590		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 25600.768*,			SumGF = 25600.768		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 127821.28,			SumQI = 127821.28*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 97.0616,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 3146.7646*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3188	1371	MAXF-SXO	-111.28	-35.50	14.75	-1933.47	527.18	3821.90	641.86	-14 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3083	2	AGUA	32.04	-14.93	3.87	390.35	383.12	-32.58	265.33	-6 ...
	21	SC_CUBIERTA	0.40	-0.03	-0.07	10.84	6.38	-2.23	-12.70	- ...
	31	VIENTO+	0.15	-0.02	-0.18	18.97	10.74	2.13	13.29	- ...
	32	VIENTO-	1.19	-0.50	0.43	-13.98	-2.07	-4.45	-13.22	...
	41	NIEVE	0.08	-0.01	-0.01	2.17	1.28	-0.45	-2.54	...
	5010	SITUACION_O	3.53	-0.49	-0.08	49.43	33.42	-8.26	-43.01	- ...
	5015	C+S A T DÍA	-5.48	-6.62	2.24	-20.19	45.30	-1.49	526.62	1 ...
	5016	C+S A T DÍA	5.80	6.29	-2.06	26.76	-42.11	-20.47	-537.70	- ...
	5017	C+S A T DÍA	-1.00	-0.90	0.25	-8.64	3.97	31.22	112.82	- ...
	5020	CAPA_COMPRE	0.49	-0.02	-0.07	11.04	6.09	-2.31	-14.28	- ...
	5030	CM_CUBIERTA	1.68	-0.13	-0.23	38.34	21.96	-8.03	-50.31	- ...
	5035	C+S A T DÍA	4.24	-0.18	-0.18	58.90	37.22	-19.36	-61.66	- ...
	5036	C+S A T DÍA	-1.55	0.19	0.03	-22.01	-15.83	3.63	13.00	...
	5037	C+S A T DÍA	0.67	-0.00	-0.03	7.99	4.94	1.15	-12.01	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2929.212*,			SumGF = -2929.212		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -6330.285*,			SumGF = -6330.285		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -34612.63,			SumQI = -34612.63*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -18.4486,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -665.7656*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3083	1372	MINF-SXO	41.02	-17.04	3.95	524.98	477.06	-58.70	192.18	-9 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17450	2	AGUA	-16.68	-38.89	17.26	26.46	362.71	571.29	3819.31	-15 ...
	21	SC_CUBIERTA	-0.03	-0.58	0.29	-3.60	31.95	8.79	-22.73	- ...
	31	VIENTO+	1.13	1.88	-0.74	-8.20	9.32	-17.47	-117.95	...
	32	VIENTO-	-0.08	-0.43	0.21	-1.33	11.86	7.69	45.90	- ...
	41	NIEVE	-0.01	-0.12	0.06	-0.72	6.39	1.76	-4.55	...
	5010	SITUACION_O	-1.04	-4.30	1.95	-7.45	134.25	52.13	30.83	- ...
	5015	C+S A T DÍA	-0.22	4.34	-1.10	-2.91	-331.29	36.87	1690.92	-3 ...
	5016	C+S A T DÍA	0.11	-4.71	1.32	-0.09	320.92	-30.67	-1599.71	3 ...
	5017	C+S A T DÍA	-0.04	0.89	-0.32	0.29	-44.76	-1.95	174.99	- ...
	5020	CAPA_COMPRE	-0.07	-0.68	0.34	-3.30	34.16	9.23	-28.11	- ...
	5030	CM_CUBIERTA	-0.20	-2.34	1.14	-11.95	119.13	31.61	-99.86	- ...
	5035	C+S A T DÍA	-1.17	-5.00	2.23	-6.28	140.61	62.33	115.16	-1 ...
	5036	C+S A T DÍA	0.44	1.88	-0.85	2.48	-49.34	-24.54	-76.65	...
	5037	C+S A T DÍA	-0.17	-0.80	0.35	-0.61	22.80	8.04	1.11	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 7682.7324*,			SumGF = 7682.7324		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 6499.3862*,			SumGF = 6499.3862		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 92208.484,			SumQI = 92208.484*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 12.6418,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 533.5481*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17450	1373	MAXF-SYO	-19.08	-49.83	22.41	-4.02	715.10	718.18	4050.95	-18 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1291	2	AGUA	16.17	18.59	38.06	586.85	-289.24	143.80	-1167.22	-17 ...
	21	SC_CUBIERTA	0.47	1.00	0.61	3.73	26.18	-13.38	-102.33	- ...
	31	VIENTO+	-0.50	0.10	-1.73	-31.02	42.08	-7.95	11.38	...
	32	VIENTO-	0.26	0.52	0.47	5.44	4.51	0.36	-23.48	- ...
	41	NIEVE	0.09	0.20	0.12	0.75	5.24	-2.68	-20.47	...
	5010	SITUACION_O	2.74	4.78	4.57	45.88	70.90	-44.67	-396.43	-1 ...
	5015	C+S A T DÍA	-7.26	-11.09	-6.52	-14.23	-325.41	227.10	1110.04	-3 ...
	5016	C+S A T DÍA	7.01	11.01	6.84	16.90	300.35	-231.72	-1026.32	3 ...
	5017	C+S A T DÍA	-0.91	-1.79	-1.24	-4.86	-29.01	47.28	81.09	- ...
	5020	CAPA_COMPRE	0.53	1.09	0.73	5.16	26.32	-14.44	-107.12	- ...
	5030	CM_CUBIERTA	1.79	3.76	2.46	16.38	93.30	-50.37	-374.74	- ...
	5035	C+S A T DÍA	3.28	5.62	5.53	58.36	61.41	-48.75	-362.27	-1 ...
	5036	C+S A T DÍA	-1.15	-2.03	-2.05	-22.22	-17.72	10.48	115.85	...
	5037	C+S A T DÍA	0.52	0.92	0.89	8.86	9.82	-4.70	-54.06	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4636.919*,			SumGF = -4636.919		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -21985.32*,			SumGF = -21985.32		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -35388.26,			SumQI = -35388.26*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -97.1779,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -433.4910*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
1291	1374	MINF-SYO	22.85	31.13	49.49	699.80	-97.02	34.19	-2192.92	-20 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11 ...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60	...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74	...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	- ...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12	...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1 ...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69	...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	- ...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13	...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62	...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99	...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1 ...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	- ...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 5824.4414*,			SumGF = 5824.4414		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 13564.279*,			SumGF = 13564.279		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 61541.320,			SumQI = 61541.320*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 49.2082,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 764.6332*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	1375	MAXFSXYO	2.99	12.36	-57.49	47.84	-218.90	1003.72	2247.63	15	...

Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3188	2	AGUA	13.80	2.23	41.52	-699.24	752.29	148.42	1099.87	-17	...
	21	SC_CUBIERTA	-0.09	0.19	0.61	-12.65	13.27	15.92	85.53	-	...
	31	VIENTO+	-0.49	0.01	-0.82	9.47	-15.35	1.48	10.49		...
	32	VIENTO-	1.34	0.08	2.74	-36.52	50.33	0.84	4.97	-	...
	41	NIEVE	-0.02	0.04	0.12	-2.53	2.65	3.18	17.11	-	...
	5010	SITUACION_O	0.68	0.94	4.54	-76.57	87.72	55.55	306.26	-2	...
	5015	C+S A T DÍA	-0.31	-3.21	-4.20	29.40	-45.34	-189.05	-494.38		...
	5016	C+S A T DÍA	0.58	3.32	4.71	-33.69	51.98	148.97	435.93	-	...
	5017	C+S A T DÍA	-0.26	-0.71	-1.05	14.62	-8.66	19.20	-20.03		...
	5020	CAPA_COMPRE	-0.06	0.22	0.70	-13.70	14.98	16.31	87.16	-	...
	5030	CM_CUBIERTA	-0.21	0.74	2.41	-47.01	51.63	56.97	303.40	-1	...
	5035	C+S A T DÍA	0.92	1.22	5.29	-90.80	91.41	36.71	279.88	-2	...
	5036	C+S A T DÍA	-0.37	-0.44	-2.05	35.66	-35.50	-12.70	-93.47		...
	5037	C+S A T DÍA	0.14	0.22	0.81	-13.55	13.47	8.55	37.24	-	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -6113.215*,			SumGF = -6113.215		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -14221.37*,			SumGF = -14221.37		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -67794.12,			SumQI = -67794.12*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -53.1384,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -1845.104*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3188	1376	MINFSXYO	15.57	4.59	54.07	-913.12	999.14	289.35	1944.35	-24	...

Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3083	2	AGUA	31.16	-4.77	0.40	388.11	-84.65	204.73	948.04	9	...
	21	SC_CUBIERTA	0.30	-0.60	-0.14	6.01	-11.05	14.00	50.67		...
	31	VIENTO+	-0.00	-1.27	-0.28	14.41	-28.40	14.40	49.86		...
	32	VIENTO-	1.38	1.77	0.42	-7.08	42.18	-13.18	-39.07		...
	41	NIEVE	0.06	-0.12	-0.03	1.20	-2.21	2.80	10.14		...
	5010	SITUACION_O	3.11	-2.01	-0.53	34.47	-27.92	55.92	200.14		...
	5015	C+S A T DÍA	-4.33	3.94	2.85	25.45	-31.13	-155.11	-206.64	2	...
	5016	C+S A T DÍA	4.66	-3.54	-2.74	-19.27	38.28	133.99	221.61	-2	...
	5017	C+S A T DÍA	-0.79	0.46	0.44	-0.13	-10.25	-0.30	-69.92		...
	5020	CAPA_COMPRE	0.38	-0.60	-0.15	6.08	-10.39	14.56	51.83		...
	5030	CM_CUBIERTA	1.30	-2.06	-0.51	21.00	-35.95	50.98	181.38		...
	5035	C+S A T DÍA	3.76	-2.32	-0.75	44.58	-26.98	47.41	201.66		...
	5036	C+S A T DÍA	-1.38	0.87	0.26	-17.32	10.95	-20.36	-80.55	-	...
	5037	C+S A T DÍA	0.59	-0.37	-0.13	5.58	-3.04	12.40	35.17		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2916.7808*,			SumGF = 2916.7808		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 6743.5537*,			SumGF = 6743.5537		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 35967.938,			SumQI = 35967.938*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 20.2901,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 645.5338*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3083	1377	MAXF-SXU	39.16	-9.52	-0.65	485.02	-159.99	337.64	1463.18	11 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3138	2	AGUA	-186.66	-26.36	-84.56	-182.05	296.74	-369.65	-32.10	- ...
	21	SC_CUBIERTA	-4.24	-0.83	-2.15	0.46	8.12	-12.88	-46.27	- ...
	31	VIENTO+	2.41	0.00	0.95	3.21	-5.57	-0.82	-5.76	...
	32	VIENTO-	-9.85	-0.61	-4.16	-10.85	19.76	-7.02	7.82	...
	41	NIEVE	-0.85	-0.17	-0.43	0.09	1.62	-2.58	-9.26	...
	5010	SITUACION_O	-25.36	-3.57	-12.03	-7.59	49.49	-63.49	-161.39	- ...
	5015	C+S A T DÍA	27.60	-8.78	9.73	-42.34	-132.68	-365.47	901.39	1 ...
	5016	C+S A T DÍA	-29.07	8.56	-10.41	43.03	137.13	317.31	-828.77	-1 ...
	5017	C+S A T DÍA	4.88	-1.47	1.74	-9.29	-25.35	2.97	67.85	...
	5020	CAPA_COMPRE	-4.76	-0.89	-2.38	0.17	8.96	-14.04	-49.29	- ...
	5030	CM_CUBIERTA	-16.35	-3.00	-8.19	1.90	32.54	-45.71	-170.66	- ...
	5035	C+S A T DÍA	-29.26	-2.88	-13.30	-10.66	58.90	-56.12	-145.90	- ...
	5036	C+S A T DÍA	10.94	1.23	5.04	4.08	-22.26	28.06	34.19	...
	5037	C+S A T DÍA	-4.43	-0.25	-1.95	-0.94	10.02	-5.76	-22.93	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -6488.020*,			SumGF = -6488.020		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -15117.89*,			SumGF = -15117.89		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -59845.48,			SumQI = -59845.48*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -55.7095,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -1534.771*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3138	1378	MINF-SXU	-257.38	-37.72	-118.38	-209.11	423.36	-575.42	-403.71	-1 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11 ...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60	...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74	...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	- ...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12	...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1 ...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69	...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	- ...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13	...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62	...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99	...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1 ...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	- ...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 3201.0674*,			SumGF = 3201.0674		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 9514.0557*,			SumGF = 9514.0557		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 29748.641,			SumQI = 29748.641*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 40.0945,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 652.0291*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	1379	MAXF-SYU	2.99	12.36	-57.49	47.84	-218.90	1003.72	2247.63	15	...

Relevant Forces in Nodes

Group 31											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
73740	2	AGUA	-30.45	-42.27	19.53	1285.56	-270.52	1358.85	-1026.46	-3	...
	21	SC_CUBIERTA	-0.38	-0.50	0.32	4.44	18.62	22.69	-75.93		...
	31	VIENTO+	1.71	2.46	-0.91	-74.43	26.74	-25.49	34.38		...
	32	VIENTO-	-0.29	-0.28	0.26	10.87	1.20	21.33	-15.20		...
	41	NIEVE	-0.08	-0.10	0.06	0.89	3.72	4.54	-15.19		...
	5010	SITUACION_O	-3.28	-3.80	2.52	93.62	50.66	116.25	-311.80		...
	5015	C+S A T DÍA	4.12	-0.76	-4.32	8.78	-291.03	190.91	910.31	-4	...
	5016	C+S A T DÍA	-4.44	0.40	4.60	14.51	272.55	-175.22	-846.32	4	...
	5017	C+S A T DÍA	0.84	-0.16	-0.91	-18.51	-23.21	13.22	68.29	-	...
	5020	CAPA_COMPRE	-0.48	-0.61	0.38	7.68	19.15	22.30	-80.75		...
	5030	CM_CUBIERTA	-1.62	-2.03	1.33	23.65	67.61	77.35	-281.84		...
	5035	C+S A T DÍA	-3.86	-3.65	3.15	123.66	39.75	139.92	-282.77		...
	5036	C+S A T DÍA	1.43	1.36	-1.18	-48.78	-9.62	-57.61	89.80		...
	5037	C+S A T DÍA	-0.63	-0.53	0.52	19.35	6.92	16.69	-43.58		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4938.997*,			SumGF = -4938.997		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -15823.39*,			SumGF = -15823.39		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -58624.29,			SumQI = -58624.29*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -61.6190,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -252.3801*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
73740	1380	MINF-SYU	-38.50	-52.18	25.76	1514.96	-137.14	1713.33	-1812.72	-2 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	2	AGUA	-6.62	7.76	43.38	34.85	332.77	1128.01	848.25	-13 ...
	21	SC_CUBIERTA	-0.21	0.65	0.69	-3.80	31.38	3.51	-52.11	- ...
	31	VIENTO+	-0.42	1.09	0.70	-6.88	36.50	28.42	-10.20	- ...
	32	VIENTO-	0.36	-1.23	0.83	12.29	-39.08	-1.99	42.25	...
	41	NIEVE	-0.04	0.13	0.14	-0.76	6.28	0.70	-10.42	...
	5010	SITUACION_O	-0.91	2.98	5.00	-8.11	132.01	45.94	-155.56	- ...
	5015	C+S A T DÍA	-0.70	-8.07	-5.36	2.70	-338.81	303.92	1058.95	-2 ...
	5016	C+S A T DÍA	0.50	8.07	5.88	-5.84	327.60	-292.68	-996.59	2 ...
	5017	C+S A T DÍA	0.08	-1.41	-1.16	0.97	-45.69	42.13	110.98	- ...
	5020	CAPA_COMPRE	-0.22	0.71	0.80	-3.54	33.77	2.48	-55.61	- ...
	5030	CM_CUBIERTA	-0.76	2.46	2.75	-12.75	117.36	8.55	-195.01	- ...
	5035	C+S A T DÍA	-1.04	3.61	5.97	-6.45	137.80	64.49	-120.30	-1 ...
	5036	C+S A T DÍA	0.44	-1.30	-2.26	2.38	-47.84	-32.96	26.75	...
	5037	C+S A T DÍA	-0.16	0.61	0.95	-0.66	22.61	7.84	-24.91	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2726.7935*,			SumGF = 2726.7935		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 7284.9102*,			SumGF = 7284.9102		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 28263.914,			SumQI = 28263.914*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 22.5190,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 484.4049*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	1381	MAXFSXYU	-9.21	14.80	56.35	9.68	652.03	1276.73	518.08	-16 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11 ...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60	...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74	...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	- ...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12	...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1 ...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69	...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	- ...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13	...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62	...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99	...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1 ...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	- ...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2912.788*,			SumGF = -2912.788		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -7235.437*,			SumGF = -7235.437		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -30440.03,			SumQI = -30440.03*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -22.4051,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -414.6692*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	1382	MINFSXYU	3.60	12.08	-57.30	50.17	-212.75	984.23	2193.59	15	...

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3153	2	AGUA	234.5	-53.5	13.4	0.00	0.00	0.00
	21	SC_CUBIERTA	10.7	-2.5	-1.5	0.00	0.00	0.00
	31	VIENTO+	-5.0	-0.5	-0.2	0.00	0.00	0.00
	32	VIENTO-	18.9	-0.5	0.4	0.00	0.00	0.00
	41	NIEVE	2.1	-0.5	-0.3	0.00	0.00	0.00
	5010	SITUACION_O	0.9	5.5	-2.0	0.00	0.00	0.00
	5015	C+S A T DÍA	-27.5	37.6	3.3	0.00	0.00	0.00
	5016	C+S A T DÍA	20.1	-20.8	-2.3	0.00	0.00	0.00
	5017	C+S A T DÍA	8.8	-18.3	-0.5	0.00	0.00	0.00
	5020	CAPA_COMPRE	0.8	-0.1	-1.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	2.7	-0.2	-4.5	0.00	0.00	0.00
	5035	C+S A T DÍA	3.1	4.6	2.6	0.00	0.00	0.00
	5036	C+S A T DÍA	-0.8	-2.0	-0.8	0.00	0.00	0.00
	5037	C+S A T DÍA	2.1	-1.7	-0.1	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU =	5.7631*,		SumGF =	5.7631	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	4.3430*,		SumGF =	4.3430	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	234.4832,		SumQI =	234.4832*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 =	0.4283,		SumQI =	0.0000*	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	9.4381*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3153	1351	MAXF-PX	254.0	-49.1	8.0	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3148	2	AGUA	-228.0	109.7	-30.6	0.00	0.00	0.00
	21	SC_CUBIERTA	-10.2	1.3	-3.1	0.00	0.00	0.00
	31	VIENTO+	4.2	-0.2	1.8	0.00	0.00	0.00
	32	VIENTO-	-17.3	2.2	-5.4	0.00	0.00	0.00
	41	NIEVE	-2.0	0.3	-0.6	0.00	0.00	0.00
	5010	SITUACION_O	-5.3	-5.4	-13.0	0.00	0.00	0.00
	5015	C+S A T DÍA	-35.1	-21.0	3.1	0.00	0.00	0.00
	5016	C+S A T DÍA	32.8	20.1	-3.3	0.00	0.00	0.00
	5017	C+S A T DÍA	3.5	5.8	2.3	0.00	0.00	0.00
	5020	CAPA_COMPRE	-0.9	-1.3	-2.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	-3.0	-4.7	-8.1	0.00	0.00	0.00
	5035	C+S A T DÍA	-11.2	-10.9	-6.6	0.00	0.00	0.00
	5036	C+S A T DÍA	4.8	4.4	2.5	0.00	0.00	0.00
	5037	C+S A T DÍA	-0.7	-0.4	-0.8	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -5.7442*,			SumGF = -5.7442		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -9.1816*,			SumGF = -9.1816		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -228.0303,			SumQI = -228.0303*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.4086,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -8.6261*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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FREQ

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3148	1352	MINF-PX	-251.6	97.4	-59.6	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1062	2	AGUA	106.7	226.0	-33.3	0.00	0.00	0.00
	21	SC_CUBIERTA	0.2	4.6	-1.2	0.00	0.00	0.00
	31	VIENTO+	-1.9	16.3	-6.2	0.00	0.00	0.00
	32	VIENTO-	6.0	-8.5	6.7	0.00	0.00	0.00
	41	NIEVE	0.0	0.9	-0.2	0.00	0.00	0.00
	5010	SITUACION_O	-0.6	3.6	-7.1	0.00	0.00	0.00
	5015	C+S A T DÍA	-27.9	38.7	-2.9	0.00	0.00	0.00
	5016	C+S A T DÍA	26.5	-35.5	3.5	0.00	0.00	0.00
	5017	C+S A T DÍA	6.4	-4.1	-0.7	0.00	0.00	0.00
	5020	CAPA_COMPRE	0.6	0.1	-0.2	0.00	0.00	0.00
	5030	CM_CUBIERTA	2.1	0.5	-0.6	0.00	0.00	0.00
	5035	C+S A T DÍA	-6.6	9.0	-0.1	0.00	0.00	0.00
	5036	C+S A T DÍA	2.8	-4.1	-0.2	0.00	0.00	0.00
	5037	C+S A T DÍA	0.4	0.3	0.2	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = 4.3200*,			SumGF = 4.3200		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 4.2175*,			SumGF = 4.2175		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 226.0370,			SumQI = 226.0370*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 0.1836,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 8.1256*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1062	1353	MAXF-PY	109.3	242.7	-44.6	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1298	2	AGUA	-106.2	-228.0	-34.1	0.00	0.00	0.00
	21	SC_CUBIERTA	-0.2	-4.5	-1.2	0.00	0.00	0.00
	31	VIENTO+	5.9	9.3	-1.2	0.00	0.00	0.00
	32	VIENTO-	-0.3	-7.4	-2.1	0.00	0.00	0.00
	41	NIEVE	-0.0	-0.9	-0.2	0.00	0.00	0.00
	5010	SITUACION_O	0.6	-3.8	-7.1	0.00	0.00	0.00
	5015	C+S A T DÍA	29.0	-39.1	-3.0	0.00	0.00	0.00
	5016	C+S A T DÍA	-27.5	35.8	3.7	0.00	0.00	0.00
	5017	C+S A T DÍA	-6.5	4.2	-0.8	0.00	0.00	0.00
	5020	CAPA_COMPRE	-0.6	-0.2	-0.2	0.00	0.00	0.00
	5030	CM_CUBIERTA	-2.1	-0.6	-0.5	0.00	0.00	0.00
	5035	C+S A T DÍA	6.7	-9.2	0.0	0.00	0.00	0.00
	5036	C+S A T DÍA	-2.8	4.2	-0.3	0.00	0.00	0.00
	5037	C+S A T DÍA	-0.4	-0.3	0.2	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -4.3826*,			SumGF = -4.3826		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -4.5494*,			SumGF = -4.5494		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -228.0236,			SumQI = -228.0236*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.1781,			SumQI = 0.0000*		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = -3.6802*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1298	1354	MINF-PY	-110.1	-240.6	-43.0	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1279	2	AGUA	-162.9	-0.3	48.7	0.00	0.00	0.00
	21	SC_CUBIERTA	-1.9	-0.0	1.0	0.00	0.00	0.00
	31	VIENTO+	10.0	0.0	-2.9	0.00	0.00	0.00
	32	VIENTO-	0.1	0.0	-0.1	0.00	0.00	0.00
	41	NIEVE	-0.4	0.0	0.2	0.00	0.00	0.00
	5010	SITUACION_O	-1.5	0.0	1.7	0.00	0.00	0.00
	5015	C+S A T DÍA	6.7	0.0	-26.6	0.00	0.00	0.00
	5016	C+S A T DÍA	-10.8	-0.0	18.8	0.00	0.00	0.00
	5017	C+S A T DÍA	-3.6	-0.0	5.7	0.00	0.00	0.00
	5020	CAPA_COMPRE	-0.6	0.0	1.0	0.00	0.00	0.00
	5030	CM_CUBIERTA	-2.2	0.0	3.4	0.00	0.00	0.00
	5035	C+S A T DÍA	0.2	0.0	-0.3	0.00	0.00	0.00
	5036	C+S A T DÍA	-0.7	0.0	0.8	0.00	0.00	0.00
	5037	C+S A T DÍA	-0.1	0.0	0.1	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -1.4193*,			SumGF = -1.4193		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 6.1773*,			SumGF = 6.1773		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 48.6593,			SumQI = 48.6593*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0404*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1279	1355	MAXF-PZ	-175.5	-0.3	53.5	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3595	2	AGUA	85.0	0.1	-75.5	-0.02	9.17	0.03
	21	SC_CUBIERTA	1.2	0.0	-1.3	-0.00	0.11	0.00
	31	VIENTO+	-5.3	0.0	4.8	0.00	-0.53	-0.00
	32	VIENTO-	-0.1	-0.0	0.1	0.00	-0.00	0.00
	41	NIEVE	0.2	0.0	-0.3	0.00	0.02	0.00
	5010	SITUACION_O	2.3	0.0	-2.5	0.00	-0.03	0.00
	5015	C+S A T DÍA	-7.7	0.0	35.0	0.00	-0.95	-0.00
	5016	C+S A T DÍA	19.5	-0.0	-17.9	-0.01	0.27	0.01
	5017	C+S A T DÍA	2.2	0.0	-6.5	0.00	0.43	0.00
	5020	CAPA_COMPRE	1.0	0.0	-1.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	3.4	0.0	-4.4	-0.00	0.02	0.00
	5035	C+S A T DÍA	1.7	0.0	0.0	0.00	-0.23	0.00
	5036	C+S A T DÍA	0.1	0.0	-0.7	0.00	0.12	0.00
	5037	C+S A T DÍA	0.3	0.0	-0.1	0.00	-0.02	0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 9.8041*,			SumGF = 9.8041		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -8.1127*,			SumGF = -8.1127		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -75.4936,			SumQI = -75.4936*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 = -0.0529*,			SumQI = 0.0000		
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3595	1356	MINF-PZ	107.8	0.1	-73.9	-0.03	8.78	0.03

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
90	2	AGUA	3.645	0.001	-2.163	0.025	-0.005	0.000
	21	SC_CUBIERTA	0.266	-0.035	-0.128	-0.985	0.796	0.000
	31	VIENTO+	-0.118	-0.038	-0.085	0.008	0.000	-0.000
	32	VIENTO-	0.396	0.049	0.075	-0.008	-0.000	0.000
	41	NIEVE	0.053	-0.007	-0.026	-0.197	0.159	0.000
	5010	SITUACION_O	1.249	0.001	-1.177	-5.014	2.752	0.000
	5015	C+S A T DÍ	0.608	2.203	-2.156	-4.605	2.041	0.000
	5016	C+S A T DÍ	0.760	1.490	-1.242	-3.206	1.582	0.000
	5017	C+S A T DÍ	0.260	0.266	-0.349	-1.105	0.639	0.000
	5020	CAPA_COMPRE	0.244	-0.033	-0.126	-0.918	0.742	0.000
	5030	CM_CUBIERTA	0.854	-0.115	-0.441	-3.211	2.598	0.000
	5035	C+S A T DÍ	0.668	1.632	-1.521	-12.614	1.359	0.000
	5036	C+S A T DÍ	0.024	-0.294	-0.024	-0.252	0.071	0.000
	5037	C+S A T DÍ	0.007	-0.031	-0.006	-0.671	0.036	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = 0.0023,			SumGF = 0.0023		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = 0.0023,			SumGF = 0.0023		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0036,			SumQI = 0.0036		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0002,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
90	1371	MAXF-UX	8.517	5.145	-9.166	-31.574	11.816	0.001

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
19689	2	AGUA	-9.697	-0.000	-1.972	0.013	-2.222	-0.303
	21	SC_CUBIERTA	0.014	0.004	-0.045	-0.001	0.008	0.020
	31	VIENTO+	0.895	-0.032	0.065	-0.001	0.220	0.021
	32	VIENTO-	0.028	0.045	0.001	-0.000	0.001	-0.002
	41	NIEVE	0.003	0.001	-0.009	-0.000	0.002	0.004
	5010	SITUACION_O	-0.885	0.011	-0.959	-0.001	-0.158	0.067
	5015	C+S A T DÍ	2.650	-0.948	-1.664	0.136	1.279	0.003
	5016	C+S A T DÍ	1.326	-0.608	-1.138	0.004	-0.093	0.034
	5017	C+S A T DÍ	-0.187	-0.017	-0.383	-0.061	-0.572	0.049
	5020	CAPA_COMPRE	0.005	0.004	-0.046	-0.001	0.006	0.022
	5030	CM_CUBIERTA	0.017	0.013	-0.160	-0.003	0.020	0.077
	5035	C+S A T DÍ	-0.771	0.021	-1.143	-0.010	-0.170	0.067
	5036	C+S A T DÍ	-0.019	0.005	-0.013	-0.003	-0.025	0.004
	5037	C+S A T DÍ	-0.003	0.004	-0.008	-0.003	-0.015	0.004

Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0030,		SumGF =	0.0030	
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU =	-0.0009,		SumGF =	-0.0009	
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	-0.0097,		SumQI =	-0.0097	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
19689	1372	MINF-UX	-7.563	-1.515	-7.485	0.072	-1.950	0.024

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
23975	2	AGUA	0.002	10.843	-2.219	-2.463	0.001	0.001
	21	SC_CUBIERTA	0.001	0.208	-0.129	-0.043	0.015	0.001
	31	VIENTO+	0.015	-0.028	-0.002	-0.001	-0.000	-0.000
	32	VIENTO-	0.027	0.425	-0.029	-0.094	-0.000	-0.001
	41	NIEVE	0.000	0.042	-0.026	-0.009	0.003	0.000
	5010	SITUACION_O	0.004	1.674	-1.179	-0.341	0.044	0.004
	5015	C+S A T DÍ	0.078	-0.993	-2.358	1.049	0.042	0.001
	5016	C+S A T DÍ	0.067	-0.434	-1.239	-0.176	0.020	-0.009
	5017	C+S A T DÍ	0.018	0.499	-0.277	-0.626	0.008	0.011
	5020	CAPA_COMPRE	0.001	0.208	-0.128	-0.043	0.014	0.001
	5030	CM_CUBIERTA	0.005	0.729	-0.447	-0.151	0.048	0.005
	5035	C+S A T DÍ	0.008	2.386	-1.542	-0.532	0.028	0.006
	5036	C+S A T DÍ	0.001	0.077	-0.021	-0.038	0.002	0.003
	5037	C+S A T DÍ	0.000	0.006	-0.002	-0.016	0.000	0.000

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0015,		SumGF =	0.0015	
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU =	0.0026,		SumGF =	0.0026	
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0108,		SumQI =	0.0108	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0002,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
23975	1373	MAXF-UY	0.196	15.207	-9.426	-3.385	0.208	0.023

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
11695	2	AGUA	3.658	0.000	-2.199	-0.033	0.000	0.000
	21	SC_CUBIERTA	0.306	0.000	-0.705	0.959	0.829	0.000
	31	VIENTO+	-0.118	-0.039	-0.002	-0.000	0.000	0.000
	32	VIENTO-	0.396	0.050	-0.027	-0.003	-0.000	0.000
	41	NIEVE	0.061	0.000	-0.142	0.194	0.166	0.000
	5010	SITUACION_O	1.387	-0.180	-4.179	5.007	2.868	0.000
	5015	C+S A T DÍ	0.395	-32.392	-5.156	4.687	2.122	0.000
	5016	C+S A T DÍ	0.441	-1.473	-3.160	3.218	1.647	0.000
	5017	C+S A T DÍ	0.191	1.706	-0.927	1.089	0.662	0.000
	5020	CAPA_COMPRE	0.281	0.000	-0.670	0.903	0.774	0.000
	5030	CM_CUBIERTA	0.982	0.001	-2.319	3.120	2.705	0.000
	5035	C+S A T DÍ	0.709	-0.851	-5.653	6.760	1.393	0.000
	5036	C+S A T DÍ	0.023	0.071	0.183	-0.329	0.074	0.000
	5037	C+S A T DÍ	0.007	-0.037	-0.146	0.237	0.038	0.000

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0330,			SumGF = -0.0330		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0002,			SumGF = -0.0002		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = -0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
11695	1374	MINF-UY	8.017	-33.176	-24.227	24.659	12.283	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
30169	2	AGUA	0.054	0.044	-1.666	0.203	-0.038	-0.001
	21	SC_CUBIERTA	0.001	0.000	0.010	0.001	0.000	-0.000
	31	VIENTO+	0.012	-0.033	-0.001	0.000	0.002	0.000
	32	VIENTO-	0.029	0.042	0.008	0.005	-0.004	-0.000
	41	NIEVE	0.000	0.000	0.002	0.000	0.000	0.000
	5010	SITUACION_O	0.002	0.000	-0.222	0.001	-0.007	-0.000
	5015	C+S A T DÍ	-0.483	-0.323	-0.232	-0.006	-0.000	0.002
	5016	C+S A T DÍ	-1.023	-0.731	-0.123	-0.002	-0.002	0.002
	5017	C+S A T DÍ	-0.546	-0.410	-0.068	0.001	-0.003	-0.002
	5020	CAPA_COMPRE	0.001	0.000	0.010	0.001	0.000	-0.000
	5030	CM_CUBIERTA	0.002	-0.000	0.034	0.004	0.000	-0.000
	5035	C+S A T DÍ	-0.074	-0.033	-0.223	-0.003	0.010	-0.001
	5036	C+S A T DÍ	-0.020	-0.014	0.005	0.001	-0.001	-0.000
	5037	C+S A T DÍ	-0.014	-0.012	-0.003	-0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0006,			SumGF = -0.0006		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0002,			SumGF = -0.0002		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	0.50	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
30169	1375	MAXF-UZ	-2.141	-1.502	-0.819	-0.000	-0.005	-0.001

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
12134	2	AGUA	3.650	0.001	-2.043	0.030	-0.005	0.000
	21	SC_CUBIERTA	-0.068	-0.003	-3.931	-0.087	-0.094	0.000
	31	VIENTO+	-0.117	-0.039	-0.041	0.009	0.000	0.000
	32	VIENTO-	0.395	0.049	0.037	-0.008	-0.000	0.000
	41	NIEVE	-0.014	-0.001	-0.786	-0.017	-0.019	0.000
	5010	SITUACION_O	0.095	0.001	-19.375	-0.121	-0.324	0.000
	5015	C+S A T DÍ	-0.383	1.032	-18.386	0.067	-0.236	0.000
	5016	C+S A T DÍ	-0.076	0.698	-12.718	-0.046	-0.184	0.000
	5017	C+S A T DÍ	-0.051	0.124	-4.376	-0.052	-0.074	0.000
	5020	CAPA_COMPRE	-0.067	-0.003	-3.670	-0.081	-0.087	0.000
	5030	CM_CUBIERTA	-0.236	-0.009	-12.845	-0.283	-0.306	0.000
	5035	C+S A T DÍ	0.093	2.592	-23.144	0.300	-0.149	0.000
	5036	C+S A T DÍ	-0.008	0.295	0.878	-0.041	-0.008	0.000
	5037	C+S A T DÍ	-0.009	0.138	-0.766	0.011	-0.004	0.000

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0585,			SumGF = -0.0585		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0359,			SumGF = -0.0359		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -0.0020,			SumQI = -0.0020		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = -0.0002,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = -0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
12134	1376	MINF-UZ	3.004	4.870	-96.601	-0.219	-1.381	0.001

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
13:	4253	2	AGUA	-42.03	-12.2	-0.3	0.3	0.0
		21	SC_CUBIERTA	0.23	0.1	0.0	0.0	0.0
		31	VIENTO+	0.45	0.1	-0.1	0.2	0.0
		32	VIENTO-	-0.40	-0.1	-0.2	-0.3	0.0
		41	NIEVE	0.05	0.0	0.0	0.0	0.0
		5010	SITUACION_O	-5.69	-1.7	0.0	0.0	0.0
		5015	C+S A T DÍA	-0.22	-0.1	2.8	-1.9	0.0
		5016	C+S A T DÍA	0.13	0.0	3.6	-2.8	0.0
		5017	C+S A T DÍA	-0.10	-0.0	0.2	-0.2	0.0
		5020	CAPA_COMPRE	0.23	0.1	0.0	0.0	0.0
		5030	CM_CUBIERTA	0.79	0.2	-0.0	0.0	0.0
		5035	C+S A T DÍA	-0.84	-0.2	-6.1	4.7	0.0
		5036	C+S A T DÍA	0.44	0.1	2.3	-1.8	0.0
		5037	C+S A T DÍA	-0.19	-0.1	-0.7	0.5	0.0

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	-0.7649*,		SumGF =	-0.7649	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	-4.6793*,		SumGF =	-4.6793	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0094,		SumQI =	0.0000*	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	0.2253*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

FREQ

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
13:	4253	1317	MAXF-P	-5.22	-1.5	2.1	-1.4	0.0

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11:	5191	2	AGUA	-91.82	-1.0	-0.1	2.4	0.3
		21	SC_CUBIERTA	-4.02	-0.0	0.0	0.1	0.0
		31	VIENTO+	-5.62	-0.1	-0.1	0.3	0.0
		32	VIENTO-	5.10	0.1	-0.2	-0.4	-0.0
		41	NIEVE	-0.80	0.0	0.0	0.0	0.0
		5010	SITUACION_O	-36.04	-0.4	-0.0	0.9	0.1
		5015	C+S A T DÍA	-16.88	-0.2	0.8	-3.3	-0.4
		5016	C+S A T DÍA	10.12	0.1	1.0	-5.9	-0.8
		5017	C+S A T DÍA	1.30	0.0	0.0	-0.3	-0.0
		5020	CAPA_COMPRE	-3.99	-0.0	0.0	0.1	0.0
		5030	CM_CUBIERTA	-13.95	-0.2	-0.0	0.3	0.0
		5035	C+S A T DÍA	10.79	0.1	-1.7	9.1	1.2
		5036	C+S A T DÍA	-3.97	-0.0	0.7	-3.4	-0.5
		5037	C+S A T DÍA	1.59	0.0	-0.2	1.0	0.1

Determination of Sums and Leading Variable Action

Act	C: SumGU =	2.9498*,		SumGF =	2.9498	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	-53.9846*,		SumGF =	-53.9846	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	-91.8179,		SumQI =	-91.8179*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	S: SumQ1 =	-0.1609,		SumQI =	0.0000*	
LC	41					
FacQ1	0.20					
FacQI	0.00					
Act	W: SumQ1 =	-2.8118*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	0.50	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	5191	1318	MINF-P	-145.66	-1.6	0.4	0.9	0.1

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Superposition according to EHE Instrucción de hormigòn estructural 2008

Combination rule Number 101

SLS quasi-permanent combination

Superposition according to manual MAXIMA formula 2.7

$$E_{d,perm} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus \sum_{i\geq 1} \psi_{2,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS quasi-permanent combination

Load Case selection and Actions

Act	Part	Superposition Factors γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2	Fact	Type	Designation
	LC									
C	P	1.00	1.00	1.00	1.00	1.00	1.00			creep + shrinkage
	5015							1.00	PERM	C+S A T DÍAS
	5016							1.00	PERM	C+S A T DÍAS
	5017							1.00	PERM	C+S A T DÍAS
	5035							1.00	PERM	C+S A T DÍAS
	5036							1.00	PERM	C+S A T DÍAS
	5037							1.00	PERM	C+S A T DÍAS
G	G	1.35	0.80	1.00	1.00	1.00	1.00			dead load
	5010							1.00	PERM	SITUACION_ORIGINAL
	5020							1.00	PERM	CAPA_COMPRESION
	5030							1.00	PERM	CM_CUBIERTA
L	Q	1.50	0.00	1.00	0.00	0.00	0.00			live loading
	21							1.00	A9	SC_CUBIERTA
Q	Q	1.20	0.90	1.00	1.00	1.00	1.00			variable load
	2							1.00	COND	AGUA
S	Q	1.60	0.00	1.00	0.60	0.20	0.00			snow loading
	41							1.00	COND	NIEVE
W	Q	1.60	0.00	1.00	0.60	0.50	0.00			wind loading
	31							1.00	A10	VIENTO+
	32							1.00	A10	VIENTO-

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

Generated Load Cases

Number	Combination	Designation
1401	101	MAXP-MX QUAD CUASIPERM
1402	101	MINP-MX QUAD CUASIPERM
1403	101	MAXP-MY QUAD CUASIPERM
1404	101	MINP-MY QUAD CUASIPERM
1405	101	MAXP-MXY QUAD CUASIPERM
1406	101	MINP-MXY QUAD CUASIPERM
1401	101	MAXP-MX QUAK CUASIPERM
1402	101	MINP-MX QUAK CUASIPERM
1403	101	MAXP-MY QUAK CUASIPERM
1404	101	MINP-MY QUAK CUASIPERM
1405	101	MAXP-MXY QUAK CUASIPERM
1406	101	MINP-MXY QUAK CUASIPERM
1407	101	MAXP-VX QUAD CUASIPERM
1408	101	MINP-VX QUAD CUASIPERM

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Generated Load Cases

Number	Combination	Designation
1407	101	MAXP-VX QUAK CUASIPERM
1408	101	MINP-VX QUAK CUASIPERM
1409	101	MAXP-VY QUAD CUASIPERM
1410	101	MINP-VY QUAD CUASIPERM
1409	101	MAXP-VY QUAK CUASIPERM
1410	101	MINP-VY QUAK CUASIPERM
1411	101	MAXP-NXX QUAD CUASIPERM
1412	101	MINP-NXX QUAD CUASIPERM
1413	101	MAXP-NYY QUAD CUASIPERM
1414	101	MINP-NYY QUAD CUASIPERM
1415	101	MAXP-NXY QUAD CUASIPERM
1416	101	MINP-NXY QUAD CUASIPERM
1411	101	MAXP-NXX QUAK CUASIPERM
1412	101	MINP-NXX QUAK CUASIPERM
1413	101	MAXP-NYY QUAK CUASIPERM
1414	101	MINP-NYY QUAK CUASIPERM
1415	101	MAXP-NXY QUAK CUASIPERM
1416	101	MINP-NXY QUAK CUASIPERM
1417	101	MAXP-P QUAD CUASIPERM
1418	101	MINP-P QUAD CUASIPERM
1471	101	MAXP-SXO QUAD CUASIPERM
1472	101	MINP-SXO QUAD CUASIPERM
1473	101	MAXP-SYO QUAD CUASIPERM
1474	101	MINP-SYO QUAD CUASIPERM
1475	101	MAXPSXYO QUAD CUASIPERM
1476	101	MINPSXYO QUAD CUASIPERM
1477	101	MAXP-SXU QUAD CUASIPERM
1478	101	MINP-SXU QUAD CUASIPERM
1479	101	MAXP-SYU QUAD CUASIPERM
1480	101	MINP-SYU QUAD CUASIPERM
1481	101	MAXPSXYU QUAD CUASIPERM
1482	101	MINPSXYU QUAD CUASIPERM
1471	101	MAXP-SXO QUAK CUASIPERM
1472	101	MINP-SXO QUAK CUASIPERM
1473	101	MAXP-SYO QUAK CUASIPERM
1474	101	MINP-SYO QUAK CUASIPERM
1475	101	MAXPSXYO QUAK CUASIPERM
1476	101	MINPSXYO QUAK CUASIPERM
1477	101	MAXP-SXU QUAK CUASIPERM
1478	101	MINP-SXU QUAK CUASIPERM
1479	101	MAXP-SYU QUAK CUASIPERM
1480	101	MINP-SYU QUAK CUASIPERM
1481	101	MAXPSXYU QUAK CUASIPERM
1482	101	MINPSXYU QUAK CUASIPERM
1451	101	MAXP-PX NODE CUASIPERM
1452	101	MINP-PX NODE CUASIPERM
1453	101	MAXP-PY NODE CUASIPERM
1454	101	MINP-PY NODE CUASIPERM
1455	101	MAXP-PZ NODE CUASIPERM
1456	101	MINP-PZ NODE CUASIPERM
1471	101	MAXP-UX NODE CUASIPERM
1472	101	MINP-UX NODE CUASIPERM
1473	101	MAXP-UY NODE CUASIPERM
1474	101	MINP-UY NODE CUASIPERM
1475	101	MAXP-UZ NODE CUASIPERM
1476	101	MINP-UZ NODE CUASIPERM
1421	101	MAXP-N BEAM CUASIPERM
1422	101	MINP-N BEAM CUASIPERM

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Generated Load Cases

Number	Combination	Designation
1429	101	MAXP-MY BEAM CUASIPERM
1430	101	MINP-MY BEAM CUASIPERM
1431	101	MAXP-MZ BEAM CUASIPERM
1432	101	MINP-MZ BEAM CUASIPERM
1427	101	MAXP-MT BEAM CUASIPERM
1428	101	MINP-MT BEAM CUASIPERM
1423	101	MAXP-VY BEAM CUASIPERM
1424	101	MINP-VY BEAM CUASIPERM
1425	101	MAXP-VZ BEAM CUASIPERM
1426	101	MINP-VZ BEAM CUASIPERM

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	50	0.000	2	AGUA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			21	SC_CUBIERTA	0.0	0.00	-2.75	0.00	56.53	0.00	0.00		...
			31	VIENTO+	0.0	0.00	0.00	0.00	0.00	-0.00	0.00		...
			32	VIENTO-	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			41	NIEVE	0.0	0.00	-0.55	0.00	11.31	0.00	0.00		...
			5010	SITUACION_O	0.0	0.00	-7.33	0.00	181.25	0.00	0.00		...
			5015	C+S A T DÍA	734.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5016	C+S A T DÍA	315.5	0.00	0.00	0.00	0.00	0.00	0.00		...
			5017	C+S A T DÍA	-86.5	0.00	0.00	0.00	0.00	0.00	0.00		...
			5020	CAPA_COMPRE	0.0	0.00	-2.75	0.00	56.53	0.00	0.00		...
			5030	CM_CUBIERTA	0.0	0.00	-9.63	0.00	197.84	0.00	0.00		...
			5035	C+S A T DÍA	84.2	0.00	0.00	0.00	0.00	0.00	0.00		...
			5036	C+S A T DÍA	-20.6	0.00	0.00	0.00	0.00	0.00	0.00		...
			5037	C+S A T DÍA	10.7	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 1037.4460*,			SumGF = 1037.4460			
LC	5015	5016	5017	5035	5036	5037	
FacGU	1.00	1.00	1.00	1.00	1.00	1.00	
FacGF	1.00	1.00	1.00	1.00	1.00	1.00	
Act	G: SumGU = 0.0000*,			SumGF = 0.0000			
LC	5010	5020	5030				
FacGU	1.00	1.00	1.00				
FacGF	1.00	1.00	1.00				
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	21						
FacQ1	0.00						
FacQI	0.00						
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	2						
FacQ1	0.00						
FacQI	0.00						
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	41						
FacQ1	0.00						
FacQI	0.00						
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	31	32					
FacQ1	0.00	0.00					
FacQI	0.00	0.00					

Act	action
SumGU,SumGF	sums of the permanent loads acting unfavourable and favourable, * = decisive
SumQ1,SumQ2,SumQ3	sum of the variable loads for 1st, 2nd, 3rd leading variable action, * = decisive
SumQI	sum of the variable loads for accompanying variable actions, * =

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	decisive
LC	number of the load case
FacGU,FacGF	factors of the permanent loads acting unfavourable and favourable
FacQ1,FacQ2,FacQ3	factors of the variable loads for 1st, 2nd, 3rd leading variable action
FacQI	factors of the variable loads for accompanying variable actions
LCW	loadcase-wise consideration

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

LC number of the load case
Fact resulting factors, - = load case is not considered

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	50	0.000	1421	MAXP-N	1037.4	0.00	-19.72	-0.00	435.62	0.00	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41	1	0.000	2	AGUA	0.0	-7.38	0.00	0.00	0.00	-33.58	0.00		...
			21	SC_CUBIERTA	-75.0	0.07	0.00	0.00	0.00	0.30	0.00		...
			31	VIENTO+	0.0	0.27	0.00	0.00	0.00	1.21	0.00		...
			32	VIENTO-	0.0	-0.74	0.00	0.00	-0.00	-3.38	0.00		...
			41	NIEVE	-15.0	0.01	0.00	0.00	0.00	0.06	0.00		...
			5010	SITUACION_O	-259.1	-0.40	0.00	0.00	0.00	-1.83	0.00		...
			5015	C+S A T DÍA	0.0	1.25	0.00	0.00	-0.00	5.70	0.00		...
			5016	C+S A T DÍA	0.0	-0.48	0.00	0.00	0.00	-2.18	0.00		...
			5017	C+S A T DÍA	0.0	0.37	0.00	0.00	0.00	1.70	0.00		...
			5020	CAPA_COMPRE	-75.1	0.08	0.00	0.00	0.00	0.35	0.00		...
			5030	CM_CUBIERTA	-262.4	0.27	0.00	0.00	0.00	1.21	0.00		...
			5035	C+S A T DÍA	0.0	-0.62	0.00	0.00	-0.00	-2.81	0.00		...
			5036	C+S A T DÍA	0.0	0.26	0.00	0.00	0.00	1.17	0.00		...
			5037	C+S A T DÍA	0.0	-0.08	0.00	0.00	0.00	-0.37	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 0.0000*, SumGF = 0.0000					
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -596.5004*, SumGF = -596.5004					
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000, SumQI = 0.0000*					
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000, SumQI = 0.0000*					
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000, SumQI = 0.0000*					
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000, SumQI = 0.0000*					
LC	31	32				

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Determination of Sums and Leading Variable Action

FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41	1	0.000	1422	MINP-N	-596.5	-6.74	0.00	0.00	-0.00	-30.65	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	49	0.600	2	AGUA	24.7	0.00	0.00	0.00	0.00	0.00	0.00	...
			21	SC_CUBIERTA	-4.6	0.00	4.76	0.00	56.53	0.00	0.00	...
			31	VIENTO+	-1.1	0.00	0.00	0.00	0.00	-0.00	0.00	...
			32	VIENTO-	2.7	0.00	0.00	0.00	0.00	0.00	0.00	...
			41	NIEVE	-0.9	0.00	0.95	0.00	11.31	0.00	0.00	...
			5010	SITUACION_O	-11.3	0.00	13.76	0.00	181.25	0.00	0.00	...
			5015	C+S A T DÍA	-3.8	0.00	0.00	0.00	0.00	0.00	0.00	...
			5016	C+S A T DÍA	-4.9	0.00	0.00	0.00	0.00	0.00	0.00	...
			5017	C+S A T DÍA	-2.6	0.00	0.00	0.00	0.00	0.00	0.00	...
			5020	CAPA_COMPRE	-4.6	0.00	4.76	0.00	56.53	0.00	0.00	...
			5030	CM_CUBIERTA	-16.2	0.00	16.64	0.00	197.84	0.00	0.00	...
			5035	C+S A T DÍA	3.0	0.00	0.00	0.00	0.00	0.00	0.00	...
			5036	C+S A T DÍA	-1.4	0.00	0.00	0.00	0.00	0.00	0.00	...
			5037	C+S A T DÍA	0.3	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0000*,			SumGF = -0.0000		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 435.6152*,			SumGF = 435.6152		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	49	0.600	1429	MAXP-MY	-16.9	0.00	35.16	-0.00	435.62	0.00	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	22	0.520	2	AGUA	39.4	0.00	-5.33	0.00	-31.96	0.00	0.00		...
			21	SC_CUBIERTA	-4.7	0.00	-41.93	0.00	-42.86	0.00	0.00		...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	1.16	0.00	0.00		...
			32	VIENTO-	4.2	0.00	-0.54	0.00	-3.24	-0.01	0.00		...
			41	NIEVE	-0.9	0.00	-8.39	0.00	-8.57	0.00	0.00		...
			5010	SITUACION_O	-10.4	0.00	-136.26	0.00	-141.38	0.00	0.00		...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	-10.00	-0.00	0.00		...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	-1.29	0.00	0.00		...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	-1.12	0.00	0.00		...
			5020	CAPA_COMPRE	-4.8	0.00	-41.92	0.00	-42.80	0.00	0.00		...
			5030	CM_CUBIERTA	-16.8	0.00	-146.71	0.00	-149.81	0.00	0.00		...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	-3.05	0.00	0.00		...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	1.25	0.00	0.00		...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	-0.39	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -14.5943*,			SumGF = -14.5943		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -334.0032*,			SumGF = -334.0032		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -31.9606*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Determined Factors

factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	22	0.520	1430	MINP-MY	-2.4	0.00	-332.65	0.01	-380.56	0.01	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	39	0.569	2	AGUA	0.5	-22.49	0.00	0.00	-0.00	44.99	0.00		...
			21	SC_CUBIERTA	-72.9	-3.64	0.00	0.00	0.00	11.12	0.00		...
			31	VIENTO+	0.2	0.63	0.00	0.00	0.00	-1.27	0.00		...
			32	VIENTO-	-0.3	-1.84	-0.00	-0.00	-0.00	3.73	0.00		...
			41	NIEVE	-14.6	-0.73	0.00	0.00	0.00	2.22	0.00		...
			5010	SITUACION_O	-237.5	-10.71	0.00	0.00	0.00	33.84	0.00		...
			5015	C+S A T DÍA	-17.8	8.15	0.00	0.00	-0.00	-18.66	0.00		...
			5016	C+S A T DÍA	13.2	-10.44	0.00	0.00	0.01	23.71	0.00		...
			5017	C+S A T DÍA	-1.2	0.10	0.00	0.00	0.00	-0.57	0.00		...
			5020	CAPA_COMPRE	-72.8	-3.61	0.00	0.00	0.00	11.08	0.00		...
			5030	CM_CUBIERTA	-254.9	-12.65	0.00	0.00	0.00	38.77	0.00		...
			5035	C+S A T DÍA	-1.8	-0.18	0.00	0.00	0.00	0.42	0.00		...
			5036	C+S A T DÍA	1.2	-0.25	0.00	0.00	0.00	0.58	0.00		...
			5037	C+S A T DÍA	-0.2	-0.07	0.00	0.00	0.00	0.15	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU =	5.6305*,		SumGF =	5.6305	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	83.6935*,		SumGF =	83.6935	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	44.9883*	
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	39	0.569	1431	MAXP-MZ	-571.4	-52.15	0.00	0.00	0.00	134.31	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	23	0.649	2	AGUA	5.3	-17.29	0.00	0.00	0.00	31.76	0.00	...
			21	SC_CUBIERTA	-70.9	4.55	0.00	0.00	0.00	-13.51	0.00	...
			31	VIENTO+	-0.2	0.82	0.00	-0.00	0.00	-1.35	0.00	...
			32	VIENTO-	0.6	-1.91	-0.00	0.00	0.00	3.59	0.00	...
			41	NIEVE	-14.2	0.91	0.00	0.00	0.00	-2.70	0.00	...
			5010	SITUACION_O	-225.4	11.63	0.00	0.00	0.00	-39.26	0.00	...
			5015	C+S A T DÍA	-1.1	2.45	0.00	0.00	0.00	-6.47	0.00	...
			5016	C+S A T DÍA	-1.5	4.78	0.00	0.00	0.00	-8.92	0.00	...
			5017	C+S A T DÍA	-0.6	2.01	0.00	0.00	0.00	-3.76	0.00	...
			5020	CAPA_COMPRE	-70.9	4.56	0.00	0.00	0.00	-13.54	0.00	...
			5030	CM_CUBIERTA	-248.1	15.98	0.00	0.00	0.00	-47.41	0.00	...
			5035	C+S A T DÍA	0.7	-2.54	0.00	-0.00	0.00	4.18	0.00	...
			5036	C+S A T DÍA	-0.3	1.24	0.00	0.00	0.00	-2.06	0.00	...
			5037	C+S A T DÍA	0.1	-0.29	0.00	0.00	0.00	0.43	0.00	...

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -16.5981*,			SumGF = -16.5981		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -100.2142*,			SumGF = -100.2142		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	23	0.649	1432	MINP-MZ	-547.1	39.83	0.00	0.00	0.00	-116.81	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42:	12	0.000	2	AGUA	39.4	0.00	-5.33	0.00	0.00	-0.00	0.00	...
			21	SC_CUBIERTA	-4.7	0.00	33.15	0.00	0.00	0.00	0.00	...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	0.00	-0.00	0.00	...
			32	VIENTO-	4.2	0.00	-0.54	0.00	0.00	0.00	0.00	...
			41	NIEVE	-0.9	0.00	6.63	0.00	0.00	0.00	0.00	...
			5010	SITUACION_O	-10.4	0.00	104.60	0.00	0.00	0.00	0.00	...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	0.00	0.00	0.00	...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	0.00	0.00	0.00	...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	0.00	0.00	0.00	...
			5020	CAPA_COMPRE	-4.8	0.00	33.16	0.00	0.00	0.00	0.00	...
			5030	CM_CUBIERTA	-16.8	0.00	116.04	0.00	0.00	0.00	0.00	...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	0.00	0.00	0.00	...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	0.00	0.00	0.00	...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0041*,		SumGF =	0.0041	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	0.0030*,		SumGF =	0.0030	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	12	0.000	1427	MAXP-MT	-41.8	0.00	251.37	0.01	0.00	0.01	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
43:	34	0.589	2	AGUA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			21	SC_CUBIERTA	0.0	0.00	-7.51	0.00	0.00	0.00	0.00		...
			31	VIENTO+	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			32	VIENTO-	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			41	NIEVE	0.0	0.00	-1.50	0.00	0.00	0.00	0.00		...
			5010	SITUACION_O	0.0	0.00	-21.09	0.00	0.00	0.00	0.00		...
			5015	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5016	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5017	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5020	CAPA_COMPRE	0.0	0.00	-7.51	0.00	0.00	0.00	0.00		...
			5030	CM_CUBIERTA	0.0	0.00	-26.28	0.00	0.00	0.00	0.00		...
			5035	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5036	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5037	C+S A T DÍA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0000*,		SumGF =	0.0000	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	-0.0017*,		SumGF =	-0.0017	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
43:	34	0.589	1428	MINP-MT	0.0	0.00	-54.87	-0.00	0.00	0.00	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	18	0.000	2	AGUA	5.3	-17.29	0.00	0.00	-0.00	-35.55	0.00		...
			21	SC_CUBIERTA	-70.9	4.55	0.00	0.00	0.00	4.19	0.00		...
			31	VIENTO+	-0.2	0.82	0.00	-0.00	-0.00	1.86	0.00		...
			32	VIENTO-	0.6	-1.91	-0.00	0.00	0.01	-3.87	0.00		...
			41	NIEVE	-14.2	0.91	0.00	0.00	0.00	0.84	0.00		...
			5010	SITUACION_O	-240.9	11.63	0.00	0.00	0.00	6.03	0.00		...
			5015	C+S A T DÍA	-1.1	2.45	0.00	0.00	0.00	3.06	0.00		...
			5016	C+S A T DÍA	-1.5	4.78	0.00	0.00	0.00	9.68	0.00		...
			5017	C+S A T DÍA	-0.6	2.01	0.00	0.00	0.00	4.08	0.00		...
			5020	CAPA_COMPRE	-70.9	4.56	0.00	0.00	0.00	4.22	0.00		...
			5030	CM_CUBIERTA	-248.1	15.98	0.00	0.00	0.00	14.79	0.00		...
			5035	C+S A T DÍA	0.7	-2.54	0.00	-0.00	0.00	-5.71	0.00		...
			5036	C+S A T DÍA	-0.3	1.24	0.00	0.00	0.00	2.76	0.00		...
			5037	C+S A T DÍA	0.1	-0.29	0.00	0.00	0.00	-0.68	0.00		...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	7.6544*,		SumGF =	7.6544	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	32.1749*,		SumGF =	32.1749	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41	18	0.000	1423	MAXP-VY	-562.6	39.83	0.00	0.00	0.00	38.25	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41	32	0.000	2	AGUA	0.5	-22.49	0.00	0.00	0.00	-57.34	0.00	...
			21	SC_CUBIERTA	-72.9	-3.64	0.00	0.00	0.00	-5.43	0.00	...
			31	VIENTO+	0.2	0.63	0.00	0.00	-0.00	1.59	0.00	...
			32	VIENTO-	-0.3	-1.84	-0.00	-0.00	0.00	-4.65	0.00	...
			41	NIEVE	-14.6	-0.73	0.00	0.00	0.00	-1.09	0.00	...
			5010	SITUACION_O	-255.7	-10.71	0.00	0.00	-0.00	-14.91	0.00	...
			5015	C+S A T DÍA	-17.8	8.15	0.00	0.00	0.00	18.42	0.00	...
			5016	C+S A T DÍA	13.2	-10.44	0.00	0.00	0.00	-23.77	0.00	...
			5017	C+S A T DÍA	-1.2	0.10	0.00	0.00	0.00	-0.13	0.00	...
			5020	CAPA_COMPRE	-72.8	-3.61	0.00	0.00	0.00	-5.36	0.00	...
			5030	CM_CUBIERTA	-254.9	-12.65	0.00	0.00	-0.00	-18.77	0.00	...
			5035	C+S A T DÍA	-1.8	-0.18	0.00	0.00	-0.01	-0.40	0.00	...
			5036	C+S A T DÍA	1.2	-0.25	0.00	0.00	0.00	-0.56	0.00	...
			5037	C+S A T DÍA	-0.2	-0.07	0.00	0.00	0.00	-0.14	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2.6846*,			SumGF = -2.6846		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -26.9754*,			SumGF = -26.9754		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -22.4890*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	32	0.000	1424	MINP-VY	-589.6	-52.15	0.00	0.00	-0.01	-102.97	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42:	34	0.000	2	AGUA	17.3	0.00	-5.29	0.00	31.76	0.00	0.00	...
			21	SC_CUBIERTA	-4.5	0.00	41.71	0.00	-41.56	0.00	0.00	...
			31	VIENTO+	-0.8	0.00	0.22	0.00	-1.35	0.00	0.00	...
			32	VIENTO-	1.9	-0.00	-0.60	-0.00	3.59	-0.00	0.00	...
			41	NIEVE	-0.9	0.00	8.34	0.00	-8.31	0.00	0.00	...
			5010	SITUACION_O	-11.6	0.00	133.90	0.00	-127.19	-0.00	0.00	...
			5015	C+S A T DÍA	-2.4	0.00	1.08	0.00	-6.47	0.00	0.00	...
			5016	C+S A T DÍA	-4.8	0.00	1.49	0.00	-8.92	-0.00	0.00	...
			5017	C+S A T DÍA	-2.0	0.00	0.63	0.00	-3.76	0.00	0.00	...
			5020	CAPA_COMPRE	-4.6	0.00	41.72	0.00	-41.60	0.00	0.00	...
			5030	CM_CUBIERTA	-16.0	0.00	146.01	0.00	-145.60	-0.00	0.00	...
			5035	C+S A T DÍA	2.5	0.00	-0.70	-0.00	4.18	0.00	0.00	...
			5036	C+S A T DÍA	-1.2	0.00	0.34	0.00	-2.06	0.00	0.00	...
			5037	C+S A T DÍA	0.3	0.00	-0.07	0.00	0.43	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2.7663*,			SumGF = 2.7663		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 321.6320*,			SumGF = 321.6320		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	34	0.000	1425	MAXP-VZ	-39.8	0.00	324.40	0.00	-330.99	-0.00	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	22	0.520	2	AGUA	39.4	0.00	-5.33	0.00	-31.96	0.00	0.00	...
			21	SC_CUBIERTA	-4.7	0.00	-41.93	0.00	-42.86	0.00	0.00	...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	1.16	0.00	0.00	...
			32	VIENTO-	4.2	0.00	-0.54	0.00	-3.24	-0.01	0.00	...
			41	NIEVE	-0.9	0.00	-8.39	0.00	-8.57	0.00	0.00	...
			5010	SITUACION_O	-10.4	0.00	-136.26	0.00	-141.38	0.00	0.00	...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	-10.00	-0.00	0.00	...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	-1.29	0.00	0.00	...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	-1.12	0.00	0.00	...
			5020	CAPA_COMPRE	-4.8	0.00	-41.92	0.00	-42.80	0.00	0.00	...
			5030	CM_CUBIERTA	-16.8	0.00	-146.71	0.00	-149.81	0.00	0.00	...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	-3.05	0.00	0.00	...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	1.25	0.00	0.00	...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	-0.39	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2.4324*,			SumGF = -2.4324		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -324.8898*,			SumGF = -324.8898		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -5.3268*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	22	0.520	1426	MINP-VZ	-2.4	0.00	-332.65	0.01	-380.56	0.01	0.00	...

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	2	AGUA	37.95	32.43	0.37	66.97	0.11	106.99	103.90
		21	SC_CUBIERTA	34.51	25.62	-0.02	119.53	0.96	-1.28	-2.45
		31	VIENTO+	-0.40	-1.22	0.06	-2.01	-0.01	-1.08	0.95
		32	VIENTO-	1.60	3.29	-0.06	5.66	0.01	2.35	-0.50
		41	NIEVE	6.90	5.12	-0.00	23.91	0.19	-0.26	-0.49
		5010	SITUACION_O	108.76	101.72	-0.11	415.49	3.35	-20.26	-0.80
		5015	C+S A T DÍA	-42.81	8.68	-0.16	12.91	0.20	-205.67	-238.84
		5016	C+S A T DÍA	52.28	-6.71	0.19	-0.83	-0.13	-247.55	-162.48
		5017	C+S A T DÍA	1.46	-0.42	0.01	3.57	0.02	691.66	658.60
		5020	CAPA_COMPRE	34.44	25.90	-0.02	119.34	0.96	-7.00	-1.05
		5030	CM_CUBIERTA	120.56	90.63	-0.08	417.70	3.35	-24.39	-3.59
		5035	C+S A T DÍA	0.59	12.83	-0.01	5.24	0.04	-299.67	-307.12
		5036	C+S A T DÍA	1.52	-5.75	0.01	-2.04	-0.02	161.48	166.51
		5037	C+S A T DÍA	0.17	1.84	0.00	0.64	0.00	-28.79	-30.01

Determination of Sums and Leading Variable Action

Act	C: SumGU = 13.2174*,			SumGF = 13.2174		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 263.7581*,			SumGF = 263.7581		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 37.9453*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	1401	MAXP-MX	314.92	261.15	0.19	1038.99	7.88	126.78	185.11

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204168	2	AGUA	-371.36	26.98	81.64	939.79	-304.14	1348.65	557.12
		21	SC_CUBIERTA	-8.90	-0.48	0.03	0.35	0.99	24.17	7.29
		31	VIENTO+	-0.89	-1.59	-2.74	-14.83	7.34	-2.71	-5.64
		32	VIENTO-	-5.49	4.88	8.21	51.37	-21.95	28.29	20.17
		41	NIEVE	-1.78	-0.10	0.01	0.07	0.20	4.84	1.46
		5010	SITUACION_O	-0.74	33.81	46.35	-143.82	-41.73	-119.13	-87.60
		5015	C+S A T DÍA	-295.83	-65.77	-67.24	238.58	169.18	-329.80	-284.73
		5016	C+S A T DÍA	252.93	67.09	66.46	-292.12	-108.15	140.26	205.00
		5017	C+S A T DÍA	26.23	-3.59	1.08	66.84	-43.46	298.65	98.59
		5020	CAPA_COMPRE	-5.78	1.85	3.62	-33.01	-1.25	-24.55	-13.80
		5030	CM_CUBIERTA	-20.15	6.12	12.53	-115.82	-4.39	-86.51	-48.25
		5035	C+S A T DÍA	-32.35	25.52	41.88	-49.09	25.13	-315.69	-153.14
		5036	C+S A T DÍA	17.03	-7.20	-13.20	17.01	-13.08	118.22	60.64
		5037	C+S A T DÍA	-2.77	2.05	4.39	-11.42	2.50	-21.17	-11.91

Determination of Sums and Leading Variable Action

Act	C: SumGU = -34.7641*,			SumGF = -34.7641		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -26.6633*,			SumGF = -26.6633		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -371.3567*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204168	1402	MINP-MX	-432.78	86.85	177.50	616.94	-319.39	1008.94	321.91

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	2	AGUA	37.95	32.43	0.37	66.97	0.11	106.99	103.90
		21	SC_CUBIERTA	34.51	25.62	-0.02	119.53	0.96	-1.28	-2.45
		31	VIENTO+	-0.40	-1.22	0.06	-2.01	-0.01	-1.08	0.95
		32	VIENTO-	1.60	3.29	-0.06	5.66	0.01	2.35	-0.50
		41	NIEVE	6.90	5.12	-0.00	23.91	0.19	-0.26	-0.49
		5010	SITUACION_O	108.76	101.72	-0.11	415.49	3.35	-20.26	-0.80
		5015	C+S A T DÍA	-42.81	8.68	-0.16	12.91	0.20	-205.67	-238.84
		5016	C+S A T DÍA	52.28	-6.71	0.19	-0.83	-0.13	-247.55	-162.48
		5017	C+S A T DÍA	1.46	-0.42	0.01	3.57	0.02	691.66	658.60
		5020	CAPA_COMPRE	34.44	25.90	-0.02	119.34	0.96	-7.00	-1.05
		5030	CM_CUBIERTA	120.56	90.63	-0.08	417.70	3.35	-24.39	-3.59
		5035	C+S A T DÍA	0.59	12.83	-0.01	5.24	0.04	-299.67	-307.12
		5036	C+S A T DÍA	1.52	-5.75	0.01	-2.04	-0.02	161.48	166.51
		5037	C+S A T DÍA	0.17	1.84	0.00	0.64	0.00	-28.79	-30.01

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	10.4718*,		SumGF =	10.4718	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	218.2447*,		SumGF =	218.2447	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	32.4328*	
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	1403	MAXP-MY	314.92	261.15	0.19	1038.99	7.88	126.78	185.11

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1108869	2	AGUA	-106.40	-215.98	-122.38	799.91	647.22	-464.24	-175.11
		21	SC_CUBIERTA	-2.11	-2.75	-2.05	1.48	-1.09	-22.12	-27.55
		31	VIENTO+	0.62	9.59	3.25	-36.01	-33.69	-14.26	-7.57
		32	VIENTO-	-1.96	-2.70	-1.90	10.08	8.15	-17.59	-11.74
		41	NIEVE	-0.42	-0.55	-0.41	0.30	-0.22	-4.42	-5.51
		5010	SITUACION_O	-20.04	-24.89	-18.33	-21.14	-15.91	171.17	-42.73
		5015	C+S A T DÍA	-170.20	-70.17	-79.92	19.75	-5.00	873.18	413.50
		5016	C+S A T DÍA	144.90	60.02	67.67	-17.01	8.47	-462.43	-347.16
		5017	C+S A T DÍA	18.60	8.51	8.79	9.34	3.72	-442.16	-89.01
		5020	CAPA_COMPRE	-3.69	-2.47	-2.39	-17.06	-14.39	4.96	-20.70
		5030	CM_CUBIERTA	-12.94	-8.58	-8.32	-60.29	-50.88	17.52	-72.56
		5035	C+S A T DÍA	-27.09	-37.63	-24.36	51.06	54.38	149.62	-88.62
		5036	C+S A T DÍA	12.92	14.81	10.15	-15.52	-18.00	-61.40	27.09
		5037	C+S A T DÍA	-0.12	-2.85	-1.32	2.23	4.44	-33.90	-37.66

Determination of Sums and Leading Variable Action

Act	C: SumGU = -27.3095*,			SumGF = -27.3095		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -35.9419*,			SumGF = -35.9419		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -215.9769*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1108869	1404	MINP-MY	-164.05	-279.23	-170.41	751.27	614.05	-247.69	-432.96

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204615	2	AGUA	-356.28	24.30	94.24	-887.14	281.48	1257.89	515.55
		21	SC_CUBIERTA	4.09	4.28	4.13	-17.34	8.98	-3.06	1.28
		31	VIENTO+	29.16	1.03	-0.72	32.05	-3.29	-74.93	-17.46
		32	VIENTO-	1.33	2.61	4.15	-18.27	6.67	1.93	4.04
		41	NIEVE	0.82	0.86	0.83	-3.47	1.80	-0.61	0.26
		5010	SITUACION_O	30.69	43.79	54.27	17.87	62.17	-45.88	-52.98
		5015	C+S A T DÍA	-328.72	-76.49	-64.59	-116.26	-206.47	-418.26	-275.40
		5016	C+S A T DÍA	280.97	78.07	67.94	159.75	133.77	213.32	198.89
		5017	C+S A T DÍA	30.56	-4.01	-0.45	-22.84	52.48	313.59	85.14
		5020	CAPA_COMPRE	7.83	6.37	6.92	-12.19	11.51	4.65	-2.60
		5030	CM_CUBIERTA	27.34	21.84	24.03	-42.75	40.33	15.36	-9.13
		5035	C+S A T DÍA	6.33	36.84	51.77	-92.20	0.29	-244.80	-105.68
		5036	C+S A T DÍA	4.14	-11.21	-16.91	36.45	5.34	93.37	43.48
		5037	C+S A T DÍA	2.10	3.57	5.53	-6.24	0.60	-10.15	-7.81

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	43.3044*,		SumGF =	43.3044	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	85.2171*,		SumGF =	85.2171	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	94.2366*	
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204615	1405	MAXP-MXY	-295.04	123.07	222.76	-965.54	381.52	1179.10	389.44

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204117	2	AGUA	-350.00	26.49	-78.72	-911.27	-290.04	1279.02	544.04
		21	SC_CUBIERTA	4.21	4.37	-4.16	-17.44	-8.98	-2.64	1.39
		31	VIENTO+	11.68	0.47	-0.15	13.32	1.54	-30.40	-6.95
		32	VIENTO-	-30.03	1.64	-3.73	-55.65	-11.46	82.36	23.10
		41	NIEVE	0.84	0.87	-0.83	-3.49	-1.80	-0.53	0.28
		5010	SITUACION_O	32.33	45.18	-54.58	20.65	-65.00	-49.95	-55.67
		5015	C+S A T DÍA	-340.07	-76.90	69.62	-125.99	209.61	-419.77	-300.42
		5016	C+S A T DÍA	290.46	79.10	-72.42	168.65	-136.15	221.20	220.23
		5017	C+S A T DÍA	31.30	-4.35	-0.41	-21.66	-53.10	310.91	88.61
		5020	CAPA_COMPRE	8.08	6.55	-6.99	-11.88	-11.37	4.26	-2.59
		5030	CM_CUBIERTA	28.29	22.52	-24.31	-41.45	-39.93	14.00	-9.12
		5035	C+S A T DÍA	7.18	38.29	-51.13	-92.30	1.63	-252.71	-110.55
		5036	C+S A T DÍA	3.99	-11.71	16.59	36.69	-6.22	96.15	45.63
		5037	C+S A T DÍA	2.23	3.71	-5.50	-6.25	-0.36	-10.68	-7.75

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -43.2521*,			SumGF = -43.2521		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -85.8752*,			SumGF = -85.8752		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -78.7206*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204117	1406	MINP-MXY	-286.21	128.87	-207.85	-984.82	-390.94	1192.43	412.40

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 139.9710*,			SumGF = 139.9710		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 318.2646*,			SumGF = 318.2646		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 1554.8691*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	1407	MAXP-VX	-80.74	-20.89	-12.41	2013.10	902.89	3070.66	532.68

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3105151	2	AGUA	-59.00	-24.00	9.86	-1495.89	414.23	2234.19	76.16
		21	SC_CUBIERTA	-1.10	-0.07	0.17	-25.97	6.27	46.95	6.72
		31	VIENTO+	0.39	1.19	-0.05	14.00	-7.59	92.08	18.18
		32	VIENTO-	1.95	0.38	-0.34	45.60	-11.00	-101.77	-7.97
		41	NIEVE	-0.22	-0.01	0.03	-5.20	1.25	9.39	1.34
		5010	SITUACION_O	-7.26	-1.76	1.19	-165.31	43.52	205.65	15.11
		5015	C+S A T DÍA	8.29	2.69	-1.57	96.67	8.57	352.65	77.40
		5016	C+S A T DÍA	-8.85	-2.88	1.69	-109.26	-7.52	-326.28	-78.96
		5017	C+S A T DÍA	1.77	0.55	-0.34	25.33	-1.33	17.02	13.84
		5020	CAPA_COMPRE	-1.24	-0.12	0.19	-28.66	7.05	45.01	6.17
		5030	CM_CUBIERTA	-4.27	-0.38	0.66	-98.46	24.33	156.94	21.27
		5035	C+S A T DÍA	-8.46	-2.33	1.46	-186.97	45.98	248.16	9.73
		5036	C+S A T DÍA	3.23	0.87	-0.56	71.95	-18.58	-100.11	-4.15
		5037	C+S A T DÍA	-1.32	-0.37	0.23	-27.50	6.49	27.87	-0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -129.7695*,			SumGF = -129.7695		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -292.4239*,			SumGF = -292.4239		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -1495.891*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3105151	1408	MINP-VX	-77.11	-27.73	12.80	-1918.08	522.73	2861.11	136.56

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2204964	2	AGUA	-92.17	-2.95	39.16	-1439.06	2109.73	1214.26	2260.61
		21	SC_CUBIERTA	-1.55	0.31	0.43	-22.40	22.32	38.25	117.98
		31	VIENTO+	1.61	0.23	-0.81	14.41	-36.07	9.84	5.29
		32	VIENTO-	-5.64	-0.60	2.66	-61.55	123.75	4.64	41.95
		41	NIEVE	-0.31	0.06	0.09	-4.48	4.47	7.65	23.60
		5010	SITUACION_O	-10.70	0.24	4.02	-120.90	176.83	137.21	451.47
		5015	C+S A T DÍA	9.18	6.90	-6.94	-245.01	29.08	221.26	-814.60
		5016	C+S A T DÍA	-10.42	-6.68	7.10	205.82	-11.67	-208.89	704.82
		5017	C+S A T DÍA	2.36	0.86	-1.08	9.42	-4.53	7.87	-9.33
		5020	CAPA_COMPRE	-1.76	0.27	0.53	-22.25	24.01	36.11	119.68
		5030	CM_CUBIERTA	-6.02	0.96	1.76	-77.28	82.56	126.13	417.02
		5035	C+S A T DÍA	-12.63	-0.57	5.10	-150.54	218.83	165.58	443.18
		5036	C+S A T DÍA	4.70	0.23	-1.89	60.15	-80.29	-64.15	-145.50
		5037	C+S A T DÍA	-1.85	-0.23	0.79	-15.38	24.82	16.47	55.17

Determination of Sums and Leading Variable Action

Act	C: SumGU = 176.2350*,			SumGF = 176.2350		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 283.4033*,			SumGF = 283.4033		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 2109.7283*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2204964	1409	MAXP-VY	-119.31	-0.96	48.54	-1795.03	2569.37	1651.84	3482.53

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2200564	2	AGUA	43.30	-3.52	-42.05	1120.77	-2109.30	956.60	2223.62
		21	SC_CUBIERTA	0.56	-0.17	-0.63	17.34	-22.72	31.67	117.97
		31	VIENTO+	-2.20	0.03	1.97	-29.64	92.07	17.84	12.87
		32	VIENTO-	0.45	-0.01	-0.48	15.45	-22.40	22.45	47.68
		41	NIEVE	0.11	-0.03	-0.13	3.47	-4.55	6.33	23.59
		5010	SITUACION_O	4.62	-0.18	-4.74	93.53	-177.42	113.02	445.28
		5015	C+S A T DÍA	-5.09	-6.61	5.73	174.55	-15.64	146.72	-804.35
		5016	C+S A T DÍA	5.59	6.46	-6.06	-147.03	3.91	-140.61	699.88
		5017	C+S A T DÍA	-1.19	-0.90	1.14	-7.22	4.46	8.49	-8.98
		5020	CAPA_COMPRE	0.66	-0.13	-0.73	17.24	-24.12	29.93	118.93
		5030	CM_CUBIERTA	2.27	-0.47	-2.50	59.69	-83.61	104.82	416.06
		5035	C+S A T DÍA	5.56	0.47	-5.71	116.11	-216.41	132.80	439.34
		5036	C+S A T DÍA	-2.06	-0.16	2.12	-46.08	80.02	-51.49	-145.13
		5037	C+S A T DÍA	0.86	0.23	-0.86	11.92	-24.31	13.01	53.84

Determination of Sums and Leading Variable Action

Act	C: SumGU = -167.9768*,			SumGF = -167.9768		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -285.1572*,			SumGF = -285.1572		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -2109.299*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2200564	1410	MINP-VY	54.51	-4.82	-53.65	1393.47	-2562.43	1313.28	3438.48

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

Determination of Sums and Leading Variable Action

Act	C: SumGU = 228.3769*,			SumGF = 228.3769		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 434.7367*,			SumGF = 434.7367		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 2407.5496*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	1411	MAXP-NXX	-80.74	-20.89	-12.41	2013.10	902.89	3070.66	532.68

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3205522	2	AGUA	-0.08	0.00	-0.00	0.57	-0.07	-28.68	0.00
		21	SC_CUBIERTA	-0.12	0.02	-0.05	15.24	-7.35	-160.47	-176.15
		31	VIENTO+	-0.04	0.00	0.00	-0.00	-0.01	-5.46	-0.01
		32	VIENTO-	0.04	0.00	0.00	-0.02	0.01	3.58	0.01
		41	NIEVE	-0.02	0.00	-0.01	3.05	-1.47	-32.10	-35.23
		5010	SITUACION_O	-0.34	0.05	-0.14	42.86	-20.63	-444.92	-494.77
		5015	C+S A T DÍA	-0.49	-0.00	-0.01	2.43	0.22	110.51	-1.06
		5016	C+S A T DÍA	0.28	0.00	0.01	-2.42	-0.19	-72.83	0.84
		5017	C+S A T DÍA	0.21	0.00	-0.00	0.49	0.00	-31.41	0.04
		5020	CAPA_COMPRE	-0.12	0.02	-0.05	15.24	-7.35	-160.72	-176.16
		5030	CM_CUBIERTA	-0.42	0.06	-0.17	53.35	-25.71	-562.48	-616.54
		5035	C+S A T DÍA	-0.04	0.00	-0.00	0.24	-0.02	-22.90	-0.03
		5036	C+S A T DÍA	0.07	0.00	0.00	-0.18	-0.00	4.87	-0.00
		5037	C+S A T DÍA	-0.02	0.00	0.00	0.03	-0.00	-2.82	0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -14.5681*,			SumGF = -14.5681		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -1168.125*,			SumGF = -1168.125		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -28.6789*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3205522	1412	MINP-NXX	-0.95	0.13	-0.36	112.60	-53.76	-1211.37	-1287.69

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2204964	2	AGUA	-92.17	-2.95	39.16	-1439.06	2109.73	1214.26	2260.61
		21	SC_CUBIERTA	-1.55	0.31	0.43	-22.40	22.32	38.25	117.98
		31	VIENTO+	1.61	0.23	-0.81	14.41	-36.07	9.84	5.29
		32	VIENTO-	-5.64	-0.60	2.66	-61.55	123.75	4.64	41.95
		41	NIEVE	-0.31	0.06	0.09	-4.48	4.47	7.65	23.60
		5010	SITUACION_O	-10.70	0.24	4.02	-120.90	176.83	137.21	451.47
		5015	C+S A T DÍA	9.18	6.90	-6.94	-245.01	29.08	221.26	-814.60
		5016	C+S A T DÍA	-10.42	-6.68	7.10	205.82	-11.67	-208.89	704.82
		5017	C+S A T DÍA	2.36	0.86	-1.08	9.42	-4.53	7.87	-9.33
		5020	CAPA_COMPRE	-1.76	0.27	0.53	-22.25	24.01	36.11	119.68
		5030	CM_CUBIERTA	-6.02	0.96	1.76	-77.28	82.56	126.13	417.02
		5035	C+S A T DÍA	-12.63	-0.57	5.10	-150.54	218.83	165.58	443.18
		5036	C+S A T DÍA	4.70	0.23	-1.89	60.15	-80.29	-64.15	-145.50
		5037	C+S A T DÍA	-1.85	-0.23	0.79	-15.38	24.82	16.47	55.17

Determination of Sums and Leading Variable Action

Act	C: SumGU = 233.7467*,			SumGF = 233.7467		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 988.1681*,			SumGF = 988.1681		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 2260.6128*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2204964	1413	MAXP-NYY	-119.31	-0.96	48.54	-1795.03	2569.37	1651.84	3482.53

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	2	AGUA	3.41	0.06	-0.27	22.33	-1.99	99.96	-0.01
		21	SC_CUBIERTA	-0.19	0.09	0.02	-9.90	-19.81	-123.53	-416.96
		31	VIENTO+	0.03	0.00	-0.01	0.64	-0.07	-4.19	-0.00
		32	VIENTO-	-0.15	-0.00	0.02	-1.33	0.13	-3.10	0.00
		41	NIEVE	-0.04	0.02	0.00	-1.98	-3.96	-24.71	-83.39
		5010	SITUACION_O	-0.20	0.25	0.02	-25.65	-55.82	-333.23	-1171.14
		5015	C+S A T DÍA	-0.83	-0.00	-0.00	0.78	0.32	-23.73	-0.09
		5016	C+S A T DÍA	0.68	0.00	0.00	-0.74	-0.29	36.34	0.02
		5017	C+S A T DÍA	0.09	0.00	-0.00	0.37	0.00	-18.04	-0.04
		5020	CAPA_COMPRE	-0.18	0.09	0.02	-9.91	-19.81	-123.62	-416.99
		5030	CM_CUBIERTA	-0.65	0.31	0.06	-34.62	-69.35	-432.69	-1459.40
		5035	C+S A T DÍA	0.33	0.01	-0.04	3.52	-0.30	8.37	-0.06
		5036	C+S A T DÍA	-0.08	-0.00	0.02	-1.56	0.12	-4.42	-0.07
		5037	C+S A T DÍA	0.04	0.00	-0.01	0.58	-0.05	2.56	-0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.2451*,			SumGF = -0.2451		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -3047.532*,			SumGF = -3047.532		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -0.0054*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	1414	MINP-NYY	2.61	0.71	-0.21	-44.89	-147.16	-788.52	-3047.78

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306073	2	AGUA	-13.17	7.50	-25.86	642.44	697.05	905.79	936.07
		21	SC_CUBIERTA	-0.38	0.30	-0.53	12.25	14.19	19.01	62.56
		31	VIENTO+	-0.53	0.45	-0.58	17.95	7.42	29.96	65.44
		32	VIENTO-	0.23	-0.32	-0.23	-1.22	17.84	-10.36	-63.81
		41	NIEVE	-0.08	0.06	-0.11	2.45	2.84	3.80	12.51
		5010	SITUACION_O	-1.99	1.53	-3.28	70.79	84.56	96.95	233.84
		5015	C+S A T DÍA	2.82	-2.52	3.04	-14.98	-44.35	-3.57	-348.81
		5016	C+S A T DÍA	-2.86	2.65	-3.33	20.70	46.15	2.44	322.16
		5017	C+S A T DÍA	0.53	-0.49	0.67	-12.44	-7.98	1.32	-34.79
		5020	CAPA_COMPRE	-0.42	0.31	-0.59	13.03	15.35	19.29	63.71
		5030	CM_CUBIERTA	-1.42	1.14	-2.06	45.07	53.77	67.39	222.77
		5035	C+S A T DÍA	-2.35	1.77	-3.74	83.72	86.80	108.21	224.33
		5036	C+S A T DÍA	0.87	-0.68	1.43	-32.92	-34.00	-43.74	-78.49
		5037	C+S A T DÍA	-0.38	0.28	-0.58	12.53	12.63	16.16	31.24

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 155.1663*,			SumGF = 155.1663		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 290.8997*,			SumGF = 290.8997		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 1686.8730*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306073	1415	MAXP-NXY	-18.37	11.50	-34.30	827.95	909.98	1170.25	1572.02

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106898	2	AGUA	-18.26	6.61	17.67	586.85	-289.24	1208.57	-205.92
		21	SC_CUBIERTA	-0.13	0.55	0.28	3.73	26.18	13.35	-68.87
		31	VIENTO+	1.09	0.38	-0.79	-31.02	42.08	-34.02	-8.33
		32	VIENTO-	-0.14	0.31	0.23	5.44	4.51	16.53	-8.04
		41	NIEVE	-0.03	0.11	0.06	0.75	5.24	2.67	-13.78
		5010	SITUACION_O	-1.46	2.54	2.16	45.88	70.90	86.94	-247.56
		5015	C+S A T DÍA	-0.55	-6.79	-3.21	-14.23	-325.41	182.78	966.86
		5016	C+S A T DÍA	0.25	6.81	3.44	16.90	300.35	-175.47	-901.88
		5017	C+S A T DÍA	0.09	-1.23	-0.70	-4.86	-29.01	24.11	82.83
		5020	CAPA_COMPRE	-0.18	0.60	0.33	5.16	26.32	13.46	-72.54
		5030	CM_CUBIERTA	-0.59	2.07	1.13	16.38	93.30	46.07	-254.11
		5035	C+S A T DÍA	-1.62	3.17	2.71	58.36	61.41	103.52	-214.96
		5036	C+S A T DÍA	0.63	-1.16	-1.02	-22.22	-17.72	-44.97	62.93
		5037	C+S A T DÍA	-0.26	0.53	0.44	8.86	9.82	13.90	-34.69

Determination of Sums and Leading Variable Action

Act	C: SumGU = -158.0088*,			SumGF = -158.0088		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -214.6952*,			SumGF = -214.6952		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -1768.211*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106898	1416	MINP-NXY	-21.94	13.15	22.95	697.08	-99.28	1458.92	-819.04

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 8805.2148*,			SumGF = 8805.2148		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 19232.215*,			SumGF = 19232.215		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 92946.812*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	1471	MAXP-SXO	-80.74	-20.89	-12.41	2013.10	902.89	3070.66	532.68

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306931	2	AGUA	15.49	-8.24	5.63	390.35	383.12	-28.13	305.82
		21	SC_CUBIERTA	0.04	-0.07	0.04	10.84	6.38	-3.07	-22.63
		31	VIENTO+	-0.34	-0.20	0.03	18.97	10.74	-0.50	3.25
		32	VIENTO-	1.22	0.02	0.20	-13.98	-2.07	-0.12	3.22
		41	NIEVE	0.01	-0.01	0.01	2.17	1.28	-0.61	-4.53
		5010	SITUACION_O	1.34	-0.34	0.44	49.43	33.42	-10.64	-73.87
		5015	C+S A T DÍA	-2.80	-3.92	0.36	-20.19	45.30	2.97	620.77
		5016	C+S A T DÍA	2.95	3.78	-0.22	26.76	-42.11	-11.94	-607.84
		5017	C+S A T DÍA	-0.47	-0.58	-0.03	-8.64	3.97	13.94	96.70
		5020	CAPA_COMPRE	0.09	-0.05	0.05	11.04	6.09	-3.10	-24.57
		5030	CM_CUBIERTA	0.28	-0.22	0.17	38.34	21.96	-10.80	-86.09
		5035	C+S A T DÍA	1.63	-0.18	0.53	58.90	37.22	-13.22	-78.24
		5036	C+S A T DÍA	-0.58	0.14	-0.22	-22.01	-15.83	3.06	17.21
		5037	C+S A T DÍA	0.26	-0.01	0.08	7.99	4.94	0.14	-14.38

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -1047.381*,			SumGF = -1047.381		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -2001.291*,			SumGF = -2001.291		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -15664.99*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306931	1472	MINP-SXO	18.19	-9.61	6.79	531.97	478.10	-57.71	155.51

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106788	2	AGUA	-3.33	-16.23	-27.97	43.42	-183.06	612.11	2219.97
		21	SC_CUBIERTA	-0.12	-0.27	-0.55	0.43	-3.19	14.42	75.76
		31	VIENTO+	0.00	0.73	1.15	-3.82	4.57	-13.91	-32.58
		32	VIENTO-	-0.07	-0.18	-0.38	0.12	-3.79	9.45	38.38
		41	NIEVE	-0.02	-0.05	-0.11	0.09	-0.64	2.89	15.15
		5010	SITUACION_O	-0.50	-1.77	-3.56	5.30	-24.57	70.26	327.06
		5015	C+S A T DÍA	-0.08	1.08	4.71	-20.18	83.23	-12.32	-130.78
		5016	C+S A T DÍA	0.01	-1.25	-5.00	17.44	-85.22	12.24	152.21
		5017	C+S A T DÍA	0.08	0.31	0.99	-1.97	16.00	-1.73	-59.28
		5020	CAPA_COMPRE	-0.15	-0.33	-0.61	0.84	-4.34	14.79	77.28
		5030	CM_CUBIERTA	-0.44	-1.04	-2.14	2.24	-13.37	51.38	269.71
		5035	C+S A T DÍA	-0.57	-2.02	-4.24	5.90	-39.44	77.37	354.69
		5036	C+S A T DÍA	0.20	0.74	1.60	-1.62	12.30	-30.80	-135.81
		5037	C+S A T DÍA	-0.10	-0.32	-0.67	1.20	-7.09	11.47	48.72

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 4421.9854*,			SumGF = 4421.9854		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 11837.492*,			SumGF = 11837.492		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 44862.289*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106788	1473	MAXP-SYO	-4.87	-20.84	-36.89	52.56	-245.56	804.76	3123.76

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	2	AGUA	3.41	0.06	-0.27	22.33	-1.99	99.96	-0.01
		21	SC_CUBIERTA	-0.19	0.09	0.02	-9.90	-19.81	-123.53	-416.96
		31	VIENTO+	0.03	0.00	-0.01	0.64	-0.07	-4.19	-0.00
		32	VIENTO-	-0.15	-0.00	0.02	-1.33	0.13	-3.10	0.00
		41	NIEVE	-0.04	0.02	0.00	-1.98	-3.96	-24.71	-83.39
		5010	SITUACION_O	-0.20	0.25	0.02	-25.65	-55.82	-333.23	-1171.14
		5015	C+S A T DÍA	-0.83	-0.00	-0.00	0.78	0.32	-23.73	-0.09
		5016	C+S A T DÍA	0.68	0.00	0.00	-0.74	-0.29	36.34	0.02
		5017	C+S A T DÍA	0.09	0.00	-0.00	0.37	0.00	-18.04	-0.04
		5020	CAPA_COMPRE	-0.18	0.09	0.02	-9.91	-19.81	-123.62	-416.99
		5030	CM_CUBIERTA	-0.65	0.31	0.06	-34.62	-69.35	-432.69	-1459.40
		5035	C+S A T DÍA	0.33	0.01	-0.04	3.52	-0.30	8.37	-0.06
		5036	C+S A T DÍA	-0.08	-0.00	0.02	-1.56	0.12	-4.42	-0.07
		5037	C+S A T DÍA	0.04	0.00	-0.01	0.58	-0.05	2.56	-0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -4.8415*,			SumGF = -4.8415		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -25433.16*,			SumGF = -25433.16		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -24.8195*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	1474	MINP-SYO	2.61	0.71	-0.21	-44.89	-147.16	-788.52	-3047.78

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3105196	2	AGUA	-13.75	-15.36	-29.39	-36.93	362.81	940.94	2382.63
		21	SC_CUBIERTA	-0.16	0.02	-0.49	3.49	30.74	6.44	-36.51
		31	VIENTO+	0.26	0.94	0.27	11.63	39.56	6.52	-12.15
		32	VIENTO-	0.36	0.14	0.94	-3.05	-29.89	-31.55	-64.12
		41	NIEVE	-0.03	0.00	-0.10	0.70	6.15	1.29	-7.30
		5010	SITUACION_O	-1.23	-0.74	-3.44	6.93	131.01	53.39	-57.20
		5015	C+S A T DÍA	-0.22	-1.35	3.30	-0.80	-330.65	189.42	1372.90
		5016	C+S A T DÍA	0.06	1.18	-3.63	3.76	320.51	-181.00	-1299.49
		5017	C+S A T DÍA	0.08	-0.17	0.77	-0.81	-45.56	23.90	144.79
		5020	CAPA_COMPRE	-0.19	0.00	-0.57	3.30	33.18	6.12	-41.22
		5030	CM_CUBIERTA	-0.64	-0.01	-1.95	11.72	115.10	20.99	-144.45
		5035	C+S A T DÍA	-1.39	-0.80	-4.02	5.76	138.05	68.49	2.31
		5036	C+S A T DÍA	0.56	0.35	1.55	-1.92	-47.96	-31.27	-27.38
		5037	C+S A T DÍA	-0.20	-0.10	-0.63	0.72	22.69	8.62	-11.45

Determination of Sums and Leading Variable Action

Act	C: SumGU = 4534.4980*,			SumGF = 4534.4980		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 8320.4883*,			SumGF = 8320.4883		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 51338.781*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3105196	1475	MAXPSXYO	-16.94	-17.00	-38.00	-8.26	699.19	1099.59	2321.42

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	2	AGUA	-13.94	-15.80	30.66	34.85	332.77	908.39	2332.98
		21	SC_CUBIERTA	-0.16	0.01	0.52	-3.80	31.38	6.64	-37.46
		31	VIENTO+	-0.13	0.27	0.55	-6.88	36.50	23.28	36.47
		32	VIENTO-	-0.39	-1.05	0.49	12.29	-39.08	-1.52	25.00
		41	NIEVE	-0.03	0.00	0.10	-0.76	6.28	1.33	-7.49
		5010	SITUACION_O	-1.23	-0.77	3.60	-8.11	132.01	52.58	-64.06
		5015	C+S A T DÍA	-0.29	-1.56	-3.43	2.70	-338.81	182.59	1387.64
		5016	C+S A T DÍA	0.11	1.36	3.80	-5.84	327.60	-173.07	-1308.98
		5017	C+S A T DÍA	0.05	-0.21	-0.78	0.97	-45.69	21.54	146.01
		5020	CAPA_COMPRE	-0.19	-0.01	0.60	-3.54	33.77	6.27	-42.32
		5030	CM_CUBIERTA	-0.63	-0.04	2.05	-12.75	117.36	21.63	-148.27
		5035	C+S A T DÍA	-1.40	-0.84	4.24	-6.45	137.80	68.04	-3.23
		5036	C+S A T DÍA	0.55	0.35	-1.61	2.38	-47.84	-30.88	-25.16
		5037	C+S A T DÍA	-0.21	-0.12	0.67	-0.66	22.61	8.51	-12.19

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4810.858*,			SumGF = -4810.858		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -8659.397*,			SumGF = -8659.397		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -52672.90*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	1476	MINPSXYO	-17.17	-17.63	39.80	3.54	671.57	1065.59	2262.40

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3307102	2	AGUA	10.66	-4.20	2.80	-345.22	-87.06	312.43	692.25
		21	SC_CUBIERTA	0.15	0.31	-0.08	1.53	9.47	-8.21	-40.17
		31	VIENTO+	1.11	1.21	-0.08	0.12	45.20	-3.38	-47.80
		32	VIENTO-	-1.05	-1.87	0.26	-16.05	-66.14	19.11	94.20
		41	NIEVE	0.03	0.06	-0.02	0.31	1.89	-1.64	-8.03
		5010	SITUACION_O	1.24	0.60	0.06	-12.52	26.77	-1.19	-52.38
		5015	C+S A T DÍA	-2.78	-1.86	-0.55	-46.19	-117.64	-0.17	70.10
		5016	C+S A T DÍA	2.80	2.17	0.50	40.13	127.29	-15.97	-88.76
		5017	C+S A T DÍA	-0.29	-0.61	0.01	-4.18	-29.85	25.32	31.92
		5020	CAPA_COMPRE	0.18	0.34	-0.08	1.76	10.89	-8.47	-42.17
		5030	CM_CUBIERTA	0.60	1.21	-0.29	6.20	37.86	-29.85	-148.09
		5035	C+S A T DÍA	1.63	0.75	0.15	-16.70	38.41	-3.99	-50.33
		5036	C+S A T DÍA	-0.56	-0.24	-0.05	7.17	-13.10	0.57	17.40
		5037	C+S A T DÍA	0.23	0.13	0.02	-1.65	7.28	-0.13	-8.51

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 1175.3243*,			SumGF = 1175.3243		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 1620.4618*,			SumGF = 1620.4618		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 15517.611*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3307102	1477	MAXP-SXU	13.71	-1.72	2.56	-371.20	0.85	278.55	421.42

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106753	2	AGUA	-108.13	-20.44	-23.67	331.20	421.25	-46.39	233.79
		21	SC_CUBIERTA	-2.61	0.12	-0.18	5.67	4.54	-2.49	4.37
		31	VIENTO+	3.47	1.41	1.51	-9.45	-15.27	-6.96	-11.13
		32	VIENTO-	-1.74	-0.11	-0.19	5.11	5.69	-2.60	2.41
		41	NIEVE	-0.52	0.02	-0.04	1.13	0.91	-0.50	0.87
		5010	SITUACION_O	-15.08	-0.91	-2.26	35.22	38.78	-11.46	25.23
		5015	C+S A T DÍA	21.98	2.99	6.69	15.09	25.83	-255.88	-235.81
		5016	C+S A T DÍA	-22.72	-2.77	-6.47	-15.61	-19.75	226.92	207.24
		5017	C+S A T DÍA	4.00	0.23	0.70	3.80	0.89	-6.89	-3.08
		5020	CAPA_COMPRE	-2.97	0.19	-0.23	5.31	5.01	-2.35	4.68
		5030	CM_CUBIERTA	-10.00	0.43	-0.77	20.01	17.28	-8.11	16.65
		5035	C+S A T DÍA	-17.92	-1.69	-3.05	38.76	46.89	-3.03	33.87
		5036	C+S A T DÍA	6.51	0.71	1.02	-16.70	-19.91	6.20	-8.42
		5037	C+S A T DÍA	-2.78	-0.22	-0.46	4.17	6.49	0.94	5.06

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -3667.303*,			SumGF = -3667.303		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -8976.645*,			SumGF = -8976.645		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -34333.96*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106753	1478	MINP-SXU	-147.11	-21.48	-28.50	421.25	522.75	-100.06	279.19

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106787	2	AGUA	-11.93	7.78	-25.17	598.11	664.73	865.67	951.74
		21	SC_CUBIERTA	-0.34	0.29	-0.51	11.54	13.14	18.39	62.84
		31	VIENTO+	0.29	-0.13	1.01	-18.66	-32.31	-21.06	8.59
		32	VIENTO-	-0.21	0.17	-0.33	8.53	6.62	13.08	21.67
		41	NIEVE	-0.07	0.06	-0.10	2.31	2.63	3.68	12.57
		5010	SITUACION_O	-1.78	1.54	-3.15	66.54	79.81	93.37	234.27
		5015	C+S A T DÍA	2.54	-2.62	2.92	-18.56	-41.16	-6.71	-340.53
		5016	C+S A T DÍA	-2.57	2.76	-3.19	23.45	42.78	5.39	316.58
		5017	C+S A T DÍA	0.49	-0.52	0.65	-12.45	-7.97	0.88	-34.05
		5020	CAPA_COMPRE	-0.38	0.31	-0.55	12.43	14.14	18.81	64.04
		5030	CM_CUBIERTA	-1.26	1.13	-1.95	42.58	49.91	65.42	223.91
		5035	C+S A T DÍA	-2.11	1.81	-3.59	78.67	81.49	103.89	226.04
		5036	C+S A T DÍA	0.77	-0.67	1.37	-30.71	-32.41	-41.93	-79.35
		5037	C+S A T DÍA	-0.34	0.30	-0.55	11.79	11.71	15.67	31.32

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2606.1350*,			SumGF = 2606.1350		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 9726.0273*,			SumGF = 9726.0273		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 20068.488*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106787	1479	MAXP-SYU	-16.58	11.83	-33.21	771.85	863.04	1120.45	1593.96

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3107199	2	AGUA	-46.26	-39.46	6.74	1285.56	-270.52	2251.08	-422.49
		21	SC_CUBIERTA	-0.70	-0.41	0.09	4.44	18.62	43.58	-38.95
		31	VIENTO+	2.36	2.33	-0.35	-74.43	26.74	-21.66	10.52
		32	VIENTO-	-0.52	-0.28	0.08	10.87	1.20	39.01	-7.47
		41	NIEVE	-0.14	-0.08	0.02	0.89	3.72	8.72	-7.79
		5010	SITUACION_O	-5.53	-3.55	0.79	93.62	50.66	194.58	-155.17
		5015	C+S A T DÍA	8.10	0.44	-1.03	8.78	-291.03	398.41	513.89
		5016	C+S A T DÍA	-8.63	-0.81	1.14	14.51	272.55	-370.91	-478.50
		5017	C+S A T DÍA	1.64	0.14	-0.24	-18.51	-23.21	23.27	43.32
		5020	CAPA_COMPRE	-0.85	-0.52	0.11	7.68	19.15	41.42	-41.41
		5030	CM_CUBIERTA	-2.91	-1.72	0.39	23.65	67.61	144.59	-144.45
		5035	C+S A T DÍA	-6.63	-3.68	0.96	123.66	39.75	237.17	-143.24
		5036	C+S A T DÍA	2.47	1.38	-0.36	-48.78	-9.62	-97.85	44.42
		5037	C+S A T DÍA	-1.09	-0.56	0.16	19.35	6.92	25.61	-22.47

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -3856.974*,			SumGF = -3856.974		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -10721.54*,			SumGF = -10721.54		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -47667.30*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3107199	1480	MINP-SYU	-59.69	-48.34	8.65	1509.53	-137.74	2847.37	-806.09

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	2	AGUA	-13.94	-15.80	30.66	34.85	332.77	908.39	2332.98
		21	SC_CUBIERTA	-0.16	0.01	0.52	-3.80	31.38	6.64	-37.46
		31	VIENTO+	-0.13	0.27	0.55	-6.88	36.50	23.28	36.47
		32	VIENTO-	-0.39	-1.05	0.49	12.29	-39.08	-1.52	25.00
		41	NIEVE	-0.03	0.00	0.10	-0.76	6.28	1.33	-7.49
		5010	SITUACION_O	-1.23	-0.77	3.60	-8.11	132.01	52.58	-64.06
		5015	C+S A T DÍA	-0.29	-1.56	-3.43	2.70	-338.81	182.59	1387.64
		5016	C+S A T DÍA	0.11	1.36	3.80	-5.84	327.60	-173.07	-1308.98
		5017	C+S A T DÍA	0.05	-0.21	-0.78	0.97	-45.69	21.54	146.01
		5020	CAPA_COMPRE	-0.19	-0.01	0.60	-3.54	33.77	6.27	-42.32
		5030	CM_CUBIERTA	-0.63	-0.04	2.05	-12.75	117.36	21.63	-148.27
		5035	C+S A T DÍA	-1.40	-0.84	4.24	-6.45	137.80	68.04	-3.23
		5036	C+S A T DÍA	0.55	0.35	-1.61	2.38	-47.84	-30.88	-25.16
		5037	C+S A T DÍA	-0.21	-0.12	0.67	-0.66	22.61	8.51	-12.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 1363.1807*,			SumGF = 1363.1807		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 4630.7808*,			SumGF = 4630.7808		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 12640.260*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	1481	MAXPSXYU	-17.17	-17.63	39.80	3.54	671.57	1065.59	2262.40

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306074	2	AGUA	-2.23	-14.04	-29.53	40.33	-161.97	581.82	2219.72
		21	SC_CUBIERTA	-0.10	-0.23	-0.58	0.44	-2.68	13.79	75.91
		31	VIENTO+	-0.19	-0.18	-0.65	-1.09	-8.09	20.18	96.77
		32	VIENTO-	0.20	-0.31	-0.32	3.56	4.21	-8.07	-61.40
		41	NIEVE	-0.02	-0.05	-0.12	0.09	-0.54	2.76	15.18
		5010	SITUACION_O	-0.38	-1.51	-3.76	4.85	-22.12	67.28	328.80
		5015	C+S A T DÍA	-0.15	0.84	4.90	-17.50	84.08	-15.16	-138.56
		5016	C+S A T DÍA	0.11	-0.98	-5.24	14.80	-85.46	14.21	158.66
		5017	C+S A T DÍA	0.05	0.24	1.04	-1.33	15.98	-1.09	-60.39
		5020	CAPA_COMPRE	-0.11	-0.26	-0.65	0.65	-3.25	14.04	77.24
		5030	CM_CUBIERTA	-0.36	-0.88	-2.25	2.13	-11.21	49.04	269.99
		5035	C+S A T DÍA	-0.42	-1.71	-4.49	5.05	-36.66	73.62	356.08
		5036	C+S A T DÍA	0.17	0.65	1.69	-1.60	12.16	-29.40	-136.29
		5037	C+S A T DÍA	-0.07	-0.27	-0.72	1.01	-6.42	10.98	49.11

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -1442.216*,			SumGF = -1442.216		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -3692.357*,			SumGF = -3692.357		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -14828.71*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306074	1482	MINPSXYU	-3.39	-17.92	-39.00	48.39	-214.86	765.35	3124.38

Relevant Forces in Nodes

Group 14											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3541	2	AGUA	-21.64	16.45	-0.24	69.11	-3.14	132.02	107.14		...
	21	SC_CUBIERTA	37.38	31.33	-0.06	68.77	-42.81	2.65	-2.09		...
	31	VIENTO+	1.23	-0.79	0.07	-1.90	0.05	-2.20	1.23		...
	32	VIENTO-	-3.21	2.03	-0.10	5.48	-0.05	4.98	-0.74		...
	41	NIEVE	7.48	6.27	-0.01	13.75	-8.56	0.53	-0.42		...
	5010	SITUACION_O	123.59	123.05	-0.21	242.25	-151.40	8.02	-13.11		...
	5015	C+S A T DÍA	-18.75	16.03	0.07	19.96	-12.20	-227.18	-232.49		...
	5016	C+S A T DÍA	22.82	-15.17	-0.10	-17.06	9.85	-214.62	-176.60		...
	5017	C+S A T DÍA	1.32	-0.26	0.00	0.91	-0.60	687.01	667.13		...
	5020	CAPA_COMPRE	37.39	31.62	-0.07	68.78	-42.81	2.53	-5.18		...
	5030	CM_CUBIERTA	130.86	110.65	-0.23	240.73	-149.84	8.94	-18.04		...
	5035	C+S A T DÍA	-0.68	13.10	-0.02	0.61	-1.28	-299.61	-311.25		...
	5036	C+S A T DÍA	1.15	-6.12	0.01	-0.81	0.86	162.39	168.42		...
	5037	C+S A T DÍA	-0.14	1.84	-0.00	-0.02	-0.13	-28.89	-30.61		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 5.7238*,			SumGF = 5.7238		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 291.8421*,			SumGF = 291.8421		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 14										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3541	1401	MAXP-MX	297.57	274.75	-0.54	555.35	-347.54	98.59	48.27	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1299	2	AGUA	-625.47	72.23	-104.67	935.09	345.19	1593.77	595.27	2 ...
	21	SC_CUBIERTA	-13.53	-1.97	1.21	0.53	-1.14	27.67	6.83	...
	31	VIENTO+	-4.42	-9.75	11.68	-37.89	-20.01	-10.02	-17.95	...
	32	VIENTO-	-12.50	0.64	-0.35	11.05	2.95	20.42	3.68	...
	41	NIEVE	-2.71	-0.39	0.24	0.11	-0.23	5.54	1.37	...
	5010	SITUACION_O	23.23	71.19	-69.94	-124.49	20.92	-245.38	-174.74	1 ...
	5015	C+S A T DÍA	-539.63	-122.27	127.47	237.30	-165.06	-608.90	-541.60	4 ...
	5016	C+S A T DÍA	462.57	123.11	-121.21	-288.51	95.20	481.39	486.27	-5 ...
	5017	C+S A T DÍA	46.93	-6.98	-2.91	62.70	54.96	303.95	105.18	...
	5020	CAPA_COMPRE	-6.56	3.91	-4.33	-29.49	-3.04	-49.68	-30.57	...
	5030	CM_CUBIERTA	-22.93	13.02	-14.81	-103.59	-10.58	-174.79	-106.74	...
	5035	C+S A T DÍA	-36.76	59.12	-61.31	-40.64	-36.35	-506.07	-266.52	1 ...
	5036	C+S A T DÍA	23.40	-17.42	18.53	13.86	17.22	192.78	108.26	- ...
	5037	C+S A T DÍA	-2.74	4.85	-6.01	-10.49	-3.85	-32.72	-19.48	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -46.2442*,			SumGF = -46.2442		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -6.2625*,			SumGF = -6.2625		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -625.4677*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 12										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
1299	1402	MINP-MX	-677.97	200.77	-239.18	651.73	314.60	954.36	155.33	4

Relevant Forces in Nodes

Group 14										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
3537	2	AGUA	-102.22	29.20	-0.54	14.03	-0.51	146.50	104.81	
	21	SC_CUBIERTA	33.18	32.02	0.12	67.86	-58.17	-9.09	-7.04	
	31	VIENTO+	9.84	-3.21	-0.07	-0.35	0.06	-6.08	1.17	
	32	VIENTO-	0.26	-0.72	0.04	4.68	-0.56	1.30	-1.70	
	41	NIEVE	6.64	6.40	0.02	13.57	-11.63	-1.82	-1.41	
	5010	SITUACION_O	107.94	127.15	0.32	241.59	-210.05	-37.37	-20.69	
	5015	C+S A T DÍA	-13.98	8.72	0.10	-3.65	3.35	-224.89	-237.63	
	5016	C+S A T DÍA	11.43	-8.19	0.15	0.97	3.24	-223.57	-159.97	
	5017	C+S A T DÍA	5.30	2.73	0.06	11.21	-7.97	680.00	666.42	
	5020	CAPA_COMPRE	34.54	32.31	0.11	71.80	-60.63	-12.28	-5.80	
	5030	CM_CUBIERTA	119.09	115.03	0.43	249.92	-212.90	-43.07	-19.98	
	5035	C+S A T DÍA	-4.95	12.83	-0.06	-6.28	4.14	-292.93	-312.47	
	5036	C+S A T DÍA	3.33	-6.05	0.02	3.72	-2.00	158.84	169.22	
	5037	C+S A T DÍA	-0.75	1.96	-0.01	-0.68	0.47	-27.98	-30.68	

Determination of Sums and Leading Variable Action

Act	C: SumGU =	11.9967*,		SumGF =	11.9967	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	274.4832*,		SumGF =	274.4832	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	29.1992*	
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 14										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3537	1403	MAXP-MY	159.72	315.68	0.58	582.63	-482.87	123.25	153.23	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3281	2	AGUA	-229.27	-406.46	222.12	846.75	-657.78	-603.60	-383.80	...
	21	SC_CUBIERTA	-3.91	-4.65	3.60	1.75	0.50	-23.88	-43.98	...
	31	VIENTO+	-9.62	0.84	5.27	-7.50	10.03	-69.13	-67.76	...
	32	VIENTO-	10.51	14.07	-9.18	-27.31	21.57	50.41	53.74	...
	41	NIEVE	-0.78	-0.93	0.72	0.35	0.10	-4.78	-8.80	...
	5010	SITUACION_O	-37.55	-52.91	36.54	-28.39	16.51	407.96	-98.92	...
	5015	C+S A T DÍA	-366.51	-144.95	207.45	34.71	-3.72	1959.26	1141.24	...
	5016	C+S A T DÍA	312.19	120.69	-175.40	-33.10	0.11	-1047.47	-888.29	...
	5017	C+S A T DÍA	39.43	19.60	-23.63	11.49	-3.60	-968.36	-300.60	...
	5020	CAPA_COMPRE	-6.67	-4.72	5.20	-18.97	14.38	18.49	-43.43	...
	5030	CM_CUBIERTA	-23.40	-16.37	18.15	-66.88	50.77	66.05	-151.74	...
	5035	C+S A T DÍA	-54.63	-76.34	48.92	50.63	-54.20	364.69	-152.34	...
	5036	C+S A T DÍA	26.38	29.98	-21.34	-15.60	18.23	-149.52	42.26	...
	5037	C+S A T DÍA	0.32	-5.59	1.80	1.93	-4.32	-67.18	-85.20	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -56.5979*,			SumGF = -56.5979		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -74.0005*,			SumGF = -74.0005		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -406.4629*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3281	1404	MINP-MY	-339.70	-537.06	319.80	782.57	-623.62	-19.69	-920.82	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1298	2	AGUA	-537.30	61.52	119.35	-887.14	281.48	1246.84	545.00	-1 ...
	21	SC_CUBIERTA	6.82	6.41	6.83	-17.34	8.98	-3.61	2.29	...
	31	VIENTO+	45.85	1.67	1.72	32.05	-3.29	-75.16	-16.01	...
	32	VIENTO-	3.22	4.58	6.71	-18.27	6.67	0.93	4.91	...
	41	NIEVE	1.36	1.28	1.37	-3.47	1.80	-0.72	0.46	...
	5010	SITUACION_O	65.04	72.40	88.34	17.87	62.17	-84.89	-95.58	- ...
	5015	C+S A T DÍA	-537.61	-110.33	-125.01	-116.26	-206.47	-688.87	-567.21	-4 ...
	5016	C+S A T DÍA	461.56	113.46	126.42	159.75	133.77	528.58	491.78	4 ...
	5017	C+S A T DÍA	50.28	-5.92	0.40	-22.84	52.48	315.59	100.46	- ...
	5020	CAPA_COMPRE	13.65	10.35	11.84	-12.19	11.51	7.70	-3.02	...
	5030	CM_CUBIERTA	47.60	35.57	41.08	-42.75	40.33	25.26	-10.61	...
	5035	C+S A T DÍA	22.40	64.64	84.56	-92.20	0.29	-331.38	-169.33	- ...
	5036	C+S A T DÍA	2.74	-20.21	-27.17	36.45	5.34	129.34	71.96	...
	5037	C+S A T DÍA	4.54	6.28	8.86	-6.24	0.60	-10.44	-7.84	...

Determination of Sums and Leading Variable Action

Act	C: SumGU =	68.0546*,		SumGF =	68.0546	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	141.2586*,		SumGF =	141.2586	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	119.3517*	
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1298	1405	MAXP-MXY	-407.10	227.77	328.66	-965.54	381.52	1137.72	355.62	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3463	2	AGUA	-230.46	-396.82	-219.21	810.36	636.93	-603.41	-362.06	...
	21	SC_CUBIERTA	-3.98	-4.65	-3.63	1.72	-0.78	-24.22	-43.28	...
	31	VIENTO+	-10.93	-9.09	-8.22	15.07	10.36	-60.65	-60.86	...
	32	VIENTO-	8.53	-3.12	4.08	11.57	13.75	65.11	61.62	...
	41	NIEVE	-0.80	-0.93	-0.73	0.34	-0.16	-4.84	-8.66	...
	5010	SITUACION_O	-37.29	-52.39	-36.25	-28.86	-17.99	405.52	-101.51	...
	5015	C+S A T DÍA	-365.38	-145.83	-206.52	36.58	4.39	1961.63	1113.20	6 ...
	5016	C+S A T DÍA	310.77	120.82	174.28	-33.56	-0.04	-1035.72	-866.30	-3 ...
	5017	C+S A T DÍA	39.49	19.11	23.40	12.10	4.87	-977.38	-292.42	-2 ...
	5020	CAPA_COMPRE	-6.65	-4.79	-5.20	-18.54	-14.54	18.13	-43.34	...
	5030	CM_CUBIERTA	-23.32	-16.56	-18.18	-65.42	-51.37	64.73	-151.47	...
	5035	C+S A T DÍA	-54.79	-76.31	-48.83	50.02	54.29	364.45	-154.87	...
	5036	C+S A T DÍA	26.38	29.88	21.25	-15.22	-18.03	-148.40	43.85	...
	5037	C+S A T DÍA	0.28	-5.61	-1.82	1.92	4.33	-68.30	-84.43	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -38.2507*,			SumGF = -38.2507		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -59.6258*,			SumGF = -59.6258		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -219.2073*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 11											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3463	1406	MINP-MXY	-340.95	-528.48	-317.08	749.38	602.85	-18.75	-899.35	-	...

Relevant Forces in Nodes

Group 22											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1291	2	AGUA	105.23	4.52	-11.89	1341.16	-1237.64	1827.36	2674.15	-4	...
	21	SC_CUBIERTA	1.60	0.00	-0.15	22.36	-19.65	61.31	96.52	-	...
	31	VIENTO+	-5.17	-0.43	0.69	-33.86	57.47	55.92	9.06	-	...
	32	VIENTO-	1.18	0.06	-0.12	18.97	-17.06	46.78	54.54	-	...
	41	NIEVE	0.32	0.00	-0.03	4.47	-3.93	12.26	19.31		...
	5010	SITUACION_O	12.22	0.93	-1.48	117.27	-109.08	199.38	373.40	-1	...
	5015	C+S A T DÍA	-15.51	-7.08	4.45	194.89	348.93	452.53	-243.48	4	...
	5016	C+S A T DÍA	16.60	7.22	-4.33	-163.75	-372.99	-413.41	202.09	-3	...
	5017	C+S A T DÍA	-3.20	-1.26	0.54	-8.57	9.03	10.00	-1.55		...
	5020	CAPA_COMPRE	1.88	0.07	-0.18	22.33	-19.91	56.21	94.92	-	...
	5030	CM_CUBIERTA	6.46	0.23	-0.63	77.35	-68.91	197.59	331.80	-1	...
	5035	C+S A T DÍA	14.47	1.60	-1.92	143.69	-135.19	251.48	409.79	-1	...
	5036	C+S A T DÍA	-5.41	-0.61	0.67	-56.64	52.46	-99.92	-145.97		...
	5037	C+S A T DÍA	2.30	0.44	-0.29	14.92	-14.69	21.85	46.67	-	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 124.5317*,			SumGF = 124.5317		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 216.9437*,			SumGF = 216.9437		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 1341.1582*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1291	1407	MAXP-VX	135.04	6.06	-15.05	1682.63	-1547.98	2503.07	3741.82	-8 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3316	2	AGUA	-84.02	-29.67	11.22	-1495.89	414.23	2978.05	360.89	-8 ...
	21	SC_CUBIERTA	-1.49	-0.18	0.20	-25.97	6.27	62.46	28.85	- ...
	31	VIENTO+	0.74	1.19	-0.03	14.00	-7.59	136.81	51.18	- ...
	32	VIENTO-	2.67	0.58	-0.40	45.60	-11.00	-139.48	-29.09	...
	41	NIEVE	-0.30	-0.04	0.04	-5.20	1.25	12.49	5.77	- ...
	5010	SITUACION_O	-9.94	-2.47	1.40	-165.31	43.52	263.41	91.26	-1 ...
	5015	C+S A T DÍA	9.64	3.41	-2.05	96.67	8.57	562.83	-40.57	2 ...
	5016	C+S A T DÍA	-10.44	-3.65	2.17	-109.26	-7.52	-526.08	27.38	-2 ...
	5017	C+S A T DÍA	2.15	0.71	-0.44	25.33	-1.33	33.25	5.60	...
	5020	CAPA_COMPRE	-1.68	-0.25	0.22	-28.66	7.05	58.91	28.41	- ...
	5030	CM_CUBIERTA	-5.79	-0.81	0.77	-98.46	24.33	205.79	98.88	-1 ...
	5035	C+S A T DÍA	-11.47	-3.17	1.74	-186.97	45.98	321.22	83.57	-1 ...
	5036	C+S A T DÍA	4.40	1.20	-0.66	71.95	-18.58	-130.51	-29.06	...
	5037	C+S A T DÍA	-1.76	-0.50	0.28	-27.50	6.49	34.04	9.71	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -129.7695*,			SumGF = -129.7695		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -292.4239*,			SumGF = -292.4239		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -1495.891*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3316	1408	MINP-VX	-108.90	-35.19	14.65	-1918.08	522.73	3800.92	636.06	-13 ...

Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
12780	2	AGUA	16.93	10.32	45.86	-782.54	1803.10	304.77	2491.61	-3 ...
	21	SC_CUBIERTA	0.57	0.81	0.69	-12.07	16.13	10.75	157.61	- ...
	31	VIENTO+	-0.08	0.07	-0.82	7.93	-33.29	-3.24	10.39	...
	32	VIENTO-	0.60	0.08	2.85	-33.51	110.95	14.32	38.78	...
	41	NIEVE	0.11	0.16	0.14	-2.42	3.23	2.15	31.53	...
	5010	SITUACION_O	2.64	2.67	5.04	-64.73	145.20	51.25	593.15	-1 ...
	5015	C+S A T DÍA	-0.30	6.37	-4.93	-148.05	5.04	-82.48	-1220.62	2 ...
	5016	C+S A T DÍA	0.66	-5.84	5.37	124.79	6.78	64.15	1060.15	-2 ...
	5017	C+S A T DÍA	-0.43	0.58	-1.06	5.58	-2.19	8.35	-14.13	...
	5020	CAPA_COMPRE	0.61	0.80	0.79	-11.91	17.69	11.42	160.97	- ...
	5030	CM_CUBIERTA	2.11	2.85	2.68	-41.39	60.58	39.45	560.85	-1 ...
	5035	C+S A T DÍA	2.94	1.81	6.07	-80.05	180.99	46.24	558.53	-1 ...
	5036	C+S A T DÍA	-1.09	-0.62	-2.25	32.30	-66.00	-16.02	-179.19	...
	5037	C+S A T DÍA	0.42	0.08	0.88	-8.03	20.70	6.43	70.99	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 145.3145*,			SumGF = 145.3145		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 223.4717*,			SumGF = 223.4717		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 1803.0989*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
12780	1409	MAXP-VY	24.50	19.02	58.44	-974.03	2171.89	433.56	4082.30	-6 ...

Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17791	2	AGUA	-6.70	-3.88	-35.92	651.19	-1811.67	286.87	2502.04	-2 ...
	21	SC_CUBIERTA	-0.22	-0.07	-0.49	9.96	-16.24	7.90	157.63	- ...
	31	VIENTO+	0.04	0.39	1.76	-17.35	85.29	-5.87	21.79	- ...
	32	VIENTO-	-0.14	0.06	-0.39	8.82	-17.84	4.73	56.13	...
	41	NIEVE	-0.04	-0.01	-0.10	1.99	-3.25	1.58	31.53	...
	5010	SITUACION_O	-0.98	-0.06	-3.85	53.31	-145.40	38.62	588.81	- ...
	5015	C+S A T DÍA	0.18	-5.33	4.51	113.57	-0.10	-33.21	-1195.75	2 ...
	5016	C+S A T DÍA	-0.24	5.36	-4.74	-95.81	-7.91	20.74	1042.82	-2 ...
	5017	C+S A T DÍA	0.10	-1.02	0.83	-4.84	2.29	7.35	-12.20	...
	5020	CAPA_COMPRE	-0.23	-0.04	-0.56	9.83	-17.50	8.26	160.08	- ...
	5030	CM_CUBIERTA	-0.81	-0.16	-1.93	34.05	-60.64	28.47	560.06	- ...
	5035	C+S A T DÍA	-1.11	0.70	-4.63	65.92	-178.90	38.06	557.28	- ...
	5036	C+S A T DÍA	0.44	-0.27	1.72	-26.43	65.90	-13.71	-180.64	...
	5037	C+S A T DÍA	-0.16	0.24	-0.69	6.63	-20.15	4.95	69.85	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -138.8610*,			SumGF = -138.8610		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -223.5437*,			SumGF = -223.5437		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -1811.667*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17791	1410	MINP-VY	-9.51	-4.46	-45.27	807.42	-2174.07	386.38	4092.34	-5 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17442	2	AGUA	-68.47	-38.19	-1.66	1285.56	-270.52	3419.34	-39.70	-1 ...
	21	SC_CUBIERTA	-1.09	-0.31	-0.07	4.44	18.62	70.92	-15.76	...
	31	VIENTO+	3.33	2.29	0.01	-74.43	26.74	-16.65	-4.31	...
	32	VIENTO-	-0.82	-0.28	-0.05	10.87	1.20	62.16	-2.52	...
	41	NIEVE	-0.22	-0.06	-0.01	0.89	3.72	14.18	-3.15	...
	5010	SITUACION_O	-8.42	-3.27	-0.42	93.62	50.66	297.14	-57.04	...
	5015	C+S A T DÍA	12.72	0.61	1.64	8.78	-291.03	670.05	268.56	-4 ...
	5016	C+S A T DÍA	-13.56	-1.02	-1.63	14.51	272.55	-627.11	-250.89	3 ...
	5017	C+S A T DÍA	2.63	0.29	0.28	-18.51	-23.21	36.44	27.85	- ...
	5020	CAPA_COMPRE	-1.31	-0.42	-0.08	7.68	19.15	66.45	-16.76	...
	5030	CM_CUBIERTA	-4.49	-1.36	-0.27	23.65	67.61	232.62	-58.38	...
	5035	C+S A T DÍA	-10.22	-3.62	-0.60	123.66	39.75	364.49	-55.63	...
	5036	C+S A T DÍA	3.81	1.38	0.22	-48.78	-9.62	-150.54	15.86	- ...
	5037	C+S A T DÍA	-1.68	-0.57	-0.10	19.35	6.92	37.30	-9.26	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 330.6322*,			SumGF = 330.6322		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 596.2079*,			SumGF = 596.2079		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 3419.3354*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17442	1411	MAXP-NXX	-88.98	-46.16	-2.63	1509.53	-137.74	4346.18	-175.40	...

Relevant Forces in Nodes

Group 32										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
152	2	AGUA	-0.08	0.00	-0.01	0.59	-0.10	-28.56	-0.00	...
	21	SC_CUBIERTA	-0.23	-0.01	0.00	12.62	-13.58	-314.66	-574.80	1 ...
	31	VIENTO+	-0.04	0.00	0.00	0.01	-0.02	-5.36	-0.00	...
	32	VIENTO-	0.04	0.00	0.00	-0.03	0.01	3.48	0.00	...
	41	NIEVE	-0.05	-0.00	0.00	2.52	-2.72	-62.93	-114.96	...
	5010	SITUACION_O	-0.64	-0.02	0.01	35.46	-38.13	-877.93	-1614.45	2 ...
	5015	C+S A T DÍA	-0.48	0.00	-0.01	0.45	0.27	119.34	-0.00	...
	5016	C+S A T DÍA	0.28	0.00	0.01	-0.42	-0.23	-80.20	-0.16	...
	5017	C+S A T DÍA	0.21	0.00	-0.00	0.04	-0.00	-31.87	-0.12	...
	5020	CAPA_COMPRE	-0.23	-0.01	0.00	12.62	-13.58	-314.94	-574.88	1 ...
	5030	CM_CUBIERTA	-0.79	-0.02	0.02	44.17	-47.52	-1102.19	-2011.93	3 ...
	5035	C+S A T DÍA	-0.04	0.00	-0.00	0.00	-0.03	-22.81	-0.16	...
	5036	C+S A T DÍA	0.07	0.00	0.00	-0.02	0.00	4.46	-0.20	...
	5037	C+S A T DÍA	-0.02	0.00	0.00	0.00	-0.00	-2.80	-0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -13.8765*,			SumGF = -13.8765		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -2295.058*,			SumGF = -2295.058		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -28.5621*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 32										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
152	1412	MINP-NXX	-1.72	-0.05	0.03	92.91	-99.32	-2337.50	-4201.91	7 ...

Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3370	2	AGUA	-7.14	-29.91	-38.07	-49.11	362.52	1260.88	3872.53	16 ...
	21	SC_CUBIERTA	0.14	-0.10	0.26	-3.07	-18.95	-1.00	26.34	...
	31	VIENTO+	0.57	0.68	1.82	-5.89	-42.99	-72.40	-213.27	- ...
	32	VIENTO-	-0.07	-0.80	-0.74	-4.14	-1.12	12.88	41.02	...
	41	NIEVE	0.03	-0.02	0.05	-0.61	-3.79	-0.20	5.27	...
	5010	SITUACION_O	-0.04	-2.09	-2.14	-11.65	-3.81	42.33	178.23	...
	5015	C+S A T DÍA	-1.63	-0.30	0.90	26.14	-115.02	325.03	1407.72	3 ...
	5016	C+S A T DÍA	1.59	0.08	-0.84	-23.84	96.39	-320.75	-1335.66	-3 ...
	5017	C+S A T DÍA	-0.28	-0.23	-0.49	4.05	5.47	59.59	162.04	...
	5020	CAPA_COMPRE	0.15	-0.14	0.23	-3.57	-19.75	-1.64	24.36	...
	5030	CM_CUBIERTA	0.49	-0.48	0.81	-12.01	-67.87	-6.38	84.42	- ...
	5035	C+S A T DÍA	-0.02	-2.51	-2.63	-14.51	-0.74	40.69	169.63	...
	5036	C+S A T DÍA	0.04	0.95	0.96	5.20	2.33	-21.49	-86.85	- ...
	5037	C+S A T DÍA	0.01	-0.33	-0.32	-2.43	-0.49	2.18	7.86	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 324.7419*,			SumGF = 324.7419		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 287.0145*,			SumGF = 287.0145		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 3872.5327*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3370	1413	MAXP-NYY	-6.82	-34.97	-41.59	-81.73	259.03	1380.44	4484.29	17 ...

Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
150	2	AGUA	-0.07	0.00	0.01	-0.61	-0.10	-28.15	0.01	...
	21	SC_CUBIERTA	-0.23	-0.02	-0.00	-14.79	-15.28	-296.18	-656.33	...
	31	VIENTO+	0.00	0.00	0.00	0.01	0.00	-1.88	0.00	...
	32	VIENTO-	-0.02	0.00	0.00	-0.00	-0.00	-0.92	0.00	...
	41	NIEVE	-0.05	-0.00	0.00	-2.96	-3.06	-59.24	-131.27	...
	5010	SITUACION_O	-0.64	-0.05	-0.00	-41.56	-42.91	-826.03	-1843.47	-1 ...
	5015	C+S A T DÍA	-0.41	0.00	0.01	-0.37	0.18	118.86	-0.12	...
	5016	C+S A T DÍA	0.22	0.00	-0.01	0.34	-0.15	-79.64	-0.06	...
	5017	C+S A T DÍA	0.21	0.00	0.00	-0.03	-0.01	-32.04	-0.11	...
	5020	CAPA_COMPRE	-0.23	-0.02	-0.00	-14.79	-15.28	-296.45	-656.42	...
	5030	CM_CUBIERTA	-0.80	-0.06	-0.00	-51.78	-53.48	-1037.48	-2297.30	-1 ...
	5035	C+S A T DÍA	-0.04	0.00	0.00	0.00	-0.03	-22.73	-0.16	...
	5036	C+S A T DÍA	0.07	0.00	-0.00	0.02	0.00	4.45	-0.21	...
	5037	C+S A T DÍA	-0.02	0.00	0.00	-0.00	-0.00	-2.77	-0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.6699*,			SumGF = -0.6699		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -4797.188*,			SumGF = -4797.188		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
150	1414	MINP-NYY	-1.65	-0.12	-0.00	-108.18	-111.68	-2173.85	-4797.86	-2 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13436	2	AGUA	20.09	-6.83	-14.13	-674.31	-261.87	371.40	604.13	20 ...
	21	SC_CUBIERTA	0.53	0.50	-0.19	-6.17	25.51	-8.20	-35.42	...
	31	VIENTO+	0.12	1.68	0.10	16.42	53.05	-2.19	-8.55	...
	32	VIENTO-	-0.77	-0.49	0.49	16.79	-12.31	-9.57	-12.78	- ...
	41	NIEVE	0.11	0.10	-0.04	-1.23	5.10	-1.64	-7.08	...
	5010	SITUACION_O	3.21	1.53	-1.66	-59.15	69.78	-19.42	-103.60	1 ...
	5015	C+S A T DÍA	-7.64	-6.83	2.39	37.57	-315.29	232.45	770.66	2 ...
	5016	C+S A T DÍA	7.44	6.65	-2.65	-38.11	291.46	-238.85	-728.35	-2 ...
	5017	C+S A T DÍA	-0.94	-1.05	0.60	7.05	-27.57	49.97	80.90	...
	5020	CAPA_COMPRE	0.59	0.53	-0.23	-7.54	26.07	-9.23	-37.94	...
	5030	CM_CUBIERTA	2.03	1.82	-0.79	-25.37	91.22	-31.97	-132.92	1 ...
	5035	C+S A T DÍA	3.74	1.86	-2.17	-71.70	61.16	-21.69	-76.22	2 ...
	5036	C+S A T DÍA	-1.32	-0.60	0.84	27.90	-16.51	0.16	14.04	- ...
	5037	C+S A T DÍA	0.59	0.34	-0.36	-10.56	10.21	-1.40	-15.90	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 186.9233*,			SumGF = 186.9233		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 307.6671*,			SumGF = 307.6671		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 2037.7664*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13436	1415	MAXP-NXY	27.80	-2.58	-18.15	-814.22	-71.34	331.43	374.80	25 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13962	2	AGUA	16.78	-6.79	16.36	643.04	-320.64	117.00	491.99	-21 ...
	21	SC_CUBIERTA	0.56	0.49	0.25	4.48	26.16	-12.66	-38.05	- ...
	31	VIENTO+	0.65	0.99	0.36	4.27	29.21	-2.68	2.07	- ...
	32	VIENTO-	-0.23	-1.70	0.19	20.58	-57.13	6.79	11.13	...
	41	NIEVE	0.11	0.10	0.05	0.90	5.23	-2.53	-7.61	...
	5010	SITUACION_O	3.12	1.56	1.99	51.35	69.73	-43.64	-117.89	-1 ...
	5015	C+S A T DÍA	-8.36	-7.38	-2.72	-15.51	-338.14	217.19	784.23	-2 ...
	5016	C+S A T DÍA	8.11	7.18	2.98	18.63	310.00	-222.86	-739.57	2 ...
	5017	C+S A T DÍA	-1.06	-1.15	-0.63	-5.36	-29.64	47.68	83.11	- ...
	5020	CAPA_COMPRE	0.63	0.51	0.30	5.85	26.53	-13.77	-40.70	- ...
	5030	CM_CUBIERTA	2.12	1.78	1.03	19.20	93.33	-47.83	-142.67	-1 ...
	5035	C+S A T DÍA	3.69	1.93	2.54	65.58	58.42	-49.15	-90.85	-2 ...
	5036	C+S A T DÍA	-1.28	-0.66	-0.97	-25.28	-15.86	10.94	19.50	...
	5037	C+S A T DÍA	0.59	0.35	0.42	9.90	9.56	-4.93	-17.87	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -197.5976*,			SumGF = -197.5976		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -327.8978*,			SumGF = -327.8978		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -2144.324*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	1416	MINP-NXY	24.34	-2.67	21.29	767.40	-136.72	10.64	229.27	-26 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3316	2	AGUA	-84.02	-29.67	11.22	-1495.89	414.23	2978.05	360.89	-8 ...
	21	SC_CUBIERTA	-1.49	-0.18	0.20	-25.97	6.27	62.46	28.85	- ...
	31	VIENTO+	0.74	1.19	-0.03	14.00	-7.59	136.81	51.18	- ...
	32	VIENTO-	2.67	0.58	-0.40	45.60	-11.00	-139.48	-29.09	...
	41	NIEVE	-0.30	-0.04	0.04	-5.20	1.25	12.49	5.77	- ...
	5010	SITUACION_O	-9.94	-2.47	1.40	-165.31	43.52	263.41	91.26	-1 ...
	5015	C+S A T DÍA	9.64	3.41	-2.05	96.67	8.57	562.83	-40.57	2 ...
	5016	C+S A T DÍA	-10.44	-3.65	2.17	-109.26	-7.52	-526.08	27.38	-2 ...
	5017	C+S A T DÍA	2.15	0.71	-0.44	25.33	-1.33	33.25	5.60	...
	5020	CAPA_COMPRE	-1.68	-0.25	0.22	-28.66	7.05	58.91	28.41	- ...
	5030	CM_CUBIERTA	-5.79	-0.81	0.77	-98.46	24.33	205.79	98.88	-1 ...
	5035	C+S A T DÍA	-11.47	-3.17	1.74	-186.97	45.98	321.22	83.57	-1 ...
	5036	C+S A T DÍA	4.40	1.20	-0.66	71.95	-18.58	-130.51	-29.06	...
	5037	C+S A T DÍA	-1.76	-0.50	0.28	-27.50	6.49	34.04	9.71	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 11831.338*,			SumGF = 11831.338		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 25427.982*,			SumGF = 25427.982		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 128469.50*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3316	1471	MAXP-SXO	-108.90	-35.19	14.65	-1918.08	522.73	3800.92	636.06	-13 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3083	2	AGUA	32.04	-14.93	3.87	390.35	383.12	-32.58	265.33	-6 ...
	21	SC_CUBIERTA	0.40	-0.03	-0.07	10.84	6.38	-2.23	-12.70	...
	31	VIENTO+	0.15	-0.02	-0.18	18.97	10.74	2.13	13.29	...
	32	VIENTO-	1.19	-0.50	0.43	-13.98	-2.07	-4.45	-13.22	...
	41	NIEVE	0.08	-0.01	-0.01	2.17	1.28	-0.45	-2.54	...
	5010	SITUACION_O	3.53	-0.49	-0.08	49.43	33.42	-8.26	-43.01	...
	5015	C+S A T DÍA	-5.48	-6.62	2.24	-20.19	45.30	-1.49	526.62	1 ...
	5016	C+S A T DÍA	5.80	6.29	-2.06	26.76	-42.11	-20.47	-537.70	...
	5017	C+S A T DÍA	-1.00	-0.90	0.25	-8.64	3.97	31.22	112.82	...
	5020	CAPA_COMPRE	0.49	-0.02	-0.07	11.04	6.09	-2.31	-14.28	...
	5030	CM_CUBIERTA	1.68	-0.13	-0.23	38.34	21.96	-8.03	-50.31	...
	5035	C+S A T DÍA	4.24	-0.18	-0.18	58.90	37.22	-19.36	-61.66	...
	5036	C+S A T DÍA	-1.55	0.19	0.03	-22.01	-15.83	3.63	13.00	...
	5037	C+S A T DÍA	0.67	-0.00	-0.03	7.99	4.94	1.15	-12.01	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2929.212*,			SumGF = -2929.212		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -6330.285*,			SumGF = -6330.285		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -34612.63*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3083	1472	MINP-SXO	40.42	-16.79	3.73	531.97	478.10	-56.48	198.79	-9 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17450	2	AGUA	-16.68	-38.89	17.26	26.46	362.71	571.29	3819.31	-15 ...
	21	SC_CUBIERTA	-0.03	-0.58	0.29	-3.60	31.95	8.79	-22.73	- ...
	31	VIENTO+	1.13	1.88	-0.74	-8.20	9.32	-17.47	-117.95	...
	32	VIENTO-	-0.08	-0.43	0.21	-1.33	11.86	7.69	45.90	- ...
	41	NIEVE	-0.01	-0.12	0.06	-0.72	6.39	1.76	-4.55	...
	5010	SITUACION_O	-1.04	-4.30	1.95	-7.45	134.25	52.13	30.83	- ...
	5015	C+S A T DÍA	-0.22	4.34	-1.10	-2.91	-331.29	36.87	1690.92	-3 ...
	5016	C+S A T DÍA	0.11	-4.71	1.32	-0.09	320.92	-30.67	-1599.71	3 ...
	5017	C+S A T DÍA	-0.04	0.89	-0.32	0.29	-44.76	-1.95	174.99	- ...
	5020	CAPA_COMPRE	-0.07	-0.68	0.34	-3.30	34.16	9.23	-28.11	- ...
	5030	CM_CUBIERTA	-0.20	-2.34	1.14	-11.95	119.13	31.61	-99.86	- ...
	5035	C+S A T DÍA	-1.17	-5.00	2.23	-6.28	140.61	62.33	115.16	-1 ...
	5036	C+S A T DÍA	0.44	1.88	-0.85	2.48	-49.34	-24.54	-76.65	...
	5037	C+S A T DÍA	-0.17	-0.80	0.35	-0.61	22.80	8.04	1.11	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 7682.7324*,			SumGF = 7682.7324		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 6499.3862*,			SumGF = 6499.3862		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 92208.484*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17450	1473	MAXP-SYO	-19.04	-49.62	22.31	-3.36	709.17	714.34	4028.00	-18 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1291	2	AGUA	16.17	18.59	38.06	586.85	-289.24	143.80	-1167.22	-17 ...
	21	SC_CUBIERTA	0.47	1.00	0.61	3.73	26.18	-13.38	-102.33	- ...
	31	VIENTO+	-0.50	0.10	-1.73	-31.02	42.08	-7.95	11.38	...
	32	VIENTO-	0.26	0.52	0.47	5.44	4.51	0.36	-23.48	- ...
	41	NIEVE	0.09	0.20	0.12	0.75	5.24	-2.68	-20.47	...
	5010	SITUACION_O	2.74	4.78	4.57	45.88	70.90	-44.67	-396.43	-1 ...
	5015	C+S A T DÍA	-7.26	-11.09	-6.52	-14.23	-325.41	227.10	1110.04	-3 ...
	5016	C+S A T DÍA	7.01	11.01	6.84	16.90	300.35	-231.72	-1026.32	3 ...
	5017	C+S A T DÍA	-0.91	-1.79	-1.24	-4.86	-29.01	47.28	81.09	- ...
	5020	CAPA_COMPRE	0.53	1.09	0.73	5.16	26.32	-14.44	-107.12	- ...
	5030	CM_CUBIERTA	1.79	3.76	2.46	16.38	93.30	-50.37	-374.74	- ...
	5035	C+S A T DÍA	3.28	5.62	5.53	58.36	61.41	-48.75	-362.27	-1 ...
	5036	C+S A T DÍA	-1.15	-2.03	-2.05	-22.22	-17.72	10.48	115.85	...
	5037	C+S A T DÍA	0.52	0.92	0.89	8.86	9.82	-4.70	-54.06	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4636.919*,			SumGF = -4636.919		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -21985.32*,			SumGF = -21985.32		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -35388.26*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
1291	1474	MINP-SYO	22.72	30.87	49.26	697.08	-99.28	34.02	-2181.17	-20 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11 ...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60	...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74	...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	- ...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12	...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1 ...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69	...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	- ...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13	...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62	...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99	...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1 ...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	- ...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 5824.4414*,			SumGF = 5824.4414		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 13564.279*,			SumGF = 13564.279		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 61541.320*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	1475	MAXPSXYO	3.20	12.16	-57.03	48.39	-214.86	990.25	2214.26	15	...

Relevant Forces in Nodes

Group 31											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3316	2	AGUA	14.14	1.60	41.75	-712.42	768.08	119.93	1071.51	-17	...
	21	SC_CUBIERTA	-0.09	0.17	0.60	-12.79	13.40	15.84	85.93	-	...
	31	VIENTO+	-1.20	0.29	-0.88	-2.22	-19.01	14.30	104.21	-	...
	32	VIENTO-	-0.04	-0.22	-1.13	24.88	-19.12	-9.25	-72.71		...
	41	NIEVE	-0.02	0.03	0.12	-2.56	2.68	3.17	17.19	-	...
	5010	SITUACION_O	0.69	0.85	4.51	-77.68	88.98	53.63	304.04	-2	...
	5015	C+S A T DÍA	-0.30	-3.08	-4.13	30.93	-46.44	-193.20	-497.62		...
	5016	C+S A T DÍA	0.55	3.18	4.61	-34.81	52.81	153.30	441.17	-	...
	5017	C+S A T DÍA	-0.26	-0.68	-1.05	14.95	-8.94	19.30	-18.94		...
	5020	CAPA_COMPRE	-0.06	0.20	0.69	-13.84	15.14	16.20	87.40	-	...
	5030	CM_CUBIERTA	-0.23	0.69	2.37	-47.50	52.16	56.60	304.28	-1	...
	5035	C+S A T DÍA	0.91	1.11	5.24	-91.88	92.54	34.50	278.59	-2	...
	5036	C+S A T DÍA	-0.37	-0.40	-2.03	36.08	-35.92	-11.68	-92.69		...
	5037	C+S A T DÍA	0.13	0.20	0.80	-13.71	13.64	8.27	37.10	-	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -6036.619*,			SumGF = -6036.619		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -14123.80*,			SumGF = -14123.80		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -68081.73*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3316	1476	MINPSXYO	15.19	3.69	52.76	-909.88	992.06	256.83	1914.85	-24 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
1291	2	AGUA	30.03	-4.56	0.82	383.49	-106.54	303.06	986.41	10 ...
	21	SC_CUBIERTA	0.28	-0.59	-0.13	5.87	-11.98	15.94	52.54	...
	31	VIENTO+	-1.81	-0.88	-0.25	-8.21	-23.02	-1.51	-7.09	- ...
	32	VIENTO-	0.25	-0.32	-0.06	6.07	-7.29	6.34	18.67	...
	41	NIEVE	0.06	-0.12	-0.03	1.17	-2.40	3.19	10.51	...
	5010	SITUACION_O	2.99	-1.98	-0.48	34.06	-31.40	65.61	207.10	...
	5015	C+S A T DÍA	-4.32	4.08	2.84	22.13	-30.81	-148.30	-219.49	2 ...
	5016	C+S A T DÍA	4.59	-3.68	-2.72	-16.13	37.59	128.52	235.70	-2 ...
	5017	C+S A T DÍA	-0.77	0.48	0.44	-0.31	-10.24	-0.86	-72.07	...
	5020	CAPA_COMPRE	0.37	-0.58	-0.13	6.02	-11.29	16.58	53.82	...
	5030	CM_CUBIERTA	1.23	-2.02	-0.47	20.63	-39.22	57.88	188.35	...
	5035	C+S A T DÍA	3.59	-2.32	-0.69	43.96	-30.92	58.93	209.16	...
	5036	C+S A T DÍA	-1.30	0.89	0.25	-16.93	12.63	-25.02	-83.37	- ...
	5037	C+S A T DÍA	0.56	-0.36	-0.12	5.48	-3.57	13.98	36.44	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2863.8098*,			SumGF = 2863.8098		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 6757.7129*,			SumGF = 6757.7129		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 36071.230*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1291	1477	MAXP-SXU	36.96	-10.04	-0.25	482.39	-213.76	470.37	1542.04	12 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3266	2	AGUA	-187.82	-26.34	-84.77	-185.34	297.09	-375.78	-16.54	- ...
	21	SC_CUBIERTA	-4.22	-0.83	-2.13	0.44	8.05	-12.84	-46.35	- ...
	31	VIENTO+	-1.89	-1.50	-1.41	2.57	-3.51	-25.47	-28.88	...
	32	VIENTO-	7.53	1.41	3.59	5.19	-10.01	22.21	13.85	...
	41	NIEVE	-0.84	-0.17	-0.43	0.09	1.61	-2.57	-9.27	...
	5010	SITUACION_O	-25.35	-3.55	-11.99	-7.88	49.31	-63.72	-159.70	- ...
	5015	C+S A T DÍA	27.82	-8.76	9.79	-42.01	-133.19	-362.87	898.28	1 ...
	5016	C+S A T DÍA	-29.11	8.55	-10.40	42.93	137.33	315.55	-827.34	-1 ...
	5017	C+S A T DÍA	4.93	-1.48	1.75	-9.18	-25.48	3.22	66.45	...
	5020	CAPA_COMPRE	-4.73	-0.89	-2.36	0.15	8.89	-13.96	-49.31	- ...
	5030	CM_CUBIERTA	-16.26	-2.99	-8.13	1.83	32.29	-45.51	-170.74	- ...
	5035	C+S A T DÍA	-29.18	-2.87	-13.23	-10.83	58.59	-56.26	-144.71	- ...
	5036	C+S A T DÍA	10.91	1.22	5.01	4.15	-22.16	28.13	33.64	...
	5037	C+S A T DÍA	-4.41	-0.25	-1.94	-0.97	9.97	-5.78	-22.74	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -6393.968*,			SumGF = -6393.968		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -15081.53*,			SumGF = -15081.53		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -60242.07*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3266	1478	MINP-SXU	-253.20	-37.35	-116.26	-207.15	412.63	-576.98	-392.71	-1	...

Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11	...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60		...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74		...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	-	...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12		...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1	...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69		...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	-	...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13		...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62		...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99		...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1	...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	-	...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 3201.0674*,			SumGF = 3201.0674		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 9514.0557*,			SumGF = 9514.0557		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 29748.641*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	1479	MAXP-SYU	3.20	12.16	-57.03	48.39	-214.86	990.25	2214.26	15 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
73740	2	AGUA	-30.45	-42.27	19.53	1285.56	-270.52	1358.85	-1026.46	-3 ...
	21	SC_CUBIERTA	-0.38	-0.50	0.32	4.44	18.62	22.69	-75.93	...
	31	VIENTO+	1.71	2.46	-0.91	-74.43	26.74	-25.49	34.38	...
	32	VIENTO-	-0.29	-0.28	0.26	10.87	1.20	21.33	-15.20	...
	41	NIEVE	-0.08	-0.10	0.06	0.89	3.72	4.54	-15.19	...
	5010	SITUACION_O	-3.28	-3.80	2.52	93.62	50.66	116.25	-311.80	...
	5015	C+S A T DÍA	4.12	-0.76	-4.32	8.78	-291.03	190.91	910.31	-4 ...
	5016	C+S A T DÍA	-4.44	0.40	4.60	14.51	272.55	-175.22	-846.32	4 ...
	5017	C+S A T DÍA	0.84	-0.16	-0.91	-18.51	-23.21	13.22	68.29	- ...
	5020	CAPA_COMPRE	-0.48	-0.61	0.38	7.68	19.15	22.30	-80.75	...
	5030	CM_CUBIERTA	-1.62	-2.03	1.33	23.65	67.61	77.35	-281.84	...
	5035	C+S A T DÍA	-3.86	-3.65	3.15	123.66	39.75	139.92	-282.77	...
	5036	C+S A T DÍA	1.43	1.36	-1.18	-48.78	-9.62	-57.61	89.80	...
	5037	C+S A T DÍA	-0.63	-0.53	0.52	19.35	6.92	16.69	-43.58	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4938.997*,				SumGF = -4938.997	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -15823.39*,				SumGF = -15823.39	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -58624.29*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
73740	1480	MINP-SYU	-38.36	-52.04	25.63	1509.53	-137.74	1702.66	-1805.12	-2 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13962	2	AGUA	-6.62	7.76	43.38	34.85	332.77	1128.01	848.25	-13 ...
	21	SC_CUBIERTA	-0.21	0.65	0.69	-3.80	31.38	3.51	-52.11	- ...
	31	VIENTO+	-0.42	1.09	0.70	-6.88	36.50	28.42	-10.20	- ...
	32	VIENTO-	0.36	-1.23	0.83	12.29	-39.08	-1.99	42.25	...
	41	NIEVE	-0.04	0.13	0.14	-0.76	6.28	0.70	-10.42	...
	5010	SITUACION_O	-0.91	2.98	5.00	-8.11	132.01	45.94	-155.56	- ...
	5015	C+S A T DÍA	-0.70	-8.07	-5.36	2.70	-338.81	303.92	1058.95	-2 ...
	5016	C+S A T DÍA	0.50	8.07	5.88	-5.84	327.60	-292.68	-996.59	2 ...
	5017	C+S A T DÍA	0.08	-1.41	-1.16	0.97	-45.69	42.13	110.98	- ...
	5020	CAPA_COMPRE	-0.22	0.71	0.80	-3.54	33.77	2.48	-55.61	- ...
	5030	CM_CUBIERTA	-0.76	2.46	2.75	-12.75	117.36	8.55	-195.01	- ...
	5035	C+S A T DÍA	-1.04	3.61	5.97	-6.45	137.80	64.49	-120.30	-1 ...
	5036	C+S A T DÍA	0.44	-1.30	-2.26	2.38	-47.84	-32.96	26.75	...
	5037	C+S A T DÍA	-0.16	0.61	0.95	-0.66	22.61	7.84	-24.91	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2726.7935*,			SumGF = 2726.7935		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 7284.9102*,			SumGF = 7284.9102		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 28263.914*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	1481	MAXPSXYU	-9.39	15.41	55.94	3.54	671.57	1277.72	496.96	-16 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11 ...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60	...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74	...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	- ...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12	...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1 ...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69	...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	- ...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13	...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62	...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99	...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1 ...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	- ...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2912.788*,			SumGF = -2912.788		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -7235.437*,			SumGF = -7235.437		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -30440.03*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	1482	MINPSXYU	3.20	12.16	-57.03	48.39	-214.86	990.25	2214.26	15	...

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3276	2	AGUA	231.0	-108.5	-30.4	0.00	0.00	0.00
	21	SC_CUBIERTA	9.9	-1.3	-3.0	0.00	0.00	0.00
	31	VIENTO+	2.1	-2.6	3.6	0.00	0.00	0.00
	32	VIENTO-	-12.7	3.1	1.0	0.00	0.00	0.00
	41	NIEVE	2.0	-0.3	-0.6	0.00	0.00	0.00
	5010	SITUACION_O	5.2	5.5	-12.8	0.00	0.00	0.00
	5015	C+S A T DÍA	35.2	20.9	3.3	0.00	0.00	0.00
	5016	C+S A T DÍA	-32.9	-20.1	-3.5	0.00	0.00	0.00
	5017	C+S A T DÍA	-3.6	-5.7	2.3	0.00	0.00	0.00
	5020	CAPA_COMPRE	0.9	1.3	-2.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	3.0	4.7	-8.0	0.00	0.00	0.00
	5035	C+S A T DÍA	11.2	11.0	-6.5	0.00	0.00	0.00
	5036	C+S A T DÍA	-4.8	-4.4	2.4	0.00	0.00	0.00
	5037	C+S A T DÍA	0.7	0.4	-0.8	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU =	5.7220*,		SumGF =	5.7220	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	9.0886*,		SumGF =	9.0886	
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	231.0318*	
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3276	1451	MAXP-PX	245.8	-94.9	-56.2	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3281	2	AGUA	-238.3	52.5	14.6	0.00	0.00	0.00
	21	SC_CUBIERTA	-10.5	2.5	-1.4	0.00	0.00	0.00
	31	VIENTO+	0.7	6.5	-0.5	0.00	0.00	0.00
	32	VIENTO-	11.8	-4.8	0.1	0.00	0.00	0.00
	41	NIEVE	-2.1	0.5	-0.3	0.00	0.00	0.00
	5010	SITUACION_O	-0.9	-5.6	-1.9	0.00	0.00	0.00
	5015	C+S A T DÍA	27.6	-38.1	3.2	0.00	0.00	0.00
	5016	C+S A T DÍA	-20.3	21.3	-2.3	0.00	0.00	0.00
	5017	C+S A T DÍA	-8.8	18.3	-0.5	0.00	0.00	0.00
	5020	CAPA_COMPRE	-0.8	0.0	-1.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	-2.7	0.1	-4.5	0.00	0.00	0.00
	5035	C+S A T DÍA	-3.1	-4.7	2.6	0.00	0.00	0.00
	5036	C+S A T DÍA	0.8	2.0	-0.8	0.00	0.00	0.00
	5037	C+S A T DÍA	-2.1	1.7	-0.1	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -5.8218*,			SumGF = -5.8218		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -4.3424*,			SumGF = -4.3424		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -238.2847*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3281	1452	MINP-PX	-248.4	47.8	9.0	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3250	2	AGUA	-107.0	228.5	-33.9	0.00	0.00	0.00
	21	SC_CUBIERTA	-0.2	4.6	-1.2	0.00	0.00	0.00
	31	VIENTO+	5.6	11.0	-7.1	0.00	0.00	0.00
	32	VIENTO-	0.3	-18.2	5.2	0.00	0.00	0.00
	41	NIEVE	-0.0	0.9	-0.2	0.00	0.00	0.00
	5010	SITUACION_O	0.7	3.7	-7.2	0.00	0.00	0.00
	5015	C+S A T DÍA	27.8	38.8	-2.3	0.00	0.00	0.00
	5016	C+S A T DÍA	-26.7	-35.6	3.1	0.00	0.00	0.00
	5017	C+S A T DÍA	-6.3	-4.2	-0.8	0.00	0.00	0.00
	5020	CAPA_COMPRE	-0.6	0.2	-0.2	0.00	0.00	0.00
	5030	CM_CUBIERTA	-2.0	0.5	-0.6	0.00	0.00	0.00
	5035	C+S A T DÍA	6.7	9.2	-0.2	0.00	0.00	0.00
	5036	C+S A T DÍA	-2.8	-4.2	-0.2	0.00	0.00	0.00
	5037	C+S A T DÍA	-0.4	0.3	0.1	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = 4.3049*,			SumGF = 4.3049		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 4.3514*,			SumGF = 4.3514		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 228.5038*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3250	1453	MAXP-PY	-110.5	237.2	-42.1	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1298	2	AGUA	-106.2	-228.0	-34.1	0.00	0.00	0.00
	21	SC_CUBIERTA	-0.2	-4.5	-1.2	0.00	0.00	0.00
	31	VIENTO+	5.9	9.3	-1.2	0.00	0.00	0.00
	32	VIENTO-	-0.3	-7.4	-2.1	0.00	0.00	0.00
	41	NIEVE	-0.0	-0.9	-0.2	0.00	0.00	0.00
	5010	SITUACION_O	0.6	-3.8	-7.1	0.00	0.00	0.00
	5015	C+S A T DÍA	29.0	-39.1	-3.0	0.00	0.00	0.00
	5016	C+S A T DÍA	-27.5	35.8	3.7	0.00	0.00	0.00
	5017	C+S A T DÍA	-6.5	4.2	-0.8	0.00	0.00	0.00
	5020	CAPA_COMPRE	-0.6	-0.2	-0.2	0.00	0.00	0.00
	5030	CM_CUBIERTA	-2.1	-0.6	-0.5	0.00	0.00	0.00
	5035	C+S A T DÍA	6.7	-9.2	0.0	0.00	0.00	0.00
	5036	C+S A T DÍA	-2.8	4.2	-0.3	0.00	0.00	0.00
	5037	C+S A T DÍA	-0.4	-0.3	0.2	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4.3826*,			SumGF = -4.3826		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -4.5494*,			SumGF = -4.5494		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -228.0236*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1298	1454	MINP-PY	-109.9	-237.0	-41.9	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1279	2	AGUA	-162.9	-0.3	48.7	0.00	0.00	0.00
	21	SC_CUBIERTA	-1.9	-0.0	1.0	0.00	0.00	0.00
	31	VIENTO+	10.0	0.0	-2.9	0.00	0.00	0.00
	32	VIENTO-	0.1	0.0	-0.1	0.00	0.00	0.00
	41	NIEVE	-0.4	0.0	0.2	0.00	0.00	0.00
	5010	SITUACION_O	-1.5	0.0	1.7	0.00	0.00	0.00
	5015	C+S A T DÍA	6.7	0.0	-26.6	0.00	0.00	0.00
	5016	C+S A T DÍA	-10.8	-0.0	18.8	0.00	0.00	0.00
	5017	C+S A T DÍA	-3.6	-0.0	5.7	0.00	0.00	0.00
	5020	CAPA_COMPRE	-0.6	0.0	1.0	0.00	0.00	0.00
	5030	CM_CUBIERTA	-2.2	0.0	3.4	0.00	0.00	0.00
	5035	C+S A T DÍA	0.2	0.0	-0.3	0.00	0.00	0.00
	5036	C+S A T DÍA	-0.7	0.0	0.8	0.00	0.00	0.00
	5037	C+S A T DÍA	-0.1	0.0	0.1	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -1.4193*,			SumGF = -1.4193		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 6.1773*,			SumGF = 6.1773		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 48.6593*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1279	1455	MAXP-PZ	-175.4	-0.3	53.4	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3595	2	AGUA	85.0	0.1	-75.5	-0.02	9.17	0.03
	21	SC_CUBIERTA	1.2	0.0	-1.3	-0.00	0.11	0.00
	31	VIENTO+	-5.3	0.0	4.8	0.00	-0.53	-0.00
	32	VIENTO-	-0.1	-0.0	0.1	0.00	-0.00	0.00
	41	NIEVE	0.2	0.0	-0.3	0.00	0.02	0.00
	5010	SITUACION_O	2.3	0.0	-2.5	0.00	-0.03	0.00
	5015	C+S A T DÍA	-7.7	0.0	35.0	0.00	-0.95	-0.00
	5016	C+S A T DÍA	19.5	-0.0	-17.9	-0.01	0.27	0.01
	5017	C+S A T DÍA	2.2	0.0	-6.5	0.00	0.43	0.00
	5020	CAPA_COMPRE	1.0	0.0	-1.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	3.4	0.0	-4.4	-0.00	0.02	0.00
	5035	C+S A T DÍA	1.7	0.0	0.0	0.00	-0.23	0.00
	5036	C+S A T DÍA	0.1	0.0	-0.7	0.00	0.12	0.00
	5037	C+S A T DÍA	0.3	0.0	-0.1	0.00	-0.02	0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 9.8041*,			SumGF = 9.8041		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -8.1127*,			SumGF = -8.1127		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -75.4936*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3595	1456	MINP-PZ	107.8	0.1	-73.8	-0.03	8.78	0.03

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
90	2	AGUA	3.645	0.001	-2.163	0.025	-0.005	0.000
	21	SC_CUBIERTA	0.266	-0.035	-0.128	-0.985	0.796	0.000
	31	VIENTO+	-0.118	-0.038	-0.085	0.008	0.000	-0.000
	32	VIENTO-	0.396	0.049	0.075	-0.008	-0.000	0.000
	41	NIEVE	0.053	-0.007	-0.026	-0.197	0.159	0.000
	5010	SITUACION_O	1.249	0.001	-1.177	-5.014	2.752	0.000
	5015	C+S A T DÍ	0.608	2.203	-2.156	-4.605	2.041	0.000
	5016	C+S A T DÍ	0.760	1.490	-1.242	-3.206	1.582	0.000
	5017	C+S A T DÍ	0.260	0.266	-0.349	-1.105	0.639	0.000
	5020	CAPA_COMPRE	0.244	-0.033	-0.126	-0.918	0.742	0.000
	5030	CM_CUBIERTA	0.854	-0.115	-0.441	-3.211	2.598	0.000
	5035	C+S A T DÍ	0.668	1.632	-1.521	-12.614	1.359	0.000
	5036	C+S A T DÍ	0.024	-0.294	-0.024	-0.252	0.071	0.000
	5037	C+S A T DÍ	0.007	-0.031	-0.006	-0.671	0.036	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = 0.0023,			SumGF = 0.0023		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = 0.0023,			SumGF = 0.0023		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0036		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
90	1471	MAXP-UX	8.319	5.120	-9.204	-31.570	11.816	0.001

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
19689	2	AGUA	-9.697	-0.000	-1.972	0.013	-2.222	-0.303
	21	SC_CUBIERTA	0.014	0.004	-0.045	-0.001	0.008	0.020
	31	VIENTO+	0.895	-0.032	0.065	-0.001	0.220	0.021
	32	VIENTO-	0.028	0.045	0.001	-0.000	0.001	-0.002
	41	NIEVE	0.003	0.001	-0.009	-0.000	0.002	0.004
	5010	SITUACION_O	-0.885	0.011	-0.959	-0.001	-0.158	0.067
	5015	C+S A T DÍ	2.650	-0.948	-1.664	0.136	1.279	0.003
	5016	C+S A T DÍ	1.326	-0.608	-1.138	0.004	-0.093	0.034
	5017	C+S A T DÍ	-0.187	-0.017	-0.383	-0.061	-0.572	0.049
	5020	CAPA_COMPRE	0.005	0.004	-0.046	-0.001	0.006	0.022
	5030	CM_CUBIERTA	0.017	0.013	-0.160	-0.003	0.020	0.077
	5035	C+S A T DÍ	-0.771	0.021	-1.143	-0.010	-0.170	0.067
	5036	C+S A T DÍ	-0.019	0.005	-0.013	-0.003	-0.025	0.004
	5037	C+S A T DÍ	-0.003	0.004	-0.008	-0.003	-0.015	0.004

Determination of Sums and Leading Variable Action

Act	C: SumGU = 0.0030,			SumGF = 0.0030		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0009,			SumGF = -0.0009		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -0.0097		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
19689	1472	MINP-UX	-7.563	-1.515	-7.485	0.072	-1.950	0.024

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
23975	2	AGUA	0.002	10.843	-2.219	-2.463	0.001	0.001
	21	SC_CUBIERTA	0.001	0.208	-0.129	-0.043	0.015	0.001
	31	VIENTO+	0.015	-0.028	-0.002	-0.001	-0.000	-0.000
	32	VIENTO-	0.027	0.425	-0.029	-0.094	-0.000	-0.001
	41	NIEVE	0.000	0.042	-0.026	-0.009	0.003	0.000
	5010	SITUACION_O	0.004	1.674	-1.179	-0.341	0.044	0.004
	5015	C+S A T DÍ	0.078	-0.993	-2.358	1.049	0.042	0.001
	5016	C+S A T DÍ	0.067	-0.434	-1.239	-0.176	0.020	-0.009
	5017	C+S A T DÍ	0.018	0.499	-0.277	-0.626	0.008	0.011
	5020	CAPA_COMPRE	0.001	0.208	-0.128	-0.043	0.014	0.001
	5030	CM_CUBIERTA	0.005	0.729	-0.447	-0.151	0.048	0.005
	5035	C+S A T DÍ	0.008	2.386	-1.542	-0.532	0.028	0.006
	5036	C+S A T DÍ	0.001	0.077	-0.021	-0.038	0.002	0.003
	5037	C+S A T DÍ	0.000	0.006	-0.002	-0.016	0.000	0.000

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0015,		SumGF =	0.0015	
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU =	0.0026,		SumGF =	0.0026	
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0108	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
23975	1473	MAXP-UY	0.183	14.995	-9.411	-3.338	0.208	0.024

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
11695	2	AGUA	3.658	0.000	-2.199	-0.033	0.000	0.000
	21	SC_CUBIERTA	0.306	0.000	-0.705	0.959	0.829	0.000
	31	VIENTO+	-0.118	-0.039	-0.002	-0.000	0.000	0.000
	32	VIENTO-	0.396	0.050	-0.027	-0.003	-0.000	0.000
	41	NIEVE	0.061	0.000	-0.142	0.194	0.166	0.000
	5010	SITUACION_O	1.387	-0.180	-4.179	5.007	2.868	0.000
	5015	C+S A T DÍ	0.395	-32.392	-5.156	4.687	2.122	0.000
	5016	C+S A T DÍ	0.441	-1.473	-3.160	3.218	1.647	0.000
	5017	C+S A T DÍ	0.191	1.706	-0.927	1.089	0.662	0.000
	5020	CAPA_COMPRE	0.281	0.000	-0.670	0.903	0.774	0.000
	5030	CM_CUBIERTA	0.982	0.001	-2.319	3.120	2.705	0.000
	5035	C+S A T DÍ	0.709	-0.851	-5.653	6.760	1.393	0.000
	5036	C+S A T DÍ	0.023	0.071	0.183	-0.329	0.074	0.000
	5037	C+S A T DÍ	0.007	-0.037	-0.146	0.237	0.038	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0330,			SumGF = -0.0330		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0002,			SumGF = -0.0002		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
11695	1474	MINP-UY	8.076	-33.156	-24.226	24.659	12.283	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
30169	2	AGUA	0.054	0.044	-1.666	0.203	-0.038	-0.001
	21	SC_CUBIERTA	0.001	0.000	0.010	0.001	0.000	-0.000
	31	VIENTO+	0.012	-0.033	-0.001	0.000	0.002	0.000
	32	VIENTO-	0.029	0.042	0.008	0.005	-0.004	-0.000
	41	NIEVE	0.000	0.000	0.002	0.000	0.000	0.000
	5010	SITUACION_O	0.002	0.000	-0.222	0.001	-0.007	-0.000
	5015	C+S A T DÍ	-0.483	-0.323	-0.232	-0.006	-0.000	0.002
	5016	C+S A T DÍ	-1.023	-0.731	-0.123	-0.002	-0.002	0.002
	5017	C+S A T DÍ	-0.546	-0.410	-0.068	0.001	-0.003	-0.002
	5020	CAPA_COMPRE	0.001	0.000	0.010	0.001	0.000	-0.000
	5030	CM_CUBIERTA	0.002	-0.000	0.034	0.004	0.000	-0.000
	5035	C+S A T DÍ	-0.074	-0.033	-0.223	-0.003	0.010	-0.001
	5036	C+S A T DÍ	-0.020	-0.014	0.005	0.001	-0.001	-0.000
	5037	C+S A T DÍ	-0.014	-0.012	-0.003	-0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0006,			SumGF = -0.0006		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0002,			SumGF = -0.0002		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
30169	1475	MAXP-UZ	-2.156	-1.523	-0.823	-0.003	-0.003	-0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
12134	2	AGUA	3.650	0.001	-2.043	0.030	-0.005	0.000
	21	SC_CUBIERTA	-0.068	-0.003	-3.931	-0.087	-0.094	0.000
	31	VIENTO+	-0.117	-0.039	-0.041	0.009	0.000	0.000
	32	VIENTO-	0.395	0.049	0.037	-0.008	-0.000	0.000
	41	NIEVE	-0.014	-0.001	-0.786	-0.017	-0.019	0.000
	5010	SITUACION_O	0.095	0.001	-19.375	-0.121	-0.324	0.000
	5015	C+S A T DÍ	-0.383	1.032	-18.386	0.067	-0.236	0.000
	5016	C+S A T DÍ	-0.076	0.698	-12.718	-0.046	-0.184	0.000
	5017	C+S A T DÍ	-0.051	0.124	-4.376	-0.052	-0.074	0.000
	5020	CAPA_COMPRE	-0.067	-0.003	-3.670	-0.081	-0.087	0.000
	5030	CM_CUBIERTA	-0.236	-0.009	-12.845	-0.283	-0.306	0.000
	5035	C+S A T DÍ	0.093	2.592	-23.144	0.300	-0.149	0.000
	5036	C+S A T DÍ	-0.008	0.295	0.878	-0.041	-0.008	0.000
	5037	C+S A T DÍ	-0.009	0.138	-0.766	0.011	-0.004	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0585,			SumGF = -0.0585		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0359,			SumGF = -0.0359		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -0.0020		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
12134	1476	MINP-UZ	3.007	4.870	-96.443	-0.216	-1.377	0.001

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
13:	4253	2	AGUA	-42.03	-12.2	-0.3	0.3	0.0
		21	SC_CUBIERTA	0.23	0.1	0.0	0.0	0.0
		31	VIENTO+	0.45	0.1	-0.1	0.2	0.0
		32	VIENTO-	-0.40	-0.1	-0.2	-0.3	0.0
		41	NIEVE	0.05	0.0	0.0	0.0	0.0
		5010	SITUACION_O	-5.69	-1.7	0.0	0.0	0.0
		5015	C+S A T DÍA	-0.22	-0.1	2.8	-1.9	0.0
		5016	C+S A T DÍA	0.13	0.0	3.6	-2.8	0.0
		5017	C+S A T DÍA	-0.10	-0.0	0.2	-0.2	0.0
		5020	CAPA_COMPRE	0.23	0.1	0.0	0.0	0.0
		5030	CM_CUBIERTA	0.79	0.2	-0.0	0.0	0.0
		5035	C+S A T DÍA	-0.84	-0.2	-6.1	4.7	0.0
		5036	C+S A T DÍA	0.44	0.1	2.3	-1.8	0.0
		5037	C+S A T DÍA	-0.19	-0.1	-0.7	0.5	0.0

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.7649*,			SumGF = -0.7649		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -4.6793*,			SumGF = -4.6793		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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CUASIPERM

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
13:	4253	1417	MAXP-P	-5.44	-1.6	2.1	-1.5	0.0

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11:	4383	2	AGUA	-91.94	-1.0	0.1	-2.4	0.3
		21	SC_CUBIERTA	-4.02	-0.0	0.0	-0.1	0.0
		31	VIENTO+	-0.20	0.0	-0.1	0.2	-0.0
		32	VIENTO-	-1.88	-0.0	-0.2	-0.3	0.0
		41	NIEVE	-0.81	0.0	0.0	-0.0	0.0
		5010	SITUACION_O	-36.07	-0.4	0.0	-0.9	0.1
		5015	C+S A T DÍA	-16.88	-0.2	-0.8	3.3	-0.4
		5016	C+S A T DÍA	10.12	0.1	-1.0	5.9	-0.8
		5017	C+S A T DÍA	1.31	0.0	-0.0	0.3	-0.0
		5020	CAPA_COMPRE	-3.99	-0.0	0.0	-0.1	0.0
		5030	CM_CUBIERTA	-13.96	-0.1	0.0	-0.3	0.0
		5035	C+S A T DÍA	10.80	0.1	1.7	-9.1	1.2
		5036	C+S A T DÍA	-3.97	-0.0	-0.7	3.4	-0.5
		5037	C+S A T DÍA	1.59	0.0	0.2	-1.0	0.1

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2.9578*,			SumGF = 2.9578		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -54.0209*,			SumGF = -54.0209		
LC	5010	5020	5030			
FacGU	1.00	1.00	1.00			
FacGF	1.00	1.00	1.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = -91.9367*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.00	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00
LC	5036	5037										
factor	1.00	1.00										

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CUASIPERM

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	4383	1418	MINP-P	-143.00	-1.5	-0.5	-0.8	0.1

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ELU

Superposition according to EHE Instrucción de hormigòn estructural 2008

Combination rule Number 201

ULS fundamental combination

Superposition according to manual MAXIMA formula 2.1

$$E_d = E\left\{\sum_{j\geq 1}\gamma_{G,j}\cdot G_{k,j} \oplus \gamma_P \cdot P_k \oplus \gamma_{Q,1}\cdot Q_{k,1} \oplus \sum_{i>1}\gamma_{Q,i}\cdot\psi_{0,i}\cdot Q_{k,i}\right\}$$

Resulting Load Cases type ULS fundamental combination

Load Case selection and Actions

Act	Part	Superposition Factors γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2	Fact	Type	Designation
	LC									
C	P	1.00	1.00	1.00	1.00	1.00	1.00			creep + shrinkage
	5015							1.00	PERM	C+S A T DÍAS
	5016							1.00	PERM	C+S A T DÍAS
	5017							1.00	PERM	C+S A T DÍAS
	5035							1.00	PERM	C+S A T DÍAS
	5036							1.00	PERM	C+S A T DÍAS
	5037							1.00	PERM	C+S A T DÍAS
G	G	1.35	0.80	1.00	1.00	1.00	1.00			dead load
	5010							1.00	PERM	SITUACION_ORIGINAL
	5020							1.00	PERM	CAPA_COMPRESION
	5030							1.00	PERM	CM_CUBIERTA
L	Q	1.50	0.00	1.00	0.00	0.00	0.00			live loading
	21							1.00	A9	SC_CUBIERTA
Q	Q	1.20	0.90	1.00	1.00	1.00	1.00			variable load
	2							1.00	COND	AGUA
S	Q	1.60	0.00	1.00	0.60	0.20	0.00			snow loading
	41							1.00	COND	NIEVE
W	Q	1.60	0.00	1.00	0.60	0.50	0.00			wind loading
	31							1.00	A10	VIENTO+
	32							1.00	A10	VIENTO-

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

Generated Load Cases

Number	Combination	Designation
2101	201	MAX-MX QUAD ELU
2102	201	MIN-MX QUAD ELU
2103	201	MAX-MY QUAD ELU
2104	201	MIN-MY QUAD ELU
2105	201	MAX-MXY QUAD ELU
2106	201	MIN-MXY QUAD ELU
2101	201	MAX-MX QUAK ELU
2102	201	MIN-MX QUAK ELU
2103	201	MAX-MY QUAK ELU
2104	201	MIN-MY QUAK ELU
2105	201	MAX-MXY QUAK ELU
2106	201	MIN-MXY QUAK ELU
2107	201	MAX-VX QUAD ELU
2108	201	MIN-VX QUAD ELU

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Generated Load Cases

Number	Combination	Designation
2107	201	MAX-VX QUAK ELU
2108	201	MIN-VX QUAK ELU
2109	201	MAX-VY QUAD ELU
2110	201	MIN-VY QUAD ELU
2109	201	MAX-VY QUAK ELU
2110	201	MIN-VY QUAK ELU
2111	201	MAX-NXX QUAD ELU
2112	201	MIN-NXX QUAD ELU
2113	201	MAX-NYY QUAD ELU
2114	201	MIN-NYY QUAD ELU
2115	201	MAX-NXY QUAD ELU
2116	201	MIN-NXY QUAD ELU
2111	201	MAX-NXX QUAK ELU
2112	201	MIN-NXX QUAK ELU
2113	201	MAX-NYY QUAK ELU
2114	201	MIN-NYY QUAK ELU
2115	201	MAX-NXY QUAK ELU
2116	201	MIN-NXY QUAK ELU
2117	201	MAX-P QUAD ELU
2118	201	MIN-P QUAD ELU
2171	201	MAX-SXO QUAD ELU
2172	201	MIN-SXO QUAD ELU
2173	201	MAX-SYO QUAD ELU
2174	201	MIN-SYO QUAD ELU
2175	201	MAXSXYO QUAD ELU
2176	201	MINSXYO QUAD ELU
2177	201	MAX-SXU QUAD ELU
2178	201	MIN-SXU QUAD ELU
2179	201	MAX-SYU QUAD ELU
2180	201	MIN-SYU QUAD ELU
2181	201	MAXSXYU QUAD ELU
2182	201	MINSXYU QUAD ELU
2171	201	MAX-SXO QUAK ELU
2172	201	MIN-SXO QUAK ELU
2173	201	MAX-SYO QUAK ELU
2174	201	MIN-SYO QUAK ELU
2175	201	MAXSXYO QUAK ELU
2176	201	MINSXYO QUAK ELU
2177	201	MAX-SXU QUAK ELU
2178	201	MIN-SXU QUAK ELU
2179	201	MAX-SYU QUAK ELU
2180	201	MIN-SYU QUAK ELU
2181	201	MAXSXYU QUAK ELU
2182	201	MINSXYU QUAK ELU
2151	201	MAX-PX NODE ELU
2152	201	MIN-PX NODE ELU
2153	201	MAX-PY NODE ELU
2154	201	MIN-PY NODE ELU
2155	201	MAX-PZ NODE ELU
2156	201	MIN-PZ NODE ELU
2171	201	MAX-UX NODE ELU
2172	201	MIN-UX NODE ELU
2173	201	MAX-UY NODE ELU
2174	201	MIN-UY NODE ELU
2175	201	MAX-UZ NODE ELU
2176	201	MIN-UZ NODE ELU
2121	201	MAX-N BEAM ELU
2122	201	MIN-N BEAM ELU

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ELU

Generated Load Cases

Number	Combination	Designation
2129	201	MAX-MY BEAM ELU
2130	201	MIN-MY BEAM ELU
2131	201	MAX-MZ BEAM ELU
2132	201	MIN-MZ BEAM ELU
2127	201	MAX-MT BEAM ELU
2128	201	MIN-MT BEAM ELU
2123	201	MAX-VY BEAM ELU
2124	201	MIN-VY BEAM ELU
2125	201	MAX-VZ BEAM ELU
2126	201	MIN-VZ BEAM ELU

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	50	0.000	2	AGUA	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			21	SC_CUBIERTA	0.0	0.00	-2.75	0.00	56.53	0.00	0.00		...
			31	VIENTO+	0.0	0.00	0.00	0.00	0.00	-0.00	0.00		...
			32	VIENTO-	0.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			41	NIEVE	0.0	0.00	-0.55	0.00	11.31	0.00	0.00		...
			5010	SITUACION_O	0.0	0.00	-7.33	0.00	181.25	0.00	0.00		...
			5015	C+S A T DÍA	734.0	0.00	0.00	0.00	0.00	0.00	0.00		...
			5016	C+S A T DÍA	315.5	0.00	0.00	0.00	0.00	0.00	0.00		...
			5017	C+S A T DÍA	-86.5	0.00	0.00	0.00	0.00	0.00	0.00		...
			5020	CAPA_COMPRE	0.0	0.00	-2.75	0.00	56.53	0.00	0.00		...
			5030	CM_CUBIERTA	0.0	0.00	-9.63	0.00	197.84	0.00	0.00		...
			5035	C+S A T DÍA	84.2	0.00	0.00	0.00	0.00	0.00	0.00		...
			5036	C+S A T DÍA	-20.6	0.00	0.00	0.00	0.00	0.00	0.00		...
			5037	C+S A T DÍA	10.7	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 1037.4460*,			SumGF = 1037.4460			
LC	5015	5016	5017	5035	5036	5037	
FacGU	1.00	1.00	1.00	1.00	1.00	1.00	
FacGF	1.00	1.00	1.00	1.00	1.00	1.00	
Act	G: SumGU = 0.0000*,			SumGF = 0.0000			
LC	5010	5020	5030				
FacGU	1.35	1.35	1.35				
FacGF	0.80	0.80	0.80				
Act	L: SumQ1 = 0.0000*,			SumQI = 0.0000			
LC	21						
FacQ1	0.00						
FacQI	0.00						
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	2						
FacQ1	0.00						
FacQI	0.00						
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	41						
FacQ1	0.00						
FacQI	0.00						
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*			
LC	31	32					
FacQ1	0.00	0.00					
FacQI	0.00	0.00					

Act	action
SumGU,SumGF	sums of the permanent loads acting unfavourable and favourable, * = decisive
SumQ1,SumQ2,SumQ3	sum of the variable loads for 1st, 2nd, 3rd leading variable action, * = decisive
SumQI	sum of the variable loads for accompanying variable actions, * =

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	decisive
LC	number of the load case
FacGU,FacGF	factors of the permanent loads acting unfavourable and favourable
FacQ1,FacQ2,FacQ3	factors of the variable loads for 1st, 2nd, 3rd leading variable action
FacQI	factors of the variable loads for accompanying variable actions
LCW	loadcase-wise consideration

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	-	-	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

LC number of the load case
Fact resulting factors, - = load case is not considered

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	50	0.000	2121	MAX-N	1037.4	0.00	-26.62	-0.00	588.08	0.00	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41	1	0.000	2	AGUA	0.0	-7.38	0.00	0.00	0.00	-33.58	0.00	...
			21	SC_CUBIERTA	-75.0	0.07	0.00	0.00	0.00	0.30	0.00	...
			31	VIENTO+	0.0	0.27	0.00	0.00	0.00	1.21	0.00	...
			32	VIENTO-	0.0	-0.74	0.00	0.00	-0.00	-3.38	0.00	...
			41	NIEVE	-15.0	0.01	0.00	0.00	0.00	0.06	0.00	...
			5010	SITUACION_O	-259.1	-0.40	0.00	0.00	0.00	-1.83	0.00	...
			5015	C+S A T DÍA	0.0	1.25	0.00	0.00	-0.00	5.70	0.00	...
			5016	C+S A T DÍA	0.0	-0.48	0.00	0.00	0.00	-2.18	0.00	...
			5017	C+S A T DÍA	0.0	0.37	0.00	0.00	0.00	1.70	0.00	...
			5020	CAPA_COMPRE	-75.1	0.08	0.00	0.00	0.00	0.35	0.00	...
			5030	CM_CUBIERTA	-262.4	0.27	0.00	0.00	0.00	1.21	0.00	...
			5035	C+S A T DÍA	0.0	-0.62	0.00	0.00	-0.00	-2.81	0.00	...
			5036	C+S A T DÍA	0.0	0.26	0.00	0.00	0.00	1.17	0.00	...
			5037	C+S A T DÍA	0.0	-0.08	0.00	0.00	0.00	-0.37	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 0.0000*,			SumGF = 0.0000		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -805.2755*,			SumGF = -477.2003		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -112.4748*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.90					
FacQI	0.90					
Act	S: SumQ1 = -24.0235,			SumQI = -14.4141*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				

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Determination of Sums and Leading Variable Action

FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	0.90	1.50	-	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41	1	0.000	2122	MIN-N	-932.2	-5.91	0.00	0.00	-0.00	-26.87	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	50	0.000	2	AGUA	0.0	0.00	0.00	0.00	0.00	0.00	0.00	...
			21	SC_CUBIERTA	0.0	0.00	-2.75	0.00	56.53	0.00	0.00	...
			31	VIENTO+	0.0	0.00	0.00	0.00	0.00	-0.00	0.00	...
			32	VIENTO-	0.0	0.00	0.00	0.00	0.00	0.00	0.00	...
			41	NIEVE	0.0	0.00	-0.55	0.00	11.31	0.00	0.00	...
			5010	SITUACION_O	0.0	0.00	-7.33	0.00	181.25	0.00	0.00	...
			5015	C+S A T DÍA	734.0	0.00	0.00	0.00	0.00	0.00	0.00	...
			5016	C+S A T DÍA	315.5	0.00	0.00	0.00	0.00	0.00	0.00	...
			5017	C+S A T DÍA	-86.5	0.00	0.00	0.00	0.00	0.00	0.00	...
			5020	CAPA_COMPRE	0.0	0.00	-2.75	0.00	56.53	0.00	0.00	...
			5030	CM_CUBIERTA	0.0	0.00	-9.63	0.00	197.84	0.00	0.00	...
			5035	C+S A T DÍA	84.2	0.00	0.00	0.00	0.00	0.00	0.00	...
			5036	C+S A T DÍA	-20.6	0.00	0.00	0.00	0.00	0.00	0.00	...
			5037	C+S A T DÍA	10.7	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0000*,			SumGF = -0.0000		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 588.0804*,			SumGF = 348.4921		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 84.7879*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.90					
FacQI	0.90					
Act	S: SumQ1 = 18.0881,			SumQI = 10.8528*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	0.90	1.50	-	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	50	0.000	2129	MAX-MY	1037.4	0.00	-31.28	-0.00	683.72	0.00	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42	22	0.520	2	AGUA	39.4	0.00	-5.33	0.00	-31.96	0.00	0.00		...
			21	SC_CUBIERTA	-4.7	0.00	-41.93	0.00	-42.86	0.00	0.00		...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	1.16	0.00	0.00		...
			32	VIENTO-	4.2	0.00	-0.54	0.00	-3.24	-0.01	0.00		...
			41	NIEVE	-0.9	0.00	-8.39	0.00	-8.57	0.00	0.00		...
			5010	SITUACION_O	-10.4	0.00	-136.26	0.00	-141.38	0.00	0.00		...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	-10.00	-0.00	0.00		...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	-1.29	0.00	0.00		...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	-1.12	0.00	0.00		...
			5020	CAPA_COMPRE	-4.8	0.00	-41.92	0.00	-42.80	0.00	0.00		...
			5030	CM_CUBIERTA	-16.8	0.00	-146.71	0.00	-149.81	0.00	0.00		...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	-3.05	0.00	0.00		...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	1.25	0.00	0.00		...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	-0.39	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -14.5943*,			SumGF = -14.5943		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -450.9043*,			SumGF = -267.2025		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -64.2926*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -38.3527,			SumQI = -38.3527*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -13.7158,			SumQI = -8.2295*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -5.1793,			SumQI = -3.1076*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Determined Factors

factor	1.00	1.00										

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	22	0.520	2130	MIN-MY	-9.8	0.00	-518.88	0.01	-579.48	0.00	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	39	0.569	2	AGUA	0.5	-22.49	0.00	0.00	-0.00	44.99	0.00		...
			21	SC_CUBIERTA	-72.9	-3.64	0.00	0.00	0.00	11.12	0.00		...
			31	VIENTO+	0.2	0.63	0.00	0.00	0.00	-1.27	0.00		...
			32	VIENTO-	-0.3	-1.84	-0.00	-0.00	-0.00	3.73	0.00		...
			41	NIEVE	-14.6	-0.73	0.00	0.00	0.00	2.22	0.00		...
			5010	SITUACION_O	-237.5	-10.71	0.00	0.00	0.00	33.84	0.00		...
			5015	C+S A T DÍA	-17.8	8.15	0.00	0.00	-0.00	-18.66	0.00		...
			5016	C+S A T DÍA	13.2	-10.44	0.00	0.00	0.01	23.71	0.00		...
			5017	C+S A T DÍA	-1.2	0.10	0.00	0.00	0.00	-0.57	0.00		...
			5020	CAPA_COMPRE	-72.8	-3.61	0.00	0.00	0.00	11.08	0.00		...
			5030	CM_CUBIERTA	-254.9	-12.65	0.00	0.00	0.00	38.77	0.00		...
			5035	C+S A T DÍA	-1.8	-0.18	0.00	0.00	0.00	0.42	0.00		...
			5036	C+S A T DÍA	1.2	-0.25	0.00	0.00	0.00	0.58	0.00		...
			5037	C+S A T DÍA	-0.2	-0.07	0.00	0.00	0.00	0.15	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU =	5.6305*,		SumGF =	5.6305	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	112.9862*,		SumGF =	66.9548	
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 =	16.6784*,		SumQI =	0.0000	
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 =	53.9859,		SumQI =	53.9859*	
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 =	3.5581,		SumQI =	2.1348*	
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 =	5.9757,		SumQI =	3.5854*	
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	39	0.569	2131	MAX-MZ	-892.8	-74.01	0.00	-0.00	0.00	195.00	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	23	0.649	2	AGUA	5.3	-17.29	0.00	0.00	0.00	31.76	0.00	...
			21	SC_CUBIERTA	-70.9	4.55	0.00	0.00	0.00	-13.51	0.00	...
			31	VIENTO+	-0.2	0.82	0.00	-0.00	0.00	-1.35	0.00	...
			32	VIENTO-	0.6	-1.91	-0.00	0.00	0.00	3.59	0.00	...
			41	NIEVE	-14.2	0.91	0.00	0.00	0.00	-2.70	0.00	...
			5010	SITUACION_O	-225.4	11.63	0.00	0.00	0.00	-39.26	0.00	...
			5015	C+S A T DÍA	-1.1	2.45	0.00	0.00	0.00	-6.47	0.00	...
			5016	C+S A T DÍA	-1.5	4.78	0.00	0.00	0.00	-8.92	0.00	...
			5017	C+S A T DÍA	-0.6	2.01	0.00	0.00	0.00	-3.76	0.00	...
			5020	CAPA_COMPRE	-70.9	4.56	0.00	0.00	0.00	-13.54	0.00	...
			5030	CM_CUBIERTA	-248.1	15.98	0.00	0.00	0.00	-47.41	0.00	...
			5035	C+S A T DÍA	0.7	-2.54	0.00	-0.00	0.00	4.18	0.00	...
			5036	C+S A T DÍA	-0.3	1.24	0.00	0.00	0.00	-2.06	0.00	...
			5037	C+S A T DÍA	0.1	-0.29	0.00	0.00	0.00	0.43	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -16.5981*,			SumGF = -16.5981		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -135.2892*,			SumGF = -80.1714		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -20.2623*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = -4.3226,			SumQI = -2.5936*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -2.1533,			SumQI = -1.2920*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	23	0.649	2132	MIN-MZ	-857.7	59.57	0.00	0.00	0.00	-176.04	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42:	12	0.000	2	AGUA	39.4	0.00	-5.33	0.00	0.00	-0.00	0.00	...
			21	SC_CUBIERTA	-4.7	0.00	33.15	0.00	0.00	0.00	0.00	...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	0.00	-0.00	0.00	...
			32	VIENTO-	4.2	0.00	-0.54	0.00	0.00	0.00	0.00	...
			41	NIEVE	-0.9	0.00	6.63	0.00	0.00	0.00	0.00	...
			5010	SITUACION_O	-10.4	0.00	104.60	0.00	0.00	0.00	0.00	...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	0.00	0.00	0.00	...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	0.00	0.00	0.00	...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	0.00	0.00	0.00	...
			5020	CAPA_COMPRE	-4.8	0.00	33.16	0.00	0.00	0.00	0.00	...
			5030	CM_CUBIERTA	-16.8	0.00	116.04	0.00	0.00	0.00	0.00	...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	0.00	0.00	0.00	...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	0.00	0.00	0.00	...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0041*,		SumGF =	0.0041	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	0.0040*,		SumGF =	0.0024	
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 =	0.0005,		SumQI =	0.0000*	
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0001,		SumQI =	0.0001*	
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 =	0.0037*,		SumQI =	0.0022	
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	12	0.000	2127	MAX-MT	-47.3	0.00	345.70	0.01	0.00	0.02	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	32	0.000	2	AGUA	0.5	-22.49	0.00	0.00	0.00	-57.34	0.00		...
			21	SC_CUBIERTA	-72.9	-3.64	0.00	0.00	0.00	-5.43	0.00		...
			31	VIENTO+	0.2	0.63	0.00	0.00	-0.00	1.59	0.00		...
			32	VIENTO-	-0.3	-1.84	-0.00	-0.00	0.00	-4.65	0.00		...
			41	NIEVE	-14.6	-0.73	0.00	0.00	0.00	-1.09	0.00		...
			5010	SITUACION_O	-255.7	-10.71	0.00	0.00	-0.00	-14.91	0.00		...
			5015	C+S A T DÍA	-17.8	8.15	0.00	0.00	0.00	18.42	0.00		...
			5016	C+S A T DÍA	13.2	-10.44	0.00	0.00	0.00	-23.77	0.00		...
			5017	C+S A T DÍA	-1.2	0.10	0.00	0.00	0.00	-0.13	0.00		...
			5020	CAPA_COMPRE	-72.8	-3.61	0.00	0.00	0.00	-5.36	0.00		...
			5030	CM_CUBIERTA	-254.9	-12.65	0.00	0.00	-0.00	-18.77	0.00		...
			5035	C+S A T DÍA	-1.8	-0.18	0.00	0.00	-0.01	-0.40	0.00		...
			5036	C+S A T DÍA	1.2	-0.25	0.00	0.00	0.00	-0.56	0.00		...
			5037	C+S A T DÍA	-0.2	-0.07	0.00	0.00	0.00	-0.14	0.00		...

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0001*,		SumGF =	0.0001	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	-0.0001*,		SumGF =	-0.0001	
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 =	-0.0006,		SumQI =	0.0000*	
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	-0.0001,		SumQI =	-0.0001*	
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 =	-0.0042*,		SumQI =	-0.0025	
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	32	0.000	2128	MIN-MT	-808.9	-42.75	0.00	-0.00	-0.01	-67.78	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	18	0.000	2	AGUA	5.3	-17.29	0.00	0.00	-0.00	-35.55	0.00		...
			21	SC_CUBIERTA	-70.9	4.55	0.00	0.00	0.00	4.19	0.00		...
			31	VIENTO+	-0.2	0.82	0.00	-0.00	-0.00	1.86	0.00		...
			32	VIENTO-	0.6	-1.91	-0.00	0.00	0.01	-3.87	0.00		...
			41	NIEVE	-14.2	0.91	0.00	0.00	0.00	0.84	0.00		...
			5010	SITUACION_O	-240.9	11.63	0.00	0.00	0.00	6.03	0.00		...
			5015	C+S A T DÍA	-1.1	2.45	0.00	0.00	0.00	3.06	0.00		...
			5016	C+S A T DÍA	-1.5	4.78	0.00	0.00	0.00	9.68	0.00		...
			5017	C+S A T DÍA	-0.6	2.01	0.00	0.00	0.00	4.08	0.00		...
			5020	CAPA_COMPRE	-70.9	4.56	0.00	0.00	0.00	4.22	0.00		...
			5030	CM_CUBIERTA	-248.1	15.98	0.00	0.00	0.00	14.79	0.00		...
			5035	C+S A T DÍA	0.7	-2.54	0.00	-0.00	0.00	-5.71	0.00		...
			5036	C+S A T DÍA	-0.3	1.24	0.00	0.00	0.00	2.76	0.00		...
			5037	C+S A T DÍA	0.1	-0.29	0.00	0.00	0.00	-0.68	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU =	7.6544*,		SumGF =	7.6544	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	43.4362*,		SumGF =	25.7400	
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 =	6.8188*,		SumQI =	0.0000	
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	1.4547,		SumQI =	0.8728*	
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 =	1.3180,		SumQI =	0.7908*	
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	18	0.000	2123	MAX-VY	-878.7	59.57	0.00	0.00	-0.00	55.89	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
41:	32	0.000	2	AGUA	0.5	-22.49	0.00	0.00	0.00	-57.34	0.00	...
			21	SC_CUBIERTA	-72.9	-3.64	0.00	0.00	0.00	-5.43	0.00	...
			31	VIENTO+	0.2	0.63	0.00	0.00	-0.00	1.59	0.00	...
			32	VIENTO-	-0.3	-1.84	-0.00	-0.00	0.00	-4.65	0.00	...
			41	NIEVE	-14.6	-0.73	0.00	0.00	0.00	-1.09	0.00	...
			5010	SITUACION_O	-255.7	-10.71	0.00	0.00	-0.00	-14.91	0.00	...
			5015	C+S A T DÍA	-17.8	8.15	0.00	0.00	0.00	18.42	0.00	...
			5016	C+S A T DÍA	13.2	-10.44	0.00	0.00	0.00	-23.77	0.00	...
			5017	C+S A T DÍA	-1.2	0.10	0.00	0.00	0.00	-0.13	0.00	...
			5020	CAPA_COMPRE	-72.8	-3.61	0.00	0.00	0.00	-5.36	0.00	...
			5030	CM_CUBIERTA	-254.9	-12.65	0.00	0.00	-0.00	-18.77	0.00	...
			5035	C+S A T DÍA	-1.8	-0.18	0.00	0.00	-0.01	-0.40	0.00	...
			5036	C+S A T DÍA	1.2	-0.25	0.00	0.00	0.00	-0.56	0.00	...
			5037	C+S A T DÍA	-0.2	-0.07	0.00	0.00	0.00	-0.14	0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2.6846*,			SumGF = -2.6846		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -36.4168*,			SumGF = -21.5803		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -5.4565*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -26.9868,			SumQI = -26.9868*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -1.1641,			SumQI = -0.6984*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -2.9480,			SumQI = -1.7688*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
41:	32	0.000	2124	MIN-VY	-917.4	-74.01	0.00	-0.00	-0.01	-141.75	0.00		...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	[	...
42:	34	0.000	2	AGUA	17.3	0.00	-5.29	0.00	31.76	0.00	0.00		...
			21	SC_CUBIERTA	-4.5	0.00	41.71	0.00	-41.56	0.00	0.00		...
			31	VIENTO+	-0.8	0.00	0.22	0.00	-1.35	0.00	0.00		...
			32	VIENTO-	1.9	-0.00	-0.60	-0.00	3.59	-0.00	0.00		...
			41	NIEVE	-0.9	0.00	8.34	0.00	-8.31	0.00	0.00		...
			5010	SITUACION_O	-11.6	0.00	133.90	0.00	-127.19	-0.00	0.00		...
			5015	C+S A T DÍA	-2.4	0.00	1.08	0.00	-6.47	0.00	0.00		...
			5016	C+S A T DÍA	-4.8	0.00	1.49	0.00	-8.92	-0.00	0.00		...
			5017	C+S A T DÍA	-2.0	0.00	0.63	0.00	-3.76	0.00	0.00		...
			5020	CAPA_COMPRE	-4.6	0.00	41.72	0.00	-41.60	0.00	0.00		...
			5030	CM_CUBIERTA	-16.0	0.00	146.01	0.00	-145.60	-0.00	0.00		...
			5035	C+S A T DÍA	2.5	0.00	-0.70	-0.00	4.18	0.00	0.00		...
			5036	C+S A T DÍA	-1.2	0.00	0.34	0.00	-2.06	0.00	0.00		...
			5037	C+S A T DÍA	0.3	0.00	-0.07	0.00	0.43	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2.7663*,			SumGF = 2.7663		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 434.2032*,			SumGF = 257.3056		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 62.5676*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 13.3478,			SumQI = 8.0087*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 0.3589,			SumQI = 0.2153*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42:	34	0.000	2125	MAX-VZ	-59.6	0.00	507.76	0.00	-512.65	-0.00	0.00	...

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42:	22	0.520	2	AGUA	39.4	0.00	-5.33	0.00	-31.96	0.00	0.00	...
			21	SC_CUBIERTA	-4.7	0.00	-41.93	0.00	-42.86	0.00	0.00	...
			31	VIENTO+	-1.6	-0.00	0.19	-0.00	1.16	0.00	0.00	...
			32	VIENTO-	4.2	0.00	-0.54	0.00	-3.24	-0.01	0.00	...
			41	NIEVE	-0.9	0.00	-8.39	0.00	-8.57	0.00	0.00	...
			5010	SITUACION_O	-10.4	0.00	-136.26	0.00	-141.38	0.00	0.00	...
			5015	C+S A T DÍA	-6.2	0.00	-1.67	0.00	-10.00	-0.00	0.00	...
			5016	C+S A T DÍA	-3.3	0.00	-0.21	0.00	-1.29	0.00	0.00	...
			5017	C+S A T DÍA	-3.1	0.00	-0.19	0.00	-1.12	0.00	0.00	...
			5020	CAPA_COMPRE	-4.8	0.00	-41.92	0.00	-42.80	0.00	0.00	...
			5030	CM_CUBIERTA	-16.8	0.00	-146.71	0.00	-149.81	0.00	0.00	...
			5035	C+S A T DÍA	4.4	0.00	-0.51	0.00	-3.05	0.00	0.00	...
			5036	C+S A T DÍA	-2.0	0.00	0.21	0.00	1.25	0.00	0.00	...
			5037	C+S A T DÍA	0.5	0.00	-0.07	0.00	-0.39	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -2.4324*,			SumGF = -2.4324		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -438.6012*,			SumGF = -259.9118		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -62.8908*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -6.3921,			SumQI = -6.3921*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -13.4167,			SumQI = -8.0500*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -0.8632,			SumQI = -0.5179*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]	MB [kNm2]	...
42	22	0.520	2126	MIN-VZ	-9.8	0.00	-518.88	0.01	-579.48	0.00	0.00	...

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	2	AGUA	37.95	32.43	0.37	66.97	0.11	106.99	103.90
		21	SC_CUBIERTA	34.51	25.62	-0.02	119.53	0.96	-1.28	-2.45
		31	VIENTO+	-0.40	-1.22	0.06	-2.01	-0.01	-1.08	0.95
		32	VIENTO-	1.60	3.29	-0.06	5.66	0.01	2.35	-0.50
		41	NIEVE	6.90	5.12	-0.00	23.91	0.19	-0.26	-0.49
		5010	SITUACION_O	108.76	101.72	-0.11	415.49	3.35	-20.26	-0.80
		5015	C+S A T DÍA	-42.81	8.68	-0.16	12.91	0.20	-205.67	-238.84
		5016	C+S A T DÍA	52.28	-6.71	0.19	-0.83	-0.13	-247.55	-162.48
		5017	C+S A T DÍA	1.46	-0.42	0.01	3.57	0.02	691.66	658.60
		5020	CAPA_COMPRE	34.44	25.90	-0.02	119.34	0.96	-7.00	-1.05
		5030	CM_CUBIERTA	120.56	90.63	-0.08	417.70	3.35	-24.39	-3.59
		5035	C+S A T DÍA	0.59	12.83	-0.01	5.24	0.04	-299.67	-307.12
		5036	C+S A T DÍA	1.52	-5.75	0.01	-2.04	-0.02	161.48	166.51
		5037	C+S A T DÍA	0.17	1.84	0.00	0.64	0.00	-28.79	-30.01

Determination of Sums and Leading Variable Action

Act	C: SumGU = 13.2174*,			SumGF = 13.2174		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 356.0734*,			SumGF = 211.0065		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 51.7673*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 45.5344,			SumQI = 45.5344*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 11.0437,			SumQI = 6.6262*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 2.5614,			SumQI = 1.5368*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	2101	MAX-MX	474.76	390.54	0.10	1593.44	12.22	130.20	199.37

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204779	2	AGUA	-368.92	26.75	-82.89	943.96	309.69	1355.61	556.18
		21	SC_CUBIERTA	-8.71	-0.56	0.05	0.51	-0.80	23.65	6.99
		31	VIENTO+	-21.35	0.39	0.70	16.60	-0.65	47.51	6.14
		32	VIENTO-	20.57	2.30	-5.60	11.49	13.61	-35.56	5.06
		41	NIEVE	-1.74	-0.11	0.01	0.10	-0.16	4.73	1.40
		5010	SITUACION_O	-1.21	33.92	-46.48	-143.18	40.58	-120.16	-87.60
		5015	C+S A T DÍA	-297.77	-65.31	66.48	240.84	-170.02	-334.10	-284.68
		5016	C+S A T DÍA	254.42	66.77	-65.88	-293.60	108.37	144.71	205.60
		5017	C+S A T DÍA	26.62	-3.66	-1.02	66.24	44.02	298.57	97.74
		5020	CAPA_COMPRE	-5.84	1.88	-3.66	-32.92	1.03	-24.72	-13.83
		5030	CM_CUBIERTA	-20.40	6.20	-12.66	-115.52	3.63	-87.09	-48.34
		5035	C+S A T DÍA	-32.96	25.72	-42.04	-48.40	-26.11	-316.90	-152.80
		5036	C+S A T DÍA	17.30	-7.25	13.23	16.81	13.43	118.70	60.50
		5037	C+S A T DÍA	-2.80	2.07	-4.42	-11.33	-2.64	-21.23	-11.93

Determination of Sums and Leading Variable Action

Act	C: SumGU = -35.2008*,			SumGF = -35.2008		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -37.0587*,			SumGF = -21.9607		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -13.0584,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -442.7045,			SumQI = -442.7045*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -2.7861,			SumQI = -1.6717*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -34.1636*,			SumQI = -20.4982		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	1.60	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204779	2102	MIN-MX	-550.80	107.68	-216.77	736.30	398.58	1283.86	390.84

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	2	AGUA	37.95	32.43	0.37	66.97	0.11	106.99	103.90
		21	SC_CUBIERTA	34.51	25.62	-0.02	119.53	0.96	-1.28	-2.45
		31	VIENTO+	-0.40	-1.22	0.06	-2.01	-0.01	-1.08	0.95
		32	VIENTO-	1.60	3.29	-0.06	5.66	0.01	2.35	-0.50
		41	NIEVE	6.90	5.12	-0.00	23.91	0.19	-0.26	-0.49
		5010	SITUACION_O	108.76	101.72	-0.11	415.49	3.35	-20.26	-0.80
		5015	C+S A T DÍA	-42.81	8.68	-0.16	12.91	0.20	-205.67	-238.84
		5016	C+S A T DÍA	52.28	-6.71	0.19	-0.83	-0.13	-247.55	-162.48
		5017	C+S A T DÍA	1.46	-0.42	0.01	3.57	0.02	691.66	658.60
		5020	CAPA_COMPRE	34.44	25.90	-0.02	119.34	0.96	-7.00	-1.05
		5030	CM_CUBIERTA	120.56	90.63	-0.08	417.70	3.35	-24.39	-3.59
		5035	C+S A T DÍA	0.59	12.83	-0.01	5.24	0.04	-299.67	-307.12
		5036	C+S A T DÍA	1.52	-5.75	0.01	-2.04	-0.02	161.48	166.51
		5037	C+S A T DÍA	0.17	1.84	0.00	0.64	0.00	-28.79	-30.01

Determination of Sums and Leading Variable Action

Act	C: SumGU =	10.4718*,		SumGF =	10.4718	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	294.6303*,		SumGF =	174.5957	
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 =	38.4353*,		SumQI =	0.0000	
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 =	38.9194,		SumQI =	38.9194*	
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 =	8.1995,		SumQI =	4.9197*	
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 =	5.2704,		SumQI =	3.1622*	
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
14	1400252	2103	MAX-MY	474.76	390.54	0.10	1593.44	12.22	130.20	199.37

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1107801	2	AGUA	-106.83	-209.61	122.22	817.34	-630.68	-580.33	-172.71
		21	SC_CUBIERTA	-2.12	-2.75	2.05	1.47	0.70	-23.54	-28.17
		31	VIENTO+	0.23	3.59	-1.24	-14.35	12.86	-4.92	-3.62
		32	VIENTO-	-2.73	-12.77	5.41	49.37	-43.20	-5.54	-4.21
		41	NIEVE	-0.42	-0.55	0.41	0.29	0.14	-4.71	-5.63
		5010	SITUACION_O	-20.33	-24.32	18.37	-29.79	17.37	165.08	-44.40
		5015	C+S A T DÍA	-169.42	-70.77	80.91	36.72	-5.33	885.66	404.38
		5016	C+S A T DÍA	143.91	60.28	-68.25	-33.95	1.06	-467.53	-341.44
		5017	C+S A T DÍA	18.70	8.37	-8.91	12.40	-4.74	-446.57	-83.31
		5020	CAPA_COMPRE	-3.70	-2.46	2.41	-18.97	14.33	4.87	-20.72
		5030	CM_CUBIERTA	-12.97	-8.58	8.40	-66.86	50.57	17.40	-72.54
		5035	C+S A T DÍA	-27.52	-37.25	24.66	50.44	-54.19	146.15	-89.04
		5036	C+S A T DÍA	13.04	14.70	-10.27	-15.43	18.15	-60.21	27.38
		5037	C+S A T DÍA	-0.17	-2.81	1.34	1.80	-4.27	-34.76	-37.19

Determination of Sums and Leading Variable Action

Act	C: SumGU = -27.4885*,			SumGF = -27.4885		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -47.7324*,			SumGF = -28.2859		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -4.1234,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -251.5359,			SumQI = -251.5359*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -0.8799,			SumQI = -0.5279*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -20.4256*,			SumQI = -12.2554		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1107801	2104	MIN-MY	-204.38	-347.71	214.58	955.98	-764.05	-434.12	-524.46

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204615	2	AGUA	-356.28	24.30	94.24	-887.14	281.48	1257.89	515.55
		21	SC_CUBIERTA	4.09	4.28	4.13	-17.34	8.98	-3.06	1.28
		31	VIENTO+	29.16	1.03	-0.72	32.05	-3.29	-74.93	-17.46
		32	VIENTO-	1.33	2.61	4.15	-18.27	6.67	1.93	4.04
		41	NIEVE	0.82	0.86	0.83	-3.47	1.80	-0.61	0.26
		5010	SITUACION_O	30.69	43.79	54.27	17.87	62.17	-45.88	-52.98
		5015	C+S A T DÍA	-328.72	-76.49	-64.59	-116.26	-206.47	-418.26	-275.40
		5016	C+S A T DÍA	280.97	78.07	67.94	159.75	133.77	213.32	198.89
		5017	C+S A T DÍA	30.56	-4.01	-0.45	-22.84	52.48	313.59	85.14
		5020	CAPA_COMPRE	7.83	6.37	6.92	-12.19	11.51	4.65	-2.60
		5030	CM_CUBIERTA	27.34	21.84	24.03	-42.75	40.33	15.36	-9.13
		5035	C+S A T DÍA	6.33	36.84	51.77	-92.20	0.29	-244.80	-105.68
		5036	C+S A T DÍA	4.14	-11.21	-16.91	36.45	5.34	93.37	43.48
		5037	C+S A T DÍA	2.10	3.57	5.53	-6.24	0.60	-10.15	-7.81

Determination of Sums and Leading Variable Action

Act	C: SumGU =	43.3044*,		SumGF =	43.3044	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	115.0432*,		SumGF =	68.1737	
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 =	6.1981*,		SumQI =	0.0000	
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 =	113.0840,		SumQI =	113.0840*	
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 =	1.3225,		SumQI =	0.7935*	
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 =	6.6429,		SumQI =	3.9857*	
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204615	2105	MAX-MXY	-335.05	162.88	282.41	-1202.82	499.33	1418.30	475.94

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204356	2	AGUA	-356.76	27.46	-78.25	-922.72	-294.51	1291.44	552.94
		21	SC_CUBIERTA	4.23	4.38	-4.14	-17.40	-9.00	-2.82	1.38
		31	VIENTO+	33.63	8.63	-11.66	-17.42	-14.71	-71.29	-5.67
		32	VIENTO-	-3.86	-7.01	10.31	47.32	17.45	-2.75	-10.81
		41	NIEVE	0.85	0.88	-0.83	-3.48	-1.80	-0.56	0.28
		5010	SITUACION_O	32.02	45.49	-54.81	21.86	-66.05	-50.67	-55.88
		5015	C+S A T DÍA	-337.72	-77.51	69.63	-127.53	212.75	-419.69	-300.14
		5016	C+S A T DÍA	288.31	79.12	-71.85	169.15	-138.72	223.25	220.60
		5017	C+S A T DÍA	31.52	-4.15	-0.51	-21.46	-53.59	310.06	89.12
		5020	CAPA_COMPRE	8.02	6.52	-6.94	-11.82	-11.47	4.33	-2.54
		5030	CM_CUBIERTA	28.10	22.43	-24.15	-41.25	-40.26	14.25	-8.93
		5035	C+S A T DÍA	7.07	38.23	-50.99	-91.49	1.00	-252.09	-110.65
		5036	C+S A T DÍA	4.00	-11.69	16.55	36.35	-6.08	96.00	45.71
		5037	C+S A T DÍA	2.22	3.73	-5.51	-6.07	-0.52	-10.66	-7.76

Determination of Sums and Leading Variable Action

Act	C: SumGU = -42.6701*,			SumGF = -42.6701		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -115.9630*,			SumGF = -68.7188		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -6.2058,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -93.8943,			SumQI = -93.8943*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -1.3241,			SumQI = -0.7945*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -18.6627*,			SumQI = -11.1976		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	1.60	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1204356	2106	MIN-MXY	-286.09	175.82	-271.98	-1221.67	-522.84	1338.68	500.70

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 139.9710*,			SumGF = 139.9710		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 429.6572*,			SumGF = 254.6117		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 43.0378*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 1865.8430,			SumQI = 1865.8430*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 9.1827,			SumQI = 5.5096*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 43.1643,			SumQI = 25.8986*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

ELU

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2107	MAX-VX	-100.90	-24.98	-15.61	2509.92	1124.36	3886.99	738.43

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304424	2	AGUA	-58.73	-23.31	9.60	-1470.77	407.24	2225.63	77.01
		21	SC_CUBIERTA	-1.11	-0.07	0.16	-25.77	6.19	46.90	6.62
		31	VIENTO+	0.97	0.62	-0.16	24.48	-7.53	-6.77	3.80
		32	VIENTO-	-3.51	-1.86	0.57	-86.60	25.36	61.87	-6.94
		41	NIEVE	-0.22	-0.01	0.03	-5.16	1.24	9.38	1.32
		5010	SITUACION_O	-7.29	-1.70	1.16	-163.39	42.80	206.49	15.09
		5015	C+S A T DÍA	8.30	2.67	-1.50	94.21	9.93	350.32	77.78
		5016	C+S A T DÍA	-8.91	-2.88	1.62	-107.54	-8.65	-324.04	-79.67
		5017	C+S A T DÍA	1.77	0.54	-0.33	24.71	-1.13	16.37	13.81
		5020	CAPA_COMPRE	-1.25	-0.12	0.19	-28.45	6.93	45.14	6.10
		5030	CM_CUBIERTA	-4.32	-0.37	0.64	-97.76	23.99	157.37	20.99
		5035	C+S A T DÍA	-8.52	-2.29	1.43	-185.19	45.40	248.36	9.46
		5036	C+S A T DÍA	3.26	0.86	-0.55	71.25	-18.40	-100.23	-4.06
		5037	C+S A T DÍA	-1.33	-0.37	0.23	-27.24	6.38	27.95	-0.04

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -129.7990*,			SumGF = -129.7990		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -390.9658*,			SumGF = -231.6834		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -38.6576,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -1764.921,			SumQI = -1764.921*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -8.2482,			SumQI = -4.9489*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -138.5571*,			SumQI = -83.1343		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304424	2108	MIN-VX	-99.10	-35.40	16.06	-2429.19	663.51	3549.63	156.79

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2204964	2	AGUA	-92.17	-2.95	39.16	-1439.06	2109.73	1214.26	2260.61
		21	SC_CUBIERTA	-1.55	0.31	0.43	-22.40	22.32	38.25	117.98
		31	VIENTO+	1.61	0.23	-0.81	14.41	-36.07	9.84	5.29
		32	VIENTO-	-5.64	-0.60	2.66	-61.55	123.75	4.64	41.95
		41	NIEVE	-0.31	0.06	0.09	-4.48	4.47	7.65	23.60
		5010	SITUACION_O	-10.70	0.24	4.02	-120.90	176.83	137.21	451.47
		5015	C+S A T DÍA	9.18	6.90	-6.94	-245.01	29.08	221.26	-814.60
		5016	C+S A T DÍA	-10.42	-6.68	7.10	205.82	-11.67	-208.89	704.82
		5017	C+S A T DÍA	2.36	0.86	-1.08	9.42	-4.53	7.87	-9.33
		5020	CAPA_COMPRE	-1.76	0.27	0.53	-22.25	24.01	36.11	119.68
		5030	CM_CUBIERTA	-6.02	0.96	1.76	-77.28	82.56	126.13	417.02
		5035	C+S A T DÍA	-12.63	-0.57	5.10	-150.54	218.83	165.58	443.18
		5036	C+S A T DÍA	4.70	0.23	-1.89	60.15	-80.29	-64.15	-145.50
		5037	C+S A T DÍA	-1.85	-0.23	0.79	-15.38	24.82	16.47	55.17

Determination of Sums and Leading Variable Action

Act	C: SumGU = 176.2350*,			SumGF = 176.2350		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 382.5944*,			SumGF = 226.7226		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 33.4819,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 2531.6741,			SumQI = 2531.6741*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 7.1443,			SumQI = 4.2866*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 198.0010*,			SumQI = 118.8006		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2204964	2109	MAX-VY	-153.54	-1.93	62.93	-2262.77	3292.79	2014.27	4370.28

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2200564	2	AGUA	43.30	-3.52	-42.05	1120.77	-2109.30	956.60	2223.62
		21	SC_CUBIERTA	0.56	-0.17	-0.63	17.34	-22.72	31.67	117.97
		31	VIENTO+	-2.20	0.03	1.97	-29.64	92.07	17.84	12.87
		32	VIENTO-	0.45	-0.01	-0.48	15.45	-22.40	22.45	47.68
		41	NIEVE	0.11	-0.03	-0.13	3.47	-4.55	6.33	23.59
		5010	SITUACION_O	4.62	-0.18	-4.74	93.53	-177.42	113.02	445.28
		5015	C+S A T DÍA	-5.09	-6.61	5.73	174.55	-15.64	146.72	-804.35
		5016	C+S A T DÍA	5.59	6.46	-6.06	-147.03	3.91	-140.61	699.88
		5017	C+S A T DÍA	-1.19	-0.90	1.14	-7.22	4.46	8.49	-8.98
		5020	CAPA_COMPRE	0.66	-0.13	-0.73	17.24	-24.12	29.93	118.93
		5030	CM_CUBIERTA	2.27	-0.47	-2.50	59.69	-83.61	104.82	416.06
		5035	C+S A T DÍA	5.56	0.47	-5.71	116.11	-216.41	132.80	439.34
		5036	C+S A T DÍA	-2.06	-0.16	2.12	-46.08	80.02	-51.49	-145.13
		5037	C+S A T DÍA	0.86	0.23	-0.86	11.92	-24.31	13.01	53.84

Determination of Sums and Leading Variable Action

Act	C: SumGU = -167.9768*,			SumGF = -167.9768		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -384.9622*,			SumGF = -228.1258		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -34.0845*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -2531.159,			SumQI = -2531.159*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -7.2724,			SumQI = -4.3634*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -35.8436,			SumQI = -21.5062*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2200564	2110	MIN-VY	67.18	-6.09	-66.38	1721.45	-3144.05	1666.45	4471.68

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

Determination of Sums and Leading Variable Action

Act	C: SumGU = 228.3769*,			SumGF = 228.3769		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 586.8946*,			SumGF = 347.7894		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 73.3484*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 2889.0596,			SumQI = 2889.0596*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 15.6498,			SumQI = 9.3899*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 166.5332,			SumQI = 99.9199*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2111	MAX-NXX	-100.90	-24.98	-15.61	2509.92	1124.36	3886.99	738.43

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3205522	2	AGUA	-0.08	0.00	-0.00	0.57	-0.07	-28.68	0.00
		21	SC_CUBIERTA	-0.12	0.02	-0.05	15.24	-7.35	-160.47	-176.15
		31	VIENTO+	-0.04	0.00	0.00	-0.00	-0.01	-5.46	-0.01
		32	VIENTO-	0.04	0.00	0.00	-0.02	0.01	3.58	0.01
		41	NIEVE	-0.02	0.00	-0.01	3.05	-1.47	-32.10	-35.23
		5010	SITUACION_O	-0.34	0.05	-0.14	42.86	-20.63	-444.92	-494.77
		5015	C+S A T DÍA	-0.49	-0.00	-0.01	2.43	0.22	110.51	-1.06
		5016	C+S A T DÍA	0.28	0.00	0.01	-2.42	-0.19	-72.83	0.84
		5017	C+S A T DÍA	0.21	0.00	-0.00	0.49	0.00	-31.41	0.04
		5020	CAPA_COMPRE	-0.12	0.02	-0.05	15.24	-7.35	-160.72	-176.16
		5030	CM_CUBIERTA	-0.42	0.06	-0.17	53.35	-25.71	-562.48	-616.54
		5035	C+S A T DÍA	-0.04	0.00	-0.00	0.24	-0.02	-22.90	-0.03
		5036	C+S A T DÍA	0.07	0.00	0.00	-0.18	-0.00	4.87	-0.00
		5037	C+S A T DÍA	-0.02	0.00	0.00	0.03	-0.00	-2.82	0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -14.5681*,			SumGF = -14.5681		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -1576.969*,			SumGF = -934.5004		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -240.7078*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -34.4146,			SumQI = -34.4146*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -51.3526,			SumQI = -30.8116*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -8.7330,			SumQI = -5.2398*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3205522	2112	MIN-NXX	-1.52	0.21	-0.56	177.51	-85.01	-1902.71	-2036.36

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2205387	2	AGUA	-91.95	-0.92	38.27	-1447.38	2104.87	1223.91	2226.79
		21	SC_CUBIERTA	-1.52	0.34	0.40	-22.50	21.96	38.62	116.84
		31	VIENTO+	1.05	0.65	-0.93	-19.48	-28.62	105.18	144.86
		32	VIENTO-	2.82	-0.14	-1.01	52.12	-58.07	-74.52	-124.03
		41	NIEVE	-0.30	0.07	0.08	-4.50	4.39	7.72	23.37
		5010	SITUACION_O	-10.60	0.47	3.87	-121.22	175.71	137.11	443.58
		5015	C+S A T DÍA	9.09	6.75	-6.88	-243.70	23.42	226.86	-804.47
		5016	C+S A T DÍA	-10.24	-6.48	6.98	205.11	-8.44	-213.21	698.42
		5017	C+S A T DÍA	2.37	0.83	-1.07	9.38	-4.64	8.37	-7.66
		5020	CAPA_COMPRE	-1.73	0.32	0.50	-22.28	23.60	36.31	118.27
		5030	CM_CUBIERTA	-5.93	1.11	1.65	-77.39	81.14	126.87	412.13
		5035	C+S A T DÍA	-12.46	-0.28	4.91	-150.76	216.23	166.74	437.19
		5036	C+S A T DÍA	4.64	0.14	-1.83	60.23	-79.32	-64.57	-143.22
		5037	C+S A T DÍA	-1.83	-0.17	0.76	-15.41	24.53	16.56	54.39

Determination of Sums and Leading Variable Action

Act	C: SumGU = 234.6545*,			SumGF = 234.6545		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 1314.8712*,			SumGF = 779.1830		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 175.2549*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 2672.1501,			SumQI = 2672.1501*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 37.3892,			SumQI = 22.4335*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 231.7793,			SumQI = 139.0676*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
22	2205387	2113	MAX-NYY	-144.99	3.44	56.69	-2226.98	3085.91	2181.13	4558.43

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	2	AGUA	3.41	0.06	-0.27	22.33	-1.99	99.96	-0.01
		21	SC_CUBIERTA	-0.19	0.09	0.02	-9.90	-19.81	-123.53	-416.96
		31	VIENTO+	0.03	0.00	-0.01	0.64	-0.07	-4.19	-0.00
		32	VIENTO-	-0.15	-0.00	0.02	-1.33	0.13	-3.10	0.00
		41	NIEVE	-0.04	0.02	0.00	-1.98	-3.96	-24.71	-83.39
		5010	SITUACION_O	-0.20	0.25	0.02	-25.65	-55.82	-333.23	-1171.14
		5015	C+S A T DÍA	-0.83	-0.00	-0.00	0.78	0.32	-23.73	-0.09
		5016	C+S A T DÍA	0.68	0.00	0.00	-0.74	-0.29	36.34	0.02
		5017	C+S A T DÍA	0.09	0.00	-0.00	0.37	0.00	-18.04	-0.04
		5020	CAPA_COMPRE	-0.18	0.09	0.02	-9.91	-19.81	-123.62	-416.99
		5030	CM_CUBIERTA	-0.65	0.31	0.06	-34.62	-69.35	-432.69	-1459.40
		5035	C+S A T DÍA	0.33	0.01	-0.04	3.52	-0.30	8.37	-0.06
		5036	C+S A T DÍA	-0.08	-0.00	0.02	-1.56	0.12	-4.42	-0.07
		5037	C+S A T DÍA	0.04	0.00	-0.01	0.58	-0.05	2.56	-0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.2451*,			SumGF = -0.2451		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -4114.169*,			SumGF = -2438.026		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -625.4374*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -0.0064,			SumQI = -0.0064*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -133.4267,			SumQI = -80.0560*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -0.0023,			SumQI = -0.0014*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	2114	MIN-NYY	2.64	1.10	-0.21	-81.13	-231.90	-1292.90	-4819.92

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306073	2	AGUA	-13.17	7.50	-25.86	642.44	697.05	905.79	936.07
		21	SC_CUBIERTA	-0.38	0.30	-0.53	12.25	14.19	19.01	62.56
		31	VIENTO+	-0.53	0.45	-0.58	17.95	7.42	29.96	65.44
		32	VIENTO-	0.23	-0.32	-0.23	-1.22	17.84	-10.36	-63.81
		41	NIEVE	-0.08	0.06	-0.11	2.45	2.84	3.80	12.51
		5010	SITUACION_O	-1.99	1.53	-3.28	70.79	84.56	96.95	233.84
		5015	C+S A T DÍA	2.82	-2.52	3.04	-14.98	-44.35	-3.57	-348.81
		5016	C+S A T DÍA	-2.86	2.65	-3.33	20.70	46.15	2.44	322.16
		5017	C+S A T DÍA	0.53	-0.49	0.67	-12.44	-7.98	1.32	-34.79
		5020	CAPA_COMPRE	-0.42	0.31	-0.59	13.03	15.35	19.29	63.71
		5030	CM_CUBIERTA	-1.42	1.14	-2.06	45.07	53.77	67.39	222.77
		5035	C+S A T DÍA	-2.35	1.77	-3.74	83.72	86.80	108.21	224.33
		5036	C+S A T DÍA	0.87	-0.68	1.43	-32.92	-34.00	-43.74	-78.49
		5037	C+S A T DÍA	-0.38	0.28	-0.58	12.53	12.63	16.16	31.24

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 155.1663*,			SumGF = 155.1663		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 392.7147*,			SumGF = 232.7198		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 45.1497*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 2024.2477,			SumQI = 2024.2477*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 9.6334,			SumQI = 5.7800*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 93.8210,			SumQI = 56.2926*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

ELU

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306073	2115	MAX-NXY	-23.49	14.98	-43.01	1039.51	1134.32	1476.61	2110.01

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106898	2	AGUA	-18.26	6.61	17.67	586.85	-289.24	1208.57	-205.92
		21	SC_CUBIERTA	-0.13	0.55	0.28	3.73	26.18	13.35	-68.87
		31	VIENTO+	1.09	0.38	-0.79	-31.02	42.08	-34.02	-8.33
		32	VIENTO-	-0.14	0.31	0.23	5.44	4.51	16.53	-8.04
		41	NIEVE	-0.03	0.11	0.06	0.75	5.24	2.67	-13.78
		5010	SITUACION_O	-1.46	2.54	2.16	45.88	70.90	86.94	-247.56
		5015	C+S A T DÍA	-0.55	-6.79	-3.21	-14.23	-325.41	182.78	966.86
		5016	C+S A T DÍA	0.25	6.81	3.44	16.90	300.35	-175.47	-901.88
		5017	C+S A T DÍA	0.09	-1.23	-0.70	-4.86	-29.01	24.11	82.83
		5020	CAPA_COMPRE	-0.18	0.60	0.33	5.16	26.32	13.46	-72.54
		5030	CM_CUBIERTA	-0.59	2.07	1.13	16.38	93.30	46.07	-254.11
		5035	C+S A T DÍA	-1.62	3.17	2.71	58.36	61.41	103.52	-214.96
		5036	C+S A T DÍA	0.63	-1.16	-1.02	-22.22	-17.72	-44.97	62.93
		5037	C+S A T DÍA	-0.26	0.53	0.44	8.86	9.82	13.90	-34.69

Determination of Sums and Leading Variable Action

Act	C: SumGU = -158.0088*,			SumGF = -158.0088		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -289.8385*,			SumGF = -171.7561		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -31.4966*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -2121.853,			SumQI = -2121.853*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -6.7201,			SumQI = -4.0321*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -40.6348,			SumQI = -24.3809*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106898	2116	MIN-NXY	-26.72	17.52	28.44	849.57	-41.82	1790.35	-1185.46

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2	AGUA	-61.40	-18.05	-9.31	1554.87	696.90	2407.55	284.73
		21	SC_CUBIERTA	-1.17	-0.04	-0.20	28.69	13.16	48.90	26.74
		31	VIENTO+	-1.22	0.19	-0.25	26.98	9.26	104.08	34.19
		32	VIENTO-	-0.82	-1.07	-0.03	24.22	14.95	-71.42	-43.66
		41	NIEVE	-0.23	-0.01	-0.04	5.74	2.63	9.78	5.35
		5010	SITUACION_O	-7.62	-1.33	-1.22	177.90	81.13	223.19	83.93
		5015	C+S A T DÍA	7.89	2.19	1.26	-119.25	-31.40	327.36	-54.48
		5016	C+S A T DÍA	-8.52	-2.33	-1.34	132.46	33.28	-300.40	39.03
		5017	C+S A T DÍA	1.68	0.40	0.26	-27.42	-6.34	11.28	5.52
		5020	CAPA_COMPRE	-1.33	-0.09	-0.21	31.51	14.36	47.01	26.27
		5030	CM_CUBIERTA	-4.57	-0.27	-0.76	108.85	50.07	164.54	91.91
		5035	C+S A T DÍA	-8.80	-1.78	-1.42	200.46	85.88	268.52	72.88
		5036	C+S A T DÍA	3.33	0.66	0.54	-76.25	-33.39	-109.16	-25.31
		5037	C+S A T DÍA	-1.39	-0.29	-0.22	29.98	12.41	30.78	8.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 8805.2148*,			SumGF = 8805.2148		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 25963.488*,			SumGF = 15385.771		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 2719.4346*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 111536.18,			SumQI = 111536.18*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 580.2282,			SumQI = 348.1369*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 4113.0908,			SumQI = 2467.8545*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

ELU

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306092	2171	MAX-SXO	-100.90	-24.98	-15.61	2509.92	1124.36	3886.99	738.43

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306931	2	AGUA	15.49	-8.24	5.63	390.35	383.12	-28.13	305.82
		21	SC_CUBIERTA	0.04	-0.07	0.04	10.84	6.38	-3.07	-22.63
		31	VIENTO+	-0.34	-0.20	0.03	18.97	10.74	-0.50	3.25
		32	VIENTO-	1.22	0.02	0.20	-13.98	-2.07	-0.12	3.22
		41	NIEVE	0.01	-0.01	0.01	2.17	1.28	-0.61	-4.53
		5010	SITUACION_O	1.34	-0.34	0.44	49.43	33.42	-10.64	-73.87
		5015	C+S A T DÍA	-2.80	-3.92	0.36	-20.19	45.30	2.97	620.77
		5016	C+S A T DÍA	2.95	3.78	-0.22	26.76	-42.11	-11.94	-607.84
		5017	C+S A T DÍA	-0.47	-0.58	-0.03	-8.64	3.97	13.94	96.70
		5020	CAPA_COMPRE	0.09	-0.05	0.05	11.04	6.09	-3.10	-24.57
		5030	CM_CUBIERTA	0.28	-0.22	0.17	38.34	21.96	-10.80	-86.09
		5035	C+S A T DÍA	1.63	-0.18	0.53	58.90	37.22	-13.22	-78.24
		5036	C+S A T DÍA	-0.58	0.14	-0.22	-22.01	-15.83	3.06	17.21
		5037	C+S A T DÍA	0.26	-0.01	0.08	7.99	4.94	0.14	-14.38

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -1047.381*,			SumGF = -1047.381		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -2701.742*,			SumGF = -1601.032		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -120.1684,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -18797.99,			SumQI = -18797.99*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -25.6443,			SumQI = -15.3866*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -1926.798*,			SumQI = -1156.079		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

ELU

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306931	2172	MIN-SXO	23.84	-11.46	8.46	624.34	574.15	-72.70	152.90

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106788	2	AGUA	-3.33	-16.23	-27.97	43.42	-183.06	612.11	2219.97
		21	SC_CUBIERTA	-0.12	-0.27	-0.55	0.43	-3.19	14.42	75.76
		31	VIENTO+	0.00	0.73	1.15	-3.82	4.57	-13.91	-32.58
		32	VIENTO-	-0.07	-0.18	-0.38	0.12	-3.79	9.45	38.38
		41	NIEVE	-0.02	-0.05	-0.11	0.09	-0.64	2.89	15.15
		5010	SITUACION_O	-0.50	-1.77	-3.56	5.30	-24.57	70.26	327.06
		5015	C+S A T DÍA	-0.08	1.08	4.71	-20.18	83.23	-12.32	-130.78
		5016	C+S A T DÍA	0.01	-1.25	-5.00	17.44	-85.22	12.24	152.21
		5017	C+S A T DÍA	0.08	0.31	0.99	-1.97	16.00	-1.73	-59.28
		5020	CAPA_COMPRE	-0.15	-0.33	-0.61	0.84	-4.34	14.79	77.28
		5030	CM_CUBIERTA	-0.44	-1.04	-2.14	2.24	-13.37	51.38	269.71
		5035	C+S A T DÍA	-0.57	-2.02	-4.24	5.90	-39.44	77.37	354.69
		5036	C+S A T DÍA	0.20	0.74	1.60	-1.62	12.30	-30.80	-135.81
		5037	C+S A T DÍA	-0.10	-0.32	-0.67	1.20	-7.09	11.47	48.72

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 4421.9854*,			SumGF = 4421.9854		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 15980.615*,			SumGF = 9469.9941		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 1865.0015*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 53834.750,			SumQI = 53834.750*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 397.8915,			SumQI = 238.7349*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 1082.5385,			SumQI = 649.5231*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

ELU

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106788	2173	MAX-SYO	-6.19	-25.81	-45.98	65.02	-306.00	1008.41	3968.70

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	2	AGUA	3.41	0.06	-0.27	22.33	-1.99	99.96	-0.01
		21	SC_CUBIERTA	-0.19	0.09	0.02	-9.90	-19.81	-123.53	-416.96
		31	VIENTO+	0.03	0.00	-0.01	0.64	-0.07	-4.19	-0.00
		32	VIENTO-	-0.15	-0.00	0.02	-1.33	0.13	-3.10	0.00
		41	NIEVE	-0.04	0.02	0.00	-1.98	-3.96	-24.71	-83.39
		5010	SITUACION_O	-0.20	0.25	0.02	-25.65	-55.82	-333.23	-1171.14
		5015	C+S A T DÍA	-0.83	-0.00	-0.00	0.78	0.32	-23.73	-0.09
		5016	C+S A T DÍA	0.68	0.00	0.00	-0.74	-0.29	36.34	0.02
		5017	C+S A T DÍA	0.09	0.00	-0.00	0.37	0.00	-18.04	-0.04
		5020	CAPA_COMPRE	-0.18	0.09	0.02	-9.91	-19.81	-123.62	-416.99
		5030	CM_CUBIERTA	-0.65	0.31	0.06	-34.62	-69.35	-432.69	-1459.40
		5035	C+S A T DÍA	0.33	0.01	-0.04	3.52	-0.30	8.37	-0.06
		5036	C+S A T DÍA	-0.08	-0.00	0.02	-1.56	0.12	-4.42	-0.07
		5037	C+S A T DÍA	0.04	0.00	-0.01	0.58	-0.05	2.56	-0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4.8415*,			SumGF = -4.8415		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -34334.77*,			SumGF = -20346.53		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -5219.123*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -29.7834,			SumQI = -29.7834*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -1113.413,			SumQI = -668.0478*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -1.3331,			SumQI = -0.7999*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
32	3203475	2174	MIN-SYO	2.64	1.10	-0.21	-81.13	-231.90	-1292.90	-4819.92

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304489	2	AGUA	-13.42	-15.47	-28.99	-42.85	359.32	928.05	2355.83
		21	SC_CUBIERTA	-0.16	0.01	-0.49	3.26	30.22	6.44	-35.77
		31	VIENTO+	0.25	0.43	0.50	3.44	3.23	-10.77	-32.49
		32	VIENTO-	-0.84	-1.25	-1.77	-8.13	4.61	42.49	113.06
		41	NIEVE	-0.03	0.00	-0.10	0.65	6.04	1.29	-7.15
		5010	SITUACION_O	-1.21	-0.79	-3.40	5.98	129.26	52.88	-57.07
		5015	C+S A T DÍA	-0.24	-1.28	3.20	0.59	-324.15	188.90	1370.17
		5016	C+S A T DÍA	0.07	1.10	-3.56	2.30	314.26	-180.09	-1294.15
		5017	C+S A T DÍA	0.07	-0.16	0.74	-0.76	-45.12	24.16	146.15
		5020	CAPA_COMPRE	-0.18	-0.01	-0.56	3.06	32.65	6.15	-40.41
		5030	CM_CUBIERTA	-0.63	-0.05	-1.93	10.89	113.18	21.12	-141.59
		5035	C+S A T DÍA	-1.37	-0.86	-3.98	4.69	136.19	67.88	2.93
		5036	C+S A T DÍA	0.55	0.38	1.53	-1.55	-47.40	-30.98	-27.31
		5037	C+S A T DÍA	-0.20	-0.11	-0.62	0.56	22.37	8.55	-11.35

Determination of Sums and Leading Variable Action

Act	C: SumGU = 4553.8672*,			SumGF = 4553.8672		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 11139.793*,			SumGF = 6601.3594		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 1050.5312,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 60761.348,			SumQI = 60761.348*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 224.1528,			SumQI = 134.4917*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 4379.6689*,			SumQI = 2627.8013		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3304489	2175	MAXSXYO	-21.33	-22.65	-48.33	-31.07	871.86	1369.51	2864.72

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	2	AGUA	-13.94	-15.80	30.66	34.85	332.77	908.39	2332.98
		21	SC_CUBIERTA	-0.16	0.01	0.52	-3.80	31.38	6.64	-37.46
		31	VIENTO+	-0.13	0.27	0.55	-6.88	36.50	23.28	36.47
		32	VIENTO-	-0.39	-1.05	0.49	12.29	-39.08	-1.52	25.00
		41	NIEVE	-0.03	0.00	0.10	-0.76	6.28	1.33	-7.49
		5010	SITUACION_O	-1.23	-0.77	3.60	-8.11	132.01	52.58	-64.06
		5015	C+S A T DÍA	-0.29	-1.56	-3.43	2.70	-338.81	182.59	1387.64
		5016	C+S A T DÍA	0.11	1.36	3.80	-5.84	327.60	-173.07	-1308.98
		5017	C+S A T DÍA	0.05	-0.21	-0.78	0.97	-45.69	21.54	146.01
		5020	CAPA_COMPRE	-0.19	-0.01	0.60	-3.54	33.77	6.27	-42.32
		5030	CM_CUBIERTA	-0.63	-0.04	2.05	-12.75	117.36	21.63	-148.27
		5035	C+S A T DÍA	-1.40	-0.84	4.24	-6.45	137.80	68.04	-3.23
		5036	C+S A T DÍA	0.55	0.35	-1.61	2.38	-47.84	-30.88	-25.16
		5037	C+S A T DÍA	-0.21	-0.12	0.67	-0.66	22.61	8.51	-12.19

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4810.858*,			SumGF = -4810.858		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -11690.19*,			SumGF = -6927.518		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -1101.977*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -63207.48,			SumQI = -63207.48*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -235.1298,			SumQI = -141.0779*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -1829.547,			SumQI = -1097.728*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	2176	MINSXYO	-21.06	-20.80	49.52	-11.08	925.35	1309.02	2611.51

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3307102	2	AGUA	10.66	-4.20	2.80	-345.22	-87.06	312.43	692.25
		21	SC_CUBIERTA	0.15	0.31	-0.08	1.53	9.47	-8.21	-40.17
		31	VIENTO+	1.11	1.21	-0.08	0.12	45.20	-3.38	-47.80
		32	VIENTO-	-1.05	-1.87	0.26	-16.05	-66.14	19.11	94.20
		41	NIEVE	0.03	0.06	-0.02	0.31	1.89	-1.64	-8.03
		5010	SITUACION_O	1.24	0.60	0.06	-12.52	26.77	-1.19	-52.38
		5015	C+S A T DÍA	-2.78	-1.86	-0.55	-46.19	-117.64	-0.17	70.10
		5016	C+S A T DÍA	2.80	2.17	0.50	40.13	127.29	-15.97	-88.76
		5017	C+S A T DÍA	-0.29	-0.61	0.01	-4.18	-29.85	25.32	31.92
		5020	CAPA_COMPRE	0.18	0.34	-0.08	1.76	10.89	-8.47	-42.17
		5030	CM_CUBIERTA	0.60	1.21	-0.29	6.20	37.86	-29.85	-148.09
		5035	C+S A T DÍA	1.63	0.75	0.15	-16.70	38.41	-3.99	-50.33
		5036	C+S A T DÍA	-0.56	-0.24	-0.05	7.17	-13.10	0.57	17.40
		5037	C+S A T DÍA	0.23	0.13	0.02	-1.65	7.28	-0.13	-8.51

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 1175.3243*,			SumGF = 1175.3243		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 2187.6235*,			SumGF = 1296.3695		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 72.8463,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 18621.135,			SumQI = 18621.135*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 15.5520,			SumQI = 9.3312*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 1815.1406*,			SumQI = 1089.0845		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	1.60	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3307102	2177	MAX-SXU	18.35	0.19	2.87	-441.35	84.01	320.22	390.74

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106753	2	AGUA	-108.13	-20.44	-23.67	331.20	421.25	-46.39	233.79
		21	SC_CUBIERTA	-2.61	0.12	-0.18	5.67	4.54	-2.49	4.37
		31	VIENTO+	3.47	1.41	1.51	-9.45	-15.27	-6.96	-11.13
		32	VIENTO-	-1.74	-0.11	-0.19	5.11	5.69	-2.60	2.41
		41	NIEVE	-0.52	0.02	-0.04	1.13	0.91	-0.50	0.87
		5010	SITUACION_O	-15.08	-0.91	-2.26	35.22	38.78	-11.46	25.23
		5015	C+S A T DÍA	21.98	2.99	6.69	15.09	25.83	-255.88	-235.81
		5016	C+S A T DÍA	-22.72	-2.77	-6.47	-15.61	-19.75	226.92	207.24
		5017	C+S A T DÍA	4.00	0.23	0.70	3.80	0.89	-6.89	-3.08
		5020	CAPA_COMPRE	-2.97	0.19	-0.23	5.31	5.01	-2.35	4.68
		5030	CM_CUBIERTA	-10.00	0.43	-0.77	20.01	17.28	-8.11	16.65
		5035	C+S A T DÍA	-17.92	-1.69	-3.05	38.76	46.89	-3.03	33.87
		5036	C+S A T DÍA	6.51	0.71	1.02	-16.70	-19.91	6.20	-8.42
		5037	C+S A T DÍA	-2.78	-0.22	-0.46	4.17	6.49	0.94	5.06

Determination of Sums and Leading Variable Action

Act	C: SumGU = -3667.303*,			SumGF = -3667.303		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -12118.47*,			SumGF = -7181.316		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -1258.224*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -41200.75,			SumQI = -41200.75*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -268.4424,			SumQI = -161.0654*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -905.4731,			SumQI = -543.2839*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3106753	2178	MIN-SXU	-184.65	-25.57	-34.86	523.17	641.51	-123.72	351.94

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306073	2	AGUA	-13.17	7.50	-25.86	642.44	697.05	905.79	936.07
		21	SC_CUBIERTA	-0.38	0.30	-0.53	12.25	14.19	19.01	62.56
		31	VIENTO+	-0.53	0.45	-0.58	17.95	7.42	29.96	65.44
		32	VIENTO-	0.23	-0.32	-0.23	-1.22	17.84	-10.36	-63.81
		41	NIEVE	-0.08	0.06	-0.11	2.45	2.84	3.80	12.51
		5010	SITUACION_O	-1.99	1.53	-3.28	70.79	84.56	96.95	233.84
		5015	C+S A T DÍA	2.82	-2.52	3.04	-14.98	-44.35	-3.57	-348.81
		5016	C+S A T DÍA	-2.86	2.65	-3.33	20.70	46.15	2.44	322.16
		5017	C+S A T DÍA	0.53	-0.49	0.67	-12.44	-7.98	1.32	-34.79
		5020	CAPA_COMPRE	-0.42	0.31	-0.59	13.03	15.35	19.29	63.71
		5030	CM_CUBIERTA	-1.42	1.14	-2.06	45.07	53.77	67.39	222.77
		5035	C+S A T DÍA	-2.35	1.77	-3.74	83.72	86.80	108.21	224.33
		5036	C+S A T DÍA	0.87	-0.68	1.43	-32.92	-34.00	-43.74	-78.49
		5037	C+S A T DÍA	-0.38	0.28	-0.58	12.53	12.63	16.16	31.24

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2511.3933*,			SumGF = 2511.3933		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 13121.565*,			SumGF = 7775.7422		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 1664.4496*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 23543.301,			SumQI = 23543.301*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 355.1131,			SumQI = 213.0679*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 2068.5183,			SumQI = 1241.1111*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306073	2179	MAX-SYU	-23.49	14.98	-43.01	1039.51	1134.32	1476.61	2110.01

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3107199	2	AGUA	-46.26	-39.46	6.74	1285.56	-270.52	2251.08	-422.49
		21	SC_CUBIERTA	-0.70	-0.41	0.09	4.44	18.62	43.58	-38.95
		31	VIENTO+	2.36	2.33	-0.35	-74.43	26.74	-21.66	10.52
		32	VIENTO-	-0.52	-0.28	0.08	10.87	1.20	39.01	-7.47
		41	NIEVE	-0.14	-0.08	0.02	0.89	3.72	8.72	-7.79
		5010	SITUACION_O	-5.53	-3.55	0.79	93.62	50.66	194.58	-155.17
		5015	C+S A T DÍA	8.10	0.44	-1.03	8.78	-291.03	398.41	513.89
		5016	C+S A T DÍA	-8.63	-0.81	1.14	14.51	272.55	-370.91	-478.50
		5017	C+S A T DÍA	1.64	0.14	-0.24	-18.51	-23.21	23.27	43.32
		5020	CAPA_COMPRE	-0.85	-0.52	0.11	7.68	19.15	41.42	-41.41
		5030	CM_CUBIERTA	-2.91	-1.72	0.39	23.65	67.61	144.59	-144.45
		5035	C+S A T DÍA	-6.63	-3.68	0.96	123.66	39.75	237.17	-143.24
		5036	C+S A T DÍA	2.47	1.38	-0.36	-48.78	-9.62	-97.85	44.42
		5037	C+S A T DÍA	-1.09	-0.56	0.16	19.35	6.92	25.61	-22.47

Determination of Sums and Leading Variable Action

Act	C: SumGU = -3856.974*,			SumGF = -3856.974		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -14474.08*,			SumGF = -8577.230		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -1434.716*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -57200.76,			SumQI = -57200.76*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -306.0943,			SumQI = -183.6566*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -639.2807,			SumQI = -383.5685*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
31	3107199	2180	MIN-SYU	-73.88	-59.23	10.69	1828.32	-111.08	3541.97	-1083.01

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	2	AGUA	-13.94	-15.80	30.66	34.85	332.77	908.39	2332.98
		21	SC_CUBIERTA	-0.16	0.01	0.52	-3.80	31.38	6.64	-37.46
		31	VIENTO+	-0.13	0.27	0.55	-6.88	36.50	23.28	36.47
		32	VIENTO-	-0.39	-1.05	0.49	12.29	-39.08	-1.52	25.00
		41	NIEVE	-0.03	0.00	0.10	-0.76	6.28	1.33	-7.49
		5010	SITUACION_O	-1.23	-0.77	3.60	-8.11	132.01	52.58	-64.06
		5015	C+S A T DÍA	-0.29	-1.56	-3.43	2.70	-338.81	182.59	1387.64
		5016	C+S A T DÍA	0.11	1.36	3.80	-5.84	327.60	-173.07	-1308.98
		5017	C+S A T DÍA	0.05	-0.21	-0.78	0.97	-45.69	21.54	146.01
		5020	CAPA_COMPRE	-0.19	-0.01	0.60	-3.54	33.77	6.27	-42.32
		5030	CM_CUBIERTA	-0.63	-0.04	2.05	-12.75	117.36	21.63	-148.27
		5035	C+S A T DÍA	-1.40	-0.84	4.24	-6.45	137.80	68.04	-3.23
		5036	C+S A T DÍA	0.55	0.35	-1.61	2.38	-47.84	-30.88	-25.16
		5037	C+S A T DÍA	-0.21	-0.12	0.67	-0.66	22.61	8.51	-12.19

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 1363.1807*,			SumGF = 1363.1807		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 6251.5537*,			SumGF = 3704.6245		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 544.6569*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 15168.312,			SumQI = 15168.312*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 116.2075,			SumQI = 69.7245*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 1011.7034,			SumQI = 607.0221*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306190	2181	MAXSXYU	-21.31	-22.08	49.47	7.32	852.80	1285.21	2600.49

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306074	2	AGUA	-2.23	-14.04	-29.53	40.33	-161.97	581.82	2219.72
		21	SC_CUBIERTA	-0.10	-0.23	-0.58	0.44	-2.68	13.79	75.91
		31	VIENTO+	-0.19	-0.18	-0.65	-1.09	-8.09	20.18	96.77
		32	VIENTO-	0.20	-0.31	-0.32	3.56	4.21	-8.07	-61.40
		41	NIEVE	-0.02	-0.05	-0.12	0.09	-0.54	2.76	15.18
		5010	SITUACION_O	-0.38	-1.51	-3.76	4.85	-22.12	67.28	328.80
		5015	C+S A T DÍA	-0.15	0.84	4.90	-17.50	84.08	-15.16	-138.56
		5016	C+S A T DÍA	0.11	-0.98	-5.24	14.80	-85.46	14.21	158.66
		5017	C+S A T DÍA	0.05	0.24	1.04	-1.33	15.98	-1.09	-60.39
		5020	CAPA_COMPRE	-0.11	-0.26	-0.65	0.65	-3.25	14.04	77.24
		5030	CM_CUBIERTA	-0.36	-0.88	-2.25	2.13	-11.21	49.04	269.99
		5035	C+S A T DÍA	-0.42	-1.71	-4.49	5.05	-36.66	73.62	356.08
		5036	C+S A T DÍA	0.17	0.65	1.69	-1.60	12.16	-29.40	-136.29
		5037	C+S A T DÍA	-0.07	-0.27	-0.72	1.01	-6.42	10.98	49.11

Determination of Sums and Leading Variable Action

Act	C: SumGU = -1442.216*,			SumGF = -1442.216		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -4984.682*,			SumGF = -2953.885		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -396.6218*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -17794.45,			SumQI = -17794.45*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -84.6266,			SumQI = -50.7760*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -895.9632,			SumQI = -537.5779*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
33	3306074	2182	MINSXYU	-4.10	-22.34	-48.52	63.29	-260.54	942.93	3874.44

Relevant Forces in Nodes

Group 14											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3541	2	AGUA	-21.64	16.45	-0.24	69.11	-3.14	132.02	107.14		...
	21	SC_CUBIERTA	37.38	31.33	-0.06	68.77	-42.81	2.65	-2.09		...
	31	VIENTO+	1.23	-0.79	0.07	-1.90	0.05	-2.20	1.23		...
	32	VIENTO-	-3.21	2.03	-0.10	5.48	-0.05	4.98	-0.74		...
	41	NIEVE	7.48	6.27	-0.01	13.75	-8.56	0.53	-0.42		...
	5010	SITUACION_O	123.59	123.05	-0.21	242.25	-151.40	8.02	-13.11		...
	5015	C+S A T DÍA	-18.75	16.03	0.07	19.96	-12.20	-227.18	-232.49		...
	5016	C+S A T DÍA	22.82	-15.17	-0.10	-17.06	9.85	-214.62	-176.60		...
	5017	C+S A T DÍA	1.32	-0.26	0.00	0.91	-0.60	687.01	667.13		...
	5020	CAPA_COMPRE	37.39	31.62	-0.07	68.78	-42.81	2.53	-5.18		...
	5030	CM_CUBIERTA	130.86	110.65	-0.23	240.73	-149.84	8.94	-18.04		...
	5035	C+S A T DÍA	-0.68	13.10	-0.02	0.61	-1.28	-299.61	-311.25		...
	5036	C+S A T DÍA	1.15	-6.12	0.01	-0.81	0.86	162.39	168.42		...
	5037	C+S A T DÍA	-0.14	1.84	-0.00	-0.02	-0.13	-28.89	-30.61		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 5.7238*,			SumGF = 5.7238		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 393.9869*,			SumGF = 233.4737		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 56.0740*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 11.9625,			SumQI = 7.1775*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 1.9742,			SumQI = 1.1845*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 14											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3541	2101	MAX-MX	464.15	419.86	-0.76	863.00	-540.34	107.78	33.20		...

Relevant Forces in Nodes

Group 12											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1299	2	AGUA	-625.47	72.23	-104.67	935.09	345.19	1593.77	595.27	2	...
	21	SC_CUBIERTA	-13.53	-1.97	1.21	0.53	-1.14	27.67	6.83		...
	31	VIENTO+	-4.42	-9.75	11.68	-37.89	-20.01	-10.02	-17.95		...
	32	VIENTO-	-12.50	0.64	-0.35	11.05	2.95	20.42	3.68		...
	41	NIEVE	-2.71	-0.39	0.24	0.11	-0.23	5.54	1.37		...
	5010	SITUACION_O	23.23	71.19	-69.94	-124.49	20.92	-245.38	-174.74	1	...
	5015	C+S A T DÍA	-539.63	-122.27	127.47	237.30	-165.06	-608.90	-541.60	4	...
	5016	C+S A T DÍA	462.57	123.11	-121.21	-288.51	95.20	481.39	486.27	-5	...
	5017	C+S A T DÍA	46.93	-6.98	-2.91	62.70	54.96	303.95	105.18		...
	5020	CAPA_COMPRE	-6.56	3.91	-4.33	-29.49	-3.04	-49.68	-30.57		...
	5030	CM_CUBIERTA	-22.93	13.02	-14.81	-103.59	-10.58	-174.79	-106.74		...
	5035	C+S A T DÍA	-36.76	59.12	-61.31	-40.64	-36.35	-506.07	-266.52	1	...
	5036	C+S A T DÍA	23.40	-17.42	18.53	13.86	17.22	192.78	108.26	-	...
	5037	C+S A T DÍA	-2.74	4.85	-6.01	-10.49	-3.85	-32.72	-19.48		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -46.2442*,			SumGF = -46.2442		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -8.4544*,			SumGF = -5.0100		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -20.2994*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -750.5612,			SumQI = -750.5612*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -4.3308,			SumQI = -2.5985*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -20.0028,			SumQI = -12.0017*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1299	2102	MIN-MX	-840.16	243.34	-289.58	760.09	387.10	1175.10	180.25	5 ...

Relevant Forces in Nodes

Group 14										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3533	2	AGUA	23.44	-5.69	-0.15	26.02	-2.30	119.64	133.12	...
	21	SC_CUBIERTA	33.13	35.71	-0.04	72.26	-44.63	0.70	0.89	...
	31	VIENTO+	-0.81	0.08	0.00	-0.94	-0.08	-3.31	3.62	...
	32	VIENTO-	2.33	-0.35	-0.01	2.63	0.23	2.61	-2.13	...
	41	NIEVE	6.63	7.15	-0.01	14.47	-8.94	0.14	0.18	...
	5010	SITUACION_O	124.64	132.60	-0.15	249.91	-154.43	2.29	2.47	...
	5015	C+S A T DÍA	-3.54	4.35	0.02	1.24	-0.44	-256.88	-236.88	...
	5016	C+S A T DÍA	1.28	-4.47	0.00	-0.39	0.23	-138.81	-183.36	...
	5017	C+S A T DÍA	-1.18	1.78	0.01	0.33	-0.16	740.74	700.44	...
	5020	CAPA_COMPRE	33.17	35.99	-0.04	72.36	-44.69	0.67	0.96	...
	5030	CM_CUBIERTA	115.91	125.78	-0.14	252.85	-156.17	2.41	3.43	...
	5035	C+S A T DÍA	4.68	21.91	-0.05	-1.11	-0.28	-393.26	-334.51	...
	5036	C+S A T DÍA	-1.75	-9.50	0.02	0.49	0.13	206.34	178.43	...
	5037	C+S A T DÍA	0.50	3.35	-0.01	-0.18	-0.05	-39.91	-33.93	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 17.4256*,			SumGF = 17.4256		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 397.4016*,			SumGF = 235.4973		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 53.5708*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 11.4420,			SumQI = 6.8652*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 0.1261,			SumQI = 0.0757*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 14										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3533	2103	MAX-MY	424.79	475.34	-0.52	898.18	-555.81	123.47	104.44	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3153	2	AGUA	-230.02	-395.27	219.43	817.34	-630.68	-615.69	-378.33	...
	21	SC_CUBIERTA	-4.03	-4.59	3.62	1.47	0.70	-24.41	-44.17	...
	31	VIENTO+	0.66	6.12	-1.77	-14.35	12.86	-5.43	-4.56	...
	32	VIENTO-	-6.20	-22.43	8.63	49.37	-43.20	-5.32	-10.64	...
	41	NIEVE	-0.81	-0.92	0.72	0.29	0.14	-4.88	-8.83	...
	5010	SITUACION_O	-36.54	-52.54	36.10	-29.79	17.37	398.58	-99.77	...
	5015	C+S A T DÍA	-361.55	-146.20	206.26	36.72	-5.33	1915.40	1135.39	...
	5016	C+S A T DÍA	307.35	121.15	-173.96	-33.95	1.06	-1003.90	-881.58	...
	5017	C+S A T DÍA	39.29	19.24	-23.50	12.40	-4.74	-962.77	-299.04	...
	5020	CAPA_COMPRE	-6.52	-4.80	5.17	-18.97	14.33	17.50	-43.40	...
	5030	CM_CUBIERTA	-22.85	-16.65	18.07	-66.86	50.57	62.56	-151.61	...
	5035	C+S A T DÍA	-54.06	-76.36	48.72	50.44	-54.19	359.47	-153.38	...
	5036	C+S A T DÍA	26.04	29.96	-21.22	-15.43	18.15	-146.23	42.98	...
	5037	C+S A T DÍA	0.31	-5.58	1.80	1.80	-4.27	-66.89	-85.26	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -57.7818*,			SumGF = -57.7818		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -99.8790*,			SumGF = -59.1876		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -6.8810,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -474.3243,			SumQI = -474.3243*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -1.4684,			SumQI = -0.8810*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -35.8830*,			SumQI = -21.5298		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3153	2104	MIN-MY	-418.31	-668.75	396.01	955.98	-764.05	-10.80	-1118.32	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1298	2	AGUA	-537.30	61.52	119.35	-887.14	281.48	1246.84	545.00	-1 ...
	21	SC_CUBIERTA	6.82	6.41	6.83	-17.34	8.98	-3.61	2.29	...
	31	VIENTO+	45.85	1.67	1.72	32.05	-3.29	-75.16	-16.01	...
	32	VIENTO-	3.22	4.58	6.71	-18.27	6.67	0.93	4.91	...
	41	NIEVE	1.36	1.28	1.37	-3.47	1.80	-0.72	0.46	...
	5010	SITUACION_O	65.04	72.40	88.34	17.87	62.17	-84.89	-95.58	- ...
	5015	C+S A T DÍA	-537.61	-110.33	-125.01	-116.26	-206.47	-688.87	-567.21	-4 ...
	5016	C+S A T DÍA	461.56	113.46	126.42	159.75	133.77	528.58	491.78	4 ...
	5017	C+S A T DÍA	50.28	-5.92	0.40	-22.84	52.48	315.59	100.46	- ...
	5020	CAPA_COMPRE	13.65	10.35	11.84	-12.19	11.51	7.70	-3.02	...
	5030	CM_CUBIERTA	47.60	35.57	41.08	-42.75	40.33	25.26	-10.61	...
	5035	C+S A T DÍA	22.40	64.64	84.56	-92.20	0.29	-331.38	-169.33	- ...
	5036	C+S A T DÍA	2.74	-20.21	-27.17	36.45	5.34	129.34	71.96	...
	5037	C+S A T DÍA	4.54	6.28	8.86	-6.24	0.60	-10.44	-7.84	...

Determination of Sums and Leading Variable Action

Act	C: SumGU =	68.0546*,		SumGF =	68.0546	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	190.6991*,		SumGF =	113.0069	
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 =	10.2505*,		SumQI =	0.0000	
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 =	143.2220,		SumQI =	143.2220*	
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 =	2.1871,		SumQI =	1.3122*	
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 =	10.7342,		SumQI =	6.4405*	
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1298	2105	MAX-MXY	-455.72	296.73	419.98	-1202.82	499.33	1363.69	434.98	-1 ...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3250	2	AGUA	-554.10	70.94	-95.22	-922.72	-294.51	1275.45	593.63	1 ...
	21	SC_CUBIERTA	7.04	6.85	-6.91	-17.40	-9.00	-3.36	2.58	...
	31	VIENTO+	56.77	15.82	-22.01	-17.42	-14.71	-73.46	-1.17	...
	32	VIENTO-	-8.61	-12.87	16.88	47.32	17.45	-0.58	-13.55	...
	41	NIEVE	1.41	1.37	-1.38	-3.48	-1.80	-0.67	0.52	...
	5010	SITUACION_O	67.03	79.24	-90.30	21.86	-66.05	-94.44	-100.20	...
	5015	C+S A T DÍA	-567.54	-114.45	136.93	-127.53	212.75	-721.95	-600.80	4 ...
	5016	C+S A T DÍA	486.05	118.26	-136.21	169.15	-138.72	570.56	519.60	-5 ...
	5017	C+S A T DÍA	54.06	-6.73	-1.99	-21.46	-53.59	323.24	109.36	...
	5020	CAPA_COMPRE	14.02	11.14	-12.04	-11.82	-11.47	7.82	-3.25	...
	5030	CM_CUBIERTA	49.04	38.38	-41.85	-41.25	-40.26	25.65	-11.41	- ...
	5035	C+S A T DÍA	21.87	71.04	-84.28	-91.49	1.00	-355.55	-180.50	...
	5036	C+S A T DÍA	3.39	-22.38	26.87	36.35	-6.08	138.43	76.75	- ...
	5037	C+S A T DÍA	4.73	6.92	-8.93	-6.07	-0.52	-11.18	-8.35	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -67.6115*,			SumGF = -67.6115		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -194.6532*,			SumGF = -115.3500		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -10.3706,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -114.2699,			SumQI = -114.2699*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -2.2127,			SumQI = -1.3276*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -35.2086*,			SumQI = -21.1251		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	1.60	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3250	2106	MIN-MXY	-394.54	338.26	-413.07	-1221.67	-522.84	1273.60	471.97	1 ...

Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1291	2	AGUA	105.23	4.52	-11.89	1341.16	-1237.64	1827.36	2674.15	-4 ...
	21	SC_CUBIERTA	1.60	0.00	-0.15	22.36	-19.65	61.31	96.52	- ...
	31	VIENTO+	-5.17	-0.43	0.69	-33.86	57.47	55.92	9.06	- ...
	32	VIENTO-	1.18	0.06	-0.12	18.97	-17.06	46.78	54.54	- ...
	41	NIEVE	0.32	0.00	-0.03	4.47	-3.93	12.26	19.31	...
	5010	SITUACION_O	12.22	0.93	-1.48	117.27	-109.08	199.38	373.40	-1 ...
	5015	C+S A T DÍA	-15.51	-7.08	4.45	194.89	348.93	452.53	-243.48	4 ...
	5016	C+S A T DÍA	16.60	7.22	-4.33	-163.75	-372.99	-413.41	202.09	-3 ...
	5017	C+S A T DÍA	-3.20	-1.26	0.54	-8.57	9.03	10.00	-1.55	...
	5020	CAPA_COMPRE	1.88	0.07	-0.18	22.33	-19.91	56.21	94.92	- ...
	5030	CM_CUBIERTA	6.46	0.23	-0.63	77.35	-68.91	197.59	331.80	-1 ...
	5035	C+S A T DÍA	14.47	1.60	-1.92	143.69	-135.19	251.48	409.79	-1 ...
	5036	C+S A T DÍA	-5.41	-0.61	0.67	-56.64	52.46	-99.92	-145.97	...
	5037	C+S A T DÍA	2.30	0.44	-0.29	14.92	-14.69	21.85	46.67	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 124.5317*,			SumGF = 124.5317		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 292.8740*,			SumGF = 173.5550		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 33.5450*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 1609.3899,			SumQI = 1609.3899*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 7.1569,			SumQI = 4.2941*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 30.3495,			SumQI = 18.2097*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1291	2107	MAX-VX	167.13	7.46	-18.60	2082.84	-1914.40	3175.79	4772.37	-11	...

Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
3188	2	AGUA	-83.60	-28.94	11.01	-1470.77	407.24	2962.65	371.42	-8	...
	21	SC_CUBIERTA	-1.51	-0.18	0.19	-25.77	6.19	62.30	28.69	-	...
	31	VIENTO+	1.41	0.71	-0.18	24.48	-7.53	-5.12	7.87		...
	32	VIENTO-	-5.03	-2.18	0.65	-86.60	25.36	73.19	-8.40	-	...
	41	NIEVE	-0.30	-0.04	0.04	-5.16	1.24	12.46	5.74	-	...
	5010	SITUACION_O	-9.99	-2.42	1.38	-163.39	42.80	264.34	92.16	-1	...
	5015	C+S A T DÍA	9.73	3.37	-1.98	94.21	9.93	557.88	-40.05	2	...
	5016	C+S A T DÍA	-10.61	-3.63	2.11	-107.54	-8.65	-521.54	26.04	-2	...
	5017	C+S A T DÍA	2.16	0.70	-0.42	24.71	-1.13	32.20	5.15		...
	5020	CAPA_COMPRE	-1.70	-0.24	0.22	-28.45	6.93	59.01	28.33	-	...
	5030	CM_CUBIERTA	-5.86	-0.80	0.76	-97.76	23.99	206.12	98.57	-1	...
	5035	C+S A T DÍA	-11.57	-3.13	1.72	-185.19	45.40	321.00	83.97	-1	...
	5036	C+S A T DÍA	4.44	1.18	-0.65	71.25	-18.40	-130.46	-29.30		...
	5037	C+S A T DÍA	-1.78	-0.49	0.27	-27.24	6.38	34.09	9.77	-	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -129.7990*,			SumGF = -129.7990		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -390.9658*,			SumGF = -231.6834		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -38.6576,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -1764.921,			SumQI = -1764.921*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -8.2482,			SumQI = -4.9489*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -138.5571*,			SumQI = -83.1343		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3188	2108	MIN-VX	-139.97	-44.92	18.53	-2429.19	663.51	4692.22	789.09	-17 ...

Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
12780	2	AGUA	16.93	10.32	45.86	-782.54	1803.10	304.77	2491.61	-3 ...
	21	SC_CUBIERTA	0.57	0.81	0.69	-12.07	16.13	10.75	157.61	- ...
	31	VIENTO+	-0.08	0.07	-0.82	7.93	-33.29	-3.24	10.39	...
	32	VIENTO-	0.60	0.08	2.85	-33.51	110.95	14.32	38.78	...
	41	NIEVE	0.11	0.16	0.14	-2.42	3.23	2.15	31.53	...
	5010	SITUACION_O	2.64	2.67	5.04	-64.73	145.20	51.25	593.15	-1 ...
	5015	C+S A T DÍA	-0.30	6.37	-4.93	-148.05	5.04	-82.48	-1220.62	2 ...
	5016	C+S A T DÍA	0.66	-5.84	5.37	124.79	6.78	64.15	1060.15	-2 ...
	5017	C+S A T DÍA	-0.43	0.58	-1.06	5.58	-2.19	8.35	-14.13	...
	5020	CAPA_COMPRE	0.61	0.80	0.79	-11.91	17.69	11.42	160.97	- ...
	5030	CM_CUBIERTA	2.11	2.85	2.68	-41.39	60.58	39.45	560.85	-1 ...
	5035	C+S A T DÍA	2.94	1.81	6.07	-80.05	180.99	46.24	558.53	-1 ...
	5036	C+S A T DÍA	-1.09	-0.62	-2.25	32.30	-66.00	-16.02	-179.19	...
	5037	C+S A T DÍA	0.42	0.08	0.88	-8.03	20.70	6.43	70.99	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 145.3145*,			SumGF = 145.3145		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 301.6868*,			SumGF = 178.7774		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 24.1895,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 2163.7188,			SumQI = 2163.7188*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 5.1616,			SumQI = 3.0970*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 177.5276*,			SumQI = 106.5166		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
12780	2109	MAX-VY	30.83	23.58	75.28	-1227.79	2791.34	555.23	5133.17	-7 ...

Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17791	2	AGUA	-6.70	-3.88	-35.92	651.19	-1811.67	286.87	2502.04	-2 ...
	21	SC_CUBIERTA	-0.22	-0.07	-0.49	9.96	-16.24	7.90	157.63	- ...
	31	VIENTO+	0.04	0.39	1.76	-17.35	85.29	-5.87	21.79	- ...
	32	VIENTO-	-0.14	0.06	-0.39	8.82	-17.84	4.73	56.13	...
	41	NIEVE	-0.04	-0.01	-0.10	1.99	-3.25	1.58	31.53	...
	5010	SITUACION_O	-0.98	-0.06	-3.85	53.31	-145.40	38.62	588.81	- ...
	5015	C+S A T DÍA	0.18	-5.33	4.51	113.57	-0.10	-33.21	-1195.75	2 ...
	5016	C+S A T DÍA	-0.24	5.36	-4.74	-95.81	-7.91	20.74	1042.82	-2 ...
	5017	C+S A T DÍA	0.10	-1.02	0.83	-4.84	2.29	7.35	-12.20	...
	5020	CAPA_COMPRE	-0.23	-0.04	-0.56	9.83	-17.50	8.26	160.08	- ...
	5030	CM_CUBIERTA	-0.81	-0.16	-1.93	34.05	-60.64	28.47	560.06	- ...
	5035	C+S A T DÍA	-1.11	0.70	-4.63	65.92	-178.90	38.06	557.28	- ...
	5036	C+S A T DÍA	0.44	-0.27	1.72	-26.43	65.90	-13.71	-180.64	...
	5037	C+S A T DÍA	-0.16	0.24	-0.69	6.63	-20.15	4.95	69.85	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -138.8610*,			SumGF = -138.8610		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -301.7839*,			SumGF = -178.8349		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -24.3633*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -2174.001,			SumQI = -2174.001*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -5.1984,			SumQI = -3.1190*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -28.5398,			SumQI = -17.1239*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 22										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
17791	2110	MIN-VY	-12.07	-5.38	-55.87	997.00	-2659.25	488.04	5371.48	-6 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13704	2	AGUA	-64.77	-40.14	-3.22	1279.21	-226.19	3405.14	-84.63	-1 ...
	21	SC_CUBIERTA	-1.04	-0.38	-0.10	4.39	18.73	72.32	-14.97	...
	31	VIENTO+	-0.99	0.03	-0.17	1.43	14.57	171.41	-11.66	...
	32	VIENTO-	-1.43	-1.75	0.10	52.99	-30.35	-143.56	13.36	...
	41	NIEVE	-0.21	-0.08	-0.02	0.88	3.75	14.47	-2.99	...
	5010	SITUACION_O	-8.01	-3.64	-0.65	93.29	53.43	299.35	-54.43	...
	5015	C+S A T DÍA	12.24	1.29	2.02	8.57	-286.64	669.00	229.15	-3 ...
	5016	C+S A T DÍA	-13.12	-1.76	-2.04	16.44	268.64	-628.36	-213.21	3 ...
	5017	C+S A T DÍA	2.52	0.42	0.35	-18.58	-23.64	37.85	25.06	- ...
	5020	CAPA_COMPRE	-1.24	-0.49	-0.12	7.37	19.41	67.15	-15.67	...
	5030	CM_CUBIERTA	-4.28	-1.62	-0.41	23.38	68.16	236.07	-54.74	...
	5035	C+S A T DÍA	-9.80	-4.08	-0.87	124.96	42.72	364.52	-54.90	...
	5036	C+S A T DÍA	3.67	1.56	0.31	-49.71	-10.65	-150.73	16.46	- ...
	5037	C+S A T DÍA	-1.61	-0.64	-0.15	19.54	7.38	36.89	-8.68	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 329.1658*,			SumGF = 329.1658		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 813.4640*,			SumGF = 482.0527		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 108.4772,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 4086.1628,			SumQI = 4086.1628*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 23.1449,			SumQI = 13.8869*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 274.2508*,			SumQI = 164.5505		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	1.60	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13704	2111	MAX-NXX	-103.87	-59.16	-6.14	1806.85	-56.35	5516.93	-297.73	...

Relevant Forces in Nodes

Group 32										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
152	2	AGUA	-0.08	0.00	-0.01	0.59	-0.10	-28.56	-0.00	...
	21	SC_CUBIERTA	-0.23	-0.01	0.00	12.62	-13.58	-314.66	-574.80	1 ...
	31	VIENTO+	-0.04	0.00	0.00	0.01	-0.02	-5.36	-0.00	...
	32	VIENTO-	0.04	0.00	0.00	-0.03	0.01	3.48	0.00	...
	41	NIEVE	-0.05	-0.00	0.00	2.52	-2.72	-62.93	-114.96	...
	5010	SITUACION_O	-0.64	-0.02	0.01	35.46	-38.13	-877.93	-1614.45	2 ...
	5015	C+S A T DÍA	-0.48	0.00	-0.01	0.45	0.27	119.34	-0.00	...
	5016	C+S A T DÍA	0.28	0.00	0.01	-0.42	-0.23	-80.20	-0.16	...
	5017	C+S A T DÍA	0.21	0.00	-0.00	0.04	-0.00	-31.87	-0.12	...
	5020	CAPA_COMPRE	-0.23	-0.01	0.00	12.62	-13.58	-314.94	-574.88	1 ...
	5030	CM_CUBIERTA	-0.79	-0.02	0.02	44.17	-47.52	-1102.19	-2011.93	3 ...
	5035	C+S A T DÍA	-0.04	0.00	-0.00	0.00	-0.03	-22.81	-0.16	...
	5036	C+S A T DÍA	0.07	0.00	0.00	-0.02	0.00	4.46	-0.20	...
	5037	C+S A T DÍA	-0.02	0.00	0.00	0.00	-0.00	-2.80	-0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -13.8765*,			SumGF = -13.8765		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -3098.328*,			SumGF = -1836.046		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -471.9911*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -34.2745,			SumQI = -34.2745*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -100.6930,			SumQI = -60.4158*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -8.5724,			SumQI = -5.1434*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 32										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
152	2112	MIN-NXX	-2.74	-0.08	0.05	146.68	-157.05	-3684.03	-6644.92	11 ...

Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3114	2	AGUA	-6.09	-29.21	38.03	-1.07	343.33	1037.35	3696.83	-15 ...
	21	SC_CUBIERTA	0.14	-0.12	-0.25	3.53	-18.77	0.93	29.07	...
	31	VIENTO+	0.22	0.25	-0.73	3.15	-17.06	-23.14	-80.70	...
	32	VIENTO-	-0.63	-1.48	2.69	-5.34	43.26	74.69	262.39	-1 ...
	41	NIEVE	0.03	-0.02	-0.05	0.71	-3.75	0.19	5.82	...
	5010	SITUACION_O	0.02	-2.05	2.16	9.09	-5.38	38.56	177.07	- ...
	5015	C+S A T DÍA	-1.70	-0.48	-1.24	-21.75	-121.16	277.10	1391.34	-3 ...
	5016	C+S A T DÍA	1.67	0.22	1.21	20.19	102.68	-273.04	-1316.84	3 ...
	5017	C+S A T DÍA	-0.29	-0.22	0.44	-4.45	4.35	52.97	161.16	- ...
	5020	CAPA_COMPRE	0.14	-0.15	-0.21	3.89	-19.12	0.50	27.22	...
	5030	CM_CUBIERTA	0.48	-0.53	-0.77	13.45	-67.15	1.18	94.33	...
	5035	C+S A T DÍA	0.07	-2.47	2.72	11.18	-0.78	36.08	166.51	- ...
	5036	C+S A T DÍA	0.01	0.95	-0.99	-4.04	2.77	-18.91	-85.59	...
	5037	C+S A T DÍA	0.02	-0.32	0.34	1.95	-0.26	2.01	7.37	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 323.9346*,			SumGF = 323.9346		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 403.1350*,			SumGF = 238.8948		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 43.6046,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 4436.1929,			SumQI = 4436.1929*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 9.3044,			SumQI = 5.5827*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 419.8210*,			SumQI = 251.8926		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3114	2113	MAX-NYY	-7.64	-43.46	53.97	29.61	341.48	1495.02	5588.67	-21 ...

Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
150	2	AGUA	-0.07	0.00	0.01	-0.61	-0.10	-28.15	0.01	...
	21	SC_CUBIERTA	-0.23	-0.02	-0.00	-14.79	-15.28	-296.18	-656.33	- ...
	31	VIENTO+	0.00	0.00	0.00	0.01	0.00	-1.88	0.00	...
	32	VIENTO-	-0.02	0.00	0.00	-0.00	-0.00	-0.92	0.00	...
	41	NIEVE	-0.05	-0.00	0.00	-2.96	-3.06	-59.24	-131.27	...
	5010	SITUACION_O	-0.64	-0.05	-0.00	-41.56	-42.91	-826.03	-1843.47	-1 ...
	5015	C+S A T DÍA	-0.41	0.00	0.01	-0.37	0.18	118.86	-0.12	...
	5016	C+S A T DÍA	0.22	0.00	-0.01	0.34	-0.15	-79.64	-0.06	...
	5017	C+S A T DÍA	0.21	0.00	0.00	-0.03	-0.01	-32.04	-0.11	...
	5020	CAPA_COMPRE	-0.23	-0.02	-0.00	-14.79	-15.28	-296.45	-656.42	- ...
	5030	CM_CUBIERTA	-0.80	-0.06	-0.00	-51.78	-53.48	-1037.48	-2297.30	-1 ...
	5035	C+S A T DÍA	-0.04	0.00	0.00	0.00	-0.03	-22.73	-0.16	...
	5036	C+S A T DÍA	0.07	0.00	-0.00	0.02	0.00	4.45	-0.21	...
	5037	C+S A T DÍA	-0.02	0.00	0.00	-0.00	-0.00	-2.77	-0.00	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.6699*,			SumGF = -0.6699		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -6476.203*,			SumGF = -3837.750		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -984.4984*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = -210.0263,			SumQI = -126.0158*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -0.0002,			SumQI = -0.0001*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 34										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
150	2114	MIN-NYY	-2.62	-0.20	-0.01	-171.04	-176.62	-3432.78	-7587.39	-4 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13436	2	AGUA	20.09	-6.83	-14.13	-674.31	-261.87	371.40	604.13	20 ...
	21	SC_CUBIERTA	0.53	0.50	-0.19	-6.17	25.51	-8.20	-35.42	...
	31	VIENTO+	0.12	1.68	0.10	16.42	53.05	-2.19	-8.55	...
	32	VIENTO-	-0.77	-0.49	0.49	16.79	-12.31	-9.57	-12.78	- ...
	41	NIEVE	0.11	0.10	-0.04	-1.23	5.10	-1.64	-7.08	...
	5010	SITUACION_O	3.21	1.53	-1.66	-59.15	69.78	-19.42	-103.60	1 ...
	5015	C+S A T DÍA	-7.64	-6.83	2.39	37.57	-315.29	232.45	770.66	2 ...
	5016	C+S A T DÍA	7.44	6.65	-2.65	-38.11	291.46	-238.85	-728.35	-2 ...
	5017	C+S A T DÍA	-0.94	-1.05	0.60	7.05	-27.57	49.97	80.90	...
	5020	CAPA_COMPRE	0.59	0.53	-0.23	-7.54	26.07	-9.23	-37.94	...
	5030	CM_CUBIERTA	2.03	1.82	-0.79	-25.37	91.22	-31.97	-132.92	1 ...
	5035	C+S A T DÍA	3.74	1.86	-2.17	-71.70	61.16	-21.69	-76.22	2 ...
	5036	C+S A T DÍA	-1.32	-0.60	0.84	27.90	-16.51	0.16	14.04	- ...
	5037	C+S A T DÍA	0.59	0.34	-0.36	-10.56	10.21	-1.40	-15.90	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 186.9233*,			SumGF = 186.9233		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 415.3506*,			SumGF = 246.1337		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 47.2663*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 2445.3198,			SumQI = 2445.3198*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 10.0845,			SumQI = 6.0507*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 63.5305,			SumQI = 38.1183*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13436	2115	MAX-NXY	34.87	-0.12	-22.13	-975.98	35.86	368.52	331.44	31 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	2	AGUA	16.78	-6.79	16.36	643.04	-320.64	117.00	491.99	-21 ...
	21	SC_CUBIERTA	0.56	0.49	0.25	4.48	26.16	-12.66	-38.05	- ...
	31	VIENTO+	0.65	0.99	0.36	4.27	29.21	-2.68	2.07	- ...
	32	VIENTO-	-0.23	-1.70	0.19	20.58	-57.13	6.79	11.13	...
	41	NIEVE	0.11	0.10	0.05	0.90	5.23	-2.53	-7.61	...
	5010	SITUACION_O	3.12	1.56	1.99	51.35	69.73	-43.64	-117.89	-1 ...
	5015	C+S A T DÍA	-8.36	-7.38	-2.72	-15.51	-338.14	217.19	784.23	-2 ...
	5016	C+S A T DÍA	8.11	7.18	2.98	18.63	310.00	-222.86	-739.57	2 ...
	5017	C+S A T DÍA	-1.06	-1.15	-0.63	-5.36	-29.64	47.68	83.11	- ...
	5020	CAPA_COMPRE	0.63	0.51	0.30	5.85	26.53	-13.77	-40.70	- ...
	5030	CM_CUBIERTA	2.12	1.78	1.03	19.20	93.33	-47.83	-142.67	-1 ...
	5035	C+S A T DÍA	3.69	1.93	2.54	65.58	58.42	-49.15	-90.85	-2 ...
	5036	C+S A T DÍA	-1.28	-0.66	-0.97	-25.28	-15.86	10.94	19.50	...
	5037	C+S A T DÍA	0.59	0.35	0.42	9.90	9.56	-4.93	-17.87	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -197.5976*,			SumGF = -197.5976		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -442.6621*,			SumGF = -262.3183		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -50.1835*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -2573.189,			SumQI = -2573.189*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -10.7075,			SumQI = -6.4245*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -111.9404,			SumQI = -67.1643*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	2116	MIN-NXY	31.32	-0.89	26.49	934.43	-62.18	-26.79	159.82	-33 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3188	2	AGUA	-83.60	-28.94	11.01	-1470.77	407.24	2962.65	371.42	-8 ...
	21	SC_CUBIERTA	-1.51	-0.18	0.19	-25.77	6.19	62.30	28.69	- ...
	31	VIENTO+	1.41	0.71	-0.18	24.48	-7.53	-5.12	7.87	...
	32	VIENTO-	-5.03	-2.18	0.65	-86.60	25.36	73.19	-8.40	- ...
	41	NIEVE	-0.30	-0.04	0.04	-5.16	1.24	12.46	5.74	- ...
	5010	SITUACION_O	-9.99	-2.42	1.38	-163.39	42.80	264.34	92.16	-1 ...
	5015	C+S A T DÍA	9.73	3.37	-1.98	94.21	9.93	557.88	-40.05	2 ...
	5016	C+S A T DÍA	-10.61	-3.63	2.11	-107.54	-8.65	-521.54	26.04	-2 ...
	5017	C+S A T DÍA	2.16	0.70	-0.42	24.71	-1.13	32.20	5.15	...
	5020	CAPA_COMPRE	-1.70	-0.24	0.22	-28.45	6.93	59.01	28.33	- ...
	5030	CM_CUBIERTA	-5.86	-0.80	0.76	-97.76	23.99	206.12	98.57	-1 ...
	5035	C+S A T DÍA	-11.57	-3.13	1.72	-185.19	45.40	321.00	83.97	-1 ...
	5036	C+S A T DÍA	4.44	1.18	-0.65	71.25	-18.40	-130.46	-29.30	...
	5037	C+S A T DÍA	-1.78	-0.49	0.27	-27.24	6.38	34.09	9.77	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 11965.590*,			SumGF = 11965.590		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 34561.035*,			SumGF = 20480.613		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 3639.2893,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 153385.55,			SumQI = 153385.55*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 776.4931,			SumQI = 465.8959*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 10069.647*,			SumQI = 6041.7886		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3188	2171	MAX-SXO	-139.97	-44.92	18.53	-2429.19	663.51	4692.22	789.09	-17 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3083	2	AGUA	32.04	-14.93	3.87	390.35	383.12	-32.58	265.33	-6 ...
	21	SC_CUBIERTA	0.40	-0.03	-0.07	10.84	6.38	-2.23	-12.70	- ...
	31	VIENTO+	0.15	-0.02	-0.18	18.97	10.74	2.13	13.29	- ...
	32	VIENTO-	1.19	-0.50	0.43	-13.98	-2.07	-4.45	-13.22	...
	41	NIEVE	0.08	-0.01	-0.01	2.17	1.28	-0.45	-2.54	...
	5010	SITUACION_O	3.53	-0.49	-0.08	49.43	33.42	-8.26	-43.01	- ...
	5015	C+S A T DÍA	-5.48	-6.62	2.24	-20.19	45.30	-1.49	526.62	1 ...
	5016	C+S A T DÍA	5.80	6.29	-2.06	26.76	-42.11	-20.47	-537.70	- ...
	5017	C+S A T DÍA	-1.00	-0.90	0.25	-8.64	3.97	31.22	112.82	- ...
	5020	CAPA_COMPRE	0.49	-0.02	-0.07	11.04	6.09	-2.31	-14.28	- ...
	5030	CM_CUBIERTA	1.68	-0.13	-0.23	38.34	21.96	-8.03	-50.31	- ...
	5035	C+S A T DÍA	4.24	-0.18	-0.18	58.90	37.22	-19.36	-61.66	- ...
	5036	C+S A T DÍA	-1.55	0.19	0.03	-22.01	-15.83	3.63	13.00	...
	5037	C+S A T DÍA	0.67	-0.00	-0.03	7.99	4.94	1.15	-12.01	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2929.212*,			SumGF = -2929.212		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -8545.885*,			SumGF = -5064.228		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -691.7017,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -41535.16,			SumQI = -41535.16*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -147.5891,			SumQI = -88.5535*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -2130.450*,			SumQI = -1278.270		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3083	2172	MIN-SXO	50.81	-20.81	5.04	624.34	574.15	-77.05	190.61	-11 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3405	2	AGUA	2.59	-34.78	-37.93	43.42	-183.06	740.81	2890.24	10 ...
	21	SC_CUBIERTA	-0.12	-0.66	-0.80	0.43	-3.19	18.83	95.73	...
	31	VIENTO+	-0.49	1.48	1.46	-3.82	4.57	-15.70	-42.23	- ...
	32	VIENTO-	-0.07	-0.44	-0.54	0.12	-3.79	11.62	50.15	...
	41	NIEVE	-0.02	-0.13	-0.16	0.09	-0.64	3.77	19.15	...
	5010	SITUACION_O	-0.07	-4.27	-5.03	5.30	-24.57	88.27	415.83	1 ...
	5015	C+S A T DÍA	-0.84	4.36	6.75	-20.18	83.23	-32.39	-160.65	...
	5016	C+S A T DÍA	0.81	-4.72	-7.16	17.44	-85.22	28.47	188.43	- ...
	5017	C+S A T DÍA	-0.02	0.99	1.43	-1.97	16.00	1.11	-74.64	...
	5020	CAPA_COMPRE	-0.11	-0.77	-0.89	0.84	-4.34	19.17	97.75	...
	5030	CM_CUBIERTA	-0.39	-2.59	-3.10	2.24	-13.37	66.84	340.68	...
	5035	C+S A T DÍA	-0.08	-4.93	-5.98	5.90	-39.44	93.90	455.89	1 ...
	5036	C+S A T DÍA	0.06	1.84	2.27	-1.62	12.30	-38.04	-174.48	- ...
	5037	C+S A T DÍA	-0.01	-0.79	-0.95	1.20	-7.09	14.74	62.64	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 7431.6699*,			SumGF = 7431.6699		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 26363.566*,			SumGF = 15622.854		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 2974.5820*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 90768.492,			SumQI = 90768.492*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 634.6196,			SumQI = 380.7717*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 1813.1010,			SumQI = 1087.8606*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3405	2173	MAX-SYO	1.97	-56.83	-63.21	65.02	-306.00	1235.05	5128.87	17 ...

Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1291	2	AGUA	16.17	18.59	38.06	586.85	-289.24	143.80	-1167.22	-17 ...
	21	SC_CUBIERTA	0.47	1.00	0.61	3.73	26.18	-13.38	-102.33	- ...
	31	VIENTO+	-0.50	0.10	-1.73	-31.02	42.08	-7.95	11.38	...
	32	VIENTO-	0.26	0.52	0.47	5.44	4.51	0.36	-23.48	- ...
	41	NIEVE	0.09	0.20	0.12	0.75	5.24	-2.68	-20.47	...
	5010	SITUACION_O	2.74	4.78	4.57	45.88	70.90	-44.67	-396.43	-1 ...
	5015	C+S A T DÍA	-7.26	-11.09	-6.52	-14.23	-325.41	227.10	1110.04	-3 ...
	5016	C+S A T DÍA	7.01	11.01	6.84	16.90	300.35	-231.72	-1026.32	3 ...
	5017	C+S A T DÍA	-0.91	-1.79	-1.24	-4.86	-29.01	47.28	81.09	- ...
	5020	CAPA_COMPRE	0.53	1.09	0.73	5.16	26.32	-14.44	-107.12	- ...
	5030	CM_CUBIERTA	1.79	3.76	2.46	16.38	93.30	-50.37	-374.74	- ...
	5035	C+S A T DÍA	3.28	5.62	5.53	58.36	61.41	-48.75	-362.27	-1 ...
	5036	C+S A T DÍA	-1.15	-2.03	-2.05	-22.22	-17.72	10.48	115.85	...
	5037	C+S A T DÍA	0.52	0.92	0.89	8.86	9.82	-4.70	-54.06	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4636.919*,			SumGF = -4636.919		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -29680.19*,			SumGF = -17588.26		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -3644.028*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -42465.91,			SumQI = -42465.91*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -777.4232,			SumQI = -466.4539*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -1387.171,			SumQI = -832.3028*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
1291	2174	MIN-SYO	28.78	40.15	61.07	849.57	-41.82	2.16	-2917.70	-25 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11 ...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60	...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74	...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	- ...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12	...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1 ...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69	...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	- ...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13	...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62	...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99	...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1 ...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	- ...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 5824.4414*,			SumGF = 5824.4414		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 18311.777*,			SumGF = 10851.424		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 1845.0444*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 73849.586,			SumQI = 73849.586*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 393.6657,			SumQI = 236.1994*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 2446.8264,			SumQI = 1468.0958*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13962	2175	MAXSXYO	3.17	15.61	-71.38	58.82	-272.35	1257.73	2856.85	19 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
3188	2	AGUA	13.80	2.23	41.52	-699.24	752.29	148.42	1099.87	-17 ...
	21	SC_CUBIERTA	-0.09	0.19	0.61	-12.65	13.27	15.92	85.53	- ...
	31	VIENTO+	-0.49	0.01	-0.82	9.47	-15.35	1.48	10.49	...
	32	VIENTO-	1.34	0.08	2.74	-36.52	50.33	0.84	4.97	- ...
	41	NIEVE	-0.02	0.04	0.12	-2.53	2.65	3.18	17.11	- ...
	5010	SITUACION_O	0.68	0.94	4.54	-76.57	87.72	55.55	306.26	-2 ...
	5015	C+S A T DÍA	-0.31	-3.21	-4.20	29.40	-45.34	-189.05	-494.38	...
	5016	C+S A T DÍA	0.58	3.32	4.71	-33.69	51.98	148.97	435.93	- ...
	5017	C+S A T DÍA	-0.26	-0.71	-1.05	14.62	-8.66	19.20	-20.03	...
	5020	CAPA_COMPRE	-0.06	0.22	0.70	-13.70	14.98	16.31	87.16	- ...
	5030	CM_CUBIERTA	-0.21	0.74	2.41	-47.01	51.63	56.97	303.40	-1 ...
	5035	C+S A T DÍA	0.92	1.22	5.29	-90.80	91.41	36.71	279.88	-2 ...
	5036	C+S A T DÍA	-0.37	-0.44	-2.05	35.66	-35.50	-12.70	-93.47	...
	5037	C+S A T DÍA	0.14	0.22	0.81	-13.55	13.47	8.55	37.24	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -6113.215*,			SumGF = -6113.215		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -19198.85*,			SumGF = -11377.10		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -1992.417,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -81352.95,			SumQI = -81352.95*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -425.1071,			SumQI = -255.0643*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -5904.334*,			SumQI = -3542.601		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3188	2176	MINSXYO	19.93	5.83	68.18	-1143.62	1261.53	368.11	2430.11	-30 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3083	2	AGUA	31.16	-4.77	0.40	388.11	-84.65	204.73	948.04	9 ...
	21	SC_CUBIERTA	0.30	-0.60	-0.14	6.01	-11.05	14.00	50.67	...
	31	VIENTO+	-0.00	-1.27	-0.28	14.41	-28.40	14.40	49.86	...
	32	VIENTO-	1.38	1.77	0.42	-7.08	42.18	-13.18	-39.07	...
	41	NIEVE	0.06	-0.12	-0.03	1.20	-2.21	2.80	10.14	...
	5010	SITUACION_O	3.11	-2.01	-0.53	34.47	-27.92	55.92	200.14	...
	5015	C+S A T DÍA	-4.33	3.94	2.85	25.45	-31.13	-155.11	-206.64	2 ...
	5016	C+S A T DÍA	4.66	-3.54	-2.74	-19.27	38.28	133.99	221.61	-2 ...
	5017	C+S A T DÍA	-0.79	0.46	0.44	-0.13	-10.25	-0.30	-69.92	...
	5020	CAPA_COMPRE	0.38	-0.60	-0.15	6.08	-10.39	14.56	51.83	...
	5030	CM_CUBIERTA	1.30	-2.06	-0.51	21.00	-35.95	50.98	181.38	...
	5035	C+S A T DÍA	3.76	-2.32	-0.75	44.58	-26.98	47.41	201.66	...
	5036	C+S A T DÍA	-1.38	0.87	0.26	-17.32	10.95	-20.36	-80.55	- ...
	5037	C+S A T DÍA	0.59	-0.37	-0.13	5.58	-3.04	12.40	35.17	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2916.7808*,			SumGF = 2916.7808		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 9103.7979*,			SumGF = 5394.8428		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 760.7488,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 43161.527,			SumQI = 43161.527*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 162.3206,			SumQI = 97.3924*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 2065.7083*,			SumQI = 1239.4249		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3083	2177	MAX-SXU	48.65	-10.27	-0.56	577.55	-158.63	409.29	1771.22	13 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3138	2	AGUA	-186.66	-26.36	-84.56	-182.05	296.74	-369.65	-32.10	- ...
	21	SC_CUBIERTA	-4.24	-0.83	-2.15	0.46	8.12	-12.88	-46.27	- ...
	31	VIENTO+	2.41	0.00	0.95	3.21	-5.57	-0.82	-5.76	...
	32	VIENTO-	-9.85	-0.61	-4.16	-10.85	19.76	-7.02	7.82	...
	41	NIEVE	-0.85	-0.17	-0.43	0.09	1.62	-2.58	-9.26	...
	5010	SITUACION_O	-25.36	-3.57	-12.03	-7.59	49.49	-63.49	-161.39	- ...
	5015	C+S A T DÍA	27.60	-8.78	9.73	-42.34	-132.68	-365.47	901.39	1 ...
	5016	C+S A T DÍA	-29.07	8.56	-10.41	43.03	137.13	317.31	-828.77	-1 ...
	5017	C+S A T DÍA	4.88	-1.47	1.74	-9.29	-25.35	2.97	67.85	...
	5020	CAPA_COMPRE	-4.76	-0.89	-2.38	0.17	8.96	-14.04	-49.29	- ...
	5030	CM_CUBIERTA	-16.35	-3.00	-8.19	1.90	32.54	-45.71	-170.66	- ...
	5035	C+S A T DÍA	-29.26	-2.88	-13.30	-10.66	58.90	-56.12	-145.90	- ...
	5036	C+S A T DÍA	10.94	1.23	5.04	4.08	-22.26	28.06	34.19	...
	5037	C+S A T DÍA	-4.43	-0.25	-1.95	-0.94	10.02	-5.76	-22.93	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -6488.020*,			SumGF = -6488.020		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -20409.15*,			SumGF = -12094.31		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -2088.828*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -71814.58,			SumQI = -71814.58*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -445.6764,			SumQI = -267.4058*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -4911.267,			SumQI = -2946.760*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
3138	2178	MIN-SXU	-322.68	-47.30	-148.74	-251.66	537.38	-717.51	-618.30	-2 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11 ...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60	...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74	...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	- ...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12	...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1 ...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69	...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	- ...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13	...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62	...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99	...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1 ...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	- ...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 3201.0674*,			SumGF = 3201.0674		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 12843.975*,			SumGF = 7611.2441		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 1503.3809*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 35698.371,			SumQI = 35698.371*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 320.7562,			SumQI = 192.4537*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 2086.4929,			SumQI = 1251.8959*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	2179	MAX-SYU	3.17	15.61	-71.38	58.82	-272.35	1257.73	2856.85	19	...

Relevant Forces in Nodes

Group 31											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
73740	2	AGUA	-30.45	-42.27	19.53	1285.56	-270.52	1358.85	-1026.46	-3	...
	21	SC_CUBIERTA	-0.38	-0.50	0.32	4.44	18.62	22.69	-75.93		...
	31	VIENTO+	1.71	2.46	-0.91	-74.43	26.74	-25.49	34.38		...
	32	VIENTO-	-0.29	-0.28	0.26	10.87	1.20	21.33	-15.20		...
	41	NIEVE	-0.08	-0.10	0.06	0.89	3.72	4.54	-15.19		...
	5010	SITUACION_O	-3.28	-3.80	2.52	93.62	50.66	116.25	-311.80		...
	5015	C+S A T DÍA	4.12	-0.76	-4.32	8.78	-291.03	190.91	910.31	-4	...
	5016	C+S A T DÍA	-4.44	0.40	4.60	14.51	272.55	-175.22	-846.32	4	...
	5017	C+S A T DÍA	0.84	-0.16	-0.91	-18.51	-23.21	13.22	68.29	-	...
	5020	CAPA_COMPRE	-0.48	-0.61	0.38	7.68	19.15	22.30	-80.75		...
	5030	CM_CUBIERTA	-1.62	-2.03	1.33	23.65	67.61	77.35	-281.84		...
	5035	C+S A T DÍA	-3.86	-3.65	3.15	123.66	39.75	139.92	-282.77		...
	5036	C+S A T DÍA	1.43	1.36	-1.18	-48.78	-9.62	-57.61	89.80		...
	5037	C+S A T DÍA	-0.63	-0.53	0.52	19.35	6.92	16.69	-43.58		...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -4938.997*,			SumGF = -4938.997		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -21361.58*,			SumGF = -12658.71		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -2310.588*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -70349.15,			SumQI = -70349.15*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -492.9521,			SumQI = -295.7712*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -807.6162,			SumQI = -484.5697*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 31										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
73740	2180	MIN-SYU	-47.25	-63.86	31.81	1828.32	-111.08	2108.87	-2389.51	-2 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
13962	2	AGUA	-6.62	7.76	43.38	34.85	332.77	1128.01	848.25	-13 ...
	21	SC_CUBIERTA	-0.21	0.65	0.69	-3.80	31.38	3.51	-52.11	- ...
	31	VIENTO+	-0.42	1.09	0.70	-6.88	36.50	28.42	-10.20	- ...
	32	VIENTO-	0.36	-1.23	0.83	12.29	-39.08	-1.99	42.25	...
	41	NIEVE	-0.04	0.13	0.14	-0.76	6.28	0.70	-10.42	...
	5010	SITUACION_O	-0.91	2.98	5.00	-8.11	132.01	45.94	-155.56	- ...
	5015	C+S A T DÍA	-0.70	-8.07	-5.36	2.70	-338.81	303.92	1058.95	-2 ...
	5016	C+S A T DÍA	0.50	8.07	5.88	-5.84	327.60	-292.68	-996.59	2 ...
	5017	C+S A T DÍA	0.08	-1.41	-1.16	0.97	-45.69	42.13	110.98	- ...
	5020	CAPA_COMPRE	-0.22	0.71	0.80	-3.54	33.77	2.48	-55.61	- ...
	5030	CM_CUBIERTA	-0.76	2.46	2.75	-12.75	117.36	8.55	-195.01	- ...
	5035	C+S A T DÍA	-1.04	3.61	5.97	-6.45	137.80	64.49	-120.30	-1 ...
	5036	C+S A T DÍA	0.44	-1.30	-2.26	2.38	-47.84	-32.96	26.75	...
	5037	C+S A T DÍA	-0.16	0.61	0.95	-0.66	22.61	7.84	-24.91	- ...

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2726.7935*,			SumGF = 2726.7935		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 9834.6279*,			SumGF = 5827.9277		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 844.3398*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 33916.699,			SumQI = 33916.699*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 180.1521,			SumQI = 108.0913*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 1550.0957,			SumQI = 930.0574*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13962	2181	MAXSXYU	-11.38	19.04	69.56	7.32	852.80	1527.30	476.83	-19 ...

Relevant Forces in Nodes

Group 33										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[...
13962	2	AGUA	3.70	8.43	-43.17	40.33	-161.97	750.59	1558.21	11 ...
	21	SC_CUBIERTA	-0.12	0.25	-0.84	0.44	-2.68	18.53	55.60	...
	31	VIENTO+	-0.42	0.39	-0.91	-1.09	-8.09	26.94	66.74	...
	32	VIENTO-	0.81	-0.17	-0.53	3.56	4.21	-12.05	-41.34	- ...
	41	NIEVE	-0.02	0.05	-0.17	0.09	-0.54	3.71	11.12	...
	5010	SITUACION_O	0.01	1.52	-5.53	4.85	-22.12	87.62	239.11	1 ...
	5015	C+S A T DÍA	-1.11	-3.84	7.54	-17.50	84.08	-27.75	-102.69	...
	5016	C+S A T DÍA	1.06	3.95	-8.02	14.80	-85.46	23.06	117.03	- ...
	5017	C+S A T DÍA	-0.04	-0.70	1.55	-1.33	15.98	2.65	-44.13	...
	5020	CAPA_COMPRE	-0.10	0.27	-0.95	0.65	-3.25	18.73	56.62	...
	5030	CM_CUBIERTA	-0.37	0.97	-3.29	2.13	-11.21	65.52	197.99	...
	5035	C+S A T DÍA	0.02	1.97	-6.60	5.05	-36.66	93.18	254.22	1 ...
	5036	C+S A T DÍA	0.03	-0.73	2.48	-1.60	12.16	-38.04	-97.23	- ...
	5037	C+S A T DÍA	0.01	0.33	-1.06	1.01	-6.42	14.69	35.14	...

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2912.788*,			SumGF = -2912.788		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -9767.841*,			SumGF = -5788.350		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -840.0604*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -36528.04,			SumQI = -36528.04*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -179.2411,			SumQI = -107.5447*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -1326.941,			SumQI = -796.1649*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Forces in Nodes

Group 33											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
13962	2182	MINSXYU	4.35	15.07	-71.02	63.29	-260.54	1220.31	2753.09	18	...

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3153	2	AGUA	234.5	-53.5	13.4	0.00	0.00	0.00
	21	SC_CUBIERTA	10.7	-2.5	-1.5	0.00	0.00	0.00
	31	VIENTO+	-5.0	-0.5	-0.2	0.00	0.00	0.00
	32	VIENTO-	18.9	-0.5	0.4	0.00	0.00	0.00
	41	NIEVE	2.1	-0.5	-0.3	0.00	0.00	0.00
	5010	SITUACION_O	0.9	5.5	-2.0	0.00	0.00	0.00
	5015	C+S A T DÍA	-27.5	37.6	3.3	0.00	0.00	0.00
	5016	C+S A T DÍA	20.1	-20.8	-2.3	0.00	0.00	0.00
	5017	C+S A T DÍA	8.8	-18.3	-0.5	0.00	0.00	0.00
	5020	CAPA_COMPRE	0.8	-0.1	-1.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	2.7	-0.2	-4.5	0.00	0.00	0.00
	5035	C+S A T DÍA	3.1	4.6	2.6	0.00	0.00	0.00
	5036	C+S A T DÍA	-0.8	-2.0	-0.8	0.00	0.00	0.00
	5037	C+S A T DÍA	2.1	-1.7	-0.1	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU =	5.7631*,		SumGF =	5.7631	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	5.8630*,		SumGF =	3.4744	
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 =	16.0588*,		SumQI =	0.0000	
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 =	281.3798,		SumQI =	281.3798*	
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 =	3.4264,		SumQI =	2.0558*	
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 =	30.2020,		SumQI =	18.1212*	
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3153	2151	MAX-PX	329.2	-62.5	5.6	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3148	2	AGUA	-228.0	109.7	-30.6	0.00	0.00	0.00
	21	SC_CUBIERTA	-10.2	1.3	-3.1	0.00	0.00	0.00
	31	VIENTO+	4.2	-0.2	1.8	0.00	0.00	0.00
	32	VIENTO-	-17.3	2.2	-5.4	0.00	0.00	0.00
	41	NIEVE	-2.0	0.3	-0.6	0.00	0.00	0.00
	5010	SITUACION_O	-5.3	-5.4	-13.0	0.00	0.00	0.00
	5015	C+S A T DÍA	-35.1	-21.0	3.1	0.00	0.00	0.00
	5016	C+S A T DÍA	32.8	20.1	-3.3	0.00	0.00	0.00
	5017	C+S A T DÍA	3.5	5.8	2.3	0.00	0.00	0.00
	5020	CAPA_COMPRE	-0.9	-1.3	-2.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	-3.0	-4.7	-8.1	0.00	0.00	0.00
	5035	C+S A T DÍA	-11.2	-10.9	-6.6	0.00	0.00	0.00
	5036	C+S A T DÍA	4.8	4.4	2.5	0.00	0.00	0.00
	5037	C+S A T DÍA	-0.7	-0.4	-0.8	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -5.7442*,			SumGF = -5.7442		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -12.3952*,			SumGF = -7.3453		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -15.3207*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -273.6364,			SumQI = -273.6364*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -3.2689,			SumQI = -1.9614*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -27.6036,			SumQI = -16.5621*		
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3148	2152	MIN-PX	-325.6	118.6	-81.6	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1062	2	AGUA	106.7	226.0	-33.3	0.00	0.00	0.00
	21	SC_CUBIERTA	0.2	4.6	-1.2	0.00	0.00	0.00
	31	VIENTO+	-1.9	16.3	-6.2	0.00	0.00	0.00
	32	VIENTO-	6.0	-8.5	6.7	0.00	0.00	0.00
	41	NIEVE	0.0	0.9	-0.2	0.00	0.00	0.00
	5010	SITUACION_O	-0.6	3.6	-7.1	0.00	0.00	0.00
	5015	C+S A T DÍA	-27.9	38.7	-2.9	0.00	0.00	0.00
	5016	C+S A T DÍA	26.5	-35.5	3.5	0.00	0.00	0.00
	5017	C+S A T DÍA	6.4	-4.1	-0.7	0.00	0.00	0.00
	5020	CAPA_COMPRE	0.6	0.1	-0.2	0.00	0.00	0.00
	5030	CM_CUBIERTA	2.1	0.5	-0.6	0.00	0.00	0.00
	5035	C+S A T DÍA	-6.6	9.0	-0.1	0.00	0.00	0.00
	5036	C+S A T DÍA	2.8	-4.1	-0.2	0.00	0.00	0.00
	5037	C+S A T DÍA	0.4	0.3	0.2	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = 4.3200*,			SumGF = 4.3200		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 5.6936*,			SumGF = 3.3740		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 6.8839,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 271.2444,			SumQI = 271.2444*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = 1.4690,			SumQI = 0.8814*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 26.0019*,			SumQI = 15.6011		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	1.60	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1062	2153	MAX-PY	129.3	308.1	-61.0	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1065	2	AGUA	-48.4	-231.8	20.0	0.00	0.00	0.00
	21	SC_CUBIERTA	1.4	-3.9	0.9	0.00	0.00	0.00
	31	VIENTO+	3.9	-17.2	0.8	0.00	0.00	0.00
	32	VIENTO-	-7.7	10.6	-0.2	0.00	0.00	0.00
	41	NIEVE	0.3	-0.8	0.2	0.00	0.00	0.00
	5010	SITUACION_O	10.9	3.6	5.8	0.00	0.00	0.00
	5015	C+S A T DÍA	35.3	20.9	-4.7	0.00	0.00	0.00
	5016	C+S A T DÍA	-14.9	-13.3	6.8	0.00	0.00	0.00
	5017	C+S A T DÍA	-21.7	-9.5	-3.4	0.00	0.00	0.00
	5020	CAPA_COMPRE	1.8	1.0	1.7	0.00	0.00	0.00
	5030	CM_CUBIERTA	6.3	3.4	5.8	0.00	0.00	0.00
	5035	C+S A T DÍA	9.4	1.3	12.1	0.00	0.00	0.00
	5036	C+S A T DÍA	-3.9	-0.8	-4.6	0.00	0.00	0.00
	5037	C+S A T DÍA	-1.1	-1.3	1.3	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU = -2.7030*,			SumGF = -2.7030		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = 10.6141,			SumGF = 6.2899*		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -5.8769,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -278.1703,			SumQI = -278.1703*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -1.2542,			SumQI = -0.7525*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -27.4963*,			SumQI = -16.4978		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	1.60	-	0.96	0.80	1.00	1.00	1.00	0.80	0.80	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1065	2154	MIN-PY	-33.2	-302.8	43.7	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1279	2	AGUA	-162.9	-0.3	48.7	0.00	0.00	0.00
	21	SC_CUBIERTA	-1.9	-0.0	1.0	0.00	0.00	0.00
	31	VIENTO+	10.0	0.0	-2.9	0.00	0.00	0.00
	32	VIENTO-	0.1	0.0	-0.1	0.00	0.00	0.00
	41	NIEVE	-0.4	0.0	0.2	0.00	0.00	0.00
	5010	SITUACION_O	-1.5	0.0	1.7	0.00	0.00	0.00
	5015	C+S A T DÍA	6.7	0.0	-26.6	0.00	0.00	0.00
	5016	C+S A T DÍA	-10.8	-0.0	18.8	0.00	0.00	0.00
	5017	C+S A T DÍA	-3.6	-0.0	5.7	0.00	0.00	0.00
	5020	CAPA_COMPRE	-0.6	0.0	1.0	0.00	0.00	0.00
	5030	CM_CUBIERTA	-2.2	0.0	3.4	0.00	0.00	0.00
	5035	C+S A T DÍA	0.2	0.0	-0.3	0.00	0.00	0.00
	5036	C+S A T DÍA	-0.7	0.0	0.8	0.00	0.00	0.00
	5037	C+S A T DÍA	-0.1	0.0	0.1	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	C: SumGU =	-1.4193*,		SumGF =	-1.4193	
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU =	8.3394*,		SumGF =	4.9419	
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 =	1.5164*,		SumQI =	0.0000	
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 =	58.3911,		SumQI =	58.3911*	
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 =	0.3235,		SumQI =	0.1941*	
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1279	2155	MAX-PZ	-212.7	-0.4	67.0	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3595	2	AGUA	85.0	0.1	-75.5	-0.02	9.17	0.03
	21	SC_CUBIERTA	1.2	0.0	-1.3	-0.00	0.11	0.00
	31	VIENTO+	-5.3	0.0	4.8	0.00	-0.53	-0.00
	32	VIENTO-	-0.1	-0.0	0.1	0.00	-0.00	0.00
	41	NIEVE	0.2	0.0	-0.3	0.00	0.02	0.00
	5010	SITUACION_O	2.3	0.0	-2.5	0.00	-0.03	0.00
	5015	C+S A T DÍA	-7.7	0.0	35.0	0.00	-0.95	-0.00
	5016	C+S A T DÍA	19.5	-0.0	-17.9	-0.01	0.27	0.01
	5017	C+S A T DÍA	2.2	0.0	-6.5	0.00	0.43	0.00
	5020	CAPA_COMPRE	1.0	0.0	-1.3	0.00	0.00	0.00
	5030	CM_CUBIERTA	3.4	0.0	-4.4	-0.00	0.02	0.00
	5035	C+S A T DÍA	1.7	0.0	0.0	0.00	-0.23	0.00
	5036	C+S A T DÍA	0.1	0.0	-0.7	0.00	0.12	0.00
	5037	C+S A T DÍA	0.3	0.0	-0.1	0.00	-0.02	0.00

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Determination of Sums and Leading Variable Action

Act	C: SumGU = 9.8041*,			SumGF = 9.8041		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -10.9521*,			SumGF = -6.4902		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -1.9844*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -90.5923,			SumQI = -90.5923*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -0.4234,			SumQI = -0.2540*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
3595	2156	MIN-PZ	129.1	0.1	-94.0	-0.03	10.80	0.04

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
18135	2	AGUA	9.043	-0.014	-1.910	-0.013	2.077	-0.114
	21	SC_CUBIERTA	-0.003	-0.004	-0.045	0.001	-0.006	0.012
	31	VIENTO+	-0.323	-0.038	0.024	0.001	-0.086	-0.007
	32	VIENTO-	0.936	0.047	-0.064	-0.001	0.231	0.004
	41	NIEVE	-0.001	-0.001	-0.009	0.000	-0.001	0.002
	5010	SITUACION_O	0.877	-0.015	-0.954	0.000	0.154	0.044
	5015	C+S A T DÍ	-2.572	1.008	-1.625	-0.156	-1.260	-0.083
	5016	C+S A T DÍ	-1.284	0.644	-1.138	-0.007	0.103	-0.003
	5017	C+S A T DÍ	0.210	0.016	-0.403	0.070	0.574	0.043
	5020	CAPA_COMPRE	0.007	-0.004	-0.046	0.001	-0.004	0.013
	5030	CM_CUBIERTA	0.024	-0.015	-0.161	0.002	-0.013	0.046
	5035	C+S A T DÍ	0.792	-0.024	-1.145	0.009	0.171	0.039
	5036	C+S A T DÍ	0.022	-0.006	-0.015	0.003	0.025	0.003
	5037	C+S A T DÍ	0.005	-0.004	-0.009	0.003	0.015	0.003

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Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0028,			SumGF = -0.0028		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = 0.0012,			SumGF = 0.0007		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0109,			SumQI = 0.0109		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0015,			SumQI = 0.0009		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	1.60	-	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

ELU

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
18135	2171	MAX-UX	10.749	1.648	-8.296	-0.091	2.676	0.011

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
19689	2	AGUA	-9.697	-0.000	-1.972	0.013	-2.222	-0.303
	21	SC_CUBIERTA	0.014	0.004	-0.045	-0.001	0.008	0.020
	31	VIENTO+	0.895	-0.032	0.065	-0.001	0.220	0.021
	32	VIENTO-	0.028	0.045	0.001	-0.000	0.001	-0.002
	41	NIEVE	0.003	0.001	-0.009	-0.000	0.002	0.004
	5010	SITUACION_O	-0.885	0.011	-0.959	-0.001	-0.158	0.067
	5015	C+S A T DÍ	2.650	-0.948	-1.664	0.136	1.279	0.003
	5016	C+S A T DÍ	1.326	-0.608	-1.138	0.004	-0.093	0.034
	5017	C+S A T DÍ	-0.187	-0.017	-0.383	-0.061	-0.572	0.049
	5020	CAPA_COMPRE	0.005	0.004	-0.046	-0.001	0.006	0.022
	5030	CM_CUBIERTA	0.017	0.013	-0.160	-0.003	0.020	0.077
	5035	C+S A T DÍ	-0.771	0.021	-1.143	-0.010	-0.170	0.067
	5036	C+S A T DÍ	-0.019	0.005	-0.013	-0.003	-0.025	0.004
	5037	C+S A T DÍ	-0.003	0.004	-0.008	-0.003	-0.015	0.004

Determination of Sums and Leading Variable Action

Act	C: SumGU = 0.0030,			SumGF = 0.0030		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0012,			SumGF = -0.0007		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -0.0116,			SumQI = -0.0116		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	-	-	-	-	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
19689	2172	MIN-UX	-9.805	-1.506	-8.287	0.073	-2.440	0.021

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
23975	2	AGUA	0.002	10.843	-2.219	-2.463	0.001	0.001
	21	SC_CUBIERTA	0.001	0.208	-0.129	-0.043	0.015	0.001
	31	VIENTO+	0.015	-0.028	-0.002	-0.001	-0.000	-0.000
	32	VIENTO-	0.027	0.425	-0.029	-0.094	-0.000	-0.001
	41	NIEVE	0.000	0.042	-0.026	-0.009	0.003	0.000
	5010	SITUACION_O	0.004	1.674	-1.179	-0.341	0.044	0.004
	5015	C+S A T DÍ	0.078	-0.993	-2.358	1.049	0.042	0.001
	5016	C+S A T DÍ	0.067	-0.434	-1.239	-0.176	0.020	-0.009
	5017	C+S A T DÍ	0.018	0.499	-0.277	-0.626	0.008	0.011
	5020	CAPA_COMPRE	0.001	0.208	-0.128	-0.043	0.014	0.001
	5030	CM_CUBIERTA	0.005	0.729	-0.447	-0.151	0.048	0.005
	5035	C+S A T DÍ	0.008	2.386	-1.542	-0.532	0.028	0.006
	5036	C+S A T DÍ	0.001	0.077	-0.021	-0.038	0.002	0.003
	5037	C+S A T DÍ	0.000	0.006	-0.002	-0.016	0.000	0.000

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Determination of Sums and Leading Variable Action

Act	C: SumGU =	0.0015,		SumGF =	0.0015	
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU =	0.0035,		SumGF =	0.0021	
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 =	0.0003,		SumQI =	0.0000	
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 =	0.0130,		SumQI =	0.0130	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 =	0.0001,		SumQI =	0.0000	
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0007,		SumQI =	0.0004	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	-	0.96	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
23975	2173	MAX-UY	0.215	18.838	-10.715	-4.181	0.270	0.029

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
11695	2	AGUA	3.658	0.000	-2.199	-0.033	0.000	0.000
	21	SC_CUBIERTA	0.306	0.000	-0.705	0.959	0.829	0.000
	31	VIENTO+	-0.118	-0.039	-0.002	-0.000	0.000	0.000
	32	VIENTO-	0.396	0.050	-0.027	-0.003	-0.000	0.000
	41	NIEVE	0.061	0.000	-0.142	0.194	0.166	0.000
	5010	SITUACION_O	1.387	-0.180	-4.179	5.007	2.868	0.000
	5015	C+S A T DÍ	0.395	-32.392	-5.156	4.687	2.122	0.000
	5016	C+S A T DÍ	0.441	-1.473	-3.160	3.218	1.647	0.000
	5017	C+S A T DÍ	0.191	1.706	-0.927	1.089	0.662	0.000
	5020	CAPA_COMPRE	0.281	0.000	-0.670	0.903	0.774	0.000
	5030	CM_CUBIERTA	0.982	0.001	-2.319	3.120	2.705	0.000
	5035	C+S A T DÍ	0.709	-0.851	-5.653	6.760	1.393	0.000
	5036	C+S A T DÍ	0.023	0.071	0.183	-0.329	0.074	0.000
	5037	C+S A T DÍ	0.007	-0.037	-0.146	0.237	0.038	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0330,			SumGF = -0.0330		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0002,			SumGF = -0.0001		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = -0.0001,			SumQI = -0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	0.90	-	1.60	-	-	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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ELU

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
11695	2174	MIN-UY	8.449	-33.281	-26.519	27.823	14.504	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
24369	2	AGUA	0.054	-0.046	-1.622	-0.227	-0.032	0.001
	21	SC_CUBIERTA	0.001	0.000	0.010	0.001	0.000	0.000
	31	VIENTO+	0.012	-0.036	0.021	-0.017	0.003	0.000
	32	VIENTO-	0.029	0.045	-0.018	0.016	-0.005	0.000
	41	NIEVE	0.000	0.000	0.002	0.000	0.000	0.000
	5010	SITUACION_O	0.002	0.000	-0.223	0.010	-0.006	0.000
	5015	C+S A T DÍ	-0.481	0.335	-0.234	0.019	-0.001	-0.003
	5016	C+S A T DÍ	-1.016	0.761	-0.125	0.008	-0.002	-0.001
	5017	C+S A T DÍ	-0.541	0.424	-0.068	0.003	-0.003	0.002
	5020	CAPA_COMPRE	0.001	0.000	0.010	0.001	0.000	0.000
	5030	CM_CUBIERTA	0.002	0.000	0.034	0.003	0.000	0.001
	5035	C+S A T DÍ	-0.073	0.034	-0.226	0.028	0.010	0.001
	5036	C+S A T DÍ	-0.020	0.015	0.005	-0.000	-0.001	0.000
	5037	C+S A T DÍ	-0.014	0.012	-0.003	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0007,			SumGF = -0.0007		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0002,			SumGF = -0.0001		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	1.50	0.96	-	0.96	0.80	1.00	1.00	1.00	0.80	0.80	1.00
LC	5036	5037										
factor	1.00	1.00										

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ELU

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
24369	2175	MAX-UZ	-2.128	1.547	-0.758	0.054	0.002	0.001

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
12134	2	AGUA	3.650	0.001	-2.043	0.030	-0.005	0.000
	21	SC_CUBIERTA	-0.068	-0.003	-3.931	-0.087	-0.094	0.000
	31	VIENTO+	-0.117	-0.039	-0.041	0.009	0.000	0.000
	32	VIENTO-	0.395	0.049	0.037	-0.008	-0.000	0.000
	41	NIEVE	-0.014	-0.001	-0.786	-0.017	-0.019	0.000
	5010	SITUACION_O	0.095	0.001	-19.375	-0.121	-0.324	0.000
	5015	C+S A T DÍ	-0.383	1.032	-18.386	0.067	-0.236	0.000
	5016	C+S A T DÍ	-0.076	0.698	-12.718	-0.046	-0.184	0.000
	5017	C+S A T DÍ	-0.051	0.124	-4.376	-0.052	-0.074	0.000
	5020	CAPA_COMPRE	-0.067	-0.003	-3.670	-0.081	-0.087	0.000
	5030	CM_CUBIERTA	-0.236	-0.009	-12.845	-0.283	-0.306	0.000
	5035	C+S A T DÍ	0.093	2.592	-23.144	0.300	-0.149	0.000
	5036	C+S A T DÍ	-0.008	0.295	0.878	-0.041	-0.008	0.000
	5037	C+S A T DÍ	-0.009	0.138	-0.766	0.011	-0.004	0.000

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.0585,			SumGF = -0.0585		
LC	5015	5016	5017	5035	5036	5037
FacGU	0.00	0.00	0.00	0.00	0.00	0.00
FacGF	0.00	0.00	0.00	0.00	0.00	0.00
Act	G: SumGU = -0.0485,			SumGF = -0.0287		
LC	5010	5020	5030			
FacGU	0.00	0.00	0.00			
FacGF	0.00	0.00	0.00			
Act	L: SumQ1 = -0.0059,			SumQI = 0.0000		
LC	21					
FacQ1	0.00					
FacQI	0.00					
Act	Q: SumQ1 = -0.0025,			SumQI = -0.0025		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = -0.0013,			SumQI = -0.0008		
LC	41					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = -0.0001,			SumQI = -0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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ELU

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
12134	2176	MIN-UZ	3.437	4.824	-116.104	-0.518	-1.788	0.001

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
13:	3446	2	AGUA	-39.40	-9.8	0.3	0.3	0.0
		21	SC_CUBIERTA	0.22	0.1	0.0	0.0	0.0
		31	VIENTO+	0.71	0.2	-0.1	0.2	0.0
		32	VIENTO-	-0.61	-0.2	-0.2	-0.3	0.0
		41	NIEVE	0.04	0.0	0.0	0.0	0.0
		5010	SITUACION_O	-5.97	-1.5	0.0	0.0	0.0
		5015	C+S A T DÍA	-0.23	-0.1	-2.4	-2.1	0.0
		5016	C+S A T DÍA	0.16	0.0	-3.1	-3.1	0.0
		5017	C+S A T DÍA	-0.14	-0.0	-0.2	-0.2	0.0
		5020	CAPA_COMPRE	0.21	0.1	0.0	0.0	0.0
		5030	CM_CUBIERTA	0.74	0.2	0.0	0.0	0.0
		5035	C+S A T DÍA	-0.81	-0.2	5.2	5.2	0.0
		5036	C+S A T DÍA	0.42	0.1	-2.0	-2.0	0.0
		5037	C+S A T DÍA	-0.18	-0.0	0.6	0.5	0.0

Determination of Sums and Leading Variable Action

Act	C: SumGU = -0.7763*,			SumGF = -0.7763		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -6.7686,			SumGF = -4.0110*		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = 0.3290,			SumQI = 0.0000*		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	S: SumQ1 = 0.0702,			SumQI = 0.0421*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = 1.1333*,			SumQI = 0.6800		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	-	-	1.60	-	0.96	0.80	1.00	1.00	1.00	0.80	0.80	1.00
LC	5036	5037										
factor	1.00	1.00										

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ELU

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
13:	3446	2117	MAX-P	-3.61	-0.9	-2.0	-1.3	0.0

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11:	5191	2	AGUA	-91.82	-1.0	-0.1	2.4	0.3
		21	SC_CUBIERTA	-4.02	-0.0	0.0	0.1	0.0
		31	VIENTO+	-5.62	-0.1	-0.1	0.3	0.0
		32	VIENTO-	5.10	0.1	-0.2	-0.4	-0.0
		41	NIEVE	-0.80	0.0	0.0	0.0	0.0
		5010	SITUACION_O	-36.04	-0.4	-0.0	0.9	0.1
		5015	C+S A T DÍA	-16.88	-0.2	0.8	-3.3	-0.4
		5016	C+S A T DÍA	10.12	0.1	1.0	-5.9	-0.8
		5017	C+S A T DÍA	1.30	0.0	0.0	-0.3	-0.0
		5020	CAPA_COMPRE	-3.99	-0.0	0.0	0.1	0.0
		5030	CM_CUBIERTA	-13.95	-0.2	-0.0	0.3	0.0
		5035	C+S A T DÍA	10.79	0.1	-1.7	9.1	1.2
		5036	C+S A T DÍA	-3.97	-0.0	0.7	-3.4	-0.5
		5037	C+S A T DÍA	1.59	0.0	-0.2	1.0	0.1

Determination of Sums and Leading Variable Action

Act	C: SumGU = 2.9498*,			SumGF = 2.9498		
LC	5015	5016	5017	5035	5036	5037
FacGU	1.00	1.00	1.00	1.00	1.00	1.00
FacGF	1.00	1.00	1.00	1.00	1.00	1.00
Act	G: SumGU = -72.8792*,			SumGF = -43.1877		
LC	5010	5020	5030			
FacGU	1.35	1.35	1.35			
FacGF	0.80	0.80	0.80			
Act	L: SumQ1 = -6.0306*,			SumQI = 0.0000		
LC	21					
FacQ1	1.50					
FacQI	0.00					
Act	Q: SumQ1 = -110.1815,			SumQI = -110.1815*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	S: SumQ1 = -1.2872,			SumQI = -0.7723*		
LC	41					
FacQ1	1.60					
FacQI	0.96					
Act	W: SumQ1 = -8.9978,			SumQI = -5.3987*		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	2	21	31	32	41	5010	5015	5016	5017	5020	5030	5035
factor	1.20	1.50	0.96	-	0.96	1.35	1.00	1.00	1.00	1.35	1.35	1.00
LC	5036	5037										
factor	1.00	1.00										

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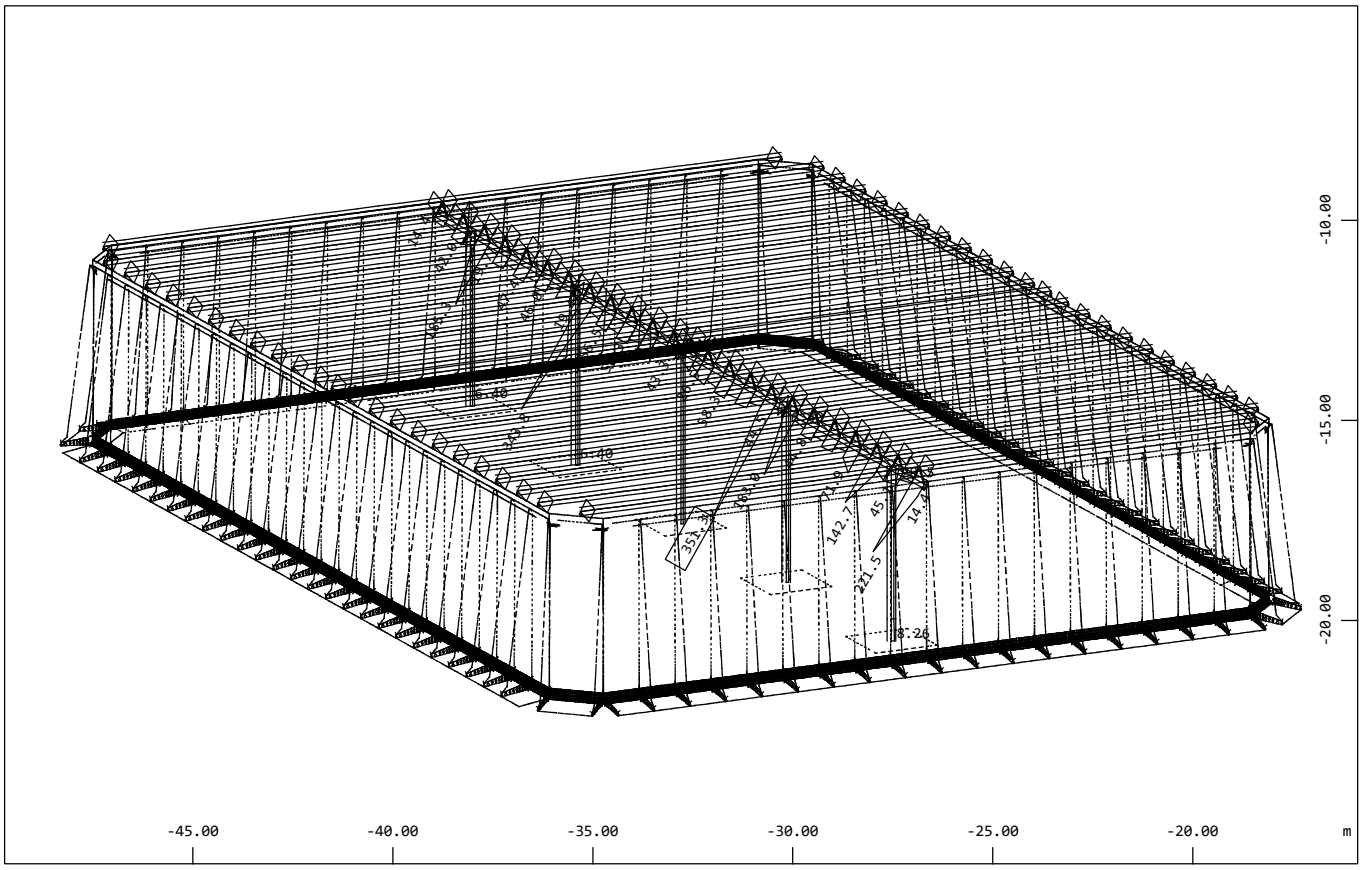
ELU

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	5191	2118	MIN-P	-192.31	-2.1	0.4	2.2	0.3

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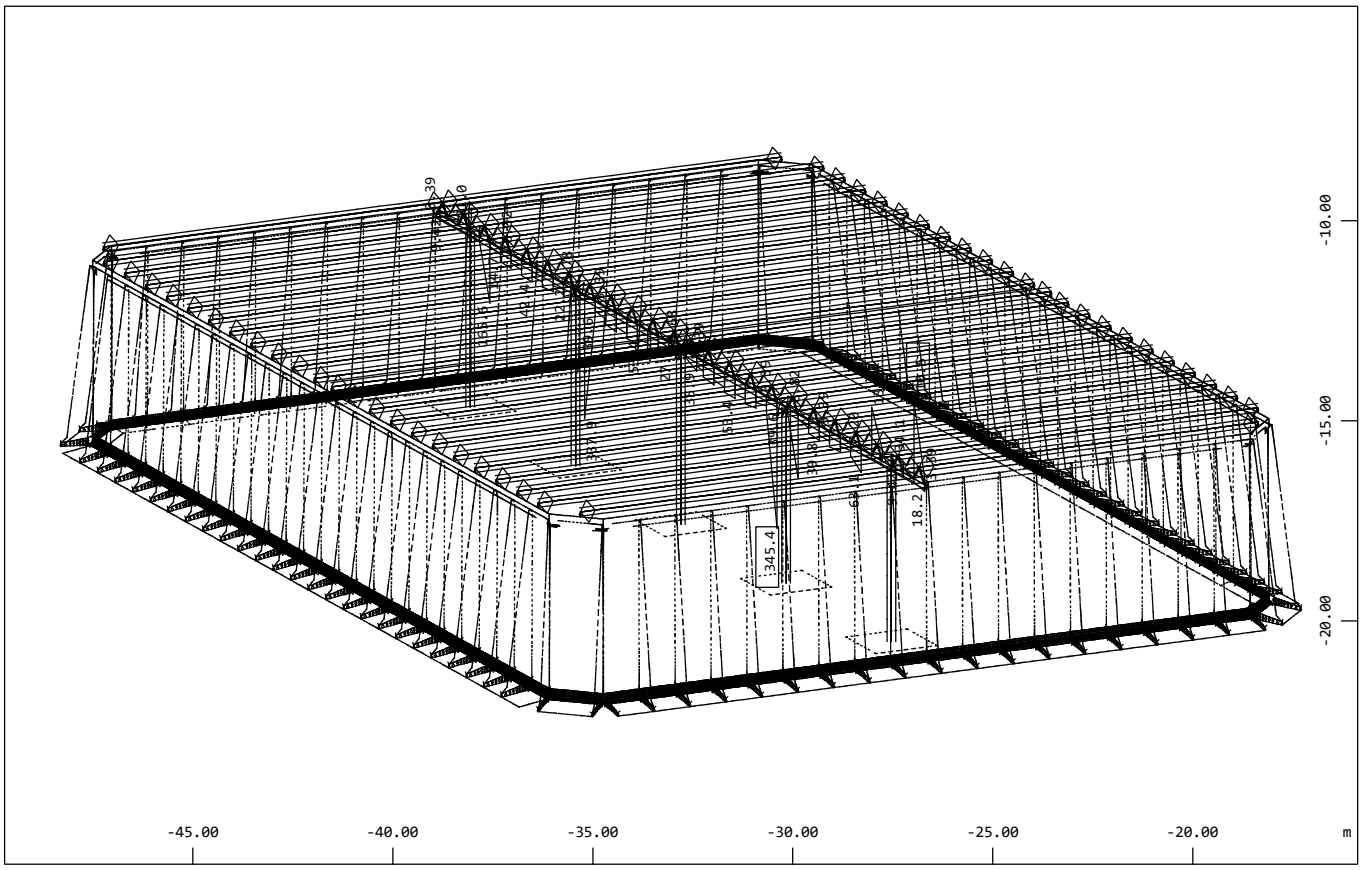
Graphical Output



Z
Y
X

Beam Elements , Longitudinal reinforcements (total), Design Case 2 , 1 cm 3D = 200.0 cm2
(Max=351.3)

M 1 : 189
X * 0.502
Y * 0.906
Z * 0.962



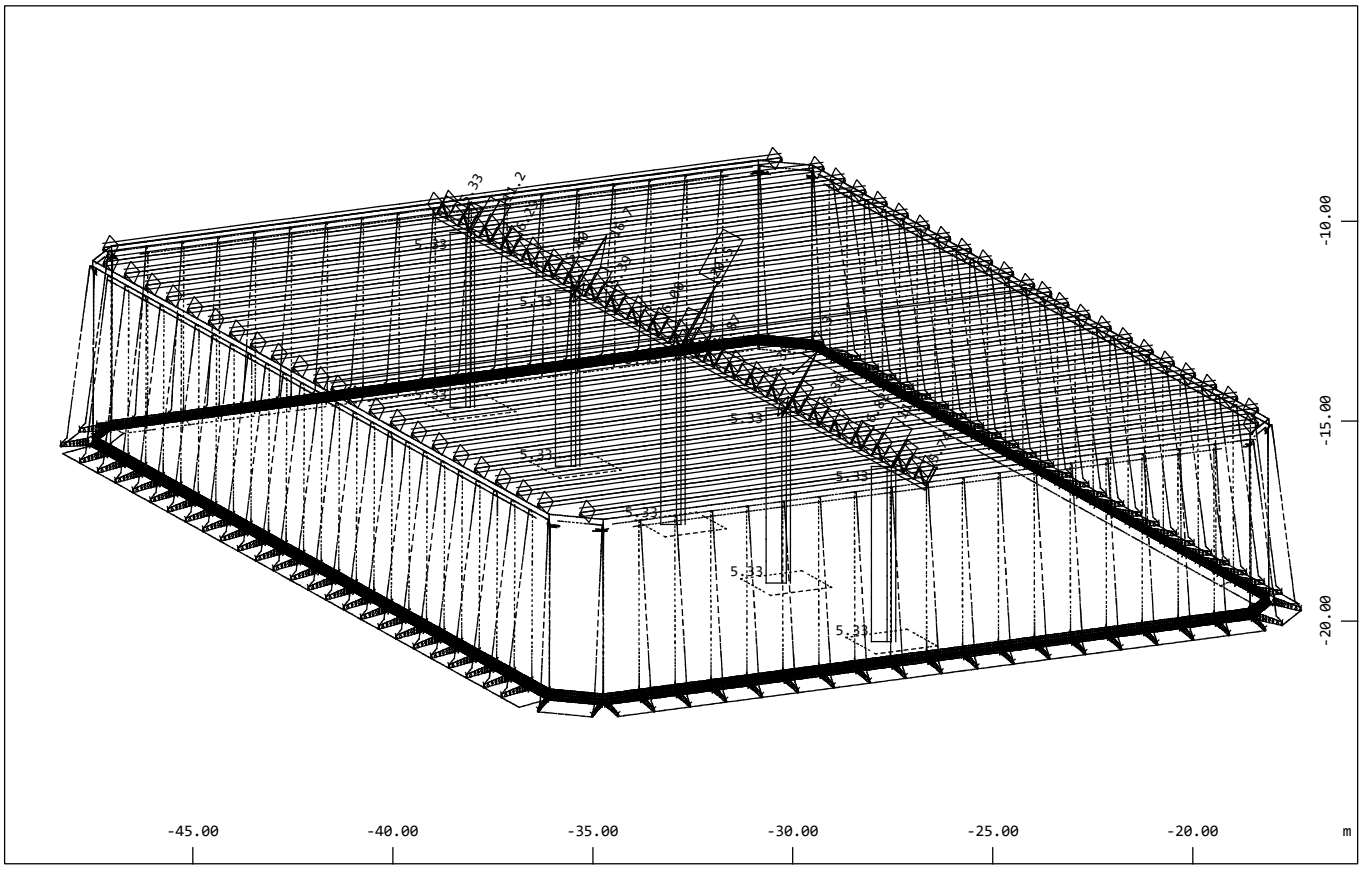
Z
Y
X

Beam Elements , Longitudinal Reinforcements Lay. 1, Design Case 2 , 1 cm 3D = 200.0 cm2
(Max=345.4)
Beam Elements , Longitudinal Reinforcements Lay. 2, Design Case 2 , 1 cm 3D = 200.0 cm2

M 1 : 189
X * 0.502
Y * 0.906
Z * 0.962

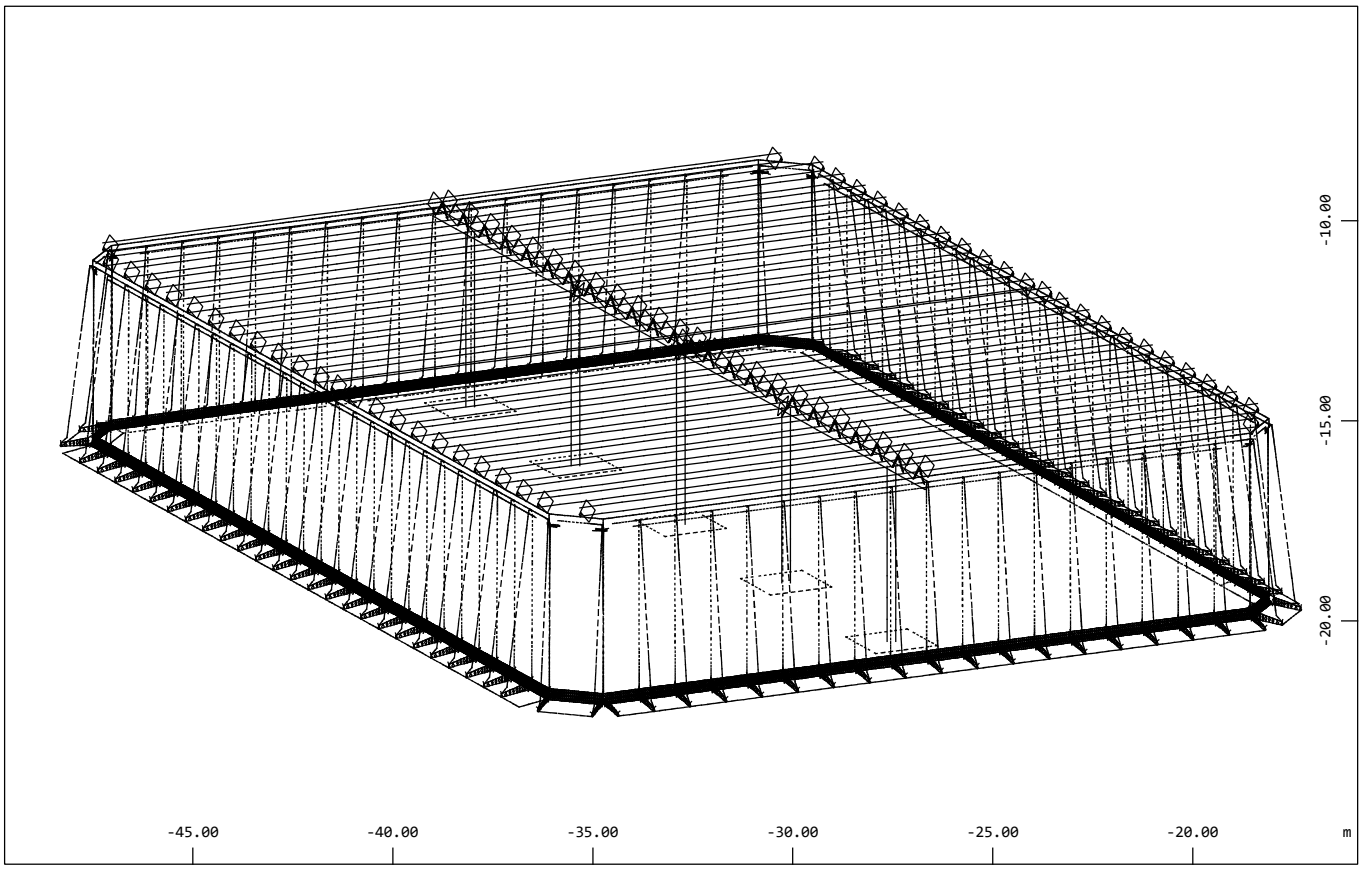
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Graphical Output



Shear reinforcements (maximum), Design Case 2 , (1 cm 3D = unit) Beam Elements
(Unit=20.0 cm2/m) (Max=20.5)

M 1 : 189
X * 0.502
Y * 0.906
Z * 0.962



Beam Elements , Maximum compression stress BC 2: NO values found

M 1 : 189
X * 0.502
Y * 0.906
Z * 0.962

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design parameter list

Reinforcementparameter two layer reinforcement

Selection Grp elem no. no.	distance d1-u 2.lay d1-l 2.lay [mm]		bar-diameter ds-u 2.lay ds-l 2.lay [mm]		crackwidth wk-u 2.lay wk-l 2.lay [mm]		steelstress sigsu 2.lay sigsl 2.lay [MPa]		min.reinf. asu 2.lay asl 2.lay [cm2/m]	
default	-	-	-	-	-	-	-	-	-	-
13	45.0	57.0	12	12	0.20	0.20	-	-	-	-
	35.0	47.0	12	12	0.30	0.30	-	-	-	-
14	35.0	47.0	12	12	0.30	0.30	-	-	-	-
	35.0	47.0	12	12	0.30	0.30	-	-	-	-

distance	upper / lower distance center of bar to surface
bar-diameter	upper / lower bar diameter
crackwidth	upper / lower required crack width
steelstress	upper / lower maximum steel stress in SLS check
min.reinf.	upper / lower minimum reinforcement

The reinforcement directions relate to the local coordinate system of
the elements and have to be plotted graphically.
With the input of a steel stress sigsu... the 'crack design according tables'
uses this given stress sigsu for the corresponding layer. With this input, the check can
be done for bar distances instead of bar diameters, see legend SLS control parameters.

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ULS design

Load Cases for the Design

Loadcase	factor	Designation		
2101	1.000	MAX-MX QUAD ELU		
2102	1.000	MIN-MX QUAD ELU		
2103	1.000	MAX-MY QUAD ELU		
2104	1.000	MIN-MY QUAD ELU		
2105	1.000	MAX-MXY QUAD ELU		
2106	1.000	MIN-MXY QUAD ELU		
2107	1.000	MAX-VX QUAD ELU		
2108	1.000	MIN-VX QUAD ELU		
2109	1.000	MAX-VY QUAD ELU		
2110	1.000	MIN-VY QUAD ELU		
2111	1.000	MAX-NXX QUAD ELU		
2112	1.000	MIN-NXX QUAD ELU		
2113	1.000	MAX-NYY QUAD ELU		
2114	1.000	MIN-NYY QUAD ELU		
2115	1.000	MAX-NXY QUAD ELU		
2116	1.000	MIN-NXY QUAD ELU		
2117	1.000	MAX-P QUAD ELU		Bedding stresses for punching design
2118	1.000	MIN-P QUAD ELU		Bedding stresses for punching design
2151	1.000	MAX-PX NODE ELU		Nodal reaction punching design
2152	1.000	MIN-PX NODE ELU		Nodal reaction punching design
2153	1.000	MAX-PY NODE ELU		Nodal reaction punching design
2154	1.000	MIN-PY NODE ELU		Nodal reaction punching design
2155	1.000	MAX-PZ NODE ELU		Nodal reaction punching design
2156	1.000	MIN-PZ NODE ELU		Nodal reaction punching design
2171	1.000	MAX-UX NODE ELU	+	Nodal reaction punching design
2172	1.000	MIN-UX NODE ELU	+	Nodal reaction punching design
2173	1.000	MAX-UY NODE ELU	+	Nodal reaction punching design
2174	1.000	MIN-UY NODE ELU	+	Nodal reaction punching design
2175	1.000	MAX-UZ NODE ELU	+	Nodal reaction punching design
2176	1.000	MIN-UZ NODE ELU	+	Nodal reaction punching design
2177	1.000	MAX-SXU QUAD ELU		
2178	1.000	MIN-SXU QUAD ELU		
2179	1.000	MAX-SYU QUAD ELU		
2180	1.000	MIN-SYU QUAD ELU		
2181	1.000	MAXSXYU QUAD ELU		
2182	1.000	MINSXYU QUAD ELU		

Material (EHE spanish code)

MAT	fck [MPa]	fc [MPa]	fctm [MPa]	fy [MPa]	ft [MPa]	minT	Type
1	40.00	34.00	3.51			0.20	
2				500.00	510.00		
4	40.00	34.00	3.51			0.20	
5	40.00	34.00	3.51			0.20	
11	25.00	21.25	2.56			0.20	
12				500.00	510.00		
71	25.00	21.25	2.56			0.20	
72	40.00	34.00	3.51			0.20	
73	30.00	25.50	2.90			0.20	
74				500.00	510.00		
91	40.00	34.00	3.51			0.20	

MAT	material number	fy	yield stress reinforcing steel
fck	nominal strength of the concrete	ft	tensile stress reinforcing steel
fc	strength of the concrete	minT	minimum transverse reinforcement
fctm	tensile strength of the concrete	Type	character of the loading

Design according to EHE spanish code
Reduction of FC in case of transvers tension = 25.0 [o/o]

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ULS design

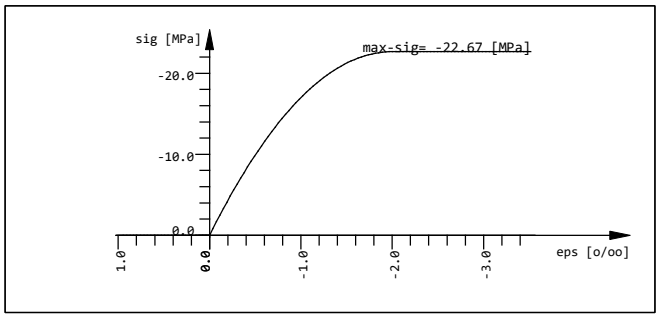
Material-safety-factors:

MAT	concr SC1	SC2	steel SS1	SS2
1	1.50	1.50		
2			1.15	1.15
4	1.50	1.50		
5	1.50	1.50		
11	1.50	1.50		
12			1.15	1.15
71	1.50	1.50		
72	1.50	1.50		
73	1.50	1.50		
74			1.15	1.15
91	1.50	1.50		

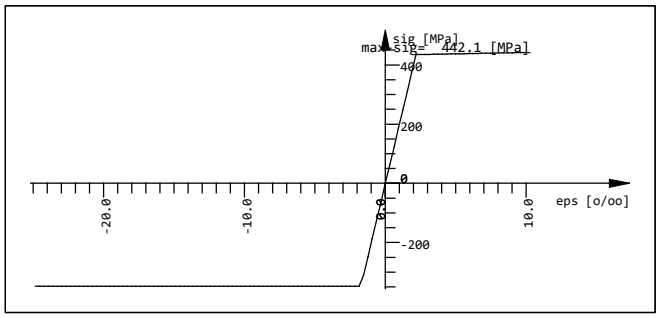
MAT material number
concr material safety SC1/SC2 = bending/compression
steel material safety steel bending/compression

At direct supports the shear force is linear reduced from 0.5*d up to the face of the support to 70%.
The maximum shear capacity is checked at the face of the support without reduction.
For punching design, the longitudinal reinforcement will be increased up to 1.50%
to avoid shear reinforcement [input PUNC...RO_V].
Outside the punching area, the normal slab shear design may increase the
longitudinal reinforcement up to 0.20% [input CTRL...RO_V].

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Used work law Mno: 1 (first concrete)



Used work law Mno: 2 (first steel)

Reinforcementparameter two layer reinforcement

Selection Grp elem no. no.	distance d1-u 2.lay d1-l 2.lay [mm]		bar-diameter ds-u 2.lay ds-l 2.lay [mm]		crackwidth wk-u 2.lay wk-l 2.lay [mm]		steelstress sigsu 2.lay sigsl 2.lay [MPa]		min.reinf. asu 2.lay asl 2.lay [cm2/m]	
default	-	-	-	-	-	-	-	-	-	-
13	45.0	57.0	12	12	-	-	-	-	-	-
	35.0	47.0	12	12	-	-	-	-	-	-
14	35.0	47.0	12	12	-	-	-	-	-	-
	35.0	47.0	12	12	-	-	-	-	-	-

distance upper / lower distance center of bar to surface
bar-diameter upper / lower bar diameter
crackwidth upper / lower required crack width
steelstress upper / lower maximum steel stress in SLS check
min.reinf. upper / lower minimum reinforcement

The reinforcement directions relate to the local coordinate system of
the elements and have to be plotted graphically.
The reinforcement is saved in the data base as reinforcement distribution number 1
+++++ warning no. 303 in program DU2V
An average element thickness has been computed for punching node 3533
This warning can be switched off with CTRL WARN 303.
+++++ warning no. 304 in program DU2V
An average element thickness has been computed for punching node 3535
+++++ warning no. 304 in program DU2V
An average element thickness has been computed for punching node 3537
+++++ warning no. 304 in program DU2V

ULS design

```
 An average element thickness has been computed for punching node 3539
+++++ warning no.   304 in program DU2V
 An average element thickness has been computed for punching node 3541
+++++ warning no.   304 in program DU2V
 An average element thickness has been computed for punching node 3562
+++++ warning no.   304 in program DU2V
 An average element thickness has been computed for punching node 3564
+++++ warning no.   250 in program DU2V
 Punching node 3567: punching-perimeter too small - too many openings or
 boundaries are closer than 6d to the column face. Thus instead of punching
 a normal slab shear design is done. Check radius can be set with CTRL RADP.
+++++ warning no.   139 in program DU2V
 Further warnings and error messages of type no. 304 are supressed
+++++ warning no.   250 in program DU2V
 Punching node 3711: punching-perimeter too small - too many openings or
 boundaries are closer than 6d to the column face. Thus instead of punching
 a normal slab shear design is done. Check radius can be set with CTRL RADP.
+++++ warning no.   250 in program DU2V
 Punching node 3712: punching-perimeter too small - too many openings or
 boundaries are closer than 6d to the column face. Thus instead of punching
 a normal slab shear design is done. Check radius can be set with CTRL RADP.
+++++ warning no.   250 in program DU2V
 Punching node 3722: punching-perimeter too small - too many openings or
 boundaries are closer than 6d to the column face. Thus instead of punching
 a normal slab shear design is done. Check radius can be set with CTRL RADP.
+++++ warning no.   250 in program DU2V
 Punching node 3723: punching-perimeter too small - too many openings or
 boundaries are closer than 6d to the column face. Thus instead of punching
 a normal slab shear design is done. Check radius can be set with CTRL RADP.
+++++ warning no.   250 in program DU2V
 Punching node 3732: punching-perimeter too small - too many openings or
 boundaries are closer than 6d to the column face. Thus instead of punching
 a normal slab shear design is done. Check radius can be set with CTRL RADP.
+++++ warning no.   250 in program DU2V
 Punching node 3739: punching-perimeter too small - too many openings or
 boundaries are closer than 6d to the column face. Thus instead of punching
 a normal slab shear design is done. Check radius can be set with CTRL RADP.
+++++ warning no.   250 in program DU2V
 Punching node 3740: punching-perimeter too small - too many openings or
 boundaries are closer than 6d to the column face. Thus instead of punching
 a normal slab shear design is done. Check radius can be set with CTRL RADP.
```

Punching Design (EHE spanish code):

Node number = 3533 X= 44.44 [m] Y= -58.2 [m]
Z= 0.200 [m]
Max. shear force V-ULS= -941. [kN] LC= 2101 via QUAD connecting forces
reduced by foundation pressure 65.78 [kN/m2] (reduced by pressures of slab dead load)
Max. shear force V-ULS= -587. [kN] = -941. + 353.7 [kN]
Column size b= 0.400 [m] a= 0.400 [m]
Plate thickness h-slab= 1.100 [m] d= 1.059 [m]
1. perimeter at 2.0·d= 2.118 [m] utot= 14.91 [m] u1= 14.91 [m]
reduced perimeter distance due to bedded foundation!
Tension reinfor. as >= 0.06 [cm2/m] ro= 0.00 [o/o] vrdc= 0.04 [MPa]
v-Ed = 1.15·V/u/d = 0.04 [MPa] <= 0.04 [MPa] =vrdc
1.15=flat eccentricity factor beta
(1.02=eccentricity factor acc. EN 1992-1-1 6.4.3 (6.39))
No punching shear reinforcement necessary.
Only the punching node with the maximum force has been printed (ECHO PUNC)

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ULS design

Summary Punching Design (EHE spanish code)

Node No	Typ	X [m]	Y [m]	V-ULS [kN]	column [mm]	ucrit [m]	%u0 [o/o]	beta [-]	v-max [MPa]	AssSum [cm2]	ast [cm2/m]	nperi
3533	F	44.443	-58.21	-586.8	400/400	14.91	100	1.15	0.04	-	0.06	-
3535	F	38.443	-58.21	-519.3	400/400	14.91	100	1.15	0.04	-	0.04	-
3537	F	32.443	-58.21	-824.0	400/400	4.855	100	1.21	0.79	34.39	0.00	1
3539	F	50.443	-58.21	-512.5	400/400	14.91	100	1.15	0.04	-	0.04	-
3541	F	56.443	-58.21	-679.2	400/400	14.91	100	1.15	0.05	-	0.10	-
3562	W	30.299	-56.21	51.6	280/-	1.136	29	1.40	0.28	-	1.42	-
3562	WF	30.299	-56.21	-31.1	280/-	1.049	29	1.40	0.17	-	0.31	-
3564	W	30.299	-57.21	62.0	260/-	1.099	29	1.40	0.34	-	2.58	-
3564	WF	30.299	-57.21	-35.5	260/-	1.019	29	1.40	0.20	-	0.49	-
3596	W	30.299	-58.21	57.8	280/-	1.136	29	1.40	0.32	-	1.99	-
3596	WF	30.299	-58.21	-49.3	280/-	1.048	29	1.40	0.27	-	1.24	-
3598	W	30.299	-59.21	62.4	260/-	1.100	29	1.40	0.34	-	2.62	-
3598	WF	30.299	-59.21	-35.7	260/-	1.019	29	1.40	0.20	-	0.49	-
3600	W	30.299	-60.21	52.8	280/-	1.136	29	1.40	0.29	-	1.52	-
3600	WF	30.299	-60.21	-30.1	280/-	1.049	29	1.40	0.16	-	0.28	-
3602	W	30.299	-61.21	42.9	260/-	1.100	29	1.40	0.23	-	0.85	-
3602	WF	30.299	-61.21	-38.9	260/-	1.020	29	1.40	0.21	-	0.63	-
3623	W	48.443	-48.06	49.8	280/-	1.135	29	1.40	0.27	-	1.28	-
3623	WF	48.443	-48.06	-48.5	280/-	1.048	29	1.40	0.26	-	1.18	-
3627	W	46.443	-48.06	50.8	280/-	1.135	29	1.40	0.28	-	1.36	-
3627	WF	46.443	-48.06	-47.2	280/-	1.048	29	1.40	0.26	-	1.09	-
3640	W	41.443	-68.35	53.8	260/-	1.100	29	1.40	0.30	-	1.68	-
3640	WF	41.443	-68.35	-38.5	260/-	1.019	29	1.40	0.21	-	0.62	-
3643	W	42.443	-68.35	52.5	280/-	1.133	29	1.40	0.29	-	1.52	-
3643	WF	42.443	-68.35	-44.4	280/-	1.045	29	1.40	0.24	-	0.92	-
3645	W	43.443	-68.35	52.4	260/-	1.094	29	1.40	0.29	-	1.61	-
3645	WF	43.443	-68.35	-36.5	260/-	1.013	29	1.40	0.20	-	0.54	-
3649	W	45.443	-68.35	53.2	260/-	1.094	29	1.40	0.30	-	1.68	-
3649	WF	45.443	-68.35	-39.2	260/-	1.013	29	1.40	0.22	-	0.67	-
3676	W	36.443	-68.35	41.5	280/-	1.126	29	1.40	0.23	-	0.78	-
3676	WF	36.443	-68.35	-67.7	280/-	1.039	29	1.40	0.38	-	3.38	-
3680	W	38.443	-68.35	51.1	280/-	1.137	29	1.40	0.28	-	1.38	-
3680	WF	38.443	-68.35	-54.7	280/-	1.049	29	1.40	0.30	-	1.68	-
3682	W	39.443	-68.35	52.6	260/-	1.099	29	1.40	0.29	-	1.58	-
3682	WF	39.443	-68.35	-40.9	260/-	1.019	29	1.40	0.22	-	0.74	-
3684	W	40.443	-68.35	50.6	280/-	1.132	29	1.40	0.28	-	1.37	-
3684	WF	40.443	-68.35	-44.9	280/-	1.044	29	1.40	0.25	-	0.96	-
3686	W	49.443	-68.35	51.3	260/-	1.094	29	1.40	0.29	-	1.50	-
3686	WF	49.443	-68.35	-39.2	260/-	1.013	29	1.40	0.22	-	0.67	-
3690	W	51.443	-68.35	47.9	260/-	1.094	29	1.40	0.27	-	1.23	-
3690	WF	51.443	-68.35	-54.5	260/-	1.013	29	1.40	0.30	-	1.81	-
3694	W	53.443	-68.35	31.8	260/-	1.094	29	1.40	0.18	-	0.36	-
3694	WF	53.443	-68.35	-60.4	260/-	1.013	29	1.40	0.34	-	2.46	-

Typ I=inner column, E=edge column, C=corner column, F=foundation, W=end of wall, L=wall corner, G=end_of_girder
V-ULS design shear force (reduced by bedding pressure)
column dimension of column or wall thickness at end of walls
ucrit effective length of 1. perimeter, reduced due to openings and edges
%u0 ucrit = ... % of a full circle (ucrit/u0-tot)
beta excentricity factor
v-max shear stress at reduced critical 1. perimeter
AssSum shear reinforcemend - total sum of all nperi perimeters
ast min. required tension reinforcement in the punching zone
nperi up to this perimeter, shear reinforcement is required

The eccentricity factors beta must be checked and input if necessary.
A more detailed outprint can be choosen with ECHO DUST VOLL (ECHO PUNC FULL)
Both pressure and tension results are taken into account.

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ULS design

Required Reinforcements acc. to EHE spanish code

Grp	Element	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
13	1301829	0.300	16.95	4.19		0.97	1.09		punc	punc	
	1307530	0.300	4.64	16.76		1.09	1.56			1	
14	1400001	1.100	2.95	0.59		6.02	9.24		punc	punc	38.16
	1400016	1.100	4.84	0.97		13.69	17.26			1s	
	1400018	1.100	3.99	1.30		17.79	8.77			1s	

Grp primary group number
Element element number
t plate thickness
asu Principal reinforcements (1st layer) Top
asu2 Cross reinforcements (2nd layer) Top
asu3 Third reinforcements Top
asl Principal reinforcements (1st layer) Bottom
asl2 Cross reinforcements (2nd layer) Bottom
asl3 Third reinforcements Bottom
supp reduction factor for the shear force near supports, punc=point in punching zone -> punching shear design
shear shear zone: 1=Ok, 1s=asu/l increased for shear, 1d=for punching, 2=required ass, 2m=minimum shear reinforcement
ass Shear reinforcement
Elements with maximum values are printed

Required Reinforcements acc. to EHE spanish code at nodes

Grp	Node	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
13	1698	0.300	17.85	4.46		0.71	1.13		punc	punc	
	17131	0.300	4.69	17.00		1.14	1.81			1	
	23391	0.300				2.54	10.84			2	11.88
14	3537	1.100	0.41	0.08		6.46	10.01		punc	punc	38.16
	23391	1.100	9.83	5.00		24.71	14.63			2m	7.08
	31584	1.100	3.43	1.17		18.15	18.41			1s	

Grp primary group number
Node Number
t plate thickness
asu Principal reinforcements (1st layer) Top
asu2 Cross reinforcements (2nd layer) Top
asu3 Third reinforcements Top
asl Principal reinforcements (1st layer) Bottom
asl2 Cross reinforcements (2nd layer) Bottom
asl3 Third reinforcements Bottom
supp reduction factor for the shear force near supports, punc=point in punching zone -> punching shear design
shear shear zone: 1=Ok, 1s=asu/l increased for shear, 1d=for punching, 2=required ass, 2m=minimum shear reinforcement
ass Shear reinforcement
Elements with maximum values are printed

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At 24 punching-nodes the bending moments have been reduced (rounded)
At 4 column-nodes the slab-thickness for bending-design has been increased
with 1:3 starting at the column-edge (not at wall punching nodes)

SLS design

Maximum of reinforcement-distributions

The maximum reinforcement is build of the actual design and the previous distribution 1
and stored as new reinforcement-distribution 2 .
For the SLS stress results only the result of the actual desing is stored, not the maximum.
For a maximum of SLS stresses please use a pure superposition run without design.

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018
Loadcases have been calculated in the Serviceability State
In BEMESS no additional load safety factor is applied.
The design uses the Baumann method.

Load Cases for the Design

Loadcase	factor	Designation		
1401	1.000	MAXP-MX QUAD CUASIPERM		
1402	1.000	MINP-MX QUAD CUASIPERM		
1403	1.000	MAXP-MY QUAD CUASIPERM		
1404	1.000	MINP-MY QUAD CUASIPERM		
1405	1.000	MAXP-MXY QUAD CUASIPERM		
1406	1.000	MINP-MXY QUAD CUASIPERM		
1407	1.000	MAXP-VX QUAD CUASIPERM		
1408	1.000	MINP-VX QUAD CUASIPERM		
1409	1.000	MAXP-VY QUAD CUASIPERM		
1410	1.000	MINP-VY QUAD CUASIPERM		
1411	1.000	MAXP-NXX QUAD CUASIPERM		
1412	1.000	MINP-NXX QUAD CUASIPERM		
1413	1.000	MAXP-NYY QUAD CUASIPERM		
1414	1.000	MINP-NYY QUAD CUASIPERM		
1415	1.000	MAXP-NXY QUAD CUASIPERM		
1416	1.000	MINP-NXY QUAD CUASIPERM		
1417	1.000	MAXP-P QUAD CUASIPERM		Bedding stresses for punching design
1418	1.000	MINP-P QUAD CUASIPERM		Bedding stresses for punching design
1451	1.000	MAXP-PX NODE CUASIPERM		Nodal reaction punching design
1452	1.000	MINP-PX NODE CUASIPERM		Nodal reaction punching design
1453	1.000	MAXP-PY NODE CUASIPERM		Nodal reaction punching design
1454	1.000	MINP-PY NODE CUASIPERM		Nodal reaction punching design
1455	1.000	MAXP-PZ NODE CUASIPERM		Nodal reaction punching design
1456	1.000	MINP-PZ NODE CUASIPERM		Nodal reaction punching design
1471	1.000	MAXP-UX NODE CUASIPERM	+	Nodal reaction punching design
1472	1.000	MINP-UX NODE CUASIPERM	+	Nodal reaction punching design
1473	1.000	MAXP-UY NODE CUASIPERM	+	Nodal reaction punching design
1474	1.000	MINP-UY NODE CUASIPERM	+	Nodal reaction punching design
1475	1.000	MAXP-UZ NODE CUASIPERM	+	Nodal reaction punching design
1476	1.000	MINP-UZ NODE CUASIPERM	+	Nodal reaction punching design
1477	1.000	MAXP-SXU QUAD CUASIPERM		
1478	1.000	MINP-SXU QUAD CUASIPERM		
1479	1.000	MAXP-SYU QUAD CUASIPERM		
1480	1.000	MINP-SYU QUAD CUASIPERM		
1481	1.000	MAXPSXYU QUAD CUASIPERM		
1482	1.000	MINPSXYU QUAD CUASIPERM		

Material (EHE spanish code)

MAT	fck [MPa]	fc [MPa]	fctm [MPa]	fy [MPa]	ft [MPa]	minT	Type
1	40.00	34.00	3.51			0.20	
2				500.00	510.00		
4	40.00	34.00	3.51			0.20	
5	40.00	34.00	3.51			0.20	
11	25.00	21.25	2.56			0.20	
12				500.00	510.00		
71	25.00	21.25	2.56			0.20	

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SLS design

Material (EHE spanish code)

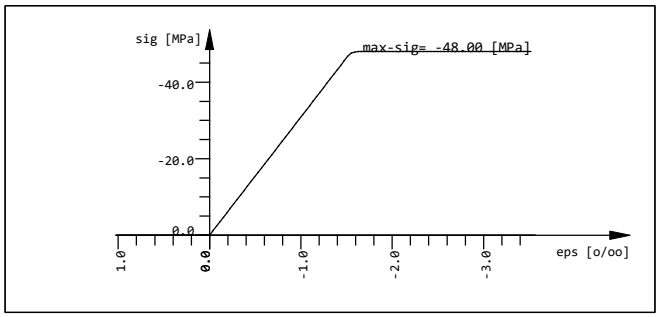
MAT	fck [MPa]	fc [MPa]	fctm [MPa]	fy [MPa]	ft [MPa]	minT	Type
72	40.00	34.00	3.51			0.20	
73	30.00	25.50	2.90			0.20	
74				500.00	510.00		
91	40.00	34.00	3.51			0.20	

MAT material number
fck nominal strength of the concrete
fc strength of the concrete
fctm tensile strength of the concrete
fy yield stress reinforcing steel
ft tensile stress reinforcing steel
minT minimum transverse reinforcement
Type character of the loading

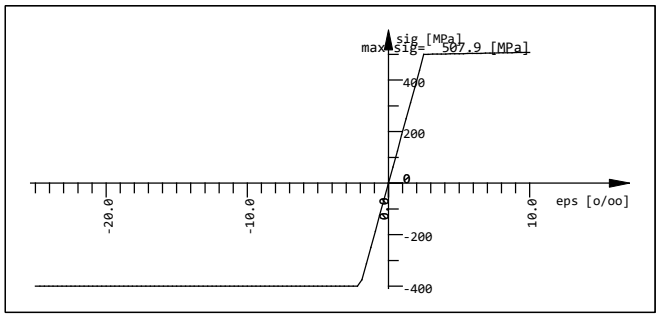
Design according to EHE spanish code

A robustness minimum reinforcement has not been requested [MREI] and
has to be checked separately.

A minimum reinforcement has not been requested [MREI] and
has to be checked separately.



Used work law Mno: 1 (first concrete)



Used work law Mno: 2 (first steel)

Reinforcementparameter two layer reinforcement

Selection Grp no.	elem no.	distance d1-u [mm]	2.lay d1-l [mm]	bar-diameter ds-u [mm]	2.lay ds-l [mm]	crackwidth wk-u [mm]	2.lay wk-l [mm]	steelstress sigsu [MPa]	2.lay sigsl [MPa]	min.reinf. asu [cm2/m]	2.lay asl [cm2/m]
default		-	-	-	-	-	-	-	-	-	-
13		45.0	57.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.30	0.30	-	-	-	-
14		35.0	47.0	12	12	0.30	0.30	-	-	-	-
		35.0	47.0	12	12	0.30	0.30	-	-	-	-

distance upper / lower distance center of bar to surface
bar-diameter upper / lower bar diameter
crackwidth upper / lower required crack width
steelstress upper / lower maximum steel stress in SLS check
min.reinf. upper / lower minimum reinforcement

The reinforcement directions relate to the local coordinate system of
the elements and have to be plotted graphically.
With the input of a steel stress sigsu... the 'crack design according tables'
uses this given stress sigsu for the corresponding layer. With this input, the check can
be done for bar distances instead of bar diameters, see legend SLS control parameters.

Serviceability limit state control parameters

No	Code	dNW [mm]	
1	EN-1992	->para	steel stress limitation acc. tables

Reinforcement has been increased by SLS design -> WINGRAF: Decisive design check✓

dNW Check diameter in crack width design: ->para = values from design parameter definition
17011 elements/nodes were designed with the bar diameter in the crack check (table EN 1992-1-1 7.2N)

Design via bar spacing/steel stress for elements with defined steel stress!
(In this case the maximum bar distance has to keep the condition of
table bar diameter according to the choosen steel stress).

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SLS design

Crack design via bar diameter for elements without defined steel stress!

Required Reinforcements acc. to EHE spanish code

Grp	Element	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
0	1301829	0.300	16.95	4.19		0.97	1.09				
	1307530	0.300	4.64	16.76		1.09	1.56				
	1400001	1.100	2.95	0.59		6.02	9.24				
	1400016	1.100	4.84	0.97		13.69	17.26				
	1400018	1.100	3.99	1.30		17.79	8.77				

Grp primary group number
Element element number
t plate thickness
asu Principal reinforcements (1st layer) Top
asu2 Cross reinforcements (2nd layer) Top
asu3 Third reinforcements Top
asl Principal reinforcements (1st layer) Bottom
asl2 Cross reinforcements (2nd layer) Bottom
asl3 Third reinforcements Bottom
supp reduction factor for the shear force near supports, punc=point in punching zone -> punching shear design
shear shear zone: 1=Ok, 1s=asu/l increased for shear, 1d=for punching, 2=required ass, 2m=minimum shear reinforcement
ass in a SLS design no shear design is done
Elements with maximum values are printed

Required Reinforcements acc. to EHE spanish code at nodes

Grp	Node	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
13	1698	0.300	17.85	4.46		0.71	1.13				
	17131	0.300	4.69	17.00		1.14	1.81				
	23391	0.300				2.54	10.84				
14	3537	1.100	0.41	0.08		6.46	10.01				
	23391	1.100	9.83	5.00		24.71	14.63				
	31584	1.100	3.43	1.17		18.15	18.41				

Grp primary group number
Node Number
t plate thickness
asu Principal reinforcements (1st layer) Top
asu2 Cross reinforcements (2nd layer) Top
asu3 Third reinforcements Top
asl Principal reinforcements (1st layer) Bottom
asl2 Cross reinforcements (2nd layer) Bottom
asl3 Third reinforcements Bottom
supp reduction factor for the shear force near supports, punc=point in punching zone -> punching shear design
shear shear zone: 1=Ok, 1s=asu/l increased for shear, 1d=for punching, 2=required ass, 2m=minimum shear reinforcement
ass in a SLS design no shear design is done
Elements with maximum values are printed

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At 24 punching-nodes the bending moments have been reduced (rounded)
At 4 column-nodes the slab-thickness for bending-design has been increased
with 1:3 starting at the column-edge (not at wall punching nodes)

Serviceability load results

ELEM No	LC No	x [m]	wk [mm]	as1	as2	as3	d1 [mm]	d2 [mm]	d3 [mm]	wk+ [mm]	as1+	as2+	as3+
******	1402 U		>0.20	16.9	4.19		12	12		0.20	33.60	9.48	
******	U		>0.20	4.53	15.5		12	12		0.20	8.94	33.54	
******	U		>0.20	4.64	16.6		12	12		0.20	8.91	33.62	
******	U		>0.20	4.54	15.6		12	12		0.20	8.96	33.67	
******	U		>0.20	4.52	15.6		12	12		0.20	8.88	33.73	
******	U		>0.20	4.73	16.7		12	12		0.20	9.04	33.70	
******	U		>0.20	4.64	16.8		12	12		0.20	9.02	33.88	
******	U		>0.20	4.60	15.7		12	12		0.20	9.05	33.92	

x height of compression zone
wk crack width before increase of reinforcement
as1 reinforcement 1. layer before increase of reinforcement
as2 reinforcement 2. layer before increase of reinforcement
as3 reinforcement 3. layer before increase of reinforcement
d1 reinforcement diameter layer 1-3
wk+ crack width after increase of reinforcement
as1+ reinforcement after increase of reinforcement layer 1-3
Elements with maximum values are printed

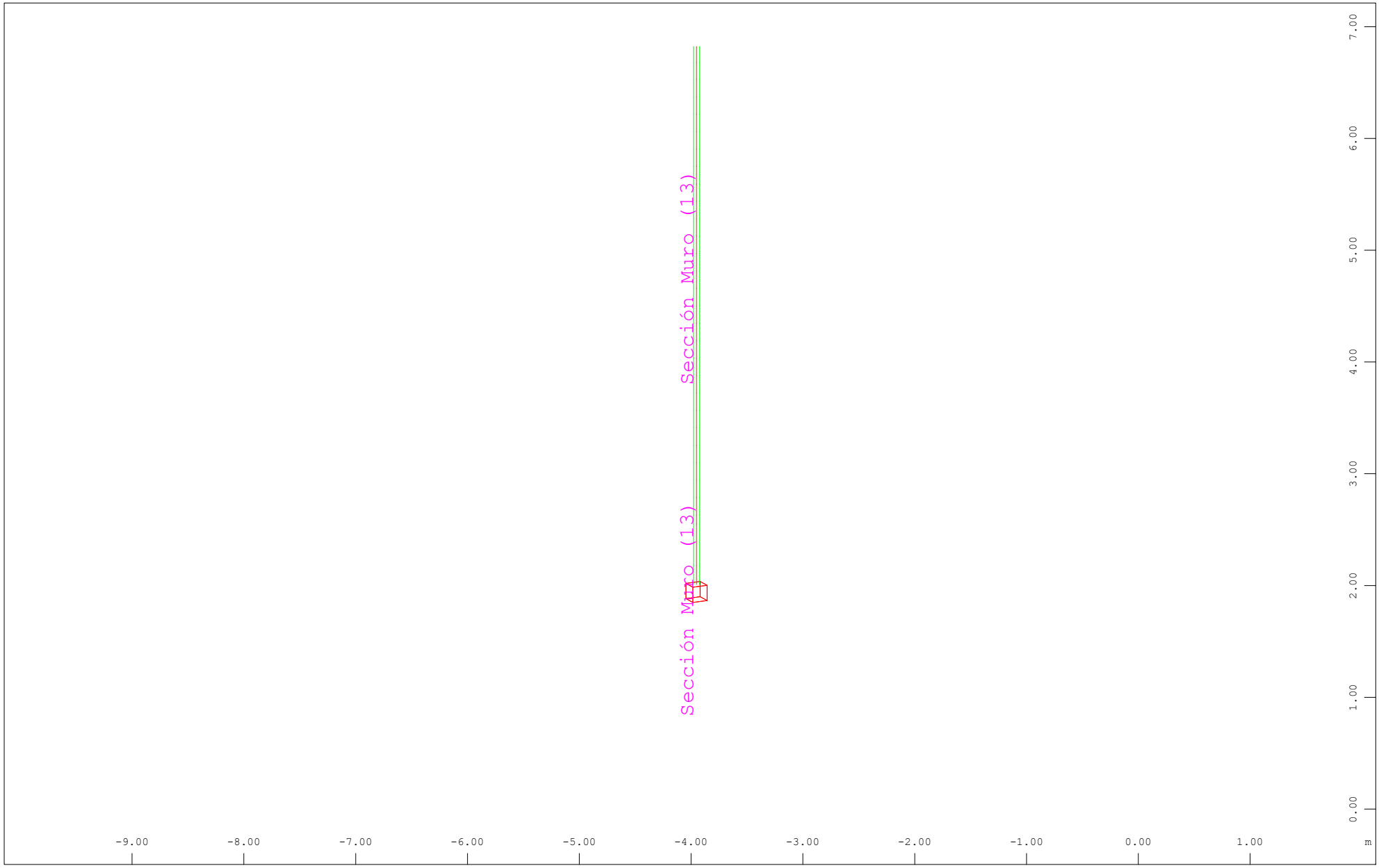
SLS design

Serviceability load results at nodes Group 13

NODE No	LC No	x [m]	wk [mm]	as1	as2	as3	d1 [mm]	d2 [mm]	d3 [mm]	wk+ [mm]	as1+	as2+	as3+
1698	1402 U		>0.20	17.8	4.46		12	12		0.20	35.16	10.00	
1863	U		>0.20	3.73	12.8		12	12		0.20	7.42	27.81	
1883	U		>0.20	4.15	14.1		12	12		0.20	8.23	30.58	
1917	U		>0.20	4.33	15.0		12	12		0.20	8.58	32.27	
1937	U		>0.20	4.43	15.4		12	12		0.20	8.72	33.05	
1971	U		>0.20	4.45	15.6		12	12		0.20	8.75	33.48	
1991	U		>0.20	4.52	15.7		12	12		0.20	8.89	33.74	
2025	U		>0.20	4.57	15.8		12	12		0.20	8.98	34.11	
2045	U		>0.20	4.58	15.9		12	12		0.20	9.02	34.11	
2079	U		>0.20	4.57	15.9		12	12		0.20	9.07	34.24	
2281	U		>0.20	4.64	16.9		12	12		0.20	8.91	34.15	
2335	U		>0.20	4.68	17.0		12	12		0.20	9.07	34.22	
17131	U		>0.20	4.69	17.0		12	12		0.20	9.06	34.19	
21439	U		>0.20	4.66	15.9		12	12		0.20	9.21	34.29	

x height of compression zone
wk crack width before increase of reinforcement
as1 reinforcement 1. layer before increase of reinforcement
as2 reinforcement 2. layer before increase of reinforcement
as3 reinforcement 3. layer before increase of reinforcement
d1 reinforcement diameter layer 1-3
wk+ crack width after increase of reinforcement
as1+ reinforcement after increase of reinforcement layer 1-3
Elements with maximum values are printed

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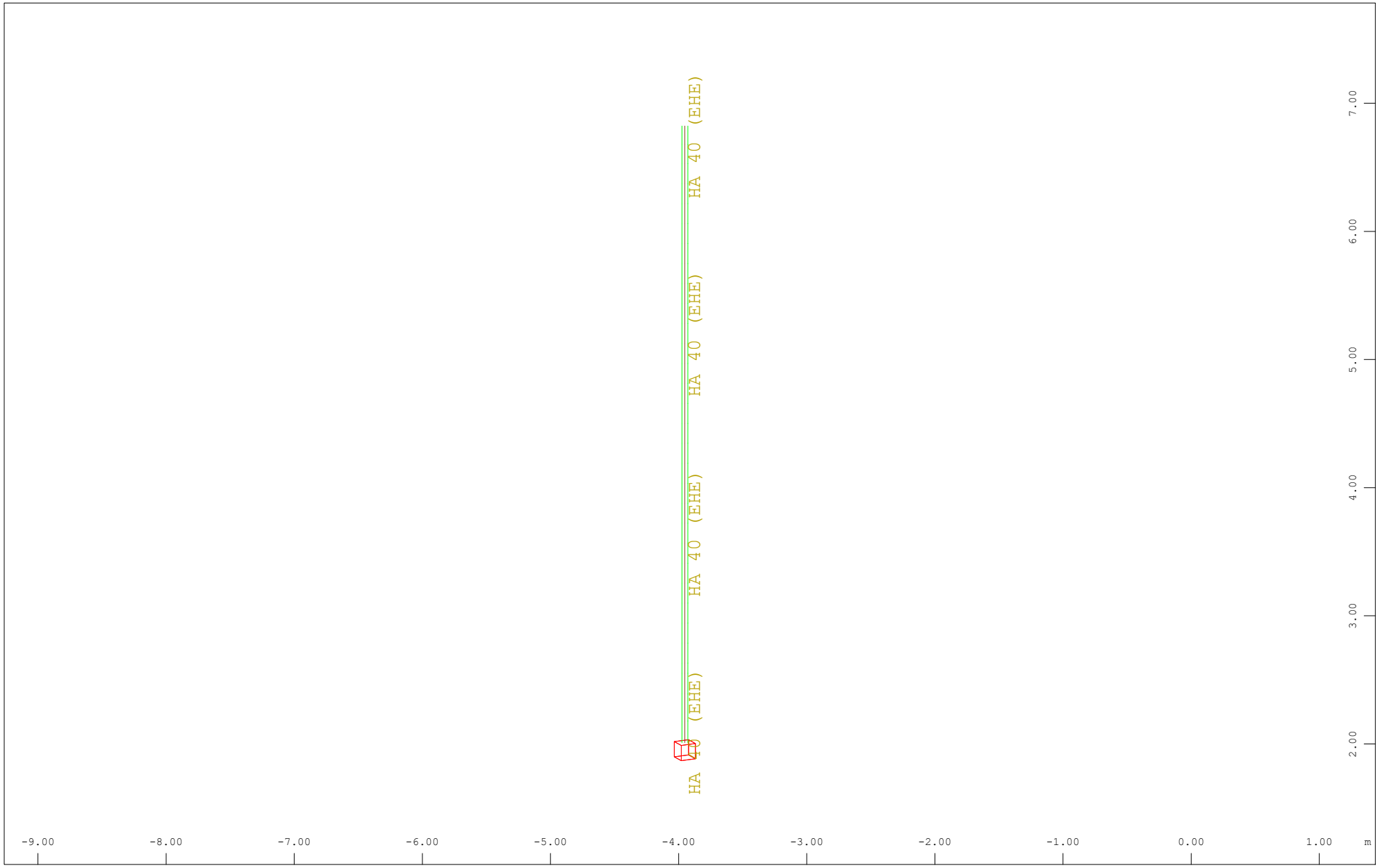
Z
Y
X

Sector of system

Beam Elements , Sectional Designations

M 1 : 47

X * 0.502
Y * 0.906
Z * 0.962



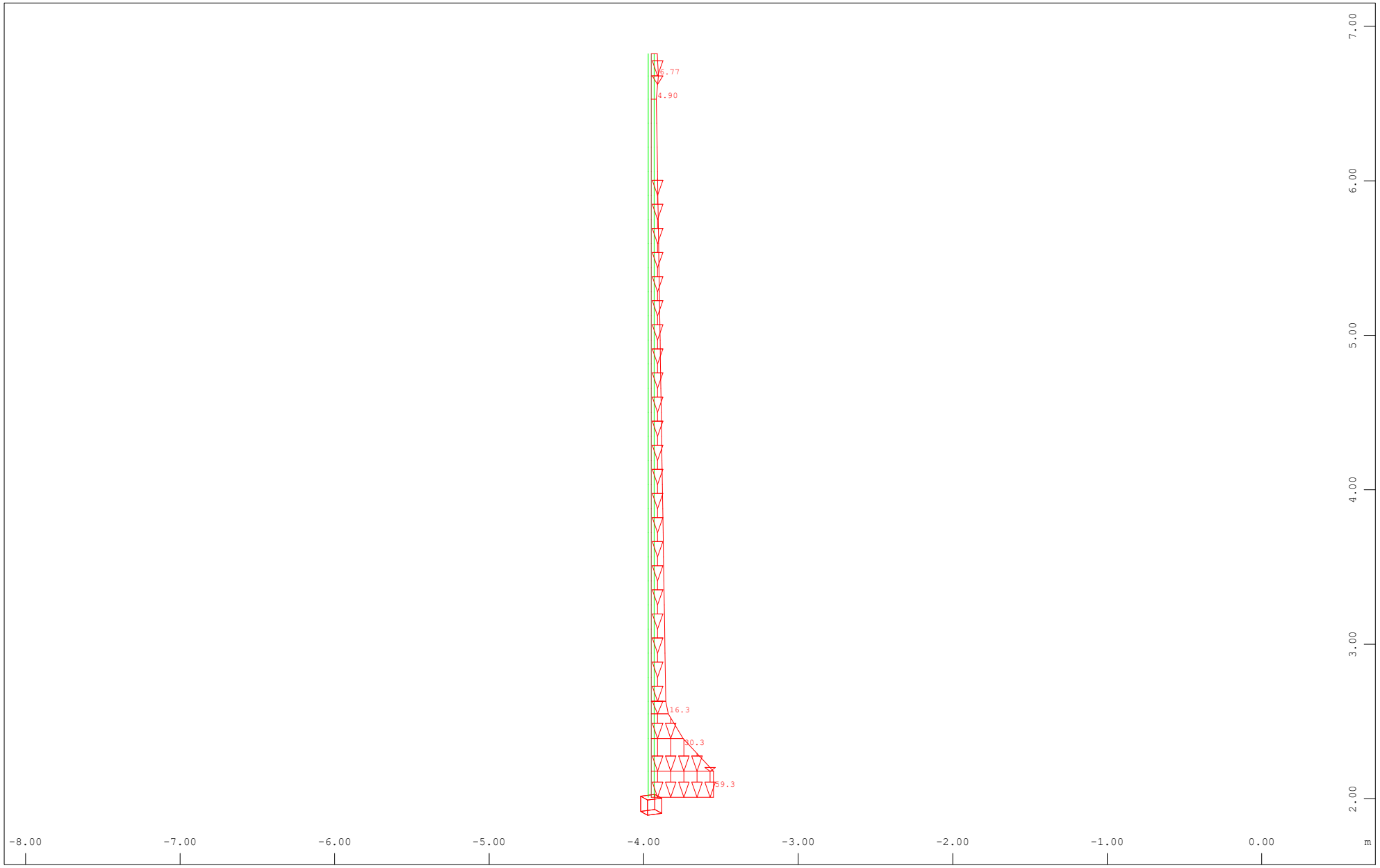
Z
Y
X

Sector of system

Material designations, Beam Elements

M 1 : 41

X * 0.502
Y * 0.906
Z * 0.962



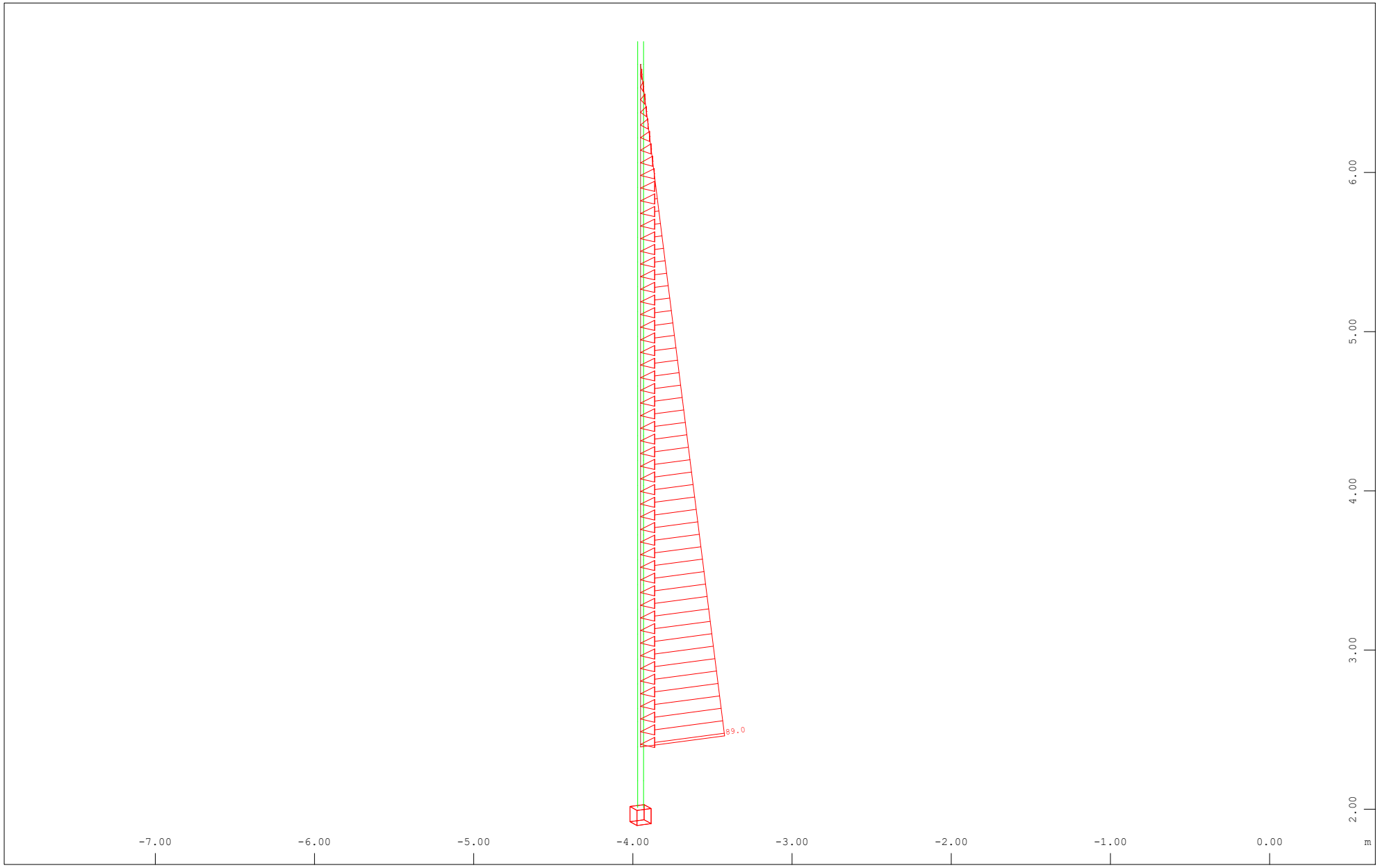
Z
Y
X

Sector of system Group 0...3 11...13 15 91 95

All loads, Loadcase 1 PP , (1 cm 3D = unit) Beam dead load in global Z (Unit=50.0 kN/m) (Min=-59.3) (Max=-4.90)

M 1 : 34

X * 0.502
Y * 0.906
Z * 0.962



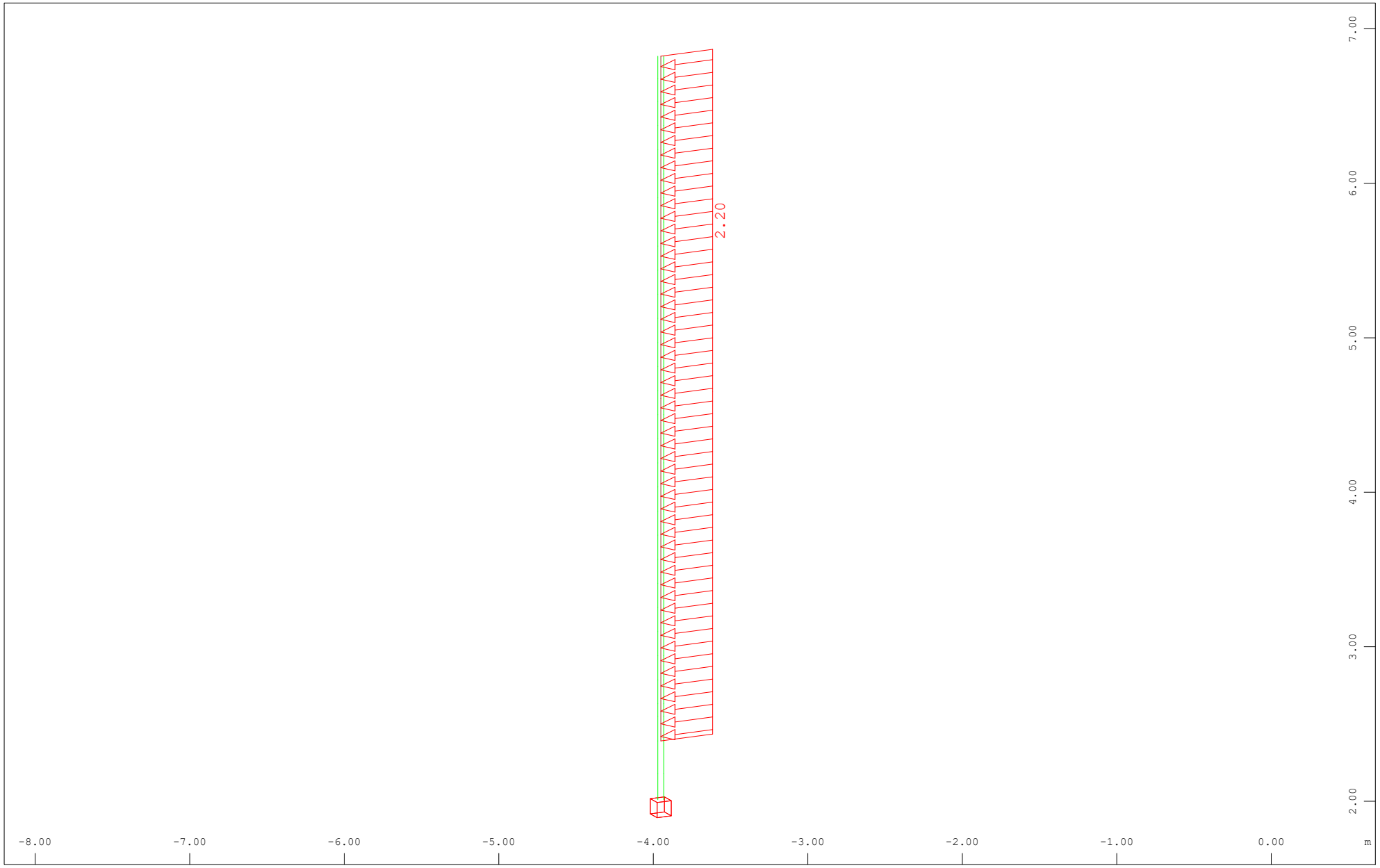
Z
Y
X

Sector of system Group 0...3 11...13 15 91 95

All loads, Loadcase 2 AGUA , (1 cm 3D = unit) Free line load (force) in global Y (Unit=50.0 kN/m) (Min=-89.0) (Max=0)

M 1 : 33

X * 0.502
Y * 0.906
Z * 0.962



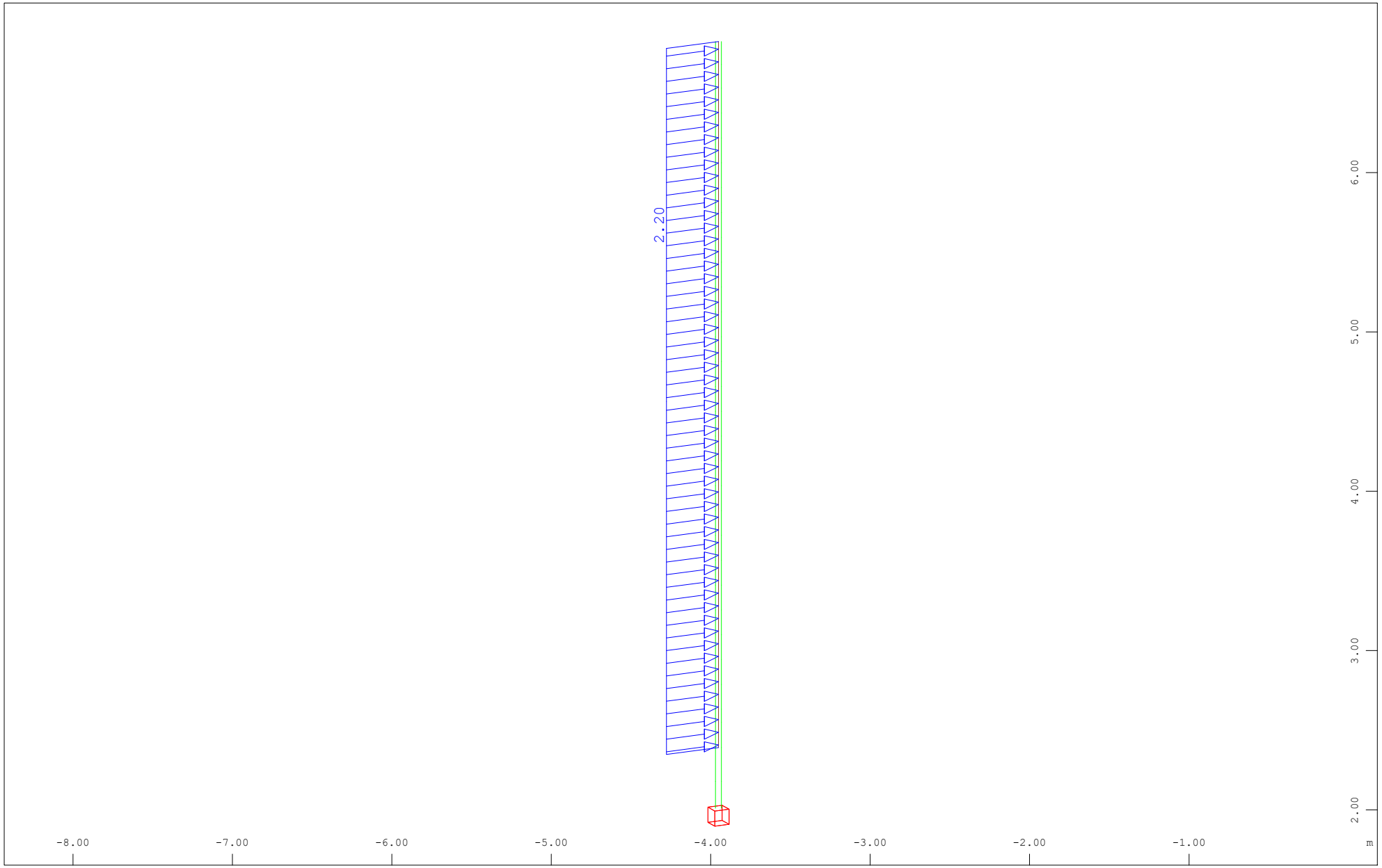
Z
Y
X

Sector of system Group 0...3 11...13 15 91 95

All loads, Loadcase 31 VIENTO+ , (1 cm 3D = unit) Free line load (force) in global Y (Unit=2.00 kN/m) (Min=-2.20) (Max=-2.20)

M 1 : 34

X * 0.502
Y * 0.906
Z * 0.962



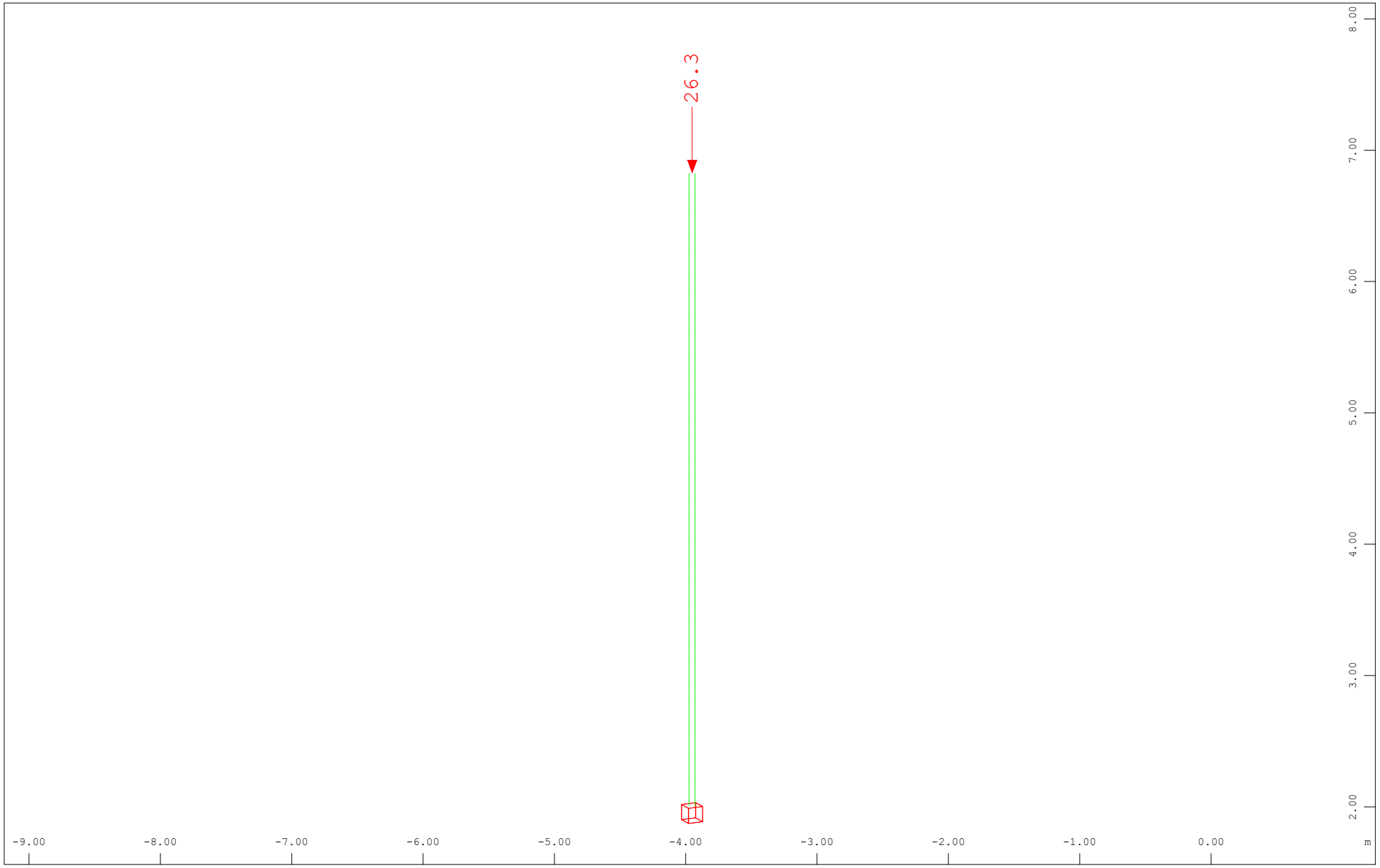
Z
Y
X

Sector of system Group 0...3 11...13 15 91 95

All loads, Loadcase 32 VIENTO- , (1 cm 3D = unit) Free line load (force) in global Y (Unit=2.00 kN/m) (Max=2.20)

M 1 : 33

X * 0.502
Y * 0.906
Z * 0.962



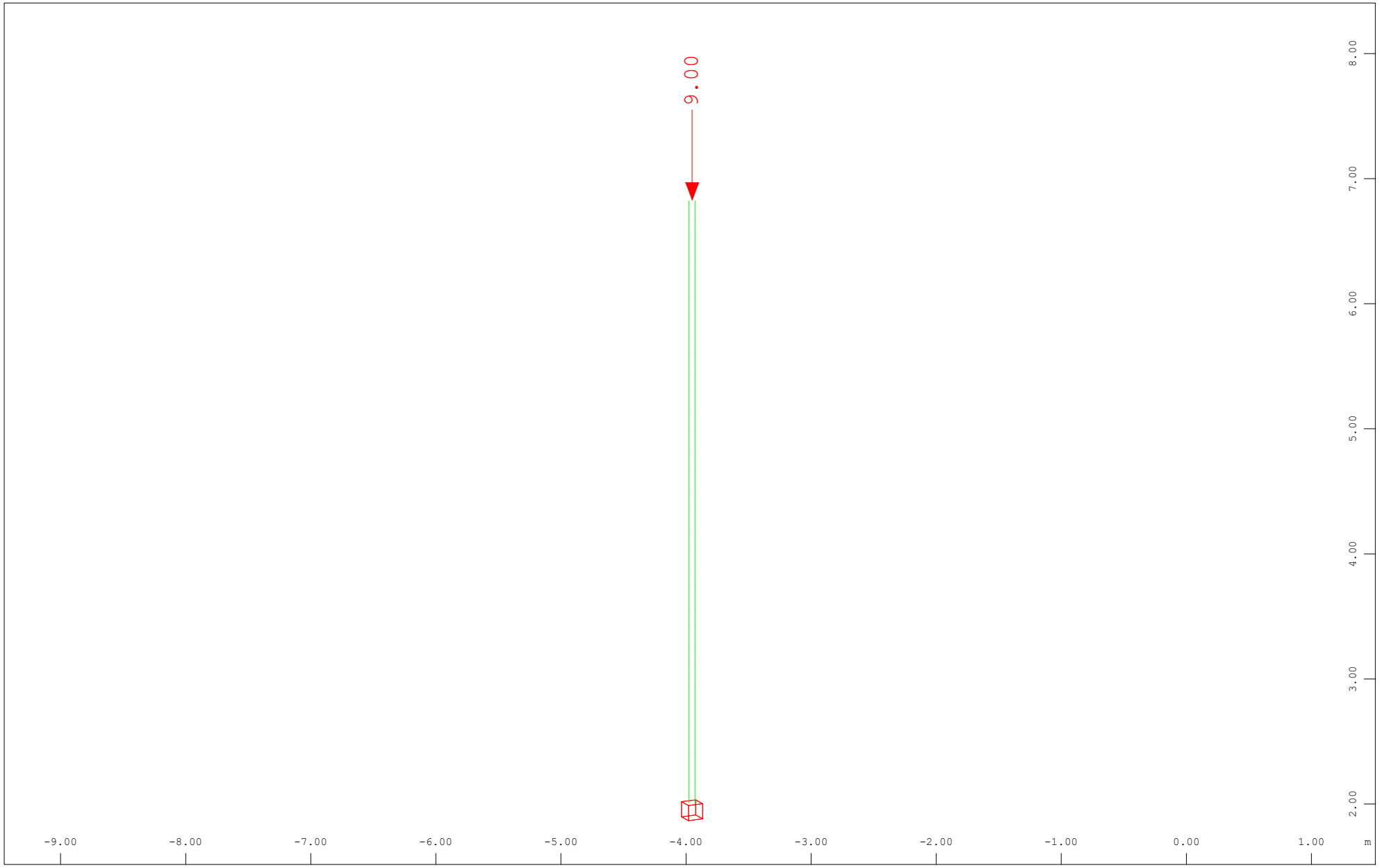
Z
Y
X

Sector of system Group 0...3 11...13 15 91 95

All loads, Loadcase 33 CM , (1 cm 3D = unit) Free single load (force) in global Z (Unit=20.0 kN) (Min=-26.3) (Max=-26.3)

M 1 : 40

X * 0.502
Y * 0.906
Z * 0.962



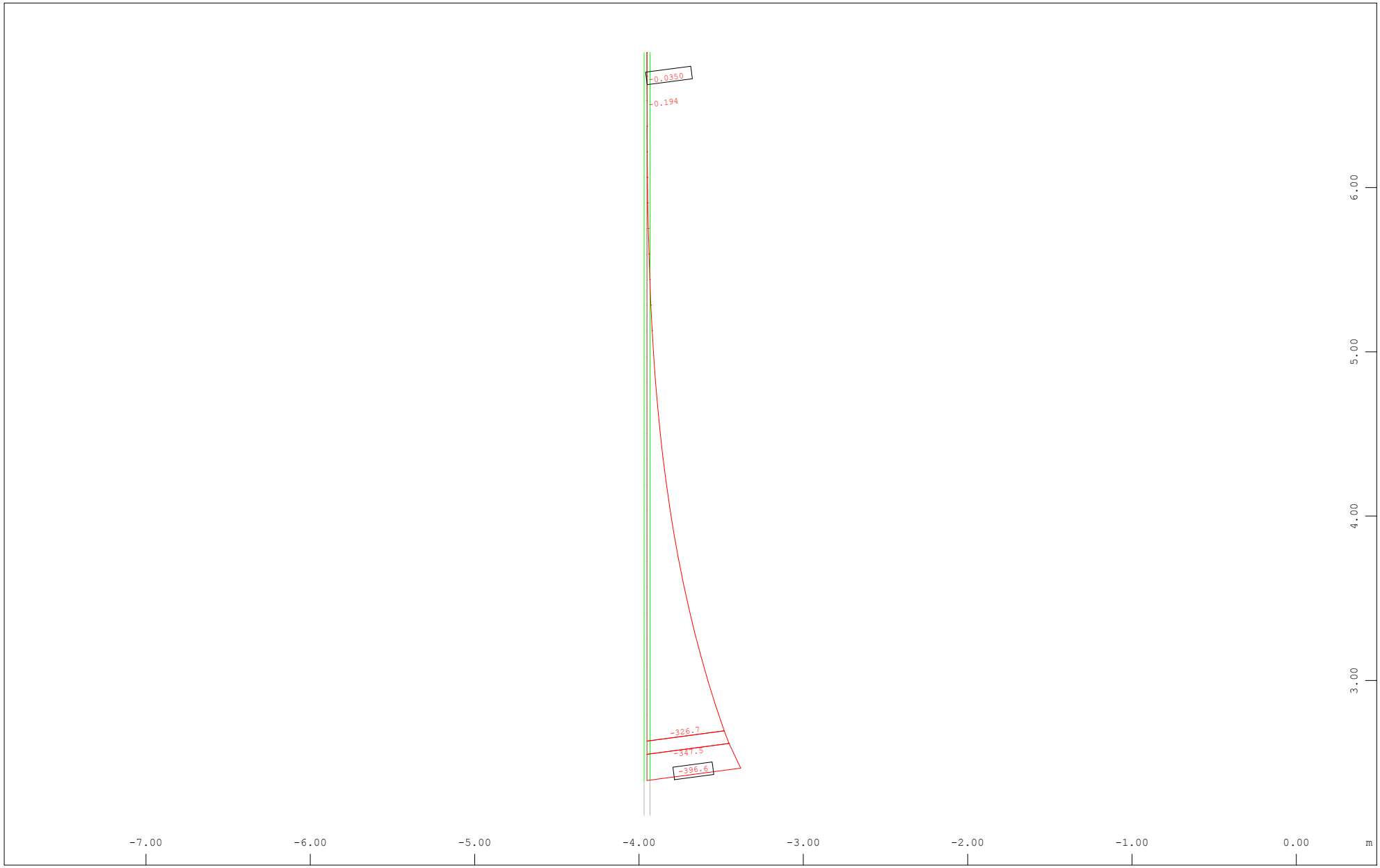
Z
Y
X

Sector of system Group 0...3 11...13 15 91 95

All loads, Loadcase 34 SCU , (1 cm 3D = unit) Free single load (force) in global Z (Unit=5.00 kN) (Min=-9.00) (Max=-9.00)

M 1 : 42

X * 0.502
Y * 0.906
Z * 0.962



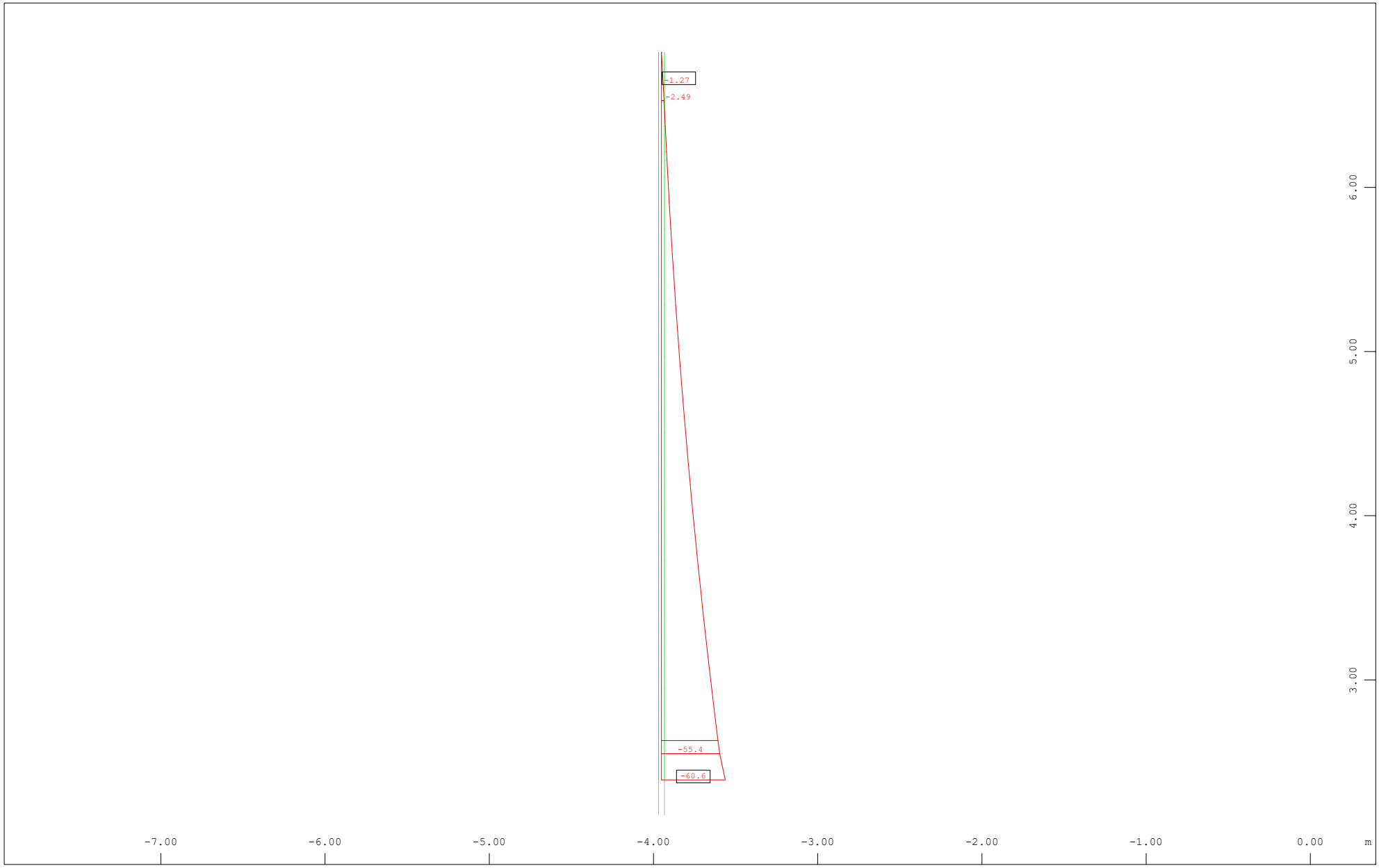
Z
Y
X

Sector of system Group 0 1 11...13 15 91 95

Beam Elements , Bending moment My, Loadcase 2130 MIN-MY BEAM ELU , 1 cm 3D = 200.0 kNm (Min=-396.6) (Max=-1.8175e-10)

M 1 : 32

X * 0.502
Y * 0.906
Z * 0.962



Z
Y
X

Sector of system Group 0 1 11...13 15 91 95

Beam Elements , Normal force Nx, Loadcase 2122 MIN-N BEAM ELU , 1 cm 3D = 50.0 kN (Min=-60.6) (Max=-9.6536e-09)

M 1 : 32

X * 0.502
Y * 0.906
Z * 0.962

Materials

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018

Materials

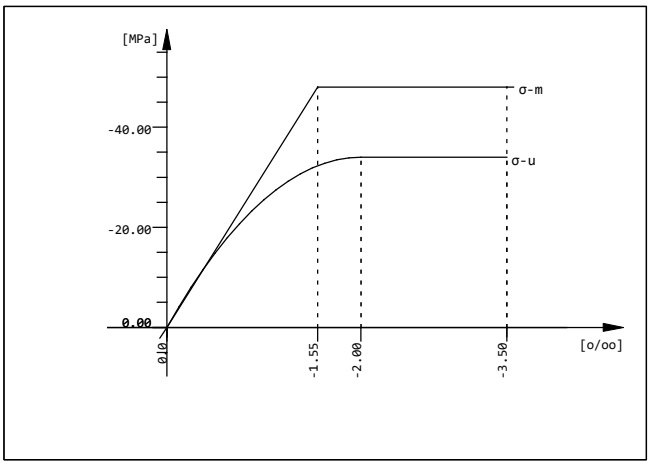
Mat	Classification
1	HA 40 (EHE)
2	B 500 (EHE)
3	A 37 (EA-95)
11	HA 25 (EHE)
12	B 500 (EHE)

Mat 1 HA 40 (EHE)

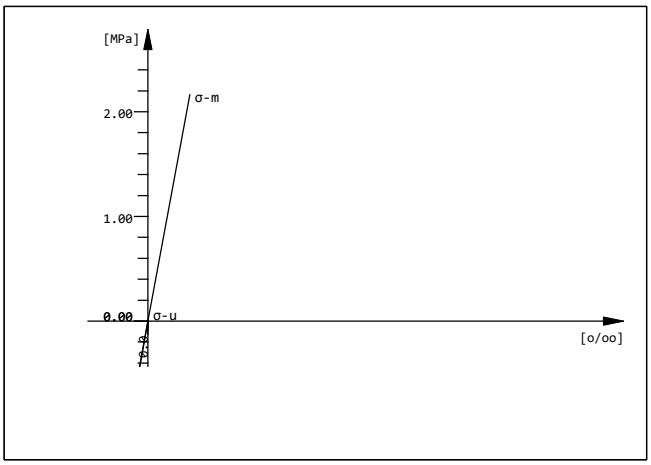
Young's modulus	E	30891	[MPa]	Safetyfactor		1.50	[-]
Poisson's ratio	μ	0.20	[-]	Strength	fc	34.00	[MPa]
Shear modulus	G	12871	[MPa]	Nominal strength	fck	40.00	[MPa]
Compression modulus	K	17162	[MPa]	Tensile strength	fctm	3.51	[MPa]
Nominal Weight	γ	25.0	[kN/m3]	Tensile strength	fctk,05	2.46	[MPa]
Mean density	ρ	2400.0	[kg/m3]	Tensile strength	fctk,95	4.56	[MPa]
Elongation coefficient	α	1.00E-05	[1/K]	Bond strength	fbd	3.68	[MPa]
				Service strength	fcm	48.00	[MPa]
				Fatigue strength	fcd,fat	19.04	[MPa]
				Tensile strength	fctd	1.64	[MPa]
				Tensile failure energy	Gf	0.15	[N/mm]

Stress-Strain for serviceability	ε[o/oo]	σ-m[MPa]	E-t[MPa]
Is also extended beyond the	0.000	0.00	30891
defined stress range	-1.554	-48.00	0
	-3.500	-48.00	0
	Safetyfactor		1.50

Stress-Strain for ultimate load	ε[o/oo]	σ-u[MPa]	E-t[MPa]
Is only valid within the defined	0.000	0.00	34000
stress range	-2.000	-34.00	0
	-3.500	-34.00	0
	Safetyfactor		1.50



HA 40 (EHE)



HA 40 (EHE)

Mat 2 B 500 (EHE)

Young's modulus	E	200000	[MPa]	Safetyfactor		1.15	[-]
Poisson's ratio	μ	0.30	[-]	Yield stress	fy	500.00	[MPa]
Shear modulus	G	76923	[MPa]	Compressive yield	fyc	500.00	[MPa]
Compression modulus	K	166667	[MPa]	Tensile strength	ft	550.00	[MPa]
Nominal Weight	γ	78.5	[kN/m3]	Compressive strength	fc	550.00	[MPa]
Mean density	ρ	7850.0	[kg/m3]	Ultimate strain		50.00	[o/oo]
Elongation coefficient	α	1.20E-05	[1/K]	relative bond coeff.		1.00	[-]
max. thickness	t-max	32.00	[mm]	EN 1992 bond coeff.	k1	0.80	[-]

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Materials

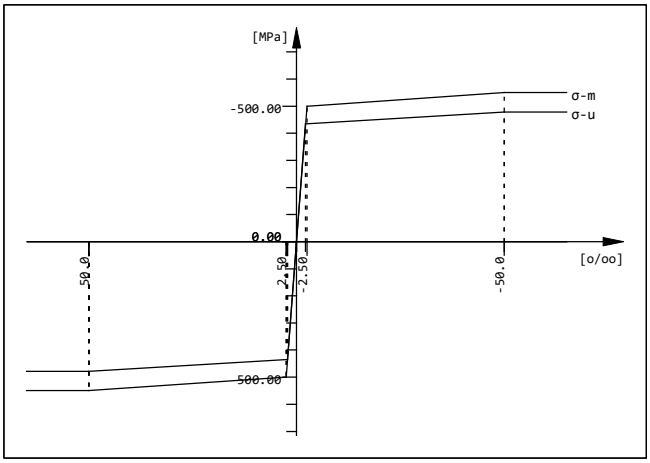
Mat 2 B 500 (EHE)

			Hardening modulus	Eh	0.00	[MPa]
			Proportional limit	fp	500.00	[MPa]
			Dynamic allowance	σ-dyn	150.00	[MPa]

Stress-Strain for serviceability	ε[o/oo]	σ-m[MPa]	E-t[MPa]
Is also extended beyond the	1000.000	550.00	0
defined stress range	50.000	550.00	0
	2.500	500.00	1053
	0.000	0.00	200000
	-2.500	-500.00	1053
	-50.000	-550.00	0
	-1000.000	-550.00	0
	Safetyfactor		1.15

Stress-Strain for ultimate load	ε[o/oo]	σ-u[MPa]	E-t[MPa]
Is also extended beyond the	1000.000	478.26	0
defined stress range	50.000	478.26	0
	2.174	434.78	909
	0.000	0.00	200000
	-2.174	-434.78	909
	-50.000	-478.26	0
	-1000.000	-478.26	0
	Safetyfactor		(1.15)

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B 500 (EHE)

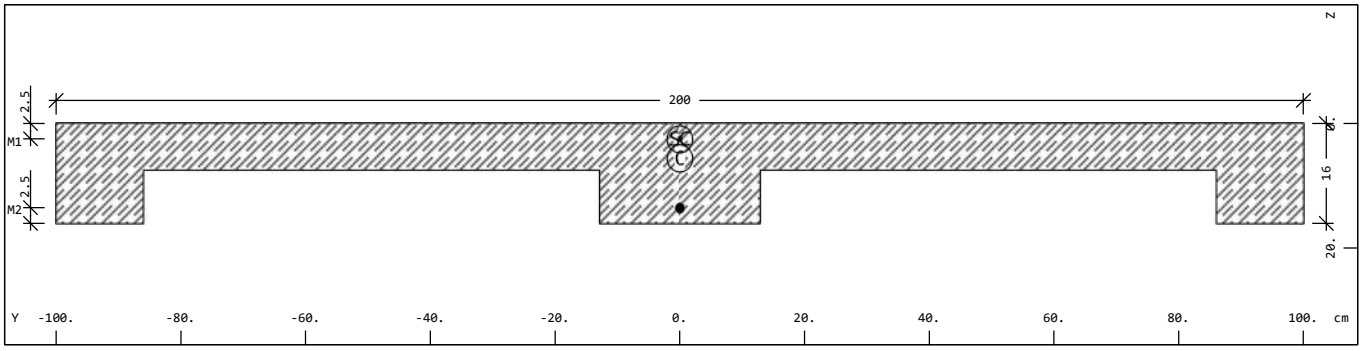
Thermal material constants

Mat	T[°C]	S[kJ/K/m3]	Kxx[W/K/m]	Kyy[W/K/m]	Kzz[W/K/m]	
1	AUTO	2.16E+03	1.951E+00			HA 40 (EHE)
2	AUTO	3.45E+03	5.333E+01			B 500 (EHE)
3	AUTO	3.45E+03	5.333E+01			A 37 (EA-95)
11	AUTO	2.16E+03	1.951E+00			HA 25 (EHE)
12	AUTO	3.45E+03	5.333E+01			B 500 (EHE)

Mat	material number	S[kJ/K/m3]	Heat capacity
T[°C]	Temperature	Kxx[W/K/m],Kyy[W/K/m],Kzz[W/K/m]	Heat conductivity

Sections

Cross section No. 13 - Sección Muro



Cross section No. 13 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	1.9615E-01	1.452E-01	3.256E-04	0.00	0.00	30891	490.4	7.086E-02
2	6.219E-04	3.275E-02	7.086E-02	5.64	2.59	12871	(BEAM)	3.256E-04

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-5.64	143.59	9.985E-02	2	3.099E+02	1.459E+01
	100.00	10.41	10.24	1.962E-01		5.837E+01	4.376E+01

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0975	0.0975	1.340E-04	0.011	4.023E-11	-4.135E-12	0.00	112.65

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	1.9615E-01	1.452E-01	3.256E-04	0.00	20594	490.4	7.086E-02
	6.219E-04	3.275E-02	7.086E-02	5.64	8581		3.256E-04

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

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Sections

Additional design data

Mat	periphery-O/-I [m2/m]	[m2/m]	deff [cm]	t-min [cm]	t-max [cm]	thet-p [kgm2/m]	thet-y [kgm2/m]	thet-z [kgm2/m]	thet-yz [kgm2/m]	yg [cm]	zg [cm]
	4.663		8.41			177.971	0.814	177.157		0.00	5.64

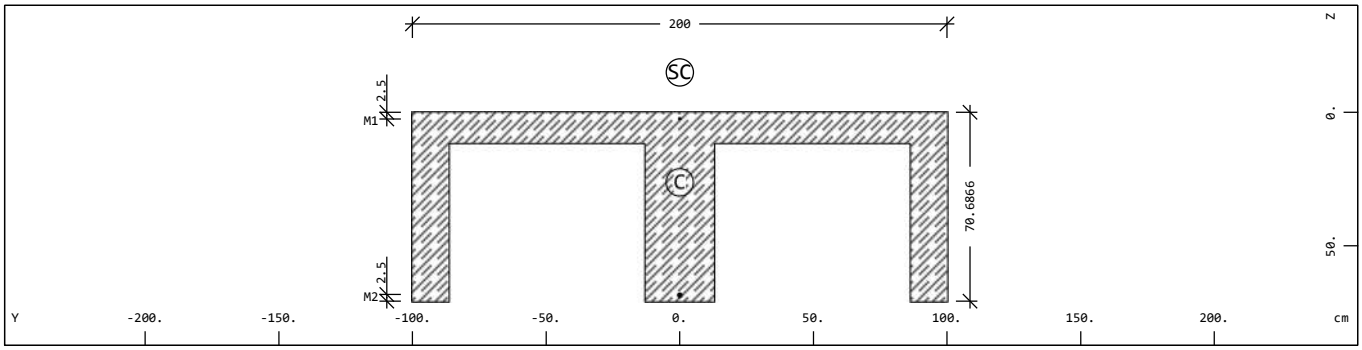
Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

Reinforcement global values

Layer	Mref	Mat	As [cm2]	As-min [cm2]	As-max [cm2]	D [mm]	yr [cm]	zr [cm]	L-tors [cm]	N-p [kN]	My-p [kNm]	Mz-p [kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	13.55				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Cross section No. 14 - Sección Muro



Cross section No. 14 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	5.5344E-01	2.166E-01	2.637E-02	0.00	0.00	30891	1383.6	2.222E-01
2	5.432E-03	2.775E-01	2.222E-01	26.20	-14.95	12871	(BEAM)	2.637E-02

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-26.20	158.17	2.818E-01	2	4.789E+01	6.347E+00
	100.00	44.49	49.36	5.534E-01		9.499E+00	5.209E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.4484	0.4484	1.096E-02	0.129	-8.122E-12	-2.466E-10	0.00	115.53

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance

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Sections

CMS[m4]	warping shear resistance

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	5.5344E-01	2.166E-01	2.637E-02	0.00	20594	1383.6	2.222E-01
	5.432E-03	2.775E-01	2.222E-01	26.20	8581		2.637E-02

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	7.771		14.24			621.552	65.932	555.620		0.00	26.20

Mat	material number		t-min,t-max	thickness	
periphery-O/-I	peripheral area per length		thet-p,thet-y,thet-z,thet-yz	rotational mass	
deff	effective depth		yg,zg	ordinate of the mass centre	

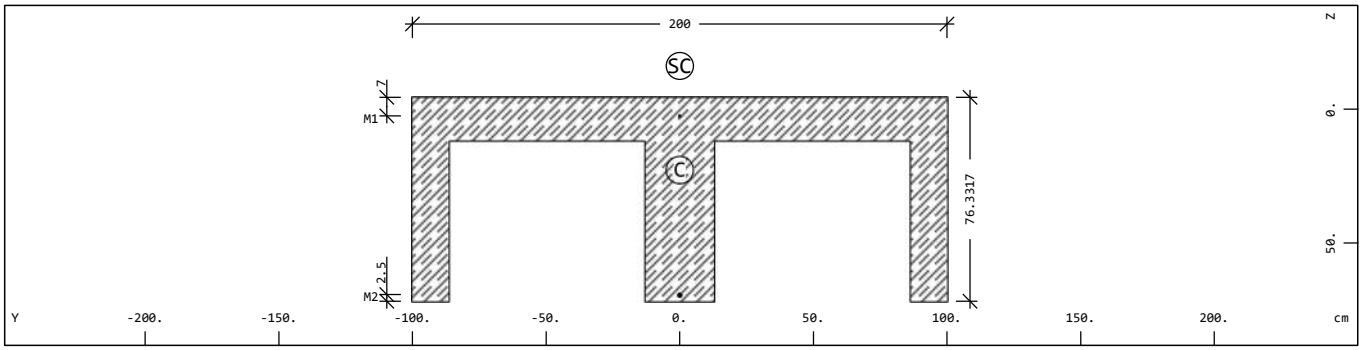
Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	68.19				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

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Cross section No. 15 - Sección Muro



Cross section No. 15 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	6.5116E-01	2.908E-01	3.415E-02	0.00	0.00	30891	1627.9	2.555E-01
2	7.642E-03	3.137E-01	2.555E-01	22.66	-16.22	12871	(BEAM)	3.415E-02

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Sections

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-27.16	154.86	3.323E-01	2	4.074E+01	4.814E+00
	100.00	49.17	52.31	6.512E-01		9.119E+00	4.686E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.4896	0.4896	1.403E-02	0.143	5.764E-10	-2.749E-10	0.00	114.65

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	6.5116E-01	2.908E-01	3.415E-02	0.00	20594	1627.9	2.555E-01
	7.642E-03	3.137E-01	2.555E-01	22.66	8581		3.415E-02

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

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Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	7.925		16.43			724.080	85.363	638.717		0.00	22.66

Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

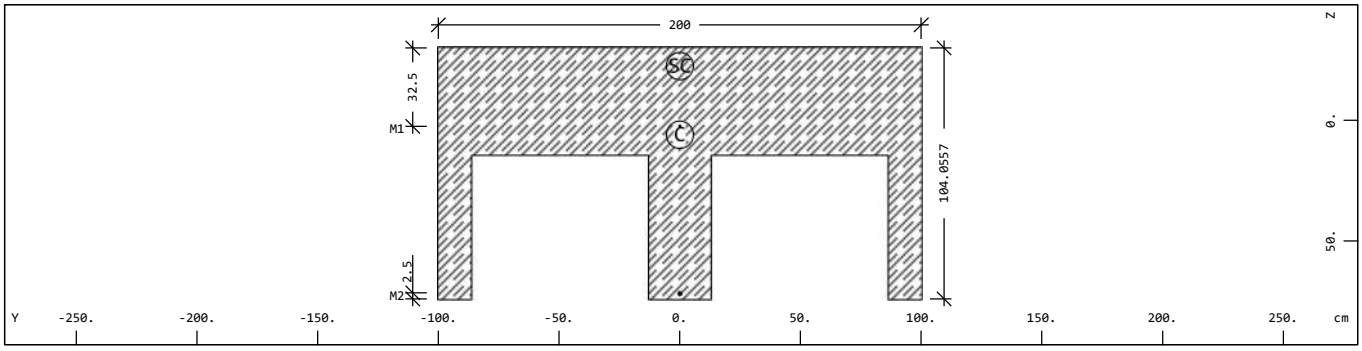
Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	69.33				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Sections

Cross section No. 16 - Sección Muro



Cross section No. 16 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	1.2124E+00	7.381E-01	8.815E-02	0.00	0.00	30891	3031.0	4.423E-01
2	5.894E-02	6.191E-01	4.423E-01	6.07	-22.19	12871	(BEAM)	8.815E-02

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-36.07	144.88	6.267E-01	2	1.135E+01	2.034E+00
	100.00	67.99	67.77	1.212E+00		7.403E+00	3.366E+00

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.6435	0.6435	3.144E-02	0.230	7.404E-10	-7.798E-10	0.00	96.21

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	1.2124E+00	7.381E-01	8.815E-02	0.00	20594	3031.0	4.423E-01
	5.894E-02	6.191E-01	4.423E-01	6.07	8581		8.815E-02

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

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Sections

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	8.461		28.66			1326.039	220.363	1105.676		0.00	6.07

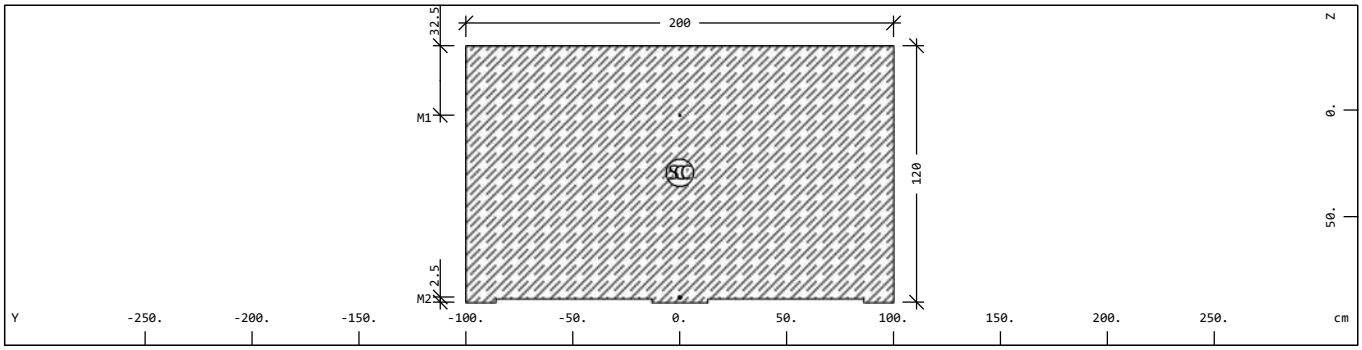
Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	71.56				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Cross section No. 17 - Sección Muro



Cross section No. 17 - Sección Muro

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	2.3736E+00	1.982E+00	2.787E-01	0.00	0.00	30891	5934.1	7.924E-01
2	7.012E-01	1.987E+00	7.924E-01	29.34	29.19	12871	(BEAM)	2.787E-01

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-59.34	133.51	1.321E+00	2	2.084E+00	8.624E-01
	100.00	60.66	79.14	2.374E+00		2.027E+00	6.274E-01

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.2816	0.2816	2.242E-02	0.227	-7.123E-10	-1.545E-09	0.00	0.57

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance

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Sections

CMS[m4]	warping shear resistance

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	2.3736E+00	1.982E+00	2.787E-01	0.00	20594	5934.1	7.924E-01
	7.012E-01	1.987E+00	7.924E-01	29.34	8581		2.787E-01

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	6.472		73.35			2677.657	696.729	1980.928		0.00	29.34

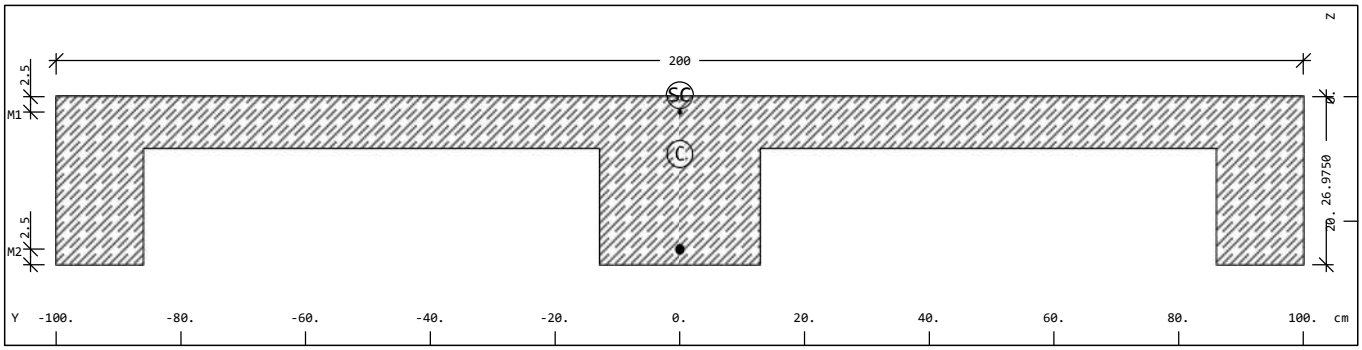
Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	87.50				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Cross section No. 105 - Sección Muro (13)



Cross section No. 105 - Sección Muro (13)

Static properties of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	ysc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	zsc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]					α[°]
1	2.6761E-01	1.648E-01	1.530E-03	0.00	0.00	30891	669.0	1.011E-01
2	1.417E-03	6.737E-02	1.011E-01	9.24	-0.16	12871	(BEAM)	1.530E-03

Mat	material number	yc[cm],zc[cm]	ordinate of elastic centroid
A[m2]	sectional area	ysc[cm],zsc[cm]	ordinate of shear centre
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	E[MPa]	Young's modulus
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia	g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

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Sections

Additional static properties of cross section

α-T[1/K]	ymin[cm]	zmin[cm]	hymin[cm]	AK[m2]	MRs	1/WT[1/m3]	1/WVy[1/m2]
	ymax[cm]	zmax[cm]	hzmin[cm]	AB[m2]		1/WT2[1/m3]	1/WVz[1/m2]
1.0E-05	-100.00	-9.24	149.65	1.364E-01	2	1.429E+02	8.959E+00
	100.00	17.73	18.02	2.676E-01		3.353E+01	1.776E+01

α-T[1/K]	Elongation coefficient
ymin[cm],zmin[cm],ymax[cm],zmax[cm]	extreme coordinates relative to centroid
hymin[cm],hzmin[cm]	minimum value for internal lever
AK[m2]	torsional equivalent area (Bredt)
MRs	transverse reinforcements material number
1/WT[1/m3],1/WT2[1/m3]	torsional resistance
1/WVy[1/m2],1/WVz[1/m2]	shear force resistance
AB[m2]	gross concrete area

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.1711	0.1711	6.398E-04	0.027	1.250E-10	-1.427E-11	0.00	90.84

Wmin[m2],Wmax[m2]	unit warping	ASwyy[m6],ASwzz[m6]	warping sectional value
CM[m6]	warping resistance	ry[cm],rz[cm]	sectional distance
CMS[m4]	warping shear resistance		

Design values of cross section

Mat	A[m2]	Ay[m2]	Iy[m4]	yc[cm]	E[MPa]	g[kg/m]	I-1[m4]
MRf	It[m4]	Az[m2]	Iz[m4]	zc[cm]	G[MPa]		I-2[m4]
		Ayz[m2]	Iyz[m4]				α[°]
1	2.6761E-01	1.648E-01	1.530E-03	0.00	20594	669.0	1.011E-01
	1.417E-03	6.737E-02	1.011E-01	9.24	8581		1.530E-03

Mat	material number
A[m2]	sectional area
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia
yc[cm],zc[cm]	ordinate of elastic centroid
E[MPa]	Young's modulus
g[kg/m]	weight per length
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes
MRf	reinforcement material number
It[m4]	torsional moment of inertia
G[MPa]	Shear modulus

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Additional design data

Mat	periphery-O/-I		deff	t-min	t-max	thet-p	thet-y	thet-z	thet-yz	yg	zg
	[m2/m]	[m2/m]	[cm]	[cm]	[cm]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[kgm2/m]	[cm]	[cm]
	5.284		10.13			256.674	3.824	252.850		0.00	9.24

Mat	material number	t-min,t-max	thickness
periphery-O/-I	peripheral area per length	thet-p,thet-y,thet-z,thet-yz	rotational mass
deff	effective depth	yg,zg	ordinate of the mass centre

Reinforcement global values

Layer	Mref	Mat	As	As-min	As-max	D	yr	zr	L-tors	N-p	My-p	Mz-p
			[cm2]	[cm2]	[cm2]	[mm]	[cm]	[cm]	[cm]	[kN]	[kNm]	[kNm]
M1	1	2	0.50	0.50		8	0.00	2.50				
M2	1	2	2.01	2.01		16	0.00	24.47				

Layer	layer of reinforcement	D	bar diameter
Mref	embedding reference material	yr,zr	ordinate of elastic centroid
Mat	material number	L-tors	torsional effective length
As	reinforcement area	N-p	prestress normal force
As-min	minimum reinforcement area	My-p,Mz-p	prestress bending moment
As-max	maximum reinforcement area		

Mesh Generation

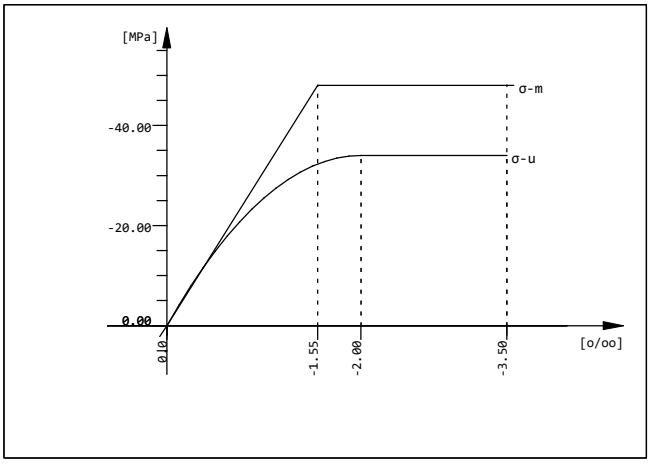
Mat 1 HA 40 (EHE)

Young's modulus	E	30891	[MPa]	Safetyfactor		1.50	[-]
Poisson's ratio	μ	0.20	[-]	Strength	fc	34.00	[MPa]
Shear modulus	G	12871	[MPa]	Nominal strength	fck	40.00	[MPa]
Compression modulus	K	17162	[MPa]	Tensile strength	fctm	3.51	[MPa]
Nominal Weight	γ	25.0	[kN/m3]	Tensile strength	fctk,05	2.46	[MPa]
Mean density	ρ	2400.0	[kg/m3]	Tensile strength	fctk,95	4.56	[MPa]
Elongation coefficient	α	1.00E-05	[1/K]	Bond strength	fbd	3.68	[MPa]
				Service strength	fcm	48.00	[MPa]
				Fatigue strength	fcd,fat	19.04	[MPa]
				Tensile strength	fctd	1.64	[MPa]
				Tensile failure energy	Gf	0.15	[N/mm]

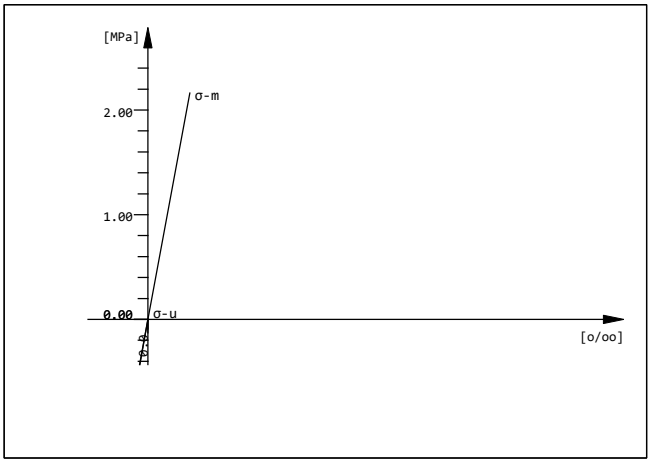
Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	0.000	0.00	30891
defined stress range	-1.554	-48.00	0
	-3.500	-48.00	0
	Safetyfactor		1.50

Stress-Strain for ultimate load	**ε[o/oo]**	**σ-u[MPa]**	**E-t[MPa]**
Is only valid within the defined	0.000	0.00	34000
stress range	-2.000	-34.00	0
	-3.500	-34.00	0
	Safetyfactor		1.50

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HA 40 (EHE)



HA 40 (EHE)

Mat 2 B 500 (EHE)

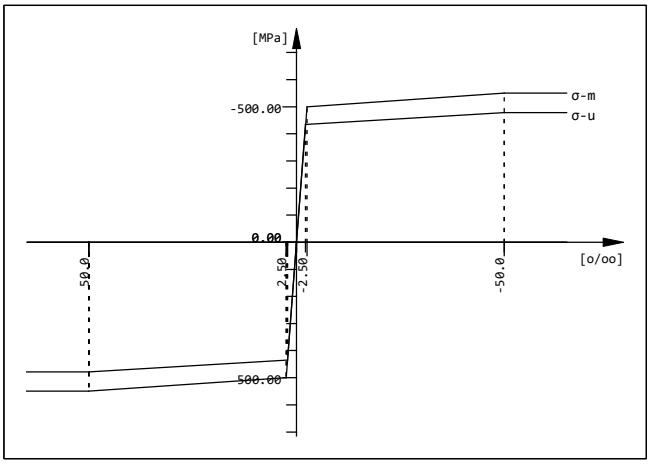
Young's modulus	E	200000	[MPa]	Safetyfactor		1.15	[-]
Poisson's ratio	μ	0.30	[-]	Yield stress	fy	500.00	[MPa]
Shear modulus	G	76923	[MPa]	Compressive yield	fyc	500.00	[MPa]
Compression modulus	K	166667	[MPa]	Tensile strength	ft	550.00	[MPa]
Nominal Weight	γ	78.5	[kN/m3]	Compressive strength	fc	550.00	[MPa]
Mean density	ρ	7850.0	[kg/m3]	Ultimate strain		50.00	[o/oo]
Elongation coefficient	α	1.20E-05	[1/K]	relative bond coeff.		1.00	[-]
max. thickness	t-max	32.00	[mm]	EN 1992 bond coeff.	k1	0.80	[-]
				Hardening modulus	Eh	0.00	[MPa]
				Proportional limit	fp	500.00	[MPa]
				Dynamic allowance	σ-dyn	150.00	[MPa]

Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	1000.000	550.00	0
defined stress range	50.000	550.00	0
	2.500	500.00	1053
	0.000	0.00	200000
	-2.500	-500.00	1053
	-50.000	-550.00	0

Mesh Generation

Stress-Strain for serviceability	ε[o/oo]	σ-m[MPa]	E-t[MPa]
	-1000.000	-550.00	0
	Safetyfactor		1.15

Stress-Strain for ultimate load	ε[o/oo]	σ-u[MPa]	E-t[MPa]
Is also extended beyond the	1000.000	478.26	0
defined stress range	50.000	478.26	0
	2.174	434.78	909
	0.000	0.00	200000
	-2.174	-434.78	909
	-50.000	-478.26	0
	-1000.000	-478.26	0
	Safetyfactor		(1.15)



B 500 (EHE)

Thermal material constants

Mat	T[°C]	S[kJ/K/m3]	Kxx[W/K/m]	Kyy[W/K/m]	Kzz[W/K/m]	
1	AUTO	2.16E+03	1.951E+00			HA 40 (EHE)
2	AUTO	3.45E+03	5.333E+01			B 500 (EHE)
3	AUTO	3.45E+03	5.333E+01			A 37 (EA-95)
11	AUTO	2.16E+03	1.951E+00			HA 25 (EHE)
12	AUTO	3.45E+03	5.333E+01			B 500 (EHE)

Mat material number S[kJ/K/m3] Heat capacity
T[°C] Temperature Kxx[W/K/m],Kyy[W/K/m],Kzz[W/K/m] Heat conductivity

Sectional Values

SNo	Mat	A[m2]	Ay[m2]	Iy[m4]	yc[m]	ysc[m]	E[MPa]	g[kg/m]	I-1[m4]
	MRf	It[m4]	Az[m2]	Iz[m4]	zc[m]	zsc[m]	G[MPa]		I-2[m4]
			Ayz[m2]	Iyz[m4]					α[°]
1	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	
	2	0.000E+00		0.000E+00	0.000	0.000	0	(BEAM)	
	= Sección Muro								
2	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	
	2	0.000E+00		0.000E+00	0.000	0.000	0	(COMPR)	
	= B/H = 50 / 50 cm								
	= B/H = 50 / 50 cm								
3	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	
	2	0.000E+00		0.000E+00	0.000	0.000	0	(CENTR)	
	= B/H = 40 / 50 cm								
	= B/H = 40 / 50 cm								
4	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	
	2	0.000E+00		0.000E+00	0.000	0.000	0	(BEAM)	
	= TT								
5	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	
	2	0.000E+00		0.000E+00	0.000	0.000	0	(BEAM)	
	= TT_Corta								
11	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	

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Mesh Generation

Sectional Values

SNo	Mat	A[m2]	Ay[m2]	Iy[m4]	yc[m]	ysc[m]	E[MPa]	g[kg/m]	I-1[m4]
	MRf	It[m4]	Az[m2]	Iz[m4]	zc[m]	zsc[m]	G[MPa]		I-2[m4]
			Ayz[m2]	Iyz[m4]					α[°]
	2	0.000E+00		0.000E+00	0.000	0.000	0	(BEAM)	
	= Sección Muro								
12	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	
	2	0.000E+00		0.000E+00	0.000	0.000	0	(BEAM)	
	= Sección Muro								
13	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	
	2	0.000E+00		0.000E+00	0.000	0.000	0	(BEAM)	
	= Sección Muro								
14	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	
	2	0.000E+00		0.000E+00	0.000	0.000	0	(BEAM)	
	= Sección Muro								
15	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	
	2	0.000E+00		0.000E+00	0.000	0.000	0	(BEAM)	
	= Sección Muro								
16	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	
	2	0.000E+00		0.000E+00	0.000	0.000	0	(BEAM)	
	= Sección Muro								
17	1	0.0000E+00		0.000E+00	0.000	0.000	0	0.0	
	2	0.000E+00		0.000E+00	0.000	0.000	0	(BEAM)	
	= Sección Muro								

SNo	section number	yc[m],zc[m]	ordinate of elastic centroid
Mat	material number	ysc[m],zsc[m]	ordinate of shear centre
A[m2]	sectional area	E[MPa]	Young's modulus
Ay[m2],Az[m2],Ayz[m2]	transverse shear deformation area	g[kg/m]	weight per length
Iy[m4],Iz[m4],Iyz[m4]	bending moment of inertia		
I-1[m4],I-2[m4],α[°]	principal moments of inertia and angle of the principal axes		
MRf	reinforcement material number		
It[m4]	torsional moment of inertia		
G[MPa]	Shear modulus		

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Structural Elements

Structural Points

Number	X[m]	Y[m]	Z[m]	Support Conditions	Designation
41	-8.387	-0.301	0.000	PPMM	Point
42	-13.387	-0.301	0.000	PPMM	Point
43	-13.387	-0.301	5.000	PP	Point
1001	-6.218	-0.360	5.000		
1002	-6.218	-0.370	4.850		
1003	-5.218	-0.370	4.850		
1004	-5.218	-0.360	5.000		
1006	-6.218	-0.338	4.700		
1007	-5.218	-0.338	4.700		
1011	-5.218	-0.359	0.460		
1012	-5.218	-0.494	0.371		
1013	-5.218	-1.200	0.180		
1014	-5.218	-1.050	0.330		
1015	-5.218	-0.440	4.850		
1016	-5.218	-0.300	0.298		
1017	-6.218	-0.300	0.298		
1018	-6.218	0.000	0.200		
1019	-5.218	0.000	0.200		
1020	-6.218	-0.420	0.195		
1021	-5.218	-0.420	0.195		
1022	-5.218	-1.200	0.090		
1023	-6.218	-1.200	0.090		
1027	-6.218	-0.359	0.460		
1031	-6.218	-0.494	0.371		
1032	-6.218	-1.200	0.180		
1033	-6.218	-1.050	0.330		
1034	-6.218	-0.440	4.850		

Mesh Generation

Structural Points

Number	X[m]	Y[m]	Z[m]	Support Conditions	Designation
1035	-4.218	-0.360	5.000		
1036	-4.218	-0.370	4.850		
1040	-4.218	-0.338	4.700		
1046	-4.218	-0.359	0.460		
1048	-4.218	-0.300	0.298		
1049	-4.218	0.000	0.200		
1051	-4.218	-0.420	0.195		
1054	-4.218	-1.200	0.090		
1058	-4.218	-0.494	0.371		
1059	-4.218	-1.200	0.180		
1060	-4.218	-1.050	0.330		
1061	-4.218	-0.440	4.850		
1062	-6.218	-0.358	0.298		
1063	-5.218	-0.358	0.298		
1064	-5.218	-0.494	0.185		
1065	-6.218	-0.494	0.185		
1066	-4.218	-0.358	0.298		
1067	-4.218	-0.494	0.185		
1068	-8.387	-0.301	0.175		
1069	-8.387	-0.301	0.395		
1070	-8.387	-0.301	0.561		
1071	-8.387	-0.301	0.645		
1072	-8.387	-0.301	4.695		
1073	-8.387	-0.301	4.850		
1074	-8.387	-0.301	5.000		
1075	-13.387	-0.301	0.175		
1076	-13.387	-0.301	0.395		
1077	-13.387	-0.301	0.561		
1078	-13.387	-0.301	0.645		
1079	-13.387	-0.301	4.695		
1080	-13.387	-0.301	4.850		

Structural Points - Column Head Properties

Number	Kind	dx[m]	dy[m]	A[m2]	t[m]	SNo	Designation
41	Column	0.000	circular	0.000			Point
42	Column	0.000	circular	0.000			Point
43	Column	0.000	circular	0.000			Point

dx[m],dy[m] local dimensions t[m] thickness of column head
A[m2] area of column head SNo section number

Structural Lines

Number	SPt-a	SPt-e	Ref	Type	SNo	Grp	Hinges-a	Hinges-e	Designation
1	1017	1016							Line
2	1020	1021							Line
3	1027	1011							Line
4	1062	1063							Line
5	1013	1012							Line
6	1022	1064							Line
7	1032	1031							Line
8	1023	1065							Line
9	1048	1016							Line
10	1051	1021							Line
11	1046	1011							Line
12	1066	1063							Line
13	1059	1058							Line
14	1054	1067							Line
304	1018	1019							Line
	1019	1049							Line
315	1068	41		BEAM	17	3			Line
316	1069	1068		BEAM	16: 17	2			Line

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Mesh Generation

Structural Lines

Number	SPt-a	SPt-e	Ref	Type	SNo	Grp	Hinges-a	Hinges-e	Designation
317	1070	1069		BEAM	15: 16	1			Line
318	1071	1070		BEAM	14: 15	1			Line
319	1072	1071		BEAM	13: 14	1			Line
320	1073	1072		BEAM	12: 13	1			Line
321	1074	1073		BEAM	11: 12	1			Line
322	1075	42		BEAM	17	1			Line
323	1076	1075		BEAM	16: 17	1			Line
334	1077	1076		BEAM	15: 16	1			Line
335	1078	1077		BEAM	14: 15	1			Line
336	1079	1078		BEAM	13: 14	1			Line
337	1080	1079		BEAM	12: 13	1			Line
338	43	1080		BEAM	11: 12	1			Line

SPt-a,SPt-e structural point start / end — SNo section number
Ref reference line, reference axis — Grp primary group number
Type element type

Structural Lines - Support Conditions and Elastic bedding

Number	SPt-a	SPt-e	Grp	Mat	Properties	Reference	Ca[kN/m2]	Ct[kN/m2]	Cm[kNm/m/ra	w[m]
1	1017	1016	91		PPMM	->GLN				
2	1020	1021	91		PPMM	->GLN				
3	1027	1011	91		PPMM	->GLN				
4	1062	1063	1							
5	1013	1012	0		PPMM	->GLN				
6	1022	1064	1							
7	1032	1031	0		PPMM	->GLN				
8	1023	1065	1							
9	1048	1016	91		PPMM	->GLN				
10	1051	1021	91		PPMM	->GLN				
11	1046	1011	91		PPMM	->GLN				
12	1066	1063	1							
13	1059	1058	0		PPMM	->GLN				
14	1054	1067	1							
304	1018	1019	95		PP					
	1019	1049	95		PP					

SPt-a,SPt-e structural point start / end — Reference kinematic constraint
Grp primary group number — Ca[kN/m2],Ct[kN/m2] axial / lateral bedding
Mat material number — Cm[kNm/m/rad] torsional bedding
Properties type of support / coupling conditions — w[m] width of support

Structural Areas

Number	Grp	Mat	MRf	t[m]	Kind	locX	dX[-]	dY[-]	dZ[-]	dRot[°]	Designation
1	15	1	2			RADI	-1.000	0.000	0.000		Area
2	15	1	2			RADI	-1.000	0.000	0.000		Area
3	13	1	2	0.260		RADI	0.000	-1.000	0.000		Area
4	12	1	2		*	RADI	-1.000	0.000	0.000		Area
5	11	1	2		*	RADI	-1.000	0.000	0.000		Area
6	15	1	2			RADI	-1.000	0.000	0.000		Area
7	13	1	2	0.140		RADI	0.000	-1.000	0.000		Area
8	15	1	2			RADI	-1.000	0.000	0.000		Area
9	15	1	2			RADI	-1.000	0.000	0.000		Area
10	15	1	2			RADI	-1.000	0.000	0.000		Area
11	12	1	2		*	RADI	-1.000	0.000	0.000		Area
12	11	1	2		*	RADI	-1.000	0.000	0.000		Area
13	13	1	2	0.140		RADI	0.000	-1.000	0.000		Area

Kind "*": isotropic bedding

Grp primary group number — locX direction of the local x axis
Mat material number — dX[-],dY[-],dZ[-] explicit components of the direction
MRf reinforcement material number — dRot[°] additional rotation about beam axis
t[m] thickness

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Mesh Generation

Structural Areas - Orthotropic thickness, Support Conditions and Elastic bedding

Number	tx[m]	ty[m]	txy[m]	td[m]	Support Condition	Cb[kN/m3]	Ct[kN/m3]
4						100000	25000
5						100000	25000
11						100000	25000
12						100000	25000

tx[m],ty[m],txy[m],td[m] orthotropic thickness
Cb[kN/m3],Ct[kN/m3] axial / lateral bedding

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Generation of Node and Element Loads

Actions

type	part	sup	Designation	γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2
G	G	perm	dead load	1.35	1.00	1.00	1.00	1.00	1.00
	1		Peso propio						
	33		CM						
L	Q	cond	live loading	1.50	0.00	1.00	0.75	0.75	0.20
	34		SCU						
Q	Q	cond	variable load	1.20	0.90	1.00	1.00	1.00	1.00
	2		Agua						
W	Q	excl	wind loading	1.60	0.00	1.00	0.60	0.50	0.00
	31		Viento+						
	32		Viento-						

type action γ-u,γ-f,γ-a partial safety factors for unfavourable/favourable/accidental
part partition of the action ψ_0,ψ_1,ψ_2 combination coefficients
sup superposition type

Load Case 1 (G) Peso propio

Factor forces and moments		1.000
Factor dead weight	DL-ZZ	-1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Load Case 2 (Q) Agua

Factor forces and moments		1.000
unfavourable partial safety factor		1.200
favourable partial safety factor		0.900
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	Bgrp 1			-8.387	-0.301	4.850	PYY	0.00 [kN/m]
				-8.387	-0.301	0.395		-89.00 [kN/m]
						activated		100.00 percent
Line	Bgrp 1			-13.387	-0.301	4.850	PYY	0.00 [kN/m]
				-13.387	-0.301	0.395		-89.00 [kN/m]
						activated		100.00 percent

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
100001	PYY	0.000	0.166	-85.68	-89.00	[kN/m]	0.000	0.000	0.000	0.000	
100002	PYY	0.000	0.084	-84.00	-85.67	[kN/m]	0.000	0.000	0.000	0.000	
100003	PYY	0.000	0.162	-3.10	-6.33	[kN/m]	0.000	0.000	0.000	0.000	
100004	PYY	0.000	0.162	-6.33	-9.57	[kN/m]	0.000	0.000	0.000	0.000	
100005	PYY	0.000	0.162	-9.57	-12.81	[kN/m]	0.000	0.000	0.000	0.000	
100006	PYY	0.000	0.162	-12.81	-16.04	[kN/m]	0.000	0.000	0.000	0.000	
100007	PYY	0.000	0.162	-16.04	-19.28	[kN/m]	0.000	0.000	0.000	0.000	
100008	PYY	0.000	0.162	-19.28	-22.52	[kN/m]	0.000	0.000	0.000	0.000	
100009	PYY	0.000	0.162	-22.51	-25.75	[kN/m]	0.000	0.000	0.000	0.000	
100010	PYY	0.000	0.162	-25.75	-28.99	[kN/m]	0.000	0.000	0.000	0.000	
100011	PYY	0.000	0.162	-28.99	-32.23	[kN/m]	0.000	0.000	0.000	0.000	
100012	PYY	0.000	0.162	-32.22	-35.46	[kN/m]	0.000	0.000	0.000	0.000	
100013	PYY	0.000	0.162	-35.46	-38.70	[kN/m]	0.000	0.000	0.000	0.000	
100014	PYY	0.000	0.162	-38.70	-41.93	[kN/m]	0.000	0.000	0.000	0.000	
100015	PYY	0.000	0.162	-41.94	-45.17	[kN/m]	0.000	0.000	0.000	0.000	
100016	PYY	0.000	0.162	-45.17	-48.41	[kN/m]	0.000	0.000	0.000	0.000	

Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
100017	PYY	0.000	0.162	-48.40	-51.64	[kN/m]	0.000	0.000	0.000	0.000	
100018	PYY	0.000	0.162	-51.65	-54.88	[kN/m]	0.000	0.000	0.000	0.000	
100019	PYY	0.000	0.162	-54.88	-58.11	[kN/m]	0.000	0.000	0.000	0.000	
100020	PYY	0.000	0.162	-58.12	-61.35	[kN/m]	0.000	0.000	0.000	0.000	
100021	PYY	0.000	0.162	-61.35	-64.59	[kN/m]	0.000	0.000	0.000	0.000	
100022	PYY	0.000	0.162	-64.58	-67.82	[kN/m]	0.000	0.000	0.000	0.000	
100023	PYY	0.000	0.162	-67.83	-71.06	[kN/m]	0.000	0.000	0.000	0.000	
100024	PYY	0.000	0.162	-71.06	-74.30	[kN/m]	0.000	0.000	0.000	0.000	
100025	PYY	0.000	0.162	-74.30	-77.54	[kN/m]	0.000	0.000	0.000	0.000	
100026	PYY	0.000	0.162	-77.54	-80.77	[kN/m]	0.000	0.000	0.000	0.000	
100027	PYY	0.000	0.162	-80.76	-84.00	[kN/m]	0.000	0.000	0.000	0.000	
100028	PYY	0.000	0.155	0.00	-3.10	[kN/m]	0.000	0.000	0.000	0.000	
100032	PYY	0.000	0.166	-85.68	-89.00	[kN/m]	0.000	0.000	0.000	0.000	
100033	PYY	0.000	0.084	-84.00	-85.67	[kN/m]	0.000	0.000	0.000	0.000	
100034	PYY	0.000	0.162	-3.10	-6.33	[kN/m]	0.000	0.000	0.000	0.000	
100035	PYY	0.000	0.162	-6.33	-9.57	[kN/m]	0.000	0.000	0.000	0.000	
100036	PYY	0.000	0.162	-9.57	-12.81	[kN/m]	0.000	0.000	0.000	0.000	
100037	PYY	0.000	0.162	-12.81	-16.04	[kN/m]	0.000	0.000	0.000	0.000	
100038	PYY	0.000	0.162	-16.04	-19.28	[kN/m]	0.000	0.000	0.000	0.000	
100039	PYY	0.000	0.162	-19.28	-22.52	[kN/m]	0.000	0.000	0.000	0.000	
100040	PYY	0.000	0.162	-22.51	-25.75	[kN/m]	0.000	0.000	0.000	0.000	
100041	PYY	0.000	0.162	-25.75	-28.99	[kN/m]	0.000	0.000	0.000	0.000	
100042	PYY	0.000	0.162	-28.99	-32.23	[kN/m]	0.000	0.000	0.000	0.000	
100043	PYY	0.000	0.162	-32.22	-35.46	[kN/m]	0.000	0.000	0.000	0.000	
100044	PYY	0.000	0.162	-35.46	-38.70	[kN/m]	0.000	0.000	0.000	0.000	
100045	PYY	0.000	0.162	-38.70	-41.93	[kN/m]	0.000	0.000	0.000	0.000	
100046	PYY	0.000	0.162	-41.94	-45.17	[kN/m]	0.000	0.000	0.000	0.000	
100047	PYY	0.000	0.162	-45.17	-48.41	[kN/m]	0.000	0.000	0.000	0.000	
100048	PYY	0.000	0.162	-48.40	-51.64	[kN/m]	0.000	0.000	0.000	0.000	
100049	PYY	0.000	0.162	-51.65	-54.88	[kN/m]	0.000	0.000	0.000	0.000	
100050	PYY	0.000	0.162	-54.88	-58.11	[kN/m]	0.000	0.000	0.000	0.000	
100051	PYY	0.000	0.162	-58.12	-61.35	[kN/m]	0.000	0.000	0.000	0.000	
100052	PYY	0.000	0.162	-61.35	-64.59	[kN/m]	0.000	0.000	0.000	0.000	
100053	PYY	0.000	0.162	-64.58	-67.82	[kN/m]	0.000	0.000	0.000	0.000	
100054	PYY	0.000	0.162	-67.83	-71.06	[kN/m]	0.000	0.000	0.000	0.000	
100055	PYY	0.000	0.162	-71.06	-74.30	[kN/m]	0.000	0.000	0.000	0.000	
100056	PYY	0.000	0.162	-74.30	-77.54	[kN/m]	0.000	0.000	0.000	0.000	
100057	PYY	0.000	0.162	-77.54	-80.77	[kN/m]	0.000	0.000	0.000	0.000	
100058	PYY	0.000	0.162	-80.76	-84.00	[kN/m]	0.000	0.000	0.000	0.000	
100059	PYY	0.000	0.155	0.00	-3.10	[kN/m]	0.000	0.000	0.000	0.000	

Load Case 31 (W) Viento+

Factor forces and moments		1.000
unfavourable partial safety factor		1.600
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	Bgrp 1			-13.387	-0.301	5.000	PYY	-2.00 [kN/m]
				-13.387	-0.301	0.395		-2.00 [kN/m]
						activated		100.00 percent
Line	Bgrp 1			-8.387	-0.301	5.000	PYY	-2.20 [kN/m]
				-8.387	-0.301	0.395		-2.20 [kN/m]
						activated		100.00 percent

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
100001	PYY	0.000	0.166	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100002	PYY	0.000	0.084	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100003	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100004	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100005	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100006	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100007	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100008	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100009	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100010	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100011	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100012	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100013	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100014	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100015	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100016	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100017	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100018	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100019	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100020	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100021	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100022	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100023	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100024	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100025	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100026	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100027	PYY	0.000	0.162	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100028	PYY	0.000	0.155	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100029	PYY	0.000	0.150	-2.20	-2.20	[kN/m]	0.000	0.000	0.000	0.000	
100032	PYY	0.000	0.166	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100033	PYY	0.000	0.084	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100034	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100035	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100036	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100037	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100038	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100039	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100040	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100041	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100042	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100043	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100044	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100045	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100046	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100047	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100048	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100049	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100050	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100051	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100052	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100053	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100054	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100055	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100056	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100057	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100058	PYY	0.000	0.162	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100059	PYY	0.000	0.155	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	
100060	PYY	0.000	0.150	-2.00	-2.00	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Load Case 32 (W) Viento-

Factor forces and moments		1.000
unfavourable partial safety factor		1.600
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	Bgrp 1			-13.387	-0.301	5.000	PYY	2.00 [kN/m]
				-13.387	-0.301	0.395		2.00 [kN/m]
						activated		100.00 percent
Line	Bgrp 1			-8.387	-0.301	5.000	PYY	2.20 [kN/m]
				-8.387	-0.301	0.395		2.20 [kN/m]
						activated		100.00 percent

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
100001	PYY	0.000	0.166	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100002	PYY	0.000	0.084	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100003	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100004	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100005	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100006	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100007	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100008	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100009	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100010	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100011	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100012	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100013	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100014	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100015	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100016	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100017	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100018	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100019	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100020	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100021	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100022	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100023	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100024	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100025	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100026	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100027	PYY	0.000	0.162	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100028	PYY	0.000	0.155	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100029	PYY	0.000	0.150	2.20	2.20	[kN/m]	0.000	0.000	0.000	0.000	
100032	PYY	0.000	0.166	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100033	PYY	0.000	0.084	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100034	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100035	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100036	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100037	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100038	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100039	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100040	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100041	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100042	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	

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Generation of Node and Element Loads

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
100043	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100044	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100045	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100046	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100047	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100048	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100049	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100050	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100051	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100052	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100053	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100054	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100055	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100056	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100057	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100058	PYY	0.000	0.162	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100059	PYY	0.000	0.155	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	
100060	PYY	0.000	0.150	2.00	2.00	[kN/m]	0.000	0.000	0.000	0.000	

Load Case 33 (G) CM

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Point	bgrp 1			-8.387	-0.301	5.000	PG	26.3 [kN]
						activated		100.00 percent

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
100029	PG	0.000		26.3		[kN]	0.000	0.000			

Load Case 34 (L) SCU

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.750 (rare)
Combination coefficient	ψ_1	0.750 (frequent)
Combination coefficient	ψ_2	0.200 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Point	bgrp 1			-8.387	-0.301	5.000	PG	9.0 [kN]
						activated		100.00 percent

Loads acting on Beam elements

Number	Type	a[m]	l[m]	Load value	Load value	Unit	ya[m]	za[m]	ye[m]	ze[m]	Ref
100029	PG	0.000		9.0		[kN]	0.000	0.000			

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The following nodes have been detected to connect beams+springs with wall elements. The adjacent quad elements will get an internal inplane torsional stiffness to transform the bending moment into pairs of forces on the quad nodes (see CTRL INPL and CTRL SPRI):

1013	1016	1017	1020	1021	1022	1023	1031	1032	1048
1051	1054	1058	1059	1065	1067	1129	1130	1131	1132
1133	1134	1135	1136	1137	1138	1139	1140	1141	1142
1143	1144	1145	1146	1147	1148	1149	1150	1151	1152
1153	1154	1155	1156	1157	1158	1159	1160	1161	1162
1163	1164	1165	1166	1167	1168	1169	1170	1171	1172
1173	1174	1175	1176	1177	1178	1179	1180	1181	1182
1183	1184	1185	1223	1224	1225	1226	1227	1228	1229
1230	1231	1232	1233	1234	1235	1236	1237	1238	1239
1240	1241	1242	1243	1244	1245	1246	1247	1248	1249
1250	1251	1252	1253	1254	1255	1256	1257	1258	1259
1260	1261	1262	1263	1264	1265	1266	1267	1268	1269
1270	1271	1272	1273	1274	1275	1276	1277	1278	1279
1280	1281	1282	1283	1284	1285	1286	1287	1288	1289
1290	1291	1292	1293	1294	1295	1296	1297	1317	1318
1319	1320	1321	1322	1323	1324	1325	1326	1327	1328
1329	1330	1331	1332	1333	1334				

Load Case 1 (G) PP

Factor forces and moments		1.000
Factor dead weight	DL-ZZ	-1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Load Case 2 (Q) AGUA

Factor forces and moments		1.000
unfavourable partial safety factor		1.200
favourable partial safety factor		0.900
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	Bgrp 1			-8.387	-0.301	4.850	PYY	0.00 [kN/m]
				-8.387	-0.301	0.395		-89.00 [kN/m]
						activated		100.00 percent
Line	Bgrp 1			-13.387	-0.301	4.850	PYY	0.00 [kN/m]
				-13.387	-0.301	0.395		-89.00 [kN/m]
						activated		100.00 percent

Load Case 31 (W) VIENTO+

Factor forces and moments		1.000
unfavourable partial safety factor		1.600
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

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Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	Bgrp 1			-13.387	-0.301	5.000	PYY	-2.00 [kN/m]
				-13.387	-0.301	0.395		-2.00 [kN/m]
						activated		100.00 percent
Line	Bgrp 1			-8.387	-0.301	5.000	PYY	-2.20 [kN/m]
				-8.387	-0.301	0.395		-2.20 [kN/m]
						activated		100.00 percent

Load Case 32 (W) VIENTO-

Factor forces and moments		1.000
unfavourable partial safety factor		1.600
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Line	Bgrp 1			-13.387	-0.301	5.000	PYY	2.00 [kN/m]
				-13.387	-0.301	0.395		2.00 [kN/m]
						activated		100.00 percent
Line	Bgrp 1			-8.387	-0.301	5.000	PYY	2.20 [kN/m]
				-8.387	-0.301	0.395		2.20 [kN/m]
						activated		100.00 percent

Sum of Loadings

Loadcase	Σ(Loads) X[kN]	Y[kN]	Z[kN]	Designation
1	0.0	0.0	-195.8	PP
2	0.0	-396.5	0.0	AGUA
31	0.0	-19.3	0.0	VIENTO+
32	0.0	19.3	0.0	VIENTO-

Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	0.0	0.0	65.2	-12.38	0.00	0.00
42	0.0	-0.4	54.3	-10.41	0.00	0.00
43	0.0	0.4	10.8			
1016	-0.0	4.8	-2.2			
1017	-0.0	2.8	-1.2			
1018	0.1	-0.1	0.6			
1019	0.0	0.1	0.7			
1020	-0.0	-1.4	-0.1			
1021	0.0	-2.4	-0.5			
1022			0.0			
1023			0.0			
1048	-0.0	2.8	-1.3			
1049	-0.0	-0.1	0.8			
1051	0.0	-1.4	-0.1			
1054			0.0			
1062	0.0	-1.3	1.4	0.21		
1063	0.0	-2.4	2.7	0.34		
1064			0.0			
1065			0.0			
1066	-0.0	-1.3	1.4	0.21		
1067			0.0			

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Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1129	0.2	-0.4	-0.7			
1130	0.2	-0.7	-0.5			
1131	0.0	-0.7	-0.4			
1132	-0.2	-0.6	-0.4			
1133	-0.0	-0.6	-0.4			
1134	0.2	-0.5	-0.4			
1135	-0.0	-0.4	-0.4			
1136	-0.3	-0.3	-0.4			
1137	-0.1	-0.3	-0.4			
1138	0.0	-0.3	-0.4			
1139	-0.0	-0.2	-0.4			
1140	-0.0	-0.3	-0.4			
1141	-0.0	-0.3	-0.4			
1142	-0.1	-0.3	-0.4			
1143	-0.1	-0.3	-0.4			
1144	-0.1	-0.3	-0.4			
1145	-0.1	-0.3	-0.5			
1146	-0.0	-0.2	-0.5			
1147	-0.1	-0.1	-0.6			
1148	0.0	0.6	0.0			
1149	0.0	0.8	-0.1			
1150	0.1	0.8	-0.1			
1151	0.1	0.7	-0.2			
1152	0.0	0.6	-0.3			
1153	-0.0	0.5	-0.3			
1154	0.0	0.4	-0.3			
1155	0.1	0.3	-0.3			
1156	0.0	0.3	-0.4			
1157	-0.1	0.3	-0.3			
1158	-0.0	0.2	-0.3			
1159	-0.0	0.3	-0.3			
1160	-0.0	0.3	-0.3			
1161	0.0	0.3	-0.3			
1162	-0.0	0.3	-0.3			
1163	-0.1	0.3	-0.2			
1164	-0.1	0.4	-0.2			
1165	-0.1	0.3	-0.2			
1166	-0.1	0.3	-0.1			
1186	-0.2	-0.2	0.7	-0.02		0.01
1187	-0.2	-0.1	0.6	-0.06		0.01
1188	-0.1	-0.1	0.6	-0.06	0.01	
1189	0.1	-0.0	0.7	-0.06	0.01	-0.02
1190	0.0	-0.0	0.7	-0.06		
1191	-0.1		0.7	-0.05		0.01
1192	0.0		0.7	-0.04		
1193	0.2		0.8	-0.03	0.01	-0.02
1194	0.1		0.8	-0.03		-0.01
1195	0.0		0.7	-0.03		
1196	0.0		0.7	-0.02		
1197	0.0		0.7	-0.02		
1198	0.1	0.0	0.7	-0.02		
1199	0.1	-0.0	0.7	-0.03		
1200	0.1	-0.0	0.7	-0.03		
1201	0.1	-0.0	0.7	-0.02		
1202	0.1	-0.1	0.7	-0.02	-0.01	
1203	0.1	-0.1	0.7	-0.02	-0.01	
1204	0.2	-0.2	0.7			

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Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1214		-0.0	0.1			
1215		-0.0	0.1			
1216		-0.0	0.1			
1217		-0.0	0.1			
1218		-0.0	0.2			
1219		-0.0	0.2			
1220		-0.0	0.1			
1221		-0.0	0.1			
1222		0.0	0.1			
1232		0.0	0.1			
1233		0.0	0.1			
1234		0.0	0.1			
1235		0.0	0.1			
1236		-0.0	0.1			
1237		-0.0	0.1			
1238		0.0	0.1			
1239			0.1			
1240			0.0			
1241	-0.2	-0.4	-0.6			
1242	-0.2	-0.7	-0.5			
1243	0.0	-0.8	-0.5			
1244	0.2	-0.6	-0.4			
1245	0.0	-0.6	-0.3			
1246	-0.2	-0.5	-0.4			
1247	0.0	-0.4	-0.4			
1248	0.2	-0.3	-0.4			
1249	0.1	-0.3	-0.4			
1250	0.0	-0.3	-0.4			
1251	-0.0	-0.3	-0.4			
1252	-0.2	-0.3	-0.4			
1253	0.0	-0.3	-0.4			
1254	0.2	-0.3	-0.4			
1255	0.1	-0.3	-0.4			
1256	0.0	-0.3	-0.4			
1257	0.0	-0.3	-0.5			
1258	0.1	-0.3	-0.5			
1259	0.2	-0.1	-0.6			
1260	-0.1	0.6	0.0			
1261	-0.1	0.8	-0.1			
1262	-0.1	0.8	-0.1			
1263	-0.1	0.6	-0.2			
1264	-0.0	0.6	-0.3			
1265	0.0	0.5	-0.3			
1266	0.0	0.4	-0.3			
1267	-0.1	0.3	-0.3			
1268	-0.0	0.3	-0.3			
1269	-0.0	0.3	-0.3			
1270	0.0	0.3	-0.4			
1271	0.1	0.3	-0.3			
1272	0.0	0.3	-0.3			
1273	-0.0	0.3	-0.3			
1274	0.0	0.3	-0.3			
1275	0.1	0.4	-0.2			
1276	0.1	0.4	-0.2			
1277	0.1	0.4	-0.2			
1278	0.0	0.3	-0.1			
1298	0.2	-0.2	0.7	-0.02		

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Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1299	0.2	-0.1	0.6	-0.06		
1300	0.1	-0.1	0.6	-0.07		
1301	-0.1	-0.0	0.7	-0.06	-0.01	0.02
1302		-0.0	0.7	-0.06		
1303	0.1	0.0	0.7	-0.05		-0.01
1304	-0.0		0.7	-0.04		
1305	-0.2		0.8	-0.03		0.02
1306	-0.1		0.8	-0.03		0.01
1307	-0.0		0.7	-0.03		
1308			0.7	-0.03		
1309	0.1		0.7	-0.03		-0.01
1310	-0.0	0.0	0.7	-0.03		
1311	-0.2	-0.0	0.7	-0.02		0.02
1312	-0.2	-0.0	0.7	-0.03		
1313	-0.1	-0.0	0.7	-0.03	0.01	
1314	-0.1	-0.1	0.7	-0.02	0.01	
1315	-0.2	-0.1	0.7	-0.02	0.01	
1316	-0.2	-0.2	0.8			
1326		0.0	0.1			
1327		0.0	0.1			
1328		0.0	0.1			
1329		0.0	0.1			
1330		-0.0	0.1			
1331		-0.0	0.1			
1332		0.0	0.1			
1333		0.0	0.1			
1334			0.0			
1335	0.0	-0.1	1.0			
1336	-0.0	-0.1	1.0			
1337	-0.0	-0.1	0.9			
1338	-0.0	0.0	1.0			
1339	-0.0	0.1	1.1			
1340	0.0	0.2	1.1			
1341	0.0	0.3	1.1			
1342	0.1	0.3	1.0			
1343	0.1	0.3	1.0			
1344	0.1	0.2	1.0			
1345	0.1	0.2	0.9			
1346	0.0	0.1	0.8			
1347	0.0	0.1	0.7			
1348	-0.0	0.1	0.6			
1349	-0.0	0.1	0.7			
1350	-0.0	0.1	0.7			
1351	-0.1	0.1	0.7			
1352	-0.1	0.3	1.0			
1353	-0.1	0.2	0.9			
1354	-0.1	0.4	1.1			
1355	-0.0	0.3	1.0			
1356	0.0	0.3	1.2			
1357	0.0	0.1	1.1			
1358	0.1	-0.0	1.1			
1359	0.0	-0.1	1.2			
1360	0.0	-0.1	1.2			
1516			0.0			
1517			0.0			
1519			0.0			
1520		0.0	0.0			

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Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1521		0.0	0.0			
1522			0.0			
1523			0.0			
1524		0.0	0.1			
1525		0.0	0.1			
1526		0.0	0.1			
1527		0.0	0.1			
1528		-0.0	0.1			
1529		-0.0	0.1			
1530		-0.0	0.1			
1531		-0.0	0.1			
1532		-0.0	0.1			
1533		0.0	0.1			
1534		0.0	0.1			
1535		0.0	0.1			
1654			0.0			
1655			0.0			
1657			0.0			
1658			0.1			
1659		0.0	0.1			
1660		0.0	0.1			
1661			0.1			
1662		0.0	0.1			
1663		-0.0	0.1			
1664		-0.0	0.1			
1665		-0.0	0.1			
1666		-0.0	0.1			
1667		0.0	0.1			
1668		0.0	0.1			
1669		0.0	0.1			
1712			0.0			
1713			0.0			
1840			0.0			
1841		0.0	0.0			
1842		0.0	0.0			
1843		0.0	0.0			
1844		0.0	0.0			
1845		0.0	0.0			
1846			0.0			
1847		0.0	0.0			
1848			0.0			
1849		0.0	0.0			
1850		0.0	0.0			
1851		0.0	0.0			
1852		0.0	0.0			
1853		0.0	0.0			
1854		0.0	0.0			
1855			0.0			
1856			0.0			
1857			0.0			
1858		0.0	0.0			
1859		0.0	0.0			
1860		0.0	0.0			
1861		0.0	0.0			
1862			0.0			
1863			0.0			
1864		0.0	0.0			

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Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1865			0.0			
1868			0.0			
1869		0.0	0.0			
1870		0.0	0.0			
1871			0.0			
1872			0.0			
1873		0.0	0.0			
1874		0.0	0.0			
1875		0.0	0.0			
1876		0.0	0.0			
1877		0.0	0.0			
1878		0.0	0.0			
1879			0.0			
1880			0.0			
1881			0.0			
1882			0.0			
1884			0.0			
1885			0.0			
1886			0.0			
1887			0.0			
1888			0.0			
1889			0.1			
1890		0.0	0.1			
1891		-0.0	0.1			
1892		-0.0	0.1			
1893			0.0			
1894		-0.0	0.1			
1895		-0.0	0.2			
1896		-0.0	0.2			
1897		-0.0	0.3			
1898		-0.0	0.1			
1899		-0.0	0.1			
1900		-0.0	0.2			
1901		-0.0	0.2			
1902		-0.0	0.3			
1903		-0.0	0.1			
1904		-0.0	0.1			
1905		-0.0	0.2			
1906		-0.0	0.2			
1907		-0.0	0.1			
1908		-0.0	0.2			
1909		-0.0	0.1			
1910		-0.0	0.1			
1911		-0.0	0.1			
1912		-0.0	0.1			
1913		-0.0	0.1			
1914		-0.0	0.1			
1915		-0.0	0.1			
1916			0.0			
1917			0.0			
1918			0.0			
1919		-0.0	0.2			
1920		-0.0	0.2			
1921		-0.0	0.2			
1922			0.0			
1923			0.0			
1924			0.0			

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Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1925		-0.0	0.1			
1926		-0.0	0.1			
1927		-0.0	0.1			
1928		-0.0	0.1			
1929		-0.0	0.2			
1930		-0.0	0.2			
1931		-0.0	0.2			
1932		-0.0	0.1			
1933		-0.0	0.2			
1934		-0.0	0.1			
1935		-0.0	0.2			
1936		-0.0	0.2			
1937		-0.0	0.1			
1938			0.0			
1939		0.0	0.1			
1940			0.0			
1941			0.0			
1942		-0.0	0.1			
1943		-0.0	0.2			
1944		-0.0	0.1			
1945			0.0			
1946			0.0			
1947			0.0			
1948		-0.0	0.1			
1949		-0.0	0.1			
1950		-0.0	0.1			
1951		0.0	0.1			
1952		-0.0	0.1			
1953		-0.0	0.1			
1954		0.0	0.1			
1955		-0.0	0.1			
1956			0.0			
1957			0.0			
1958			0.0			
1959		-0.0	0.1			
1960		-0.0	0.2			
1961			0.0			
1962		0.0	0.1			
1963			0.0			
1964		-0.0	0.2			
1965		-0.0	0.2			
1966		-0.0	0.2			
1967		-0.0	0.2			
1968		-0.0	0.2			
1969		-0.0	0.2			
1970		-0.0	0.2			
1971		-0.0	0.2			
1972			0.1			
1973			0.0			
1974			0.0			
1975		-0.0	0.1			
1976		-0.0	0.2			
1977		-0.0	0.2			
1978		-0.0	0.2			
1979			0.1			
1980		0.0	0.1			
1981		-0.0	0.2			

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Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1982		-0.0	0.2			
1983		-0.0	0.1			
1984		-0.0	0.2			
1985		-0.0	0.1			
1986		-0.0	0.2			
1987		-0.0	0.1			
1988		-0.0	0.1			
1989		-0.0	0.1			
1990		0.0	0.1			
1991		-0.0	0.1			
1992		-0.0	0.2			
1993		-0.0	0.2			
1994		-0.0	0.2			
1995		-0.0	0.2			
1996		-0.0	0.2			
1997		-0.0	0.2			
1998		-0.0	0.2			
1999			0.1			
2000		0.0	0.1			
2001		-0.0	0.2			
2002			0.0			
2003			0.0			
2004			0.0			
2005		0.0	0.1			
2006		0.0	0.1			
2007		0.0	0.1			
2008			0.0			
2009			0.1			
2010			0.0			
2730		0.0	0.0			
2731		0.0	0.0			
2732			0.0			
2733		0.0	0.0			
2735		0.0	0.0			
2736			0.0			
2737			0.0			
2738			0.0			
2739			0.0			
2740			0.0			
2741			0.0			
2742		0.0	0.0			
2743		0.0	0.0			
2744			0.0			
2745			0.0			
2746			0.0			
2747			0.0			
2749			0.0			
2750			0.0			
2751		0.0	0.0			
2752			0.0			
2753		0.0	0.0			
2754		0.0	0.0			
2755		0.0	0.0			
2756		0.0	0.0			
2757			0.0			
2758			0.0			
2761			0.0			

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Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2762		0.0	0.0			
2763		0.0	0.0			
2764			0.0			
2765			0.0			
2766		0.0	0.0			
2767			0.0			
2768			0.0			
2769		0.0	0.0			
2770			0.0			
2771		0.0	0.0			
2772			0.0			
2773			0.0			
2774			0.0			
2775			0.0			
2776			0.0			
2777			0.0			
2778			0.0			
2781			0.0			
2782			0.0			
2783			0.0			
2784			0.0			
2785			0.0			
2786			0.0			
2787			0.0			
2788			0.0			
2791			0.0			
2793			0.0			
2794			0.1			
2795		0.0	0.1			
2796		-0.0	0.1			
2797		-0.0	0.1			
2798			0.0			
2799		-0.0	0.1			
2800		-0.0	0.2			
2801		-0.0	0.2			
2802		-0.0	0.2			
2803		-0.0	0.2			
2804		-0.0	0.1			
2805		-0.0	0.1			
2806		-0.0	0.2			
2807		-0.0	0.3			
2808		-0.0	0.2			
2809		-0.0	0.1			
2810		-0.0	0.2			
2811		-0.0	0.2			
2812		-0.0	0.2			
2813		-0.0	0.2			
2814		-0.0	0.1			
2815		-0.0	0.1			
2816		-0.0	0.1			
2817		-0.0	0.1			
2818		-0.0	0.1			
2819		-0.0	0.1			
2820		-0.0	0.1			
2821			0.0			
2822			0.0			
2823			0.0			

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Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2824			0.0			
2825			0.0			
2826			0.0			
2827		-0.0	0.2			
2828		-0.0	0.2			
2829		-0.0	0.2			
2830		-0.0	0.1			
2831		-0.0	0.1			
2832		-0.0	0.1			
2833		-0.0	0.2			
2834		-0.0	0.2			
2835		-0.0	0.1			
2836		-0.0	0.1			
2837		-0.0	0.2			
2838		-0.0	0.2			
2839		-0.0	0.2			
2840		-0.0	0.1			
2841		-0.0	0.2			
2842		-0.0	0.2			
2843			0.0			
2844		0.0	0.1			
2845			0.0			
2846			0.0			
2847		-0.0	0.2			
2848		-0.0	0.2			
2849		-0.0	0.2			
2850		-0.0	0.1			
2851		-0.0	0.1			
2852		-0.0	0.1			
2853		-0.0	0.1			
2854		-0.0	0.2			
2855			0.0			
2856			0.0			
2857			0.0			
2858		0.0	0.1			
2859		-0.0	0.1			
2860		-0.0	0.1			
2861		0.0	0.1			
2862		-0.0	0.1			
2863			0.0			
2864			0.0			
2865			0.0			
2866		-0.0	0.2			
2867		-0.0	0.2			
2868		-0.0	0.2			
2869		-0.0	0.2			
2870			0.0			
2871		0.0	0.1			
2872			0.0			
2873			0.1			
2874			0.0			
2875			0.0			
2876			0.1			
2877		0.0	0.1			
2878		-0.0	0.1			
2879		-0.0	0.2			
2880		-0.0	0.2			

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Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2881		-0.0	0.2			
2882		-0.0	0.2			
2883		-0.0	0.1			
2884		-0.0	0.2			
2885		-0.0	0.1			
2886		-0.0	0.2			
2887		-0.0	0.2			
2888		-0.0	0.2			
2889		-0.0	0.1			
2890		-0.0	0.2			
2891		-0.0	0.1			
2892		-0.0	0.1			
2893		-0.0	0.2			
2894		-0.0	0.1			
2895		0.0	0.1			
2896		-0.0	0.1			
2897		-0.0	0.2			
2898		-0.0	0.2			
2899		-0.0	0.2			
2900		-0.0	0.2			
2901		-0.0	0.2			
2902			0.1			
2903		0.0	0.1			
2904		-0.0	0.2			
2905		-0.0	0.2			
2906		-0.0	0.2			
2907			0.0			
2908			0.0			
2909			0.0			
2910		0.0	0.1			
2911		0.0	0.1			
2912		-0.0	0.1			
2913			0.0			
2914			0.1			
2915			0.0			

Nodal Reactions Loadcase 2 AGUA

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	0.0	198.2	0.0	-372.69	0.00	0.00
42	0.0	172.5	-55.5	-243.92	0.00	0.00
43	0.0	25.8	55.5			

Nodal Reactions Loadcase 31 VIENTO+

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	0.0	10.1	0.0	-27.33	0.00	0.00
42	0.0	6.4	-4.3	-10.89	0.00	0.00
43	0.0	2.8	4.3			

Nodal Reactions Loadcase 32 VIENTO-

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	0.0	-10.1	0.0	27.33	0.00	0.00
42	0.0	-6.4	4.3	10.89	0.00	0.00
43	0.0	-2.8	-4.3			

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Sum of Reactions and Loadings

Loadcase	Σ(Reactions)			Designation
	X[kN]	Y[kN]	Z[kN]	
	Σ(Loads)			
1	0.0	0.0	195.8	PP
	0.0	0.0	-195.8	
2	0.0	396.5	0.0	AGUA
	0.0	-396.5	0.0	
31	0.0	19.3	0.0	VIENTO+
	0.0	-19.3	0.0	
32	0.0	-19.3	0.0	VIENTO-
	0.0	19.3	0.0	

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RARA

Superposition according to EHE Instrucción de hormigòn estructural 2008

Combination rule Number 103

SLS characteristic combination

Superposition according to manual MAXIMA formula 2.4

$$E_{d,rare} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus Q_{k,1} \oplus \sum_{i>1} \psi_{0,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS characteristic combination

Load Case selection and Actions

Act	Part	Superposition Factors γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2	Fact	Type	Designation
	LC									
G	G	1.35	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	33							1.00	PERM	CM
Q	Q	1.20	0.90	1.00	1.00	1.00	1.00			variable load
	2							1.00	COND	AGUA
W	Q	1.60	0.00	1.00	0.60	0.50	0.00			wind loading
	31							1.00	A10	VIENTO+
	32							1.00	A10	VIENTO-

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

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Generated Load Cases

Number	Combination	Designation
1101	103	MAXR-MX QUAD RARA
1102	103	MINR-MX QUAD RARA
1103	103	MAXR-MY QUAD RARA
1104	103	MINR-MY QUAD RARA
1105	103	MAXR-MXY QUAD RARA
1106	103	MINR-MXY QUAD RARA
1101	103	MAXR-MX QUAK RARA
1102	103	MINR-MX QUAK RARA
1103	103	MAXR-MY QUAK RARA
1104	103	MINR-MY QUAK RARA
1105	103	MAXR-MXY QUAK RARA
1106	103	MINR-MXY QUAK RARA
1107	103	MAXR-VX QUAD RARA
1108	103	MINR-VX QUAD RARA
1107	103	MAXR-VX QUAK RARA
1108	103	MINR-VX QUAK RARA
1109	103	MAXR-VY QUAD RARA
1110	103	MINR-VY QUAD RARA
1109	103	MAXR-VY QUAK RARA
1110	103	MINR-VY QUAK RARA
1111	103	MAXR-NXX QUAD RARA
1112	103	MINR-NXX QUAD RARA
1113	103	MAXR-NYY QUAD RARA
1114	103	MINR-NYY QUAD RARA
1115	103	MAXR-NXY QUAD RARA
1116	103	MINR-NXY QUAD RARA

RARA

Generated Load Cases

Number	Combination	Designation
1111	103	MAXR-NXX QUAK RARA
1112	103	MINR-NXX QUAK RARA
1113	103	MAXR-NYY QUAK RARA
1114	103	MINR-NYY QUAK RARA
1115	103	MAXR-NXY QUAK RARA
1116	103	MINR-NXY QUAK RARA
1117	103	MAXR-P QUAD RARA
1118	103	MINR-P QUAD RARA
1171	103	MAXR-SXO QUAD RARA
1172	103	MINR-SXO QUAD RARA
1173	103	MAXR-SYO QUAD RARA
1174	103	MINR-SYO QUAD RARA
1175	103	MAXRSXYO QUAD RARA
1176	103	MINRSXYO QUAD RARA
1177	103	MAXR-SXU QUAD RARA
1178	103	MINR-SXU QUAD RARA
1179	103	MAXR-SYU QUAD RARA
1180	103	MINR-SYU QUAD RARA
1181	103	MAXRSXYU QUAD RARA
1182	103	MINRSXYU QUAD RARA
1171	103	MAXR-SXO QUAK RARA
1172	103	MINR-SXO QUAK RARA
1173	103	MAXR-SYO QUAK RARA
1174	103	MINR-SYO QUAK RARA
1175	103	MAXRSXYO QUAK RARA
1176	103	MINRSXYO QUAK RARA
1177	103	MAXR-SXU QUAK RARA
1178	103	MINR-SXU QUAK RARA
1179	103	MAXR-SYU QUAK RARA
1180	103	MINR-SYU QUAK RARA
1181	103	MAXRSXYU QUAK RARA
1182	103	MINRSXYU QUAK RARA
1151	103	MAXR-PX NODE RARA
1152	103	MINR-PX NODE RARA
1153	103	MAXR-PY NODE RARA
1154	103	MINR-PY NODE RARA
1155	103	MAXR-PZ NODE RARA
1156	103	MINR-PZ NODE RARA
1171	103	MAXR-UX NODE RARA
1172	103	MINR-UX NODE RARA
1173	103	MAXR-UY NODE RARA
1174	103	MINR-UY NODE RARA
1175	103	MAXR-UZ NODE RARA
1176	103	MINR-UZ NODE RARA
1121	103	MAXR-N BEAM RARA
1122	103	MINR-N BEAM RARA
1129	103	MAXR-MY BEAM RARA
1130	103	MINR-MY BEAM RARA
1131	103	MAXR-MZ BEAM RARA
1132	103	MINR-MZ BEAM RARA
1127	103	MAXR-MT BEAM RARA
1128	103	MINR-MT BEAM RARA
1123	103	MAXR-VY BEAM RARA
1124	103	MINR-VY BEAM RARA
1125	103	MAXR-VZ BEAM RARA
1126	103	MINR-VZ BEAM RARA

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RARA

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1	PP	10.8	0.00	0.39	0.00	-0.63	0.00
			2	AGUA	55.5	0.00	25.75	0.00	-3.20	0.00
			31	VIENTO+	4.3	0.00	2.79	0.00	-0.25	0.00
			32	VIENTO-	-4.3	0.00	-2.79	0.00	0.25	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	10.8340*,		SumGF =	10.8340		
LC	1	33					
FacGU	1.00	0.00					
FacGF	1.00	0.00					
Act	Q: SumQ1 =	55.4527,		SumQI =	55.4527*		
LC	2						
FacQ1	1.00						
FacQI	1.00						
Act	W: SumQ1 =	4.2726*,		SumQI =	2.5636		
LC	31	32					
FacQ1	1.00	0.00					
FacQI	0.60	0.00					

Act	action
SumGU,SumGF	sums of the permanent loads acting unfavourable and favourable, * = decisive
SumQ1,SumQ2,SumQ3	sum of the variable loads for 1st, 2nd, 3rd leading variable action, * = decisive
SumQI	sum of the variable loads for accompanying variable actions, * = decisive
LC	number of the load case
FacGU,FacGF	factors of the permanent loads acting unfavourable and favourable
FacQ1,FacQ2,FacQ3	factors of the variable loads for 1st, 2nd, 3rd leading variable action
FacQI	factors of the variable loads for accompanying variable actions
LCW	loadcase-wise consideration

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Determined Factors

LC	1	2	31	32	33		
factor	1.00	1.00	1.00	-	-		

LC	number of the load case
Fact	resulting factors, - = load case is not considered

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1121	MAXR-N	70.6	0.00	28.94	0.00	-4.07	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-65.1704*,		SumGF =	-65.1704	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1122	MINR-N	-65.2	0.00	0.00	0.00	6.74	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	6.7413*,		SumGF =	6.7413	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	27.3272*,		SumQI =	16.3963	
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	1.00	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1129	MAXR-MY	-65.2	0.00	10.13	0.00	34.07	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	6.7413*,		SumGF =	6.7413	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				

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Determination of Sums and Leading Variable Action

Act	Q: SumQ1 = -372.6906,			SumQI = -372.6906*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 = -27.3272*,			SumQI = -16.3963		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	1.00	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1130	MINR-MY	-65.2	0.00	-208.37	0.00	-393.28	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100043	0.162	1	PP	-1.8	0.00	0.39	0.00	-0.16	0.00
			2	AGUA	55.5	0.00	-5.72	0.00	23.60	0.00
			31	VIENTO+	4.3	0.00	-1.06	0.00	1.10	0.00
			32	VIENTO-	-4.3	0.00	1.06	0.00	-1.10	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU = 0.0000*,			SumGF = 0.0000		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	1.00	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100043	0.162	1131	MAXR-MZ	-6.1	0.00	1.45	0.00	-1.26	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	1.00	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1132	MINR-MZ	-65.2	0.00	10.13	0.00	34.07	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100032	0.000	1	PP	-30.2	0.00	0.39	0.00	1.66	0.00
			2	AGUA	55.5	0.00	-157.98	0.00	-160.91	0.00
			31	VIENTO+	4.3	0.00	-6.09	0.00	-8.28	0.00
			32	VIENTO-	-4.3	0.00	6.09	0.00	8.28	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100032	0.000	1127	MAXR-MT	-30.2	0.00	0.39	0.00	1.66	0.00

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.000	1	PP	-44.0	0.00	0.39	0.00	5.47	0.00
			2	AGUA	55.5	0.00	-172.48	0.00	-230.00	0.00
			31	VIENTO+	4.3	0.00	-6.42	0.00	-11.02	0.00
			32	VIENTO-	-4.3	0.00	6.42	0.00	11.02	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.000	1128	MINR-MT	-44.0	0.00	0.39	0.00	5.47	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100011	0.000	1	PP	-10.1	0.00	0.00	0.00	0.33	0.00
			2	AGUA	0.0	0.00	-21.03	0.00	-10.17	0.00
			31	VIENTO+	0.0	0.00	-3.52	0.00	-2.82	0.00
			32	VIENTO-	0.0	0.00	3.52	0.00	2.82	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100011	0.000	1123	MAXR-VY	-10.1	0.00	0.00	0.00	0.33	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100035	0.000	1	PP	8.2	0.00	0.39	0.00	-0.50	0.00
			2	AGUA	55.5	0.00	24.75	0.00	8.42	0.00
			31	VIENTO+	4.3	0.00	1.86	0.00	0.82	0.00
			32	VIENTO-	-4.3	0.00	-1.86	0.00	-0.82	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100035	0.000	1124	MINR-VY	8.2	0.00	0.39	0.00	-0.50	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1	PP	10.8	0.00	0.39	0.00	-0.63	0.00
			2	AGUA	55.5	0.00	25.75	0.00	-3.20	0.00
			31	VIENTO+	4.3	0.00	2.79	0.00	-0.25	0.00
			32	VIENTO-	-4.3	0.00	-2.79	0.00	0.25	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.3947*,		SumGF =	0.3947	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	25.7546,		SumQI =	25.7546*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 =	2.7913*,		SumQI =	1.6748	
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	1.00	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1125	MAXR-VZ	70.6	0.00	28.94	0.00	-4.07	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100001	0.166	1	PP	-44.9	0.00	0.00	0.00	-4.45	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-294.39	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-23.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	23.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,	SumGF =	0.0000		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	-198.2384,	SumQI =	-198.2384*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 =	-10.1306*,	SumQI =	-6.0784		
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	1.00	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100001	0.166	1126	MINR-VZ	-44.9	0.00	-208.37	0.00	-322.16	0.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200005	1	PP	0.79	3.25	-0.01	-0.47	-11.95	1.71	-3.48
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.7942*,	SumGF =	0.7942		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200005	1101	MAXR-MX	0.79	3.25	-0.01	-0.47	-11.95	1.71	-3.48

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200149	1	PP	-0.82	3.48	-0.15	0.40	-9.55	4.31	2.03
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.8196*,		SumGF =	-0.8196	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200149	1102	MINR-MX	-0.82	3.48	-0.15	0.40	-9.55	4.31	2.03

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200138	1	PP	0.04	3.95	-0.43	-1.41	-12.86	-1.54	-5.45
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	3.9549*,		SumGF =	3.9549	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				

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Determination of Sums and Leading Variable Action

Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200138	1103	MAXR-MY	0.04	3.95	-0.43	-1.41	-12.86	-1.54	-5.45

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300178	1	PP	0.00	-0.16	-0.06	-1.11	-0.64	-4.88	-6.69
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.1555*,		SumGF =	-0.1555	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300178	1104	MINR-MY	0.00	-0.16	-0.06	-1.11	-0.64	-4.88	-6.69

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200009	1	PP	-0.42	3.62	0.53	0.88	-11.51	1.52	-1.41
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.5264*,		SumGF =	0.5264	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200009	1105	MAXR-MXY	-0.42	3.62	0.53	0.88	-11.51	1.52	-1.41

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200086	1	PP	-0.42	3.62	-0.52	-0.95	-11.37	1.48	-1.43
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.5214*,		SumGF =	-0.5214	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200086	1106	MINR-MXY	-0.42	3.62	-0.52	-0.95	-11.37	1.48	-1.43

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100175	1	PP	0.74	0.37	0.30	6.92	3.96	-0.44	3.57
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	6.9175*,		SumGF =	6.9175	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100175	1107	MAXR-VX	0.74	0.37	0.30	6.92	3.96	-0.44	3.57

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100042	1	PP	0.74	0.38	-0.30	-6.91	3.96	-0.46	3.61
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-6.9067*,		SumGF =	-6.9067	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100042	1108	MINR-VX	0.74	0.38	-0.30	-6.91	3.96	-0.46	3.61

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100040	1	PP	-0.07	2.46	0.23	-0.14	7.75	0.69	2.78
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	7.7451*,		SumGF =	7.7451	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100040	1109	MAXR-VY	-0.07	2.46	0.23	-0.14	7.75	0.69	2.78

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200026	1	PP	0.00	0.60	0.05	-2.12	-19.08	-0.91	-9.25
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-19.0784*,		SumGF =	-19.0784	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200026	1110	MINR-VY	0.00	0.60	0.05	-2.12	-19.08	-0.91	-9.25

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200149	1	PP	-0.82	3.48	-0.15	0.40	-9.55	4.31	2.03
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	4.3122*,	SumGF =	4.3122		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
12	1200149	1111	MAXR-NXX	-0.82	3.48	-0.15	0.40	-9.55	4.31	2.03

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300042	1	PP	0.00	0.01	-0.00	-0.12	0.14	-28.79	-19.12
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-28.7873*,	SumGF =	-28.7873		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300042	1112	MINR-NXX	0.00	0.01	-0.00	-0.12	0.14	-28.79	-19.12

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100085	1	PP	-0.15	1.43	-0.01	1.85	2.35	0.80	9.41
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	9.4141*,	SumGF =	9.4141		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100085	1113	MAXR-NYY	-0.15	1.43	-0.01	1.85	2.35	0.80	9.41

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300096	1	PP	0.00	0.00	0.00	0.00	-0.00	-8.15	-30.61
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-30.6076*,	SumGF =	-30.6076		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				

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Determination of Sums and Leading Variable Action

Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300096	1114	MINR-NYY	0.00	0.00	0.00	0.00	-0.00	-8.15	-30.61

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300042	1	PP	0.00	0.01	-0.00	-0.12	0.14	-28.79	-19.12
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	13.6829*,		SumGF =	13.6829	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300042	1115	MAXR-NXY	0.00	0.01	-0.00	-0.12	0.14	-28.79	-19.12

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300034	1	PP	0.00	0.00	0.00	0.00	0.00	-11.04	-26.44
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	-14.0759*,		SumGF =	-14.0759	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300034	1116	MINR-NXY	0.00	0.00	0.00	0.00	0.00	-11.04	-26.44

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100218	1	PP	-0.50	0.17	-0.12	-0.57	2.85	-1.70	0.41
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	50.4505*,		SumGF =	50.4505	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100218	1171	MAXR-SXO	-0.50	0.17	-0.12	-0.57	2.85	-1.70	0.41

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300262	1	PP	0.06	-0.02	-0.00	-0.68	-0.19	-15.10	-3.17
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU = -125.2408*,			SumGF = -125.2408		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300262	1172	MINR-SXO	0.06	-0.02	-0.00	-0.68	-0.19	-15.10	-3.17

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300179	1	PP	-0.00	-0.15	-0.07	-1.04	-0.77	-4.71	-4.97
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU = 9.7246*,			SumGF = 9.7246		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

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Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300179	1173	MAXR-SYO	-0.00	-0.15	-0.07	-1.04	-0.77	-4.71	-4.97

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
15	1500126	1	PP	0.00	0.24	0.01	1.34	4.89	-4.51	-18.63
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU = -270.9270*,			SumGF = -270.9270		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
15	1500126	1174	MINR-SYO	0.00	0.24	0.01	1.34	4.89	-4.51	-18.63

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300230	1	PP	0.02	-0.03	-0.04	-0.36	0.01	-10.44	-16.63
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU = 83.1679*,			SumGF = 83.1679		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300230	1175	MAXRSXYO	0.02	-0.03	-0.04	-0.36	0.01	-10.44	-16.63

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300320	1	PP	0.04	0.13	0.07	0.66	0.61	-4.26	-12.51
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU = -64.0752*,			SumGF = -64.0752		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300320	1176	MINRSXYO	0.04	0.13	0.07	0.66	0.61	-4.26	-12.51

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100156	1	PP	0.45	0.08	0.10	4.28	1.03	3.63	0.03
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU = 95.5417*,			SumGF = 95.5417		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100156	1177	MAXR-SXU	0.45	0.08	0.10	4.28	1.03	3.63	0.03

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300385	1	PP	-0.06	0.02	0.00	0.66	0.20	-15.46	-3.31
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU = -128.4109*,			SumGF = -128.4109		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300385	1178	MINR-SXU	-0.06	0.02	0.00	0.66	0.20	-15.46	-3.31

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100160	1	PP	0.13	3.07	-0.22	0.00	-1.09	1.43	7.72
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU = 144.4673*,			SumGF = 144.4673		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				

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Determination of Sums and Leading Variable Action

Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
11	1100160	1179	MAXR-SYU	0.13	3.07	-0.22	0.00	-1.09	1.43	7.72

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300227	1	PP	-0.03	-0.14	-0.04	-0.33	-0.40	-3.39	-14.30
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU = -144.5072*,			SumGF = -144.5072		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300227	1180	MINR-SYU	-0.03	-0.14	-0.04	-0.33	-0.40	-3.39	-14.30

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300369	1	PP	-0.02	0.03	0.04	0.37	0.04	-10.37	-16.86
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	83.6309*,		SumGF =	83.6309	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300369	1181	MAXRSXYU	-0.02	0.03	0.04	0.37	0.04	-10.37	-16.86

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300177	1	PP	-0.04	-0.13	-0.06	-0.66	-0.60	-4.30	-12.00
		2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	-61.7585*,		SumGF =	-61.7585	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Quadrilateral Elements

Grp No	QUAD No.	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]
13	1300177	1182	MINRSXYU	-0.04	-0.13	-0.06	-0.66	-0.60	-4.30	-12.00

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1147	1	PP	1.01	3.68	-0.07	-0.59	-11.63	0.86	-3.18	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	1.0119*,	SumGF =	1.0119		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1147	1101	MAXR-MX	1.01	3.68	-0.07	-0.59	-11.63	0.86	-3.18	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1249	1	PP	-1.04	3.75	-0.28	-0.49	-9.67	4.26	2.21	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-1.0359*,	SumGF =	-1.0359		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1249	1102	MINR-MX	-1.04	3.75	-0.28	-0.49	-9.67	4.26	2.21	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1130	1	PP	-0.10	4.35	0.29	0.59	-13.96	-0.19	-6.44	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	4.3466*,	SumGF =	4.3466		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1130	1103	MAXR-MY	-0.10	4.35	0.29	0.59	-13.96	-0.19	-6.44	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1354	1	PP	-0.28	-0.18	0.01	1.33	-11.29	0.03	-0.16	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.1763*,	SumGF =	-0.1763		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1354	1104	MINR-MY	-0.28	-0.18	0.01	1.33	-11.29	0.03	-0.16	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1132	1	PP	-0.37	4.10	0.63	0.65	-11.95	1.20	-2.18	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.6281*,	SumGF =	0.6281		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1132	1105	MAXR-MXY	-0.37	4.10	0.63	0.65	-11.95	1.20	-2.18	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1244	1	PP	-0.35	4.08	-0.64	-0.51	-11.92	1.03	-2.35	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.6443*,		SumGF =	-0.6443	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1244	1106	MINR-MXY	-0.35	4.08	-0.64	-0.51	-11.92	1.03	-2.35	...

Relevant Forces in Nodes

Group 11										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1216	1	PP	0.91	0.30	0.00	6.72	4.53	-0.21	3.30	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	6.7214*,		SumGF =	6.7214	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1216	1107	MAXR-VX	0.91	0.30	0.00	6.72	4.53	-0.21	3.30	...

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Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1944	1	PP	0.55	0.34	-0.26	-5.89	3.65	-0.34	2.67	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-5.8854*,		SumGF =	-5.8854
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1944	1108	MINR-VX	0.55	0.34	-0.26	-5.89	3.65	-0.34	2.67	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1155	1	PP	0.21	3.06	0.22	0.54	7.59	-0.06	2.63	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	7.5939*,		SumGF =	7.5939
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1155	1109	MAXR-VY	0.21	3.06	0.22	0.54	7.59	-0.06	2.63	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1018	1	PP	0.06	0.05	0.07	-2.12	-19.08	-1.62	-9.74	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = -19.0784*,			SumGF = -19.0784		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1018	1110	MINR-VY	0.06	0.05	0.07	-2.12	-19.08	-1.62	-9.74	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1022	1	PP	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = 5.1721*,			SumGF = 5.1721		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1022	1111	MAXR-NXX	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act G: SumGU = -42.2097*, SumGF = -42.2097						
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act Q: SumQ1 = 0.0000*, SumQI = 0.0000						
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act W: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1112	MINR-NXX	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1222	1	PP	0.86	1.39	0.03	-2.68	5.78	-0.45	10.33	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	10.3288*,		SumGF =	10.3288	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11

Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1222	1113	MAXR-NYY	0.86	1.39	0.03	-2.68	5.78	-0.45	10.33	...

Relevant Forces in Nodes

Group 13

Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-61.0883*,		SumGF =	-61.0883	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 13

Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1114	MINR-NYY	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...

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Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1438	1	PP	0.00	0.01	0.00	-0.07	0.12	-13.70	-40.65		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	17.5005*,		SumGF =	17.5005
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1438	1115	MAXR-NXY	0.00	0.01	0.00	-0.07	0.12	-13.70	-40.65		...

Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1442	1	PP	0.00	0.00	0.00	-0.00	0.00	-12.35	-22.45	-	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-17.1224*,		SumGF =	-17.1224
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1442	1116	MINR-NXY	0.00	0.00	0.00	-0.00	0.00	-12.35	-22.45	-	...

Relevant Forces in Nodes

Group 11											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
2867	1	PP	-0.50	0.09	-0.07	-0.43	2.37	-2.09	0.22		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	53.6372*,		SumGF =	53.6372
LC	1	33			
FacGU	1.00	1.00			
FacGF	1.00	1.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 11											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
2867	1171	MAXR-SXO	-0.50	0.09	-0.07	-0.43	2.37	-2.09	0.22		...

Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1027	1	PP	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-190.1972*,		SumGF =	-190.1972
LC	1	33			
FacGU	1.00	1.00			
FacGF	1.00	1.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13

Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1027	1172	MINR-SXO	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93	...

Relevant Forces in Nodes

Group 13

Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1439	1	PP	-0.00	0.00	0.00	-0.06	0.07	-16.63	10.04	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	38.6773*,	SumGF =	38.6773		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13

Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1439	1173	MAXR-SYO	-0.00	0.00	0.00	-0.06	0.07	-16.63	10.04	...

Relevant Forces in Nodes

Group 15

Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.03	0.38	0.00	-1.49	4.84	-4.37	-21.61	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU = -361.1750*,			SumGF = -361.1750		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 15											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
1011	1174	MINR-SYO	0.03	0.38	0.00	-1.49	4.84	-4.37	-21.61		...

Relevant Forces in Nodes

Group 13											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
1027	1	PP	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU = 70.7424*,			SumGF = 70.7424		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
1027	1175	MAXRSXYO	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93		...

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Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1673	1	PP	0.04	0.11	0.07	0.72	0.67	-5.07	-10.36	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-72.5232*,		SumGF =	-72.5232	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

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Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1673	1176	MINRSXYO	0.04	0.11	0.07	0.72	0.67	-5.07	-10.36	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1022	1	PP	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	116.3254*,		SumGF =	116.3254	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

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Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1022	1177	MAXR-SXU	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	1	PP	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = -190.8403*,			SumGF = -190.8403		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	1178	MINR-SXU	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1712	1	PP	0.15	3.58	0.18	1.38	-1.33	1.04	8.96	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = 172.3036*,			SumGF = 172.3036		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1712	1179	MAXR-SYU	0.15	3.58	0.18	1.38	-1.33	1.04	8.96	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU = -233.1179*,			SumGF = -233.1179		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1180	MINR-SYU	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	1	PP	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	72.7905*,		SumGF =	72.7905	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
1046	1181	MAXRSXYU	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27		...

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Relevant Forces in Nodes

Group 13											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
1539	1	PP	-0.04	-0.11	-0.07	-0.73	-0.66	-4.89	-9.83		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-70.5599*,		SumGF =	-70.5599	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
1539	1182	MINRSXYU	-0.04	-0.11	-0.07	-0.73	-0.66	-4.89	-9.83		...

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1248	1	PP	0.2	-0.3	-0.4	0.00	0.00	0.00
	2	AGUA						
	31	VIENTO+						
	32	VIENTO-						

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.2480*,		SumGF =	0.2480	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1248	1151	MAXR-PX	0.2	-0.3	-0.4	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1136	1	PP	-0.3	-0.3	-0.4	0.00	0.00	0.00
	2	AGUA						
	31	VIENTO+						
	32	VIENTO-						

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.2705*,		SumGF =	-0.2705	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1136	1152	MINR-PX	-0.3	-0.3	-0.4	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1	PP	0.0	0.0	65.2	-12.38	0.00	0.00
	2	AGUA	0.0	198.2	0.0	-372.69	0.00	0.00
	31	VIENTO+	0.0	10.1	0.0	-27.33	0.00	0.00
	32	VIENTO-	0.0	-10.1	0.0	27.33	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	198.2384,		SumQI =	198.2384*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 =	10.1306*,		SumQI =	6.0784	
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	1.00	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1153	MAXR-PY	0.0	208.4	65.2	-412.40	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1	PP	0.0	0.0	65.2	-12.38	0.00	0.00
	2	AGUA	0.0	198.2	0.0	-372.69	0.00	0.00
	31	VIENTO+	0.0	10.1	0.0	-27.33	0.00	0.00
	32	VIENTO-	0.0	-10.1	0.0	27.33	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	-10.1306*,		SumQI =	-6.0784	
LC	31	32				
FacQ1	0.00	1.00				
FacQI	0.00	0.60				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	1.00	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1154	MINR-PY	0.0	-10.1	65.2	14.95	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
43	1	PP	0.0	0.4	10.8	0.00	0.00	0.00
	2	AGUA	0.0	25.8	55.5	0.00	0.00	0.00
	31	VIENTO+	0.0	2.8	4.3	0.00	0.00	0.00
	32	VIENTO-	0.0	-2.8	-4.3	0.00	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	10.8340*,		SumGF =	10.8340	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	55.4527,		SumQI =	55.4527*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 =	4.2726*,		SumQI =	2.5636	
LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	1.00	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
43	1155	MAXR-PZ	0.0	28.9	70.6	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
42	1	PP	0.0	-0.4	54.3	-10.41	0.00	0.00
	2	AGUA	0.0	172.5	-55.5	-243.92	0.00	0.00
	31	VIENTO+	0.0	6.4	-4.3	-10.89	0.00	0.00
	32	VIENTO-	0.0	-6.4	4.3	10.89	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	54.3364*,		SumGF =	54.3364	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	-55.4527,		SumQI =	-55.4527*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 =	-4.2726*,		SumQI =	-2.5636	

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	1.00	0.00				
FacQI	0.60	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	1.00	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
42	1156	MINR-PZ	0.0	178.5	-5.4	-265.21	0.00	0.00

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1679	1	PP	0.002	-0.147	-0.282	0.280	0.000	0.002
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,	SumGF =	0.0000		
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1679	1171	MAXR-UX	0.002	-0.147	-0.282	0.280	0.000	0.002

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1545	1	PP	-0.002	-0.148	-0.282	0.280	-0.000	-0.002
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,	SumGF =	0.0000		
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				

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Determination of Sums and Leading Variable Action

Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1545	1172	MINR-UX	-0.002	-0.148	-0.282	0.280	-0.000	-0.002

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1	PP	0.000	0.041	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.427	0.140	0.738	0.000	0.000
	31	VIENTO+	0.000	-0.304	0.019	0.119	0.000	0.000
	32	VIENTO-	0.000	0.304	-0.019	-0.119	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0003,		SumQI =	0.0002	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	1.00	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1173	MAXR-UY	0.000	0.346	-0.028	-0.134	0.000	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1	PP	0.000	0.041	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.427	0.140	0.738	0.000	0.000
	31	VIENTO+	0.000	-0.304	0.019	0.119	0.000	0.000
	32	VIENTO-	0.000	0.304	-0.019	-0.119	0.000	0.000

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	-0.0024,		SumQI =	-0.0024	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	-0.0003,		SumQI =	-0.0002	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	1.00	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1174	MINR-UY	0.000	-2.690	0.150	0.841	0.000	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1073	1	PP	0.000	0.039	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.316	0.140	0.738	0.000	0.000
	31	VIENTO+	0.000	-0.287	0.019	0.119	0.000	0.000
	32	VIENTO-	0.000	0.287	-0.019	-0.119	0.000	0.000

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0001,		SumQI =	0.0001	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	1.00	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1073	1175	MAXR-UZ	0.000	-2.564	0.150	0.841	0.000	0.000

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1023	1	PP	0.000	0.030	-0.338	0.275	-0.009	-0.000
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.0003,		SumGF =	-0.0003	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1023	1176	MINR-UZ	0.000	0.030	-0.338	0.275	-0.009	-0.000

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
12	144	1	PP	-0.50	0.0	0.0	0.0	0.0
		2	AGUA	0.00	0.0	0.0	0.0	0.0
		31	VIENTO+	0.00	0.0	0.0	0.0	0.0
		32	VIENTO-	0.00	0.0	0.0	0.0	0.0

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.4995*,		SumGF =	-0.4995	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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RARA

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
12	144	1117	MAXR-P	-0.50	0.0	0.0	0.0	0.0

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	1	1	PP	-33.06	-0.1	0.0	0.4	0.1
		2	AGUA	0.00	0.0	0.0	0.0	0.0
		31	VIENTO+	0.00	0.0	0.0	0.0	0.0
		32	VIENTO-	0.00	0.0	0.0	0.0	0.0

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-33.0648*,		SumGF =	-33.0648	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	1	1118	MINR-P	-33.06	-0.1	0.0	0.4	0.1

```
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type BEAM Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QUAD Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QUAK Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type NODE Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QBED Load Case 33, does not contribute anything to the superposition
```

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FREQ

Superposition according to EHE Instrucción de hormigòn estructural 2008

Combination rule Number 102

SLS frequent combination

Superposition according to manual MAXIMA formula 2.5

$$E_{d,frequ} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus \psi_{1,1} \cdot Q_{k,1} \oplus \sum_{i>1} \psi_{2,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS frequent combination

Load Case selection and Actions

Act	Part	Superposition Factors γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2	Fact	Type	Designation
	LC									
G	G	1.35	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	33							1.00	PERM	CM
Q	Q	1.20	0.90	1.00	1.00	1.00	1.00			variable load
	2							1.00	COND	AGUA
W	Q	1.60	0.00	1.00	0.60	0.50	0.00			wind loading
	31							1.00	A10	VIENTO+
	32							1.00	A10	VIENTO-

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

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Generated Load Cases

Number	Combination	Designation
1301	102	MAXF-MX QUAD FRECUENTE
1302	102	MINF-MX QUAD FRECUENTE
1303	102	MAXF-MY QUAD FRECUENTE
1304	102	MINF-MY QUAD FRECUENTE
1305	102	MAXF-MXY QUAD FRECUENTE
1306	102	MINF-MXY QUAD FRECUENTE
1301	102	MAXF-MX QUAK FRECUENTE
1302	102	MINF-MX QUAK FRECUENTE
1303	102	MAXF-MY QUAK FRECUENTE
1304	102	MINF-MY QUAK FRECUENTE
1305	102	MAXF-MXY QUAK FRECUENTE
1306	102	MINF-MXY QUAK FRECUENTE
1307	102	MAXF-VX QUAD FRECUENTE
1308	102	MINF-VX QUAD FRECUENTE
1307	102	MAXF-VX QUAK FRECUENTE
1308	102	MINF-VX QUAK FRECUENTE
1309	102	MAXF-VY QUAD FRECUENTE
1310	102	MINF-VY QUAD FRECUENTE
1309	102	MAXF-VY QUAK FRECUENTE
1310	102	MINF-VY QUAK FRECUENTE
1311	102	MAXF-NXX QUAD FRECUENTE
1312	102	MINF-NXX QUAD FRECUENTE
1313	102	MAXF-NYY QUAD FRECUENTE
1314	102	MINF-NYY QUAD FRECUENTE
1315	102	MAXF-NXY QUAD FRECUENTE
1316	102	MINF-NXY QUAD FRECUENTE

FREQ

Generated Load Cases

Number	Combination	Designation
1311	102	MAXF-NXX QUAK FRECUENTE
1312	102	MINF-NXX QUAK FRECUENTE
1313	102	MAXF-NYY QUAK FRECUENTE
1314	102	MINF-NYY QUAK FRECUENTE
1315	102	MAXF-NXY QUAK FRECUENTE
1316	102	MINF-NXY QUAK FRECUENTE
1317	102	MAXF-P QUAD FRECUENTE
1318	102	MINF-P QUAD FRECUENTE
1371	102	MAXF-SXO QUAD FRECUENTE
1372	102	MINF-SXO QUAD FRECUENTE
1373	102	MAXF-SYO QUAD FRECUENTE
1374	102	MINF-SYO QUAD FRECUENTE
1375	102	MAXFSXYO QUAD FRECUENTE
1376	102	MINFSXYO QUAD FRECUENTE
1377	102	MAXF-SXU QUAD FRECUENTE
1378	102	MINF-SXU QUAD FRECUENTE
1379	102	MAXF-SYU QUAD FRECUENTE
1380	102	MINF-SYU QUAD FRECUENTE
1381	102	MAXFSXYU QUAD FRECUENTE
1382	102	MINFSXYU QUAD FRECUENTE
1371	102	MAXF-SXO QUAK FRECUENTE
1372	102	MINF-SXO QUAK FRECUENTE
1373	102	MAXF-SYO QUAK FRECUENTE
1374	102	MINF-SYO QUAK FRECUENTE
1375	102	MAXFSXYO QUAK FRECUENTE
1376	102	MINFSXYO QUAK FRECUENTE
1377	102	MAXF-SXU QUAK FRECUENTE
1378	102	MINF-SXU QUAK FRECUENTE
1379	102	MAXF-SYU QUAK FRECUENTE
1380	102	MINF-SYU QUAK FRECUENTE
1381	102	MAXFSXYU QUAK FRECUENTE
1382	102	MINFSXYU QUAK FRECUENTE
1351	102	MAXF-PX NODE FRECUENTE
1352	102	MINF-PX NODE FRECUENTE
1353	102	MAXF-PY NODE FRECUENTE
1354	102	MINF-PY NODE FRECUENTE
1355	102	MAXF-PZ NODE FRECUENTE
1356	102	MINF-PZ NODE FRECUENTE
1371	102	MAXF-UX NODE FRECUENTE
1372	102	MINF-UX NODE FRECUENTE
1373	102	MAXF-UY NODE FRECUENTE
1374	102	MINF-UY NODE FRECUENTE
1375	102	MAXF-UZ NODE FRECUENTE
1376	102	MINF-UZ NODE FRECUENTE
1321	102	MAXF-N BEAM FRECUENTE
1322	102	MINF-N BEAM FRECUENTE
1329	102	MAXF-MY BEAM FRECUENTE
1330	102	MINF-MY BEAM FRECUENTE
1331	102	MAXF-MZ BEAM FRECUENTE
1332	102	MINF-MZ BEAM FRECUENTE
1327	102	MAXF-MT BEAM FRECUENTE
1328	102	MINF-MT BEAM FRECUENTE
1323	102	MAXF-VY BEAM FRECUENTE
1324	102	MINF-VY BEAM FRECUENTE
1325	102	MAXF-VZ BEAM FRECUENTE
1326	102	MINF-VZ BEAM FRECUENTE

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FREQ

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1	PP	10.8	0.00	0.39	0.00	-0.63	0.00
			2	AGUA	55.5	0.00	25.75	0.00	-3.20	0.00
			31	VIENTO+	4.3	0.00	2.79	0.00	-0.25	0.00
			32	VIENTO-	-4.3	0.00	-2.79	0.00	0.25	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	10.8340*,		SumGF =	10.8340		
LC	1	33					
FacGU	1.00	0.00					
FacGF	1.00	0.00					
Act	Q: SumQ1 =	55.4527,		SumQI =	55.4527*		
LC	2						
FacQ1	1.00						
FacQI	1.00						
Act	W: SumQ1 =	2.1363*,		SumQI =	0.0000		
LC	31	32					
FacQ1	0.50	0.00					
FacQI	0.00	0.00					

Act	action
SumGU,SumGF	sums of the permanent loads acting unfavourable and favourable, * = decisive
SumQ1,SumQ2,SumQ3	sum of the variable loads for 1st, 2nd, 3rd leading variable action, * = decisive
SumQI	sum of the variable loads for accompanying variable actions, * = decisive
LC	number of the load case
FacGU,FacGF	factors of the permanent loads acting unfavourable and favourable
FacQ1,FacQ2,FacQ3	factors of the variable loads for 1st, 2nd, 3rd leading variable action
FacQI	factors of the variable loads for accompanying variable actions
LCW	loadcase-wise consideration

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Determined Factors

LC	1	2	31	32	33		
factor	1.00	1.00	0.50	-	-		

LC	number of the load case
Fact	resulting factors, - = load case is not considered

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1321	MAXF-N	68.4	0.00	27.54	0.00	-3.95	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-65.1704*,		SumGF =	-65.1704	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	

FREQ

Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1322	MINF-N	-65.2	0.00	0.00	0.00	6.74	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100042	0.000	1	PP	0.8	0.00	0.39	0.00	-0.29	0.00
			2	AGUA	55.5	0.00	4.72	0.00	24.62	0.00
			31	VIENTO+	4.3	0.00	-0.41	0.00	1.41	0.00
			32	VIENTO-	-4.3	0.00	0.41	0.00	-1.41	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.2930*,		SumGF =	-0.2930	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	24.6158,		SumQI =	24.6158*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 =	0.7045*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	0.50	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100042	0.000	1329	MAXF-MY	58.4	0.00	4.91	0.00	25.03	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	6.7413*,		SumGF =	6.7413	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				

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Determination of Sums and Leading Variable Action

Act	Q: SumQ1 = -372.6906,			SumQI = -372.6906*		
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 = -13.6636*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	0.50	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1330	MINF-MY	-65.2	0.00	-203.30	0.00	-379.61	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100043	0.162	1	PP	-1.8	0.00	0.39	0.00	-0.16	0.00
			2	AGUA	55.5	0.00	-5.72	0.00	23.60	0.00
			31	VIENTO+	4.3	0.00	-1.06	0.00	1.10	0.00
			32	VIENTO-	-4.3	0.00	1.06	0.00	-1.10	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU = 0.0000*,			SumGF = 0.0000		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	0.50	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100043	0.162	1331	MAXF-MZ	-4.0	0.00	0.92	0.00	-0.71	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	0.50	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1332	MINF-MZ	-65.2	0.00	5.07	0.00	20.40	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100032	0.000	1	PP	-30.2	0.00	0.39	0.00	1.66	0.00
			2	AGUA	55.5	0.00	-157.98	0.00	-160.91	0.00
			31	VIENTO+	4.3	0.00	-6.09	0.00	-8.28	0.00
			32	VIENTO-	-4.3	0.00	6.09	0.00	8.28	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100032	0.000	1327	MAXF-MT	-30.2	0.00	0.39	0.00	1.66	0.00

FREQ

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.000	1	PP	-44.0	0.00	0.39	0.00	5.47	0.00
			2	AGUA	55.5	0.00	-172.48	0.00	-230.00	0.00
			31	VIENTO+	4.3	0.00	-6.42	0.00	-11.02	0.00
			32	VIENTO-	-4.3	0.00	6.42	0.00	11.02	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.000	1328	MINF-MT	-44.0	0.00	0.39	0.00	5.47	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100011	0.000	1	PP	-10.1	0.00	0.00	0.00	0.33	0.00
			2	AGUA	0.0	0.00	-21.03	0.00	-10.17	0.00
			31	VIENTO+	0.0	0.00	-3.52	0.00	-2.82	0.00
			32	VIENTO-	0.0	0.00	3.52	0.00	2.82	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

FREQ

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100011	0.000	1323	MAXF-VY	-10.1	0.00	0.00	0.00	0.33	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100035	0.000	1	PP	8.2	0.00	0.39	0.00	-0.50	0.00
			2	AGUA	55.5	0.00	24.75	0.00	8.42	0.00
			31	VIENTO+	4.3	0.00	1.86	0.00	0.82	0.00
			32	VIENTO-	-4.3	0.00	-1.86	0.00	-0.82	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100035	0.000	1324	MINF-VY	8.2	0.00	0.39	0.00	-0.50	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1	PP	10.8	0.00	0.39	0.00	-0.63	0.00
			2	AGUA	55.5	0.00	25.75	0.00	-3.20	0.00
			31	VIENTO+	4.3	0.00	2.79	0.00	-0.25	0.00
			32	VIENTO-	-4.3	0.00	-2.79	0.00	0.25	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.3947*,		SumGF =	0.3947	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	25.7546,		SumQI =	25.7546*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 =	1.3956*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

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FREQ

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	0.50	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1325	MAXF-VZ	68.4	0.00	27.54	0.00	-3.95	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100001	0.166	1	PP	-44.9	0.00	0.00	0.00	-4.45	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-294.39	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-23.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	23.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	-198.2384,		SumQI =	-198.2384*
LC	2				
FacQ1	1.00				
FacQI	1.00				
Act	W: SumQ1 =	-5.0653*,		SumQI =	0.0000
LC	31	32			
FacQ1	0.50	0.00			
FacQI	0.00	0.00			

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Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	0.50	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100001	0.166	1326	MINF-VZ	-44.9	0.00	-203.30	0.00	-310.50	0.00

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1147	1	PP	1.01	3.68	-0.07	-0.59	-11.63	0.86	-3.18	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	1.0119*,		SumGF =	1.0119
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				

FREQ

Determination of Sums and Leading Variable Action

Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1147	1301	MAXF-MX	1.01	3.68	-0.07	-0.59	-11.63	0.86	-3.18	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1249	1	PP	-1.04	3.75	-0.28	-0.49	-9.67	4.26	2.21	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-1.0359*,		SumGF =	-1.0359
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1249	1302	MINF-MX	-1.04	3.75	-0.28	-0.49	-9.67	4.26	2.21	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1130	1	PP	-0.10	4.35	0.29	0.59	-13.96	-0.19	-6.44	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	4.3466*,		SumGF =	4.3466	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1130	1303	MAXF-MY	-0.10	4.35	0.29	0.59	-13.96	-0.19	-6.44		...

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Relevant Forces in Nodes

Group 12											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1354	1	PP	-0.28	-0.18	0.01	1.33	-11.29	0.03	-0.16		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.1763*,		SumGF =	-0.1763	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1354	1304	MINF-MY	-0.28	-0.18	0.01	1.33	-11.29	0.03	-0.16		...

FREQ

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1132	1	PP	-0.37	4.10	0.63	0.65	-11.95	1.20	-2.18	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.6281*,	SumGF =	0.6281		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1132	1305	MAXF-MXY	-0.37	4.10	0.63	0.65	-11.95	1.20	-2.18	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1244	1	PP	-0.35	4.08	-0.64	-0.51	-11.92	1.03	-2.35	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.6443*,	SumGF =	-0.6443		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

FREQ

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1244	1306	MINF-MXY	-0.35	4.08	-0.64	-0.51	-11.92	1.03	-2.35	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1216	1	PP	0.91	0.30	0.00	6.72	4.53	-0.21	3.30	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	6.7214*,		SumGF =	6.7214
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1216	1307	MAXF-VX	0.91	0.30	0.00	6.72	4.53	-0.21	3.30	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1944	1	PP	0.55	0.34	-0.26	-5.89	3.65	-0.34	2.67	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-5.8854*,		SumGF =	-5.8854
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1944	1308	MINF-VX	0.55	0.34	-0.26	-5.89	3.65	-0.34	2.67	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1155	1	PP	0.21	3.06	0.22	0.54	7.59	-0.06	2.63	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act G: SumGU = 7.5939*, SumGF = 7.5939						
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act Q: SumQ1 = 0.0000*, SumQI = 0.0000						
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act W: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1155	1309	MAXF-VY	0.21	3.06	0.22	0.54	7.59	-0.06	2.63	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1018	1	PP	0.06	0.05	0.07	-2.12	-19.08	-1.62	-9.74	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

FREQ

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-19.0784*,		SumGF =	-19.0784	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1018	1310	MINF-VY	0.06	0.05	0.07	-2.12	-19.08	-1.62	-9.74	...

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Relevant Forces in Nodes

Group 11										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1022	1	PP	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	5.1721*,		SumGF =	5.1721	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1022	1311	MAXF-NXX	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85	...

FREQ

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-42.2097*,		SumGF =	-42.2097	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1312	MINF-NXX	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1222	1	PP	0.86	1.39	0.03	-2.68	5.78	-0.45	10.33	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	10.3288*,		SumGF =	10.3288	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

FREQ

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1222	1313	MAXF-NYY	0.86	1.39	0.03	-2.68	5.78	-0.45	10.33	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-61.0883*,		SumGF =	-61.0883	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1314	MINF-NYY	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1438	1	PP	0.00	0.01	0.00	-0.07	0.12	-13.70	-40.65	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	17.5005*,		SumGF =	17.5005	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1438	1315	MAXF-NXY	0.00	0.01	0.00	-0.07	0.12	-13.70	-40.65	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1442	1	PP	0.00	0.00	0.00	-0.00	0.00	-12.35	-22.45	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act G: SumGU = -17.1224*, SumGF = -17.1224						
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act Q: SumQ1 = 0.0000*, SumQI = 0.0000						
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act W: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1442	1316	MINF-NXY	0.00	0.00	0.00	-0.00	0.00	-12.35	-22.45	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
2867	1	PP	-0.50	0.09	-0.07	-0.43	2.37	-2.09	0.22	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

FREQ

Determination of Sums and Leading Variable Action

Act	G: SumGU =	53.6372*,		SumGF =	53.6372	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 11										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
2867	1371	MAXF-SXO	-0.50	0.09	-0.07	-0.43	2.37	-2.09	0.22	...

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Relevant Forces in Nodes

Group 13										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1027	1	PP	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-190.1972*,		SumGF =	-190.1972	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1027	1372	MINF-SXO	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93	...

FREQ

Relevant Forces in Nodes

Group 13										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
1439	1	PP	-0.00	0.00	0.00	-0.06	0.07	-16.63	10.04	
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Determination of Sums and Leading Variable Action

Act	G: SumGU =	38.6773*,		SumGF =	38.6773
LC	1	33			
FacGU	1.00	1.00			
FacGF	1.00	1.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

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Relevant Forces in Nodes

Group 13										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
1439	1373	MAXF-SYO	-0.00	0.00	0.00	-0.06	0.07	-16.63	10.04	

Relevant Forces in Nodes

Group 15										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
1011	1	PP	0.03	0.38	0.00	-1.49	4.84	-4.37	-21.61	
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-361.1750*,		SumGF =	-361.1750
LC	1	33			
FacGU	1.00	1.00			
FacGF	1.00	1.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

FREQ

Relevant Forces in Nodes

Group 15										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1374	MINF-SYO	0.03	0.38	0.00	-1.49	4.84	-4.37	-21.61	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1027	1	PP	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	70.7424*,		SumGF =	70.7424	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1027	1375	MAXFSXYO	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1673	1	PP	0.04	0.11	0.07	0.72	0.67	-5.07	-10.36	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-72.5232*,		SumGF =	-72.5232	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1673	1376	MINFSXYO	0.04	0.11	0.07	0.72	0.67	-5.07	-10.36	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1022	1	PP	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act G: SumGU = 116.3254*, SumGF = 116.3254						
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act Q: SumQ1 = 0.0000*, SumQI = 0.0000						
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act W: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1022	1377	MAXF-SXU	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	1	PP	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

FREQ

Determination of Sums and Leading Variable Action

Act	G: SumGU = -190.8403*,			SumGF = -190.8403		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1046	1378	MINF-SXU	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27		...

Relevant Forces in Nodes

Group 11											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1712	1	PP	0.15	3.58	0.18	1.38	-1.33	1.04	8.96		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

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Determination of Sums and Leading Variable Action

Act	G: SumGU = 172.3036*,			SumGF = 172.3036		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 11											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1712	1379	MAXF-SYU	0.15	3.58	0.18	1.38	-1.33	1.04	8.96		...

FREQ

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = -233.1179*,			SumGF = -233.1179		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

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Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1380	MINF-SYU	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	1	PP	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = 72.7905*,			SumGF = 72.7905		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

FREQ

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	1381	MAXFSXYU	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1539	1	PP	-0.04	-0.11	-0.07	-0.73	-0.66	-4.89	-9.83	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-70.5599*,		SumGF =	-70.5599	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1539	1382	MINFSXYU	-0.04	-0.11	-0.07	-0.73	-0.66	-4.89	-9.83	...

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1248	1	PP	0.2	-0.3	-0.4	0.00	0.00	0.00
	2	AGUA						
	31	VIENTO+						
	32	VIENTO-						

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.2480*,		SumGF =	0.2480	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				

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Determination of Sums and Leading Variable Action

FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1248	1351	MAXF-PX	0.2	-0.3	-0.4	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1136	1	PP	-0.3	-0.3	-0.4	0.00	0.00	0.00
	2	AGUA						
	31	VIENTO+						
	32	VIENTO-						

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.2705*,		SumGF =	-0.2705	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1136	1352	MINF-PX	-0.3	-0.3	-0.4	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1	PP	0.0	0.0	65.2	-12.38	0.00	0.00
	2	AGUA	0.0	198.2	0.0	-372.69	0.00	0.00
	31	VIENTO+	0.0	10.1	0.0	-27.33	0.00	0.00
	32	VIENTO-	0.0	-10.1	0.0	27.33	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	198.2384,		SumQI =	198.2384*	

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FREQ

Determination of Sums and Leading Variable Action

LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 =	5.0653*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	0.50	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1353	MAXF-PY	0.0	203.3	65.2	-398.74	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1	PP	0.0	0.0	65.2	-12.38	0.00	0.00
	2	AGUA	0.0	198.2	0.0	-372.69	0.00	0.00
	31	VIENTO+	0.0	10.1	0.0	-27.33	0.00	0.00
	32	VIENTO-	0.0	-10.1	0.0	27.33	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	-5.0653*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.50				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	0.50	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1354	MINF-PY	0.0	-5.1	65.2	1.28	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
43	1	PP	0.0	0.4	10.8	0.00	0.00	0.00
	2	AGUA	0.0	25.8	55.5	0.00	0.00	0.00
	31	VIENTO+	0.0	2.8	4.3	0.00	0.00	0.00
	32	VIENTO-	0.0	-2.8	-4.3	0.00	0.00	0.00

FREQ

Determination of Sums and Leading Variable Action

Act	G: SumGU =	10.8340*,		SumGF =	10.8340	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	55.4527,		SumQI =	55.4527*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 =	2.1363*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	0.50	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
43	1355	MAXF-PZ	0.0	27.5	68.4	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
42	1	PP	0.0	-0.4	54.3	-10.41	0.00	0.00
	2	AGUA	0.0	172.5	-55.5	-243.92	0.00	0.00
	31	VIENTO+	0.0	6.4	-4.3	-10.89	0.00	0.00
	32	VIENTO-	0.0	-6.4	4.3	10.89	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	54.3364*,		SumGF =	54.3364	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	-55.4527,		SumQI =	-55.4527*	
LC	2					
FacQ1	1.00					
FacQI	1.00					
Act	W: SumQ1 =	-2.1363*,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.50	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	0.50	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
42	1356	MINF-PZ	0.0	175.3	-3.3	-259.77	0.00	0.00

FREQ

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1679	1	PP	0.002	-0.147	-0.282	0.280	0.000	0.002
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1679	1371	MAXF-UX	0.002	-0.147	-0.282	0.280	0.000	0.002

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1545	1	PP	-0.002	-0.148	-0.282	0.280	-0.000	-0.002
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

FREQ

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1545	1372	MINF-UX	-0.002	-0.148	-0.282	0.280	-0.000	-0.002

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1	PP	0.000	0.041	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.427	0.140	0.738	0.000	0.000
	31	VIENTO+	0.000	-0.304	0.019	0.119	0.000	0.000
	32	VIENTO-	0.000	0.304	-0.019	-0.119	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0002,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	0.50	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1373	MAXF-UY	0.000	0.194	-0.019	-0.074	0.000	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1	PP	0.000	0.041	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.427	0.140	0.738	0.000	0.000
	31	VIENTO+	0.000	-0.304	0.019	0.119	0.000	0.000
	32	VIENTO-	0.000	0.304	-0.019	-0.119	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	-0.0024,		SumQI =	-0.0024	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	-0.0002,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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FREQ

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	0.50	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1374	MINF-UY	0.000	-2.538	0.141	0.782	0.000	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1073	1	PP	0.000	0.039	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.316	0.140	0.738	0.000	0.000
	31	VIENTO+	0.000	-0.287	0.019	0.119	0.000	0.000
	32	VIENTO-	0.000	0.287	-0.019	-0.119	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,	SumGF =	0.0000		
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0001,	SumQI =	0.0001		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	0.50	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1073	1375	MAXF-UZ	0.000	-2.420	0.141	0.782	0.000	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1023	1	PP	0.000	0.030	-0.338	0.275	-0.009	-0.000
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.0003,	SumGF =	-0.0003		
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000		

FREQ

Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1023	1376	MINF-UZ	0.000	0.030	-0.338	0.275	-0.009	-0.000

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
12	144	1	PP	-0.50	0.0	0.0	0.0	0.0
		2	AGUA	0.00	0.0	0.0	0.0	0.0
		31	VIENTO+	0.00	0.0	0.0	0.0	0.0
		32	VIENTO-	0.00	0.0	0.0	0.0	0.0

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.4995*,		SumGF =	-0.4995	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
12	144	1317	MAXF-P	-0.50	0.0	0.0	0.0	0.0

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	1	1	PP	-33.06	-0.1	0.0	0.4	0.1
		2	AGUA	0.00	0.0	0.0	0.0	0.0
		31	VIENTO+	0.00	0.0	0.0	0.0	0.0
		32	VIENTO-	0.00	0.0	0.0	0.0	0.0

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-33.0648*,		SumGF =	-33.0648	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				

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FREQ

Determination of Sums and Leading Variable Action

Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	1	1318	MINF-P	-33.06	-0.1	0.0	0.4	0.1

```
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type BEAM Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QUAD Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QUAK Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type NODE Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QBED Load Case 33, does not contribute anything to the superposition
```

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Superposition according to EHE Instrucción de hormigòn estructural 2008

Combination rule Number 101

SLS quasi-permanent combination

Superposition according to manual MAXIMA formula 2.7

$$E_{d,perm} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus \sum_{i\geq 1} \psi_{2,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS quasi-permanent combination

Load Case selection and Actions

Act	Part	Superposition Factors γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2	Fact	Type	Designation
	LC									
G	G	1.35	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	33							1.00	PERM	CM
Q	Q	1.20	0.90	1.00	1.00	1.00	1.00			variable load
	2							1.00	COND	AGUA
W	Q	1.60	0.00	1.00	0.60	0.50	0.00			wind loading
	31							1.00	A10	VIENTO+
	32							1.00	A10	VIENTO-

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

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Generated Load Cases

Number	Combination	Designation
1401	101	MAXP-MX QUAD CUASIPERM
1402	101	MINP-MX QUAD CUASIPERM
1403	101	MAXP-MY QUAD CUASIPERM
1404	101	MINP-MY QUAD CUASIPERM
1405	101	MAXP-MXY QUAD CUASIPERM
1406	101	MINP-MXY QUAD CUASIPERM
1401	101	MAXP-MX QUAK CUASIPERM
1402	101	MINP-MX QUAK CUASIPERM
1403	101	MAXP-MY QUAK CUASIPERM
1404	101	MINP-MY QUAK CUASIPERM
1405	101	MAXP-MXY QUAK CUASIPERM
1406	101	MINP-MXY QUAK CUASIPERM
1407	101	MAXP-VX QUAD CUASIPERM
1408	101	MINP-VX QUAD CUASIPERM
1407	101	MAXP-VX QUAK CUASIPERM
1408	101	MINP-VX QUAK CUASIPERM
1409	101	MAXP-VY QUAD CUASIPERM
1410	101	MINP-VY QUAD CUASIPERM
1409	101	MAXP-VY QUAK CUASIPERM
1410	101	MINP-VY QUAK CUASIPERM
1411	101	MAXP-NXX QUAD CUASIPERM
1412	101	MINP-NXX QUAD CUASIPERM
1413	101	MAXP-NYY QUAD CUASIPERM
1414	101	MINP-NYY QUAD CUASIPERM
1415	101	MAXP-NXY QUAD CUASIPERM
1416	101	MINP-NXY QUAD CUASIPERM

CUASIPERM

Generated Load Cases

Number	Combination	Designation
1411	101	MAXP-NXX QUAK CUASIPERM
1412	101	MINP-NXX QUAK CUASIPERM
1413	101	MAXP-NYY QUAK CUASIPERM
1414	101	MINP-NYY QUAK CUASIPERM
1415	101	MAXP-NXY QUAK CUASIPERM
1416	101	MINP-NXY QUAK CUASIPERM
1417	101	MAXP-P QUAD CUASIPERM
1418	101	MINP-P QUAD CUASIPERM
1471	101	MAXP-SXO QUAD CUASIPERM
1472	101	MINP-SXO QUAD CUASIPERM
1473	101	MAXP-SYO QUAD CUASIPERM
1474	101	MINP-SYO QUAD CUASIPERM
1475	101	MAXPSXYO QUAD CUASIPERM
1476	101	MINPSXYO QUAD CUASIPERM
1477	101	MAXP-SXU QUAD CUASIPERM
1478	101	MINP-SXU QUAD CUASIPERM
1479	101	MAXP-SYU QUAD CUASIPERM
1480	101	MINP-SYU QUAD CUASIPERM
1481	101	MAXPSXYU QUAD CUASIPERM
1482	101	MINPSXYU QUAD CUASIPERM
1471	101	MAXP-SXO QUAK CUASIPERM
1472	101	MINP-SXO QUAK CUASIPERM
1473	101	MAXP-SYO QUAK CUASIPERM
1474	101	MINP-SYO QUAK CUASIPERM
1475	101	MAXPSXYO QUAK CUASIPERM
1476	101	MINPSXYO QUAK CUASIPERM
1477	101	MAXP-SXU QUAK CUASIPERM
1478	101	MINP-SXU QUAK CUASIPERM
1479	101	MAXP-SYU QUAK CUASIPERM
1480	101	MINP-SYU QUAK CUASIPERM
1481	101	MAXPSXYU QUAK CUASIPERM
1482	101	MINPSXYU QUAK CUASIPERM
1451	101	MAXP-PX NODE CUASIPERM
1452	101	MINP-PX NODE CUASIPERM
1453	101	MAXP-PY NODE CUASIPERM
1454	101	MINP-PY NODE CUASIPERM
1455	101	MAXP-PZ NODE CUASIPERM
1456	101	MINP-PZ NODE CUASIPERM
1471	101	MAXP-UX NODE CUASIPERM
1472	101	MINP-UX NODE CUASIPERM
1473	101	MAXP-UY NODE CUASIPERM
1474	101	MINP-UY NODE CUASIPERM
1475	101	MAXP-UZ NODE CUASIPERM
1476	101	MINP-UZ NODE CUASIPERM
1421	101	MAXP-N BEAM CUASIPERM
1422	101	MINP-N BEAM CUASIPERM
1429	101	MAXP-MY BEAM CUASIPERM
1430	101	MINP-MY BEAM CUASIPERM
1431	101	MAXP-MZ BEAM CUASIPERM
1432	101	MINP-MZ BEAM CUASIPERM
1427	101	MAXP-MT BEAM CUASIPERM
1428	101	MINP-MT BEAM CUASIPERM
1423	101	MAXP-VY BEAM CUASIPERM
1424	101	MINP-VY BEAM CUASIPERM
1425	101	MAXP-VZ BEAM CUASIPERM
1426	101	MINP-VZ BEAM CUASIPERM

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1	PP	10.8	0.00	0.39	0.00	-0.63	0.00
			2	AGUA	55.5	0.00	25.75	0.00	-3.20	0.00
			31	VIENTO+	4.3	0.00	2.79	0.00	-0.25	0.00
			32	VIENTO-	-4.3	0.00	-2.79	0.00	0.25	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	10.8340*,		SumGF =	10.8340		
LC	1	33					
FacGU	1.00	0.00					
FacGF	1.00	0.00					
Act	Q: SumQ1 =	0.0000,		SumQI =	55.4527*		
LC	2						
FacQ1	0.00						
FacQI	1.00						
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*		
LC	31	32					
FacQ1	0.00	0.00					
FacQI	0.00	0.00					

Act	action
SumGU,SumGF	sums of the permanent loads acting unfavourable and favourable, * = decisive
SumQ1,SumQ2,SumQ3	sum of the variable loads for 1st, 2nd, 3rd leading variable action, * = decisive
SumQI	sum of the variable loads for accompanying variable actions, * = decisive
LC	number of the load case
FacGU,FacGF	factors of the permanent loads acting unfavourable and favourable
FacQ1,FacQ2,FacQ3	factors of the variable loads for 1st, 2nd, 3rd leading variable action
FacQI	factors of the variable loads for accompanying variable actions
LCW	loadcase-wise consideration

Determined Factors

LC	1	2	31	32	33		
factor	1.00	1.00	-	-	-		

LC	number of the load case
Fact	resulting factors, - = load case is not considered

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1421	MAXP-N	66.3	0.00	26.15	0.00	-3.82	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-65.1704*,		SumGF =	-65.1704	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1422	MINP-N	-65.2	0.00	0.00	0.00	6.74	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100042	0.000	1	PP	0.8	0.00	0.39	0.00	-0.29	0.00
			2	AGUA	55.5	0.00	4.72	0.00	24.62	0.00
			31	VIENTO+	4.3	0.00	-0.41	0.00	1.41	0.00
			32	VIENTO-	-4.3	0.00	0.41	0.00	-1.41	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.2930*,		SumGF =	-0.2930	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	24.6158*	
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100042	0.000	1429	MAXP-MY	56.2	0.00	5.12	0.00	24.32	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	6.7413*,		SumGF =	6.7413	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				

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Determination of Sums and Leading Variable Action

Act	Q: SumQ1 =	0.0000,		SumQI = -372.6906*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1430	MINP-MY	-65.2	0.00	-198.24	0.00	-365.95	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.175	1	PP	-54.3	0.00	0.39	0.00	5.54	0.00
			2	AGUA	55.5	0.00	-172.48	0.00	-260.19	0.00
			31	VIENTO+	4.3	0.00	-6.42	0.00	-12.14	0.00
			32	VIENTO-	-4.3	0.00	6.42	0.00	12.14	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.175	1431	MAXP-MZ	-54.3	0.00	0.39	0.00	5.54	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100025	0.162	1	PP	-35.4	0.00	0.00	0.00	3.12	0.00
			2	AGUA	0.0	0.00	-150.47	0.00	-194.66	0.00
			31	VIENTO+	0.0	0.00	-8.87	0.00	-17.88	0.00
			32	VIENTO-	0.0	0.00	8.87	0.00	17.88	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100025	0.162	1432	MINP-MZ	-35.4	0.00	0.00	0.00	3.12	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100032	0.000	1	PP	-30.2	0.00	0.39	0.00	1.66	0.00
			2	AGUA	55.5	0.00	-157.98	0.00	-160.91	0.00
			31	VIENTO+	4.3	0.00	-6.09	0.00	-8.28	0.00
			32	VIENTO-	-4.3	0.00	6.09	0.00	8.28	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100032	0.000	1427	MAXP-MT	-30.2	0.00	0.39	0.00	1.66	0.00

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.000	1	PP	-44.0	0.00	0.39	0.00	5.47	0.00
			2	AGUA	55.5	0.00	-172.48	0.00	-230.00	0.00
			31	VIENTO+	4.3	0.00	-6.42	0.00	-11.02	0.00
			32	VIENTO-	-4.3	0.00	6.42	0.00	11.02	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.000	1428	MINP-MT	-44.0	0.00	0.39	0.00	5.47	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100011	0.000	1	PP	-10.1	0.00	0.00	0.00	0.33	0.00
			2	AGUA	0.0	0.00	-21.03	0.00	-10.17	0.00
			31	VIENTO+	0.0	0.00	-3.52	0.00	-2.82	0.00
			32	VIENTO-	0.0	0.00	3.52	0.00	2.82	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100011	0.000	1423	MAXP-VY	-10.1	0.00	0.00	0.00	0.33	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100035	0.000	1	PP	8.2	0.00	0.39	0.00	-0.50	0.00
			2	AGUA	55.5	0.00	24.75	0.00	8.42	0.00
			31	VIENTO+	4.3	0.00	1.86	0.00	0.82	0.00
			32	VIENTO-	-4.3	0.00	-1.86	0.00	-0.82	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100035	0.000	1424	MINP-VY	8.2	0.00	0.39	0.00	-0.50	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100059	0.000	1	PP	9.9	0.00	0.39	0.00	-0.67	0.00
			2	AGUA	55.5	0.00	25.75	0.00	0.11	0.00
			31	VIENTO+	4.3	0.00	2.49	0.00	0.11	0.00
			32	VIENTO-	-4.3	0.00	-2.49	0.00	-0.11	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.3947*,		SumGF =	0.3947	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	25.7546*	
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100059	0.000	1425	MAXP-VZ	65.3	0.00	26.15	0.00	-0.56	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100001	0.166	1	PP	-44.9	0.00	0.00	0.00	-4.45	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-294.39	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-23.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	23.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,	SumGF =	0.0000		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,	SumQI =	-198.2384*		
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100001	0.166	1426	MINP-VZ	-44.9	0.00	-198.24	0.00	-298.84	0.00

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1147	1	PP	1.01	3.68	-0.07	-0.59	-11.63	0.86	-3.18	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	1.0119*,	SumGF =	1.0119		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					

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Determination of Sums and Leading Variable Action

Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1147	1401	MAXP-MX	1.01	3.68	-0.07	-0.59	-11.63	0.86	-3.18	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1249	1	PP	-1.04	3.75	-0.28	-0.49	-9.67	4.26	2.21	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-1.0359*,		SumGF =	-1.0359
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1249	1402	MINP-MX	-1.04	3.75	-0.28	-0.49	-9.67	4.26	2.21	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1130	1	PP	-0.10	4.35	0.29	0.59	-13.96	-0.19	-6.44	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	4.3466*,		SumGF =	4.3466	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1130	1403	MAXP-MY	-0.10	4.35	0.29	0.59	-13.96	-0.19	-6.44	...

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Relevant Forces in Nodes

Group 12										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1354	1	PP	-0.28	-0.18	0.01	1.33	-11.29	0.03	-0.16	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.1763*,		SumGF =	-0.1763	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1354	1404	MINP-MY	-0.28	-0.18	0.01	1.33	-11.29	0.03	-0.16	...

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Relevant Forces in Nodes

Group 12										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
1132	1	PP	-0.37	4.10	0.63	0.65	-11.95	1.20	-2.18	
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.6281*,	SumGF =	0.6281		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Nodes

Group 12										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
1132	1405	MAXP-MXY	-0.37	4.10	0.63	0.65	-11.95	1.20	-2.18	

Relevant Forces in Nodes

Group 12										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	
1244	1	PP	-0.35	4.08	-0.64	-0.51	-11.92	1.03	-2.35	
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.6443*,	SumGF =	-0.6443		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1244	1406	MINP-MXY	-0.35	4.08	-0.64	-0.51	-11.92	1.03	-2.35	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1216	1	PP	0.91	0.30	0.00	6.72	4.53	-0.21	3.30	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	6.7214*,		SumGF =	6.7214
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1216	1407	MAXP-VX	0.91	0.30	0.00	6.72	4.53	-0.21	3.30	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1944	1	PP	0.55	0.34	-0.26	-5.89	3.65	-0.34	2.67	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-5.8854*,		SumGF =	-5.8854
LC	1	33			
FacGU	1.00	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1944	1408	MINP-VX	0.55	0.34	-0.26	-5.89	3.65	-0.34	2.67	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1155	1	PP	0.21	3.06	0.22	0.54	7.59	-0.06	2.63	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act G: SumGU = 7.5939*, SumGF = 7.5939						
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act Q: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act W: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1155	1409	MAXP-VY	0.21	3.06	0.22	0.54	7.59	-0.06	2.63	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1018	1	PP	0.06	0.05	0.07	-2.12	-19.08	-1.62	-9.74	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	-19.0784*,		SumGF =	-19.0784	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 12											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1018	1410	MINP-VY	0.06	0.05	0.07	-2.12	-19.08	-1.62	-9.74		...

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Relevant Forces in Nodes

Group 11											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1022	1	PP	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	5.1721*,		SumGF =	5.1721	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 11											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1022	1411	MAXP-NXX	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85		...

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Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-42.2097*,		SumGF =	-42.2097	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1412	MINP-NXX	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1222	1	PP	0.86	1.39	0.03	-2.68	5.78	-0.45	10.33	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	10.3288*,		SumGF =	10.3288	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1222	1413	MAXP-NYY	0.86	1.39	0.03	-2.68	5.78	-0.45	10.33	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = -61.0883*,			SumGF = -61.0883		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1414	MINP-NYY	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1438	1	PP	0.00	0.01	0.00	-0.07	0.12	-13.70	-40.65	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = 17.5005*,			SumGF = 17.5005		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1438	1415	MAXP-NXY	0.00	0.01	0.00	-0.07	0.12	-13.70	-40.65	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1442	1	PP	0.00	0.00	0.00	-0.00	0.00	-12.35	-22.45	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act G: SumGU = -17.1224*, SumGF = -17.1224						
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act Q: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act W: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1442	1416	MINP-NXY	0.00	0.00	0.00	-0.00	0.00	-12.35	-22.45	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
2867	1	PP	-0.50	0.09	-0.07	-0.43	2.37	-2.09	0.22	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	53.6372*,		SumGF =	53.6372	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 11										
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	
2867	1471	MAXP-SXO	-0.50	0.09	-0.07	-0.43	2.37	-2.09	0.22	

Relevant Forces in Nodes

Group 13										
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	
1027	1	PP	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93	
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	-190.1972*,		SumGF =	-190.1972	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13										
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	
1027	1472	MINP-SXO	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93	

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Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1439	1	PP	-0.00	0.00	0.00	-0.06	0.07	-16.63	10.04		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	38.6773*,		SumGF =	38.6773
LC	1	33			
FacGU	1.00	1.00			
FacGF	1.00	1.00			
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1439	1473	MAXP-SYO	-0.00	0.00	0.00	-0.06	0.07	-16.63	10.04		...

Relevant Forces in Nodes

Group 15											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1011	1	PP	0.03	0.38	0.00	-1.49	4.84	-4.37	-21.61		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-361.1750*,		SumGF =	-361.1750
LC	1	33			
FacGU	1.00	1.00			
FacGF	1.00	1.00			
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

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Relevant Forces in Nodes

Group 15										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1474	MINP-SYO	0.03	0.38	0.00	-1.49	4.84	-4.37	-21.61	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1027	1	PP	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	70.7424*,		SumGF =	70.7424	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1027	1475	MAXPSXYO	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1673	1	PP	0.04	0.11	0.07	0.72	0.67	-5.07	-10.36	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-72.5232*,		SumGF =	-72.5232	
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1673	1476	MINPSXYO	0.04	0.11	0.07	0.72	0.67	-5.07	-10.36	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1022	1	PP	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act G: SumGU = 116.3254*, SumGF = 116.3254						
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act Q: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act W: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1022	1477	MAXP-SXU	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	1	PP	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU = -190.8403*,			SumGF = -190.8403		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13

Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	1478	MINP-SXU	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27	...

Relevant Forces in Nodes

Group 11

Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1712	1	PP	0.15	3.58	0.18	1.38	-1.33	1.04	8.96	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = 172.3036*,			SumGF = 172.3036		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 11

Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1712	1479	MAXP-SYU	0.15	3.58	0.18	1.38	-1.33	1.04	8.96	...

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Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU = -233.1179*,			SumGF = -233.1179		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1011	1480	MINP-SYU	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09		...

Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1046	1	PP	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU = 72.7905*,			SumGF = 72.7905		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

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Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	1481	MAXPSXYU	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1539	1	PP	-0.04	-0.11	-0.07	-0.73	-0.66	-4.89	-9.83	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = -70.5599*,			SumGF = -70.5599		
LC	1	33				
FacGU	1.00	1.00				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	1.00

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1539	1482	MINPSXYU	-0.04	-0.11	-0.07	-0.73	-0.66	-4.89	-9.83	...

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1248	1	PP	0.2	-0.3	-0.4	0.00	0.00	0.00
	2	AGUA						
	31	VIENTO+						
	32	VIENTO-						

Determination of Sums and Leading Variable Action

Act	G: SumGU = 0.2480*,			SumGF = 0.2480		
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				

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Determination of Sums and Leading Variable Action

FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1248	1451	MAXP-PX	0.2	-0.3	-0.4	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1136	1	PP	-0.3	-0.3	-0.4	0.00	0.00	0.00
	2	AGUA						
	31	VIENTO+						
	32	VIENTO-						

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.2705*,		SumGF =	-0.2705	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1136	1452	MINP-PX	-0.3	-0.3	-0.4	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1	PP	0.0	0.0	65.2	-12.38	0.00	0.00
	2	AGUA	0.0	198.2	0.0	-372.69	0.00	0.00
	31	VIENTO+	0.0	10.1	0.0	-27.33	0.00	0.00
	32	VIENTO-	0.0	-10.1	0.0	27.33	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	198.2384*	

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Determination of Sums and Leading Variable Action

LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	-	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1453	MAXP-PY	0.0	198.2	65.2	-385.07	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1021	1	PP	0.0	-2.4	-0.5	0.00	0.00	0.00
	2	AGUA						
	31	VIENTO+						
	32	VIENTO-						

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-2.4118*,		SumGF =	-2.4118	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1021	1454	MINP-PY	0.0	-2.4	-0.5	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
43	1	PP	0.0	0.4	10.8	0.00	0.00	0.00
	2	AGUA	0.0	25.8	55.5	0.00	0.00	0.00
	31	VIENTO+	0.0	2.8	4.3	0.00	0.00	0.00
	32	VIENTO-	0.0	-2.8	-4.3	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	10.8340*,		SumGF =	10.8340	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	55.4527*	
LC	2					
FacQ1	0.00					
FacQI	1.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	-	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
43	1455	MAXP-PZ	0.0	26.1	66.3	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1016	1	PP	-0.0	4.8	-2.2	0.00	0.00	0.00
	2	AGUA						
	31	VIENTO+						
	32	VIENTO-						

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	-2.1916*,		SumGF =	-2.1916	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1016	1456	MINP-PZ	-0.0	4.8	-2.2	0.00	0.00	0.00

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1679	1	PP	0.002	-0.147	-0.282	0.280	0.000	0.002
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1679	1471	MAXP-UX	0.002	-0.147	-0.282	0.280	0.000	0.002

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1545	1	PP	-0.002	-0.148	-0.282	0.280	-0.000	-0.002
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1545	1472	MINP-UX	-0.002	-0.148	-0.282	0.280	-0.000	-0.002

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1	PP	0.000	0.041	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.427	0.140	0.738	0.000	0.000
	31	VIENTO+	0.000	-0.304	0.019	0.119	0.000	0.000
	32	VIENTO-	0.000	0.304	-0.019	-0.119	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1473	MAXP-UY	0.000	0.041	-0.009	-0.015	0.000	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1	PP	0.000	0.041	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.427	0.140	0.738	0.000	0.000
	31	VIENTO+	0.000	-0.304	0.019	0.119	0.000	0.000
	32	VIENTO-	0.000	0.304	-0.019	-0.119	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	-0.0024	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	-	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1474	MINP-UY	0.000	-2.386	0.131	0.723	0.000	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1081	1	PP	0.000	0.034	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.082	0.140	0.737	0.000	0.000
	31	VIENTO+	0.000	-0.249	0.019	0.116	0.000	0.000
	32	VIENTO-	0.000	0.249	-0.019	-0.116	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,	SumGF =	0.0000		
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,	SumQI =	0.0001		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	1.00	-	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1081	1475	MAXP-UZ	0.000	-2.048	0.131	0.722	0.000	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1023	1	PP	0.000	0.030	-0.338	0.275	-0.009	-0.000
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.0003,	SumGF =	-0.0003		
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000		

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1023	1476	MINP-UZ	0.000	0.030	-0.338	0.275	-0.009	-0.000

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
12	144	1	PP	-0.50	0.0	0.0	0.0	0.0
		2	AGUA	0.00	0.0	0.0	0.0	0.0
		31	VIENTO+	0.00	0.0	0.0	0.0	0.0
		32	VIENTO-	0.00	0.0	0.0	0.0	0.0

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.4995*,		SumGF =	-0.4995	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
12	144	1417	MAXP-P	-0.50	0.0	0.0	0.0	0.0

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	1	1	PP	-33.06	-0.1	0.0	0.4	0.1
		2	AGUA	0.00	0.0	0.0	0.0	0.0
		31	VIENTO+	0.00	0.0	0.0	0.0	0.0
		32	VIENTO-	0.00	0.0	0.0	0.0	0.0

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-33.0648*,		SumGF =	-33.0648	
LC	1	33				
FacGU	1.00	0.00				
FacGF	1.00	0.00				

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Determination of Sums and Leading Variable Action

Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	1	1418	MINP-P	-33.06	-0.1	0.0	0.4	0.1

```
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type BEAM Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QUAD Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QUAK Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type NODE Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QBED Load Case 33, does not contribute anything to the superposition
```

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ELU

Superposition according to EHE Instrucción de hormigòn estructural 2008

Combination rule Number 201

ULS fundamental combination

Superposition according to manual MAXIMA formula 2.1

$$E_d = E\left\{\sum_{j\geq 1}\gamma_{G,j}\cdot G_{k,j} \oplus \gamma_P \cdot P_k \oplus \gamma_{Q,1}\cdot Q_{k,1} \oplus \sum_{i>1}\gamma_{Q,i}\cdot\psi_{0,i}\cdot Q_{k,i}\right\}$$

Resulting Load Cases type ULS fundamental combination

Load Case selection and Actions

Act	Part	Superposition Factors γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2	Fact	Type	Designation
	LC									
G	G	1.35	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	33							1.00	PERM	CM
Q	Q	1.20	0.90	1.00	1.00	1.00	1.00			variable load
	2							1.00	COND	AGUA
W	Q	1.60	0.00	1.00	0.60	0.50	0.00			wind loading
	31							1.00	A10	VIENTO+
	32							1.00	A10	VIENTO-

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

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Generated Load Cases

Number	Combination	Designation
2101	201	MAX-MX QUAD ELU
2102	201	MIN-MX QUAD ELU
2103	201	MAX-MY QUAD ELU
2104	201	MIN-MY QUAD ELU
2105	201	MAX-MXY QUAD ELU
2106	201	MIN-MXY QUAD ELU
2101	201	MAX-MX QUAK ELU
2102	201	MIN-MX QUAK ELU
2103	201	MAX-MY QUAK ELU
2104	201	MIN-MY QUAK ELU
2105	201	MAX-MXY QUAK ELU
2106	201	MIN-MXY QUAK ELU
2107	201	MAX-VX QUAD ELU
2108	201	MIN-VX QUAD ELU
2107	201	MAX-VX QUAK ELU
2108	201	MIN-VX QUAK ELU
2109	201	MAX-VY QUAD ELU
2110	201	MIN-VY QUAD ELU
2109	201	MAX-VY QUAK ELU
2110	201	MIN-VY QUAK ELU
2111	201	MAX-NXX QUAD ELU
2112	201	MIN-NXX QUAD ELU
2113	201	MAX-NYY QUAD ELU
2114	201	MIN-NYY QUAD ELU
2115	201	MAX-NXY QUAD ELU
2116	201	MIN-NXY QUAD ELU

ELU

Generated Load Cases

Number	Combination	Designation
2111	201	MAX-NXX QUAK ELU
2112	201	MIN-NXX QUAK ELU
2113	201	MAX-NYY QUAK ELU
2114	201	MIN-NYY QUAK ELU
2115	201	MAX-NXY QUAK ELU
2116	201	MIN-NXY QUAK ELU
2117	201	MAX-P QUAD ELU
2118	201	MIN-P QUAD ELU
2171	201	MAX-SXO QUAD ELU
2172	201	MIN-SXO QUAD ELU
2173	201	MAX-SYO QUAD ELU
2174	201	MIN-SYO QUAD ELU
2175	201	MAXSXYO QUAD ELU
2176	201	MINSXYO QUAD ELU
2177	201	MAX-SXU QUAD ELU
2178	201	MIN-SXU QUAD ELU
2179	201	MAX-SYU QUAD ELU
2180	201	MIN-SYU QUAD ELU
2181	201	MAXSXYU QUAD ELU
2182	201	MINSXYU QUAD ELU
2171	201	MAX-SXO QUAK ELU
2172	201	MIN-SXO QUAK ELU
2173	201	MAX-SYO QUAK ELU
2174	201	MIN-SYO QUAK ELU
2175	201	MAXSXYO QUAK ELU
2176	201	MINSXYO QUAK ELU
2177	201	MAX-SXU QUAK ELU
2178	201	MIN-SXU QUAK ELU
2179	201	MAX-SYU QUAK ELU
2180	201	MIN-SYU QUAK ELU
2181	201	MAXSXYU QUAK ELU
2182	201	MINSXYU QUAK ELU
2151	201	MAX-PX NODE ELU
2152	201	MIN-PX NODE ELU
2153	201	MAX-PY NODE ELU
2154	201	MIN-PY NODE ELU
2155	201	MAX-PZ NODE ELU
2156	201	MIN-PZ NODE ELU
2171	201	MAX-UX NODE ELU
2172	201	MIN-UX NODE ELU
2173	201	MAX-UY NODE ELU
2174	201	MIN-UY NODE ELU
2175	201	MAX-UZ NODE ELU
2176	201	MIN-UZ NODE ELU
2121	201	MAX-N BEAM ELU
2122	201	MIN-N BEAM ELU
2129	201	MAX-MY BEAM ELU
2130	201	MIN-MY BEAM ELU
2131	201	MAX-MZ BEAM ELU
2132	201	MIN-MZ BEAM ELU
2127	201	MAX-MT BEAM ELU
2128	201	MIN-MT BEAM ELU
2123	201	MAX-VY BEAM ELU
2124	201	MIN-VY BEAM ELU
2125	201	MAX-VZ BEAM ELU
2126	201	MIN-VZ BEAM ELU

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ELU

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1	PP	10.8	0.00	0.39	0.00	-0.63	0.00
			2	AGUA	55.5	0.00	25.75	0.00	-3.20	0.00
			31	VIENTO+	4.3	0.00	2.79	0.00	-0.25	0.00
			32	VIENTO-	-4.3	0.00	-2.79	0.00	0.25	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	14.6259*,		SumGF =	10.8340		
LC	1	33					
FacGU	1.35	0.00					
FacGF	1.00	0.00					
Act	Q: SumQ1 =	66.5432,		SumQI =	66.5432*		
LC	2						
FacQ1	1.20						
FacQI	1.20						
Act	W: SumQ1 =	6.8362*,		SumQI =	4.1017		
LC	31	32					
FacQ1	1.60	0.00					
FacQI	0.96	0.00					

Act	action
SumGU,SumGF	sums of the permanent loads acting unfavourable and favourable, * = decisive
SumQ1,SumQ2,SumQ3	sum of the variable loads for 1st, 2nd, 3rd leading variable action, * = decisive
SumQI	sum of the variable loads for accompanying variable actions, * = decisive
LC	number of the load case
FacGU,FacGF	factors of the permanent loads acting unfavourable and favourable
FacQ1,FacQ2,FacQ3	factors of the variable loads for 1st, 2nd, 3rd leading variable action
FacQI	factors of the variable loads for accompanying variable actions
LCW	loadcase-wise consideration

Determined Factors

LC	1	2	31	32	33		
factor	1.35	1.20	1.60	-	-		

LC	number of the load case
Fact	resulting factors, - = load case is not considered

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	2121	MAX-N	88.0	0.00	35.90	0.00	-5.08	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-87.9801*,		SumGF =	-65.1704	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	2122	MIN-N	-88.0	0.00	0.00	0.00	9.10	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	9.1008*,		SumGF =	6.7413	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	43.7236*,		SumQI =	26.2341	
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	1.60	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	2129	MAX-MY	-88.0	0.00	16.21	0.00	52.82	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	1	PP	-65.2	0.00	0.00	0.00	6.74	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-372.69	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-27.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	27.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	9.1008,		SumGF =	6.7413*	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				

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Determination of Sums and Leading Variable Action

Act	Q: SumQ1 = -447.2288,			SumQI = -447.2288*		
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	W: SumQ1 = -43.7236*,			SumQI = -26.2341		
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.20	1.60	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
3	300001	0.175	2130	MIN-MY	-65.2	0.00	-254.10	0.00	-484.21	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.175	1	PP	-54.3	0.00	0.39	0.00	5.54	0.00
			2	AGUA	55.5	0.00	-172.48	0.00	-260.19	0.00
			31	VIENTO+	4.3	0.00	-6.42	0.00	-12.14	0.00
			32	VIENTO-	-4.3	0.00	6.42	0.00	12.14	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU = 0.0000*,			SumGF = 0.0000		
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.175	2131	MAX-MZ	-73.4	0.00	0.53	0.00	7.47	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100025	0.162	1	PP	-35.4	0.00	0.00	0.00	3.12	0.00
			2	AGUA	0.0	0.00	-150.47	0.00	-194.66	0.00
			31	VIENTO+	0.0	0.00	-8.87	0.00	-17.88	0.00
			32	VIENTO-	0.0	0.00	8.87	0.00	17.88	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100025	0.162	2132	MIN-MZ	-47.8	0.00	0.00	0.00	4.21	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100032	0.000	1	PP	-30.2	0.00	0.39	0.00	1.66	0.00
			2	AGUA	55.5	0.00	-157.98	0.00	-160.91	0.00
			31	VIENTO+	4.3	0.00	-6.09	0.00	-8.28	0.00
			32	VIENTO-	-4.3	0.00	6.09	0.00	8.28	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100032	0.000	2127	MAX-MT	-40.8	0.00	0.53	0.00	2.24	0.00

ELU

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.000	1	PP	-44.0	0.00	0.39	0.00	5.47	0.00
			2	AGUA	55.5	0.00	-172.48	0.00	-230.00	0.00
			31	VIENTO+	4.3	0.00	-6.42	0.00	-11.02	0.00
			32	VIENTO-	-4.3	0.00	6.42	0.00	11.02	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100030	0.000	2128	MIN-MT	-59.3	0.00	0.53	0.00	7.38	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100011	0.000	1	PP	-10.1	0.00	0.00	0.00	0.33	0.00
			2	AGUA	0.0	0.00	-21.03	0.00	-10.17	0.00
			31	VIENTO+	0.0	0.00	-3.52	0.00	-2.82	0.00
			32	VIENTO-	0.0	0.00	3.52	0.00	2.82	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

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Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100011	0.000	2123	MAX-VY	-13.6	0.00	0.00	0.00	0.45	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100035	0.000	1	PP	8.2	0.00	0.39	0.00	-0.50	0.00
			2	AGUA	55.5	0.00	24.75	0.00	8.42	0.00
			31	VIENTO+	4.3	0.00	1.86	0.00	0.82	0.00
			32	VIENTO-	-4.3	0.00	-1.86	0.00	-0.82	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100035	0.000	2124	MIN-VY	11.0	0.00	0.53	0.00	-0.67	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	1	PP	10.8	0.00	0.39	0.00	-0.63	0.00
			2	AGUA	55.5	0.00	25.75	0.00	-3.20	0.00
			31	VIENTO+	4.3	0.00	2.79	0.00	-0.25	0.00
			32	VIENTO-	-4.3	0.00	-2.79	0.00	0.25	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.5329*,		SumGF =	0.3947	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	30.9055,		SumQI =	30.9055*	
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	W: SumQ1 =	4.4660*,		SumQI =	2.6796	
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.35	1.20	1.60	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100060	0.000	2125	MAX-VZ	88.0	0.00	35.90	0.00	-5.08	0.00

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100001	0.166	1	PP	-44.9	0.00	0.00	0.00	-4.45	0.00
			2	AGUA	0.0	0.00	-198.24	0.00	-294.39	0.00
			31	VIENTO+	0.0	0.00	-10.13	0.00	-23.33	0.00
			32	VIENTO-	0.0	0.00	10.13	0.00	23.33	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	-237.8860,		SumQI =	-237.8860*	
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	W: SumQ1 =	-16.2090*,		SumQI =	-9.7254	
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.35	1.20	1.60	-	-

Relevant Forces in Beam Elements

Grp No	Beam No.	x [m]	LC No.	Designation	N [kN]	Vy [kN]	Vz [kN]	Mt [kNm]	My [kNm]	Mz [kNm]
1	100001	0.166	2126	MIN-VZ	-60.6	0.00	-254.10	0.00	-396.59	0.00

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1147	1	PP	1.01	3.68	-0.07	-0.59	-11.63	0.86	-3.18	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	1.3660*,		SumGF =	1.0119	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					

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Determination of Sums and Leading Variable Action

Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1147	2101	MAX-MX	1.37	4.96	-0.09	-0.79	-15.70	1.16	-4.30	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1249	1	PP	-1.04	3.75	-0.28	-0.49	-9.67	4.26	2.21	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-1.3984*,		SumGF =	-1.0359
LC	1	33			
FacGU	1.35	0.00			
FacGF	1.00	0.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1249	2102	MIN-MX	-1.40	5.06	-0.37	-0.67	-13.05	5.75	2.98	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1130	1	PP	-0.10	4.35	0.29	0.59	-13.96	-0.19	-6.44	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	5.8679*,		SumGF =	4.3466	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1130	2103	MAX-MY	-0.14	5.87	0.39	0.80	-18.84	-0.26	-8.69	...

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Relevant Forces in Nodes

Group 12										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1354	1	PP	-0.28	-0.18	0.01	1.33	-11.29	0.03	-0.16	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.2380*,		SumGF =	-0.1763	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 12										...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	...
1354	2104	MIN-MY	-0.38	-0.24	0.02	1.79	-15.25	0.04	-0.21	...

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1132	1	PP	-0.37	4.10	0.63	0.65	-11.95	1.20	-2.18	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.8480*,	SumGF =	0.6281		
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

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Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1132	2105	MAX-MXY	-0.50	5.53	0.85	0.87	-16.13	1.62	-2.94	...

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1244	1	PP	-0.35	4.08	-0.64	-0.51	-11.92	1.03	-2.35	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.8697*,	SumGF =	-0.6443		
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

ELU

Relevant Forces in Nodes

Group 12										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1244	2106	MIN-MXY	-0.47	5.51	-0.87	-0.69	-16.10	1.39	-3.17	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1216	1	PP	0.91	0.30	0.00	6.72	4.53	-0.21	3.30	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	9.0739*,	SumGF =	6.7214		
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1216	2107	MAX-VX	1.23	0.41	0.01	9.07	6.11	-0.29	4.45	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1944	1	PP	0.55	0.34	-0.26	-5.89	3.65	-0.34	2.67	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-7.9452*,	SumGF =	-5.8854		
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,	SumQI =	0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,	SumQI =	0.0000*		

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 11										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[
1944	2108	MIN-VX	0.74	0.45	-0.35	-7.95	4.92	-0.46	3.61	

Relevant Forces in Nodes

Group 11										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[
1155	1	PP	0.21	3.06	0.22	0.54	7.59	-0.06	2.63	
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Determination of Sums and Leading Variable Action

Act	G: SumGU =	10.2518*,		SumGF =	7.5939	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 11										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[
1155	2109	MAX-VY	0.28	4.13	0.30	0.73	10.25	-0.08	3.55	

Relevant Forces in Nodes

Group 12										
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[
1018	1	PP	0.06	0.05	0.07	-2.12	-19.08	-1.62	-9.74	
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	-25.7559*,		SumGF =	-19.0784	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 12											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
1018	2110	MIN-VY	0.08	0.07	0.10	-2.86	-25.76	-2.19	-13.15		...

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Relevant Forces in Nodes

Group 11											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
1022	1	PP	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	6.9824*,		SumGF =	5.1721	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 11											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
1022	2111	MAX-NXX	0.64	0.19	0.00	-5.81	1.39	6.98	-3.85		...

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Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-56.9831*,		SumGF =	-42.2097	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	2112	MIN-NXX	0.01	0.03	-0.01	-0.16	0.19	-56.98	-82.47	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1222	1	PP	0.86	1.39	0.03	-2.68	5.78	-0.45	10.33	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	13.9439*,		SumGF =	10.3288	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

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Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1222	2113	MAX-NYY	1.16	1.87	0.04	-3.62	7.80	-0.61	13.94	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-82.4693*,		SumGF =	-61.0883	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	2114	MIN-NYY	0.01	0.03	-0.01	-0.16	0.19	-56.98	-82.47	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1438	1	PP	0.00	0.01	0.00	-0.07	0.12	-13.70	-40.65	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	23.6257*,		SumGF =	17.5005	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1438	2115	MAX-NXY	0.00	0.01	0.00	-0.10	0.16	-18.49	-54.88	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1442	1	PP	0.00	0.00	0.00	-0.00	0.00	-12.35	-22.45	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act G: SumGU = -23.1153*, SumGF = -17.1224						
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act Q: SumQ1 = 0.0000*, SumQI = 0.0000						
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act W: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1442	2116	MIN-NXY	0.00	0.00	0.00	-0.00	0.00	-16.67	-30.31	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
2867	1	PP	-0.50	0.09	-0.07	-0.43	2.37	-2.09	0.22	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

ELU

Determination of Sums and Leading Variable Action

Act	G: SumGU =	72.4102*,		SumGF =	53.6372	
LC	1	33				
FacGU	1.35	1.35				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

Relevant Forces in Nodes

Group 11											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
2867	2171	MAX-SXO	-0.67	0.13	-0.09	-0.58	3.20	-2.82	0.30		...

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Relevant Forces in Nodes

Group 13											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
1027	1	PP	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-256.7663*,		SumGF =	-190.1972	
LC	1	33				
FacGU	1.35	1.35				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

Relevant Forces in Nodes

Group 13											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**	**[**	...
1027	2172	MIN-SXO	0.15	0.00	-0.04	-0.70	-0.14	-29.60	-21.51		...

ELU

Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1439	1	PP	-0.00	0.00	0.00	-0.06	0.07	-16.63	10.04		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	52.2143*,		SumGF =	38.6773
LC	1	33			
FacGU	1.35	1.35			
FacGF	1.00	1.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

Relevant Forces in Nodes

Group 13											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1439	2173	MAX-SYO	-0.00	0.00	0.00	-0.09	0.09	-22.45	13.56		...

Relevant Forces in Nodes

Group 15											...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	[	...
1011	1	PP	0.03	0.38	0.00	-1.49	4.84	-4.37	-21.61		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-487.5862*,		SumGF =	-361.1750
LC	1	33			
FacGU	1.35	1.35			
FacGF	1.00	1.00			
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000
LC	2				
FacQ1	0.00				
FacQI	0.00				
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*
LC	31	32			
FacQ1	0.00	0.00			
FacQI	0.00	0.00			

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

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Relevant Forces in Nodes

Group 15										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	2174	MIN-SYO	0.04	0.52	0.00	-2.01	6.53	-5.90	-29.18	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1027	1	PP	0.11	0.00	-0.03	-0.52	-0.10	-21.92	-15.93	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	95.5023*,		SumGF =	70.7424	
LC	1	33				
FacGU	1.35	1.35				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1027	2175	MAXSXYO	0.15	0.00	-0.04	-0.70	-0.14	-29.60	-21.51	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1673	1	PP	0.04	0.11	0.07	0.72	0.67	-5.07	-10.36	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-97.9064*,		SumGF =	-72.5232	
LC	1	33				
FacGU	1.35	1.35				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	

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Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1673	2176	MINSXYO	0.06	0.15	0.10	0.98	0.90	-6.85	-13.99	...

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1022	1	PP	0.47	0.14	0.00	-4.31	1.03	5.17	-2.85	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

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Determination of Sums and Leading Variable Action

Act G: SumGU = 157.0393*, SumGF = 116.3254						
LC	1	33				
FacGU	1.35	1.35				
FacGF	1.00	1.00				
Act Q: SumQ1 = 0.0000*, SumQI = 0.0000						
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act W: SumQ1 = 0.0000, SumQI = 0.0000*						
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

Relevant Forces in Nodes

Group 11										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1022	2177	MAX-SXU	0.64	0.19	0.00	-5.81	1.39	6.98	-3.85	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	1	PP	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

ELU

Determination of Sums and Leading Variable Action

Act	G: SumGU = -257.6345*,			SumGF = -190.8403		
LC	1	33				
FacGU	1.35	1.35				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

Relevant Forces in Nodes

Group 13											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**		...
1046	2178	MIN-SXU	-0.15	0.00	0.04	0.70	0.17	-29.71	-21.97		...

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Relevant Forces in Nodes

Group 11											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**		...
1712	1	PP	0.15	3.58	0.18	1.38	-1.33	1.04	8.96		...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00		...

Determination of Sums and Leading Variable Action

Act	G: SumGU = 232.6099*,			SumGF = 172.3036		
LC	1	33				
FacGU	1.35	1.35				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

Relevant Forces in Nodes

Group 11											...
Node Number	**LC No.**	**Designation**	**m-xx [kNm/m]**	**m-yy [kNm/m]**	**m-xy [kNm/m]**	**v-x [kN/m]**	**v-y [kN/m]**	**n-xx [kN/m]**	**n-yy [kN/m]**		...
1712	2179	MAX-SYU	0.21	4.83	0.24	1.86	-1.79	1.40	12.10		...

ELU

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	1	PP	0.01	0.02	-0.01	-0.12	0.14	-42.21	-61.09	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = -314.7091*,			SumGF = -233.1179		
LC	1	33				
FacGU	1.35	1.35				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1011	2180	MIN-SYU	0.01	0.03	-0.01	-0.16	0.19	-56.98	-82.47	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	1	PP	-0.11	0.00	0.03	0.52	0.12	-22.01	-16.27	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU = 98.2671*,			SumGF = 72.7905		
LC	1	33				
FacGU	1.35	1.35				
FacGF	1.00	1.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

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Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1046	2181	MAXSXYU	-0.15	0.00	0.04	0.70	0.17	-29.71	-21.97	...

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1539	1	PP	-0.04	-0.11	-0.07	-0.73	-0.66	-4.89	-9.83	...
	2	AGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	31	VIENTO+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...
	32	VIENTO-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-95.2559*,		SumGF =	-70.5599	
LC	1	33				
FacGU	1.35	1.35				
FacGF	1.00	1.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	1.35

Relevant Forces in Nodes

Group 13										...
Node Number	LC No.	Designation	m-xx [kNm/m]	m-yy [kNm/m]	m-xy [kNm/m]	v-x [kN/m]	v-y [kN/m]	n-xx [kN/m]	n-yy [kN/m]	...
1539	2182	MINSXYU	-0.06	-0.15	-0.10	-0.98	-0.90	-6.60	-13.27	...

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1248	1	PP	0.2	-0.3	-0.4	0.00	0.00	0.00
	2	AGUA						
	31	VIENTO+						
	32	VIENTO-						

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.3348*,		SumGF =	0.2480	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				

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Determination of Sums and Leading Variable Action

FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1248	2151	MAX-PX	0.3	-0.4	-0.6	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1136	1	PP	-0.3	-0.3	-0.4	0.00	0.00	0.00
	2	AGUA						
	31	VIENTO+						
	32	VIENTO-						

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.3651*,		SumGF =	-0.2705	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1136	2152	MIN-PX	-0.4	-0.4	-0.6	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1	PP	0.0	0.0	65.2	-12.38	0.00	0.00
	2	AGUA	0.0	198.2	0.0	-372.69	0.00	0.00
	31	VIENTO+	0.0	10.1	0.0	-27.33	0.00	0.00
	32	VIENTO-	0.0	-10.1	0.0	27.33	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000*,		SumGF =	0.0000	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	237.8860,		SumQI =	237.8860*	

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Determination of Sums and Leading Variable Action

LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	W: SumQ1 =	16.2090*,		SumQI =	9.7254	
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	1.20	1.60	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	2153	MAX-PY	0.0	254.1	88.0	-507.67	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	1	PP	0.0	0.0	65.2	-12.38	0.00	0.00
	2	AGUA	0.0	198.2	0.0	-372.69	0.00	0.00
	31	VIENTO+	0.0	10.1	0.0	-27.33	0.00	0.00
	32	VIENTO-	0.0	-10.1	0.0	27.33	0.00	0.00

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000*	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	-16.2090*,		SumQI =	-9.7254	
LC	31	32				
FacQ1	0.00	1.60				
FacQI	0.00	0.96				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	1.60	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
41	2154	MIN-PY	0.0	-16.2	65.2	31.34	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
43	1	PP	0.0	0.4	10.8	0.00	0.00	0.00
	2	AGUA	0.0	25.8	55.5	0.00	0.00	0.00
	31	VIENTO+	0.0	2.8	4.3	0.00	0.00	0.00
	32	VIENTO-	0.0	-2.8	-4.3	0.00	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	14.6259*,		SumGF =	10.8340	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	66.5432,		SumQI =	66.5432*	
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	W: SumQ1 =	6.8362*,		SumQI =	4.1017	
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	1.20	1.60	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
43	2155	MAX-PZ	0.0	35.9	88.0	0.00	0.00	0.00

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
42	1	PP	0.0	-0.4	54.3	-10.41	0.00	0.00
	2	AGUA	0.0	172.5	-55.5	-243.92	0.00	0.00
	31	VIENTO+	0.0	6.4	-4.3	-10.89	0.00	0.00
	32	VIENTO-	0.0	-6.4	4.3	10.89	0.00	0.00

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Determination of Sums and Leading Variable Action

Act	G: SumGU =	73.3542,		SumGF =	54.3364*	
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 =	-66.5432,		SumQI =	-66.5432*	
LC	2					
FacQ1	1.20					
FacQI	1.20					
Act	W: SumQ1 =	-6.8362*,		SumQI =	-4.1017	
LC	31	32				
FacQ1	1.60	0.00				
FacQI	0.96	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	1.20	1.60	-	-

Relevant Supporting Forces in Nodes

Node Number	LC No.	Designation	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
42	2156	MIN-PZ	0.0	216.9	-19.0	-320.53	0.00	0.00

ELU

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1679	1	PP	0.002	-0.147	-0.282	0.280	0.000	0.002
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1679	2171	MAX-UX	0.003	-0.199	-0.381	0.378	0.001	0.003

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1545	1	PP	-0.002	-0.148	-0.282	0.280	-0.000	-0.002
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

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Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1545	2172	MIN-UX	-0.003	-0.199	-0.381	0.378	-0.001	-0.003

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1	PP	0.000	0.041	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.427	0.140	0.738	0.000	0.000
	31	VIENTO+	0.000	-0.304	0.019	0.119	0.000	0.000
	32	VIENTO-	0.000	0.304	-0.019	-0.119	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0001,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0005,		SumQI =	0.0003	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	1.60	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	2173	MAX-UY	0.000	0.543	-0.042	-0.210	0.000	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1	PP	0.000	0.041	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.427	0.140	0.738	0.000	0.000
	31	VIENTO+	0.000	-0.304	0.019	0.119	0.000	0.000
	32	VIENTO-	0.000	0.304	-0.019	-0.119	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	0.0001,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	-0.0029,		SumQI =	-0.0029	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	-0.0005,		SumQI =	-0.0003	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	1.20	1.60	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	2174	MIN-UY	0.000	-3.358	0.189	1.060	0.000	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	1	PP	0.000	0.041	-0.009	-0.015	0.000	0.000
	2	AGUA	0.000	-2.427	0.140	0.738	0.000	0.000
	31	VIENTO+	0.000	-0.304	0.019	0.119	0.000	0.000
	32	VIENTO-	0.000	0.304	-0.019	-0.119	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.0000,		SumGF =	0.0000	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0002,		SumQI =	0.0002	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

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Determined Factors

LC	1	2	31	32	33
factor	1.00	1.20	1.60	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1074	2175	MAX-UZ	0.000	-3.358	0.189	1.060	0.000	0.000

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1023	1	PP	0.000	0.030	-0.338	0.275	-0.009	-0.000
	2	AGUA	0.000	0.000	0.000	0.000	0.000	0.000
	31	VIENTO+	0.000	0.000	0.000	0.000	0.000	0.000
	32	VIENTO-	0.000	0.000	0.000	0.000	0.000	0.000

Determination of Sums and Leading Variable Action

Act	G: SumGU =	-0.0005,		SumGF =	-0.0003	
LC	1	33				
FacGU	0.00	0.00				
FacGF	0.00	0.00				
Act	Q: SumQ1 =	0.0000,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000	

ELU

Determination of Sums and Leading Variable Action

LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Nodal Displacements

Node Number	LC No.	Designation	u-x [mm]	u-y [mm]	u-z [mm]	u-rx [mrad]	u-ry [mrad]	u-rz [mrad]
1023	2176	MIN-UZ	0.000	0.040	-0.456	0.372	-0.012	-0.000

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
12	144	1	PP	-0.50	0.0	0.0	0.0	0.0
		2	AGUA	0.00	0.0	0.0	0.0	0.0
		31	VIENTO+	0.00	0.0	0.0	0.0	0.0
		32	VIENTO-	0.00	0.0	0.0	0.0	0.0

Determination of Sums and Leading Variable Action

Act	G: SumGU = -0.6743,			SumGF = -0.4995*		
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				
Act	Q: SumQ1 = 0.0000*,			SumQI = 0.0000		
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 = 0.0000,			SumQI = 0.0000*		
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.00	-	-	-	-

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
12	144	2117	MAX-P	-0.50	0.0	0.0	0.0	0.0

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	1	1	PP	-33.06	-0.1	0.0	0.4	0.1
		2	AGUA	0.00	0.0	0.0	0.0	0.0
		31	VIENTO+	0.00	0.0	0.0	0.0	0.0
		32	VIENTO-	0.00	0.0	0.0	0.0	0.0

Determination of Sums and Leading Variable Action

Act	G: SumGU = -44.6374*,			SumGF = -33.0648		
LC	1	33				
FacGU	1.35	0.00				
FacGF	1.00	0.00				

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Determination of Sums and Leading Variable Action

Act	Q: SumQ1 =	0.0000*,		SumQI =	0.0000	
LC	2					
FacQ1	0.00					
FacQI	0.00					
Act	W: SumQ1 =	0.0000,		SumQI =	0.0000*	
LC	31	32				
FacQ1	0.00	0.00				
FacQI	0.00	0.00				

Determined Factors

LC	1	2	31	32	33
factor	1.35	-	-	-	-

Relevant Elastic bedding

Grp No	Number No.	LC No.	Designation	p-s [kN/m2]	p [kN]	p-t-x [kN/m2]	p-t-y [kN/m2]	p-t-z [kN/m2]
11	1	2118	MIN-P	-44.64	-0.2	-0.0	0.5	0.1

```
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type BEAM Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QUAD Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QUAK Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type NODE Load Case 33, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   36
 Element type QBED Load Case 33, does not contribute anything to the superposition
```

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CRACK

Selected Beam Elements

Selection	NoA	NoE	x[m]	Type
BEAM	100029			

NoA,NoE range of element numbers
x[m] x-ordinate of beam section or station on axis
Type element type

Reinforcement will be accounted for sectional values with a factor of 1.00
Reinforcements saved as Design case No. 501

Considered Load Cases

LC	ACT	REF	CS	Designation
1421	(P)			MAXP-N BEAM CUASIPERM
1422	(P)			MINP-N BEAM CUASIPERM
1423	(P)			MAXP-VY BEAM CUASIPERM
1424	(P)			MINP-VY BEAM CUASIPERM
1425	(P)			MAXP-VZ BEAM CUASIPERM
1426	(P)			MINP-VZ BEAM CUASIPERM
1427	(P)			MAXP-MT BEAM CUASIPERM
1428	(P)			MINP-MT BEAM CUASIPERM
1429	(P)			MAXP-MY BEAM CUASIPERM
1430	(P)			MINP-MY BEAM CUASIPERM
1431	(P)			MAXP-MZ BEAM CUASIPERM
1432	(P)			MINP-MZ BEAM CUASIPERM

LC load case
ACT action
REF reference point for forces and moments
CS section the load case is acting on

Sections and Sectional Values

Beam	x[m]	Section	A[m2]	yc[m]	zc[m]	Iyz[m4]	Iy[m4]	Iz[m4]	ycr[m]	zcr[m]
100029	0.000	gross	2.320E-01	0.000	0.058	0.00E+00	2.585E-04	7.730E-02	0.000	0.058
		ReiR 1	5.000E-05	0.000	0.025	0.00E+00	0.000E+00	0.000E+00		
		ReiR 2	2.010E-04	0.000	0.095	1.08E-19	0.000E+00	4.136E-25		
		Gradient of heights (dZ/dx / dY/dx)				0.067	0.000			
	0.150	gross	2.720E-01	0.000	0.068	0.00E+00	4.172E-04	9.063E-02	0.000	0.068
		ReiR 1	5.000E-05	0.000	0.025	0.00E+00	0.000E+00	0.000E+00		
		ReiR 2	2.010E-04	0.000	0.115	-1.08E-19	-2.842E-14	4.136E-25		

A[m2] sectional area
yc[m],zc[m] ordinate of elastic centroid
Iyz[m4],Iy[m4],Iz[m4] bending moment of inertia
ycr[m],zcr[m] reference point for forces and moments

Design Forces and Moments

Beam	x[m]	SNo	LC	N[kN]	Vy[kN]	Vz[kN]	Mt[kNm]	My[kNm]	Mz[kNm]
					Mb[kNm2]	Mtp[kNm]	Mts[kNm]	eMy[kNm]	eMz[kNm]
100029	0.000	11	1421	0.0	0.00	0.00	0.00	0.00	0.00
			1422	0.0	0.00	0.00	0.00	0.00	0.00
			1423	0.0	0.00	0.00	0.00	0.00	0.00
			1424	0.0	0.00	0.00	0.00	0.00	0.00
			1425	0.0	0.00	0.00	0.00	0.00	0.00
			1426	0.0	0.00	0.00	0.00	0.00	0.00
			1427	0.0	0.00	0.00	0.00	0.00	0.00
			1428	0.0	0.00	0.00	0.00	0.00	0.00
			1429	0.0	0.00	0.00	0.00	0.00	0.00
			1430	0.0	0.00	0.00	0.00	0.00	0.00
			1431	0.0	0.00	0.00	0.00	0.00	0.00
			1432	0.0	0.00	0.00	0.00	0.00	0.00
	0.150	12	1421	-0.9	0.00	0.06	0.00	0.00	0.00
			1422	-0.9	0.00	0.06	0.00	0.00	0.00
			1423	-0.9	0.00	0.06	0.00	0.00	0.00
			1424	-0.9	0.00	0.06	0.00	0.00	0.00
			1425	-0.9	0.00	0.06	0.00	0.00	0.00
			1426	-0.9	0.00	0.06	0.00	0.00	0.00
			1427	-0.9	0.00	0.06	0.00	0.00	0.00
			1428	-0.9	0.00	0.06	0.00	0.00	0.00

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Design Forces and Moments

Beam	x[m]	SNo	LC	N[kN]	Vy[kN]	Vz[kN]	Mt[kNm]	My[kNm]	Mz[kNm]
					Mb[kNm2]	Mtp[kNm]	Mts[kNm]	eMy[kNm]	eMz[kNm]
100029	0.150	12	1429	-0.9	0.00	0.06	0.00	0.00	0.00
			1430	-0.9	0.00	0.06	0.00	0.00	0.00
			1431	-0.9	0.00	0.06	0.00	0.00	0.00
			1432	-0.9	0.00	0.06	0.00	0.00	0.00

Longitudinal and transverse forces have been transformed to normal and shear forces
Shear forces in haunches have been transformed due to the inclined compressive and tensile forces with a maximum inclination of 0.133
All moments will be smoothed out between face and support

N[kN]	normal force	Mb[kNm2]	warping moment
Vy[kN],Vz[kN]	shear force	Mtp[kNm]	primary torsional moment
Mt[kNm]	torsional moment	Mts[kNm]	secondary torsional moment
My[kNm],Mz[kNm]	bending moment	eMy[kNm],eMz[kNm]	explicit moments from imperfection

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Safety factors	γ-c,t	γ-c,c	γ-c,s	γ-s,s	γ-s,p	γ-s	Uniaxial bending
Strain limits	ε-c1	ε-c2	ε-s1	ε-s2	ε-z1	ε-z2	CTRL-options
	1.50	1.50	1.50	1.15	1.15	1.10	
	-3.50	-2.00	2.10	10.00	-3.50	10.00	PIIA = 7

γ-c,t	global safety factor for concrete in bending	γ-s,p	global safety factor for active reinforcements
γ-c,c	global safety factor for concrete in compression	γ-s	global safety factor for structural steel
γ-c,s	global safety factor for concrete in shear	ε-c1	strain limit for compression of concrete
γ-s,s	global safety factor for passive reinforcements	ε-c2	strain limit for centric compression of concrete

ε-s1 strain limit for a selected x/d ratio triggering symmetric reinforcements
ε-s2 strain limit for tension respective hardening of reinforcements
ε-z1 incremental strain limit for tendons in compression
ε-z2 incremental strain limit for tendons in tension

Parameters for reinforcements

Minimum reinforcement for beams	Minimum reinforcement for columns	Compressive Member Limits e/h	Compressive Member Limits N/Npl	Minimum reinforcement of the required section		Maximum reinforcements	
0.00	[o/o] 0.40 [o/o]	3.50¹	0.0010¹	0.00 [o/o]	0.15*Ned/fyd	8.00	[o/o]

¹ A beam is taken as compressive member if the eccentricity e/h is less and the compressive force is larger than these limits

Tensile forces in the longitudinal reinforcements due to shear are NOT accounted for.
Material of sections uses Ultimate Limit strain-stress law with individual safety factors
Material of reinforcements uses Ultimate Limit strain-stress law with individual safety factors

Applied material properties

Mat	Temp Lev.	Safety factor [-]	Max.compr stress [MPa]	at strain [o/oo]	Max.tens stress [MPa]	at strain [o/oo]	Tension-stiffening [MPa]	Bond factor [-]
1	0	1.500	-22.67	-2.00	0.00	0.00	fc,t = 0.00	
2	0	1.150	-478.26	-50.00	478.26	50.00		
3	0	1.100	-213.64	-1.12	213.64	1.12		
11	0	1.500	-14.17	-2.00	0.00	0.00	fc,t = 0.00	
12	0	1.150	-478.26	-50.00	478.26	50.00		

Required Reinforcements

Beam	x[m]	SNo	LC	NRd [kN]	MyRd [kNm]	MzRd [kNm]	ε-1 [o/oo]	ε-2 [o/oo]	γ-c [-]	γ-s [-]	rel [-]	As [cm2]	Lay.
				ΔNi [kN]	ΔVyi [kN]	ΔVzi [kN]	yn [m]	zn [m]	e+ [m]	e- [m]	z [m]		
				Designation		ε-o	ε-min	ε-max	τ-b	σ-min	σ-max		
				shear cut		T/Tmax	D/Dmax	Z/Zmax	N[kN]				
100029	0.000	11	1421	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		
			1422	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		
			1423	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		
			1424	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		
			1425	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		
			1426	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		
			1427	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		

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Required Reinforcements

Beam	x[m]	SNo	LC	NRd [kN]	MyRd [kNm]	MzRd [kNm]	ε-1 [o/oo]	ε-2 [o/oo]	γ-c [-]	γ-s [-]	rel [-]	As [cm2]	Lay.
				ΔNi [kN]	ΔVyi [kN]	ΔVzi [kN]	yn [m]	zn [m]	e+ [m]	e- [m]	z [m]		
				Designation		ε-o	ε-min	ε-max	τ-b	σ-min	σ-max		
				shear cut		T/Tmax	D/Dmax	Z/Zmax		N[kN]			
100029	0.000	11	1428	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		
			1429	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		
			1430	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		
			1431	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		
			1432	0.0	0.00	0.00	0.00	0.00	1.50		not calculated		
	0.150	12	1421	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		
			1422	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		
			1423	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		
			1424	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		
			1425	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		
			1426	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		
			1427	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		
			1428	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		
			1429	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		
			1430	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		
			1431	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		
			1432	-0.9	0.00	0.00	0.00	0.00	1.50		not calculated		

NRd,MyRd,MzRd	capacity forces	rel	relative bearing capacity
ε-1,ε-2	strain at outmost effective fibers	As	longitudinal reinforcement per layer
γ-c	safety factor concrete	Lay.	layer of reinforcement
γ-s	safety factor reinforcements		
ΔNi	longitudinal force created from the truss model for shear and torsion		
ΔVyi,ΔVzi	change of transverse shear due to tendon stress increase		
yn,zn	intersection of neutral axis and local coordinate sytem		
e+,e-	distance of resulting compressive and tensile force to centroid		
z	allowable value of the internal lever for the shear design (influence of location of compressive reinforcement)		
ε-o	strains at middle of articulated members / reduction of tendon stress due to bond effects		
ε-min,ε-max	strains		
τ-b	bond stress		
T/Tmax,D/Dmax,Z/Zmax	ratio of shear flow T, separated compressive force D and tensile force Z		
N[kN]	partial longitudinal force in the separated part of the section		

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Shear Design

Design for shear EHE (2008)

Mat	fcj [MPa]	ftj [MPa]	vc-max [MPa]	fsv,d [MPa]
1	40.00	3.51	26.67	
2				434.78
11	25.00	2.56	16.67	
12				434.78

fcj	design strength of concrete
ftj	design tensile strength of concrete
vc-max	maximum allowable shear stress
fsv,d	design strength of transverse reinforcements

Minimum shear factor or tan of inclination of compressive struts 1.00 / 2.00
Tolerance for exceeding maximum shear or principal compression stress 0.0200

Required Shear Reinforcements

Beam	x[m]	SNo	LC	S	Z	T [kN/m]	d [m]	bs [m]	vc [MPa]	τ-V [MPa]	τ-T [MPa]	v-u1 [MPa]	cotθ [-]	β [°]	As/s [cm2/m]
100029	0.000	11	1421	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33[1]
				ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33[1]
			1422	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33[1]
				ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33[1]
			1423	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33[1]
				ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33[1]
			1424	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33[1]

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Required Shear Reinforcements

Beam	x[m]	SNo	LC	S	Z	T [kN/m]	d [m]	bs [m]	vc [MPa]	τ-V [MPa]	τ-T [MPa]	v-u1 [MPa]	cotθ [-]	β [°]	As/s [cm2/m]
100029	0.000	11	1424	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1425	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1426	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1427	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1428	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1429	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1430	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1431	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1432	ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.00	90%E	1.000	0.55	0.00	0.00	0.00			13.33¹
	0.150	12	1421	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1422	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1423	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1424	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1425	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1426	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1427	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1428	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1429	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1430	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1431	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
			1432	ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹
				ZS	E	0.28	87%E	1.000	0.55	0.00	0.00	0.00			13.33¹

¹ Minimum reinforcement has become decisive

S designation of shear cut
Z state of section (I = compressive, A = uncracked, B = cracked, E = reduced elastic stress)
T shear flow across the cut
d effective height of section
bs width of cut
vc design value of the shear capacity of the concrete
v-u1 maximum allowable shear stress
cotθ inclination of compressive struts
β inclination of transverse reinforcements
As/s reinforcement of transverse reinforcements in partial cut (total values have to be added within the same web/flange)

Longitudinal Reinforcements - Design case No. 501

Beam	x[m]	SNo	ρ [o/o]	Asl [cm2]	vm [m]	Asl-0 [cm2]	Asl-1 [cm2]	Asl-2 [cm2]	Asl-3 [cm2]	Asl-4 [cm2]	Asl-5 [cm2]
100029	0.000	11	0.11	2.51			0.50	2.01			
100029	0.150	12	0.09	2.51			0.50	2.01			

Note: Layer includes reinforcements for torsion if followed by T
Note: Layer has only compression reinforcements if followed by a quote

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ρ	geometric part of reinforcements
Asl	total longitudinal reinforcement
vm	shift rule of longitudinal reinforcement (0.0 if already included by normal force)
Asl-0,Asl-1,Asl-2,Asl-3,Asl-4,Asl-5	longitudinal reinforcement per layer

Shear Reinforcements per Cutted Part of Section - Design case No. 501

Beam	x[m]	SNo	Asl-Mt [cm2/m]	As/s [cm2/m]	As/s-1 AsT-1 [cm2/m]
100029	0.000	11	0.00		26.67
100029	0.150	12	0.00		26.67

Asl-Mt	nominal longitudinal reinforcement per circumference of equivalent section due to torsion (Mt/2Ak)
As/s	area of transverse reinforcements
As/s-1	total transverse reinforcement per layer and cutted element
AsT-1	contained required area of transverse reinforcements for torsion in the relevant total shear cut value

Nonlinear Stresses

Parameters for Nonlinear Stresses

Iteration for all forces and moments
Interaction thin walled normal- and shearstress via Prandtl flow rule
Design against cracks according to EHE Instrucción de hormigòn estructural 2008
Limits for the effective zone h-min= 0.0 h-max= 800.0 [mm]
Design values of crack width 0.200 [mm]
Coefficient kt of load duration (EN 1992-1-1 Eq. 7.9) 0.50
Material of sections uses Serviceability strain-stress law without safety factors
Material of reinforcements uses Serviceability strain-stress law without safety factors

Applied material properties

Mat	Temp Lev.	Safety factor [-]	Max.compr stress [MPa]	at strain [o/oo]	Max.tens stress [MPa]	at strain [o/oo]	Tension-stiffening [MPa]	Bond factor [-]
1	0	1.000	-48.00	-1.55	0.00	0.00	fc,t = 0.00	
2	0	1.000	-550.00	-50.00	550.00	50.00		0.80
3	0	1.000	-235.00	-1.12	235.00	1.12		0.00
11	0	1.000	-33.00	-1.21	0.00	0.00	fc,t = 0.00	
12	0	1.000	-550.00	-50.00	550.00	50.00		0.80

Nonlinear Stresses

Beam	x[m]	SNo	LC	Ni [kN]	Myi [kNm]	Mzi [kNm]	xc [m]	ε-min [o/oo]	σ-min [MPa]	σ-s [MPa]	σ-t [MPa]	Ey-eff [MPa]
				ε-0 [o/oo]	ky [1/km]	kz [1/km]	xc/d [-]	ε-max [o/oo]	σ-max [MPa]	σ-s [MPa]	σ-t [MPa]	Ez-eff [MPa]
				Designation		h[m]	D[mm]	w[mm]	σ	σ-sr	a[m]	As-eff[cm2]
100029	0.000	11	1421	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material	1		min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem.	2		min	0.000	0.00			
							max	0.000	0.00			
	0.000	11	1422	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material	1		min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem.	2		min	0.000	0.00			
							max	0.000	0.00			
	0.000	11	1423	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material	1		min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem.	2		min	0.000	0.00			
							max	0.000	0.00			

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Nonlinear Stresses

Beam	x[m]	SNo	LC	Ni [kN] / ε-0 [o/oo] / Designation	Myi [kNm] / ky [1/km]	Mzi [kNm] / kz [1/km] / h[m]	xc [m] / xc/d [-] / D[mm]	ε-min [o/oo] / ε-max [o/oo] / w[mm]	σ-min [MPa] / σ-max [MPa] / σ	σ-s [MPa] / σ-s [MPa] / σ-sr	σ-t [MPa] / σ-t [MPa] / a[m]	Ey-eff [MPa] / Ez-eff [MPa] / As-eff[cm2]
100029	0.000	11	1424	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material 1			min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem. 2			min	0.000	0.00			
							max	0.000	0.00			
	0.000	11	1425	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material 1			min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem. 2			min	0.000	0.00			
							max	0.000	0.00			
	0.000	11	1426	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material 1			min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem. 2			min	0.000	0.00			
							max	0.000	0.00			
	0.000	11	1427	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material 1			min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem. 2			min	0.000	0.00			
							max	0.000	0.00			
	0.000	11	1428	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material 1			min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem. 2			min	0.000	0.00			
							max	0.000	0.00			
	0.000	11	1429	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material 1			min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem. 2			min	0.000	0.00			
							max	0.000	0.00			
	0.000	11	1430	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material 1			min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem. 2			min	0.000	0.00			
							max	0.000	0.00			
	0.000	11	1431	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material 1			min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem. 2			min	0.000	0.00			
							max	0.000	0.00			
	0.000	11	1432	0.0	0.00	0.00	0.120	0.000	0.00	0.00		30674
				0.000	0.000	0.000	1.263	0.000	0.00	0.00		30891
				Material 1			min	0.000	0.00			
							max	0.000	0.00			
				Reinforcem. 2			min	0.000	0.00			
							max	0.000	0.00			

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Nonlinear Stresses

Beam	x[m]	SNo	LC	Ni [kN]	Myi [kNm]	Mzi [kNm]	xc [m]	ε-min [o/oo]	σ-min [MPa]	σ-s [MPa]	σ-t [MPa]	Ey-eff [MPa]
				ε-0 [o/oo]	ky [1/km]	kz [1/km]	xc/d [-]	ε-max [o/oo]	σ-max [MPa]	σ-s [MPa]	σ-t [MPa]	Ez-eff [MPa]
				Designation		h[m]	D[mm]	w[mm]	σ	σ-sr	a[m]	As-eff[cm2]
100029	0.150	12	1421	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			
	0.150	12	1422	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			
	0.150	12	1423	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			
	0.150	12	1424	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			
	0.150	12	1425	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			
	0.150	12	1426	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			
	0.150	12	1427	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			

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Nonlinear Stresses

Beam	x[m]	SNo	LC	Ni [kN]	Myi [kNm]	Mzi [kNm]	xc [m]	ε-min [o/oo]	σ-min [MPa]	σ-s [MPa]	σ-t [MPa]	Ey-eff [MPa]
				ε-0 [o/oo]	ky [1/km]	kz [1/km]	xc/d [-]	ε-max [o/oo]	σ-max [MPa]	σ-s [MPa]	σ-t [MPa]	Ez-eff [MPa]
				Designation		h[m]	D[mm]	w[mm]	σ	σ-sr	a[m]	As-eff[cm2]
100029	0.150	12	1428	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			
	0.150	12	1429	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			
	0.150	12	1430	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			
	0.150	12	1431	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			
	0.150	12	1432	-0.9	0.00	0.00	0.140	-0.000	-0.00	-0.02		30672
					Vz-i	0.06	fac	1.00			G-eff	8581
				-0.000	0.000	0.000	1.217	-0.000	-0.00	-0.02		30891
				Material	1		min	-0.000	-0.00			
							max	-0.000	-0.00			
				Reinforcem.	2		min	-0.000	-0.02			
							max	-0.000	-0.02			

Ni,Myi,Mzi	internal forces (integrals of nonlinear stresses)	σ-min	stress in section
xc,xc/d	height of compressive zone	σ-s	stress in reinforcements
ε-min,ε-max	strains	σ-t	stress in tendons
Ey-eff,Ez-eff	effective elasticity modulus referring to gross section		
ε-0	strain in centroid		
ky,kz	curvatures		
h[m]	height of effective zone		
D[mm]	effective diameter of reinforcements		
w[mm]	width of cracks		
σ	effective steel stress		
σ-sr	steel stress at initial crack		
a[m]	distance of reinforcment bars		
As-eff[cm2]	reinforcement of effective tensile zone		

Maximum Stresses and Checked Limits

Mat	Check or Criterion		Value	Limit	Unit	Level	LC	Beam	x[m]
1	Longitud. compressive stress	σ-x	-0.00		MPa		1421	100029	0.150
2	Longitud. compressive stress	σ-x	-0.02		MPa		1421	100029	0.150

Check for crack width passed with given reinforcements✓

Stiffness is not saved in database

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Longitudinal Reinforcements - Design case No. 501

Beam	x[m]	SNo	ρ [o/o]	Asl [cm2]	vm [m]	Asl-0 [cm2]	Asl-1 [cm2]	Asl-2 [cm2]	Asl-3 [cm2]	Asl-4 [cm2]	Asl-5 [cm2]
100029	0.000	11	0.11	2.51			0.50	2.01			
100029	0.150	12	0.09	2.51			0.50	2.01			

Note: Layer includes reinforcements for torsion if followed by T
Note: Layer has only compression reinforcements if followed by a quote

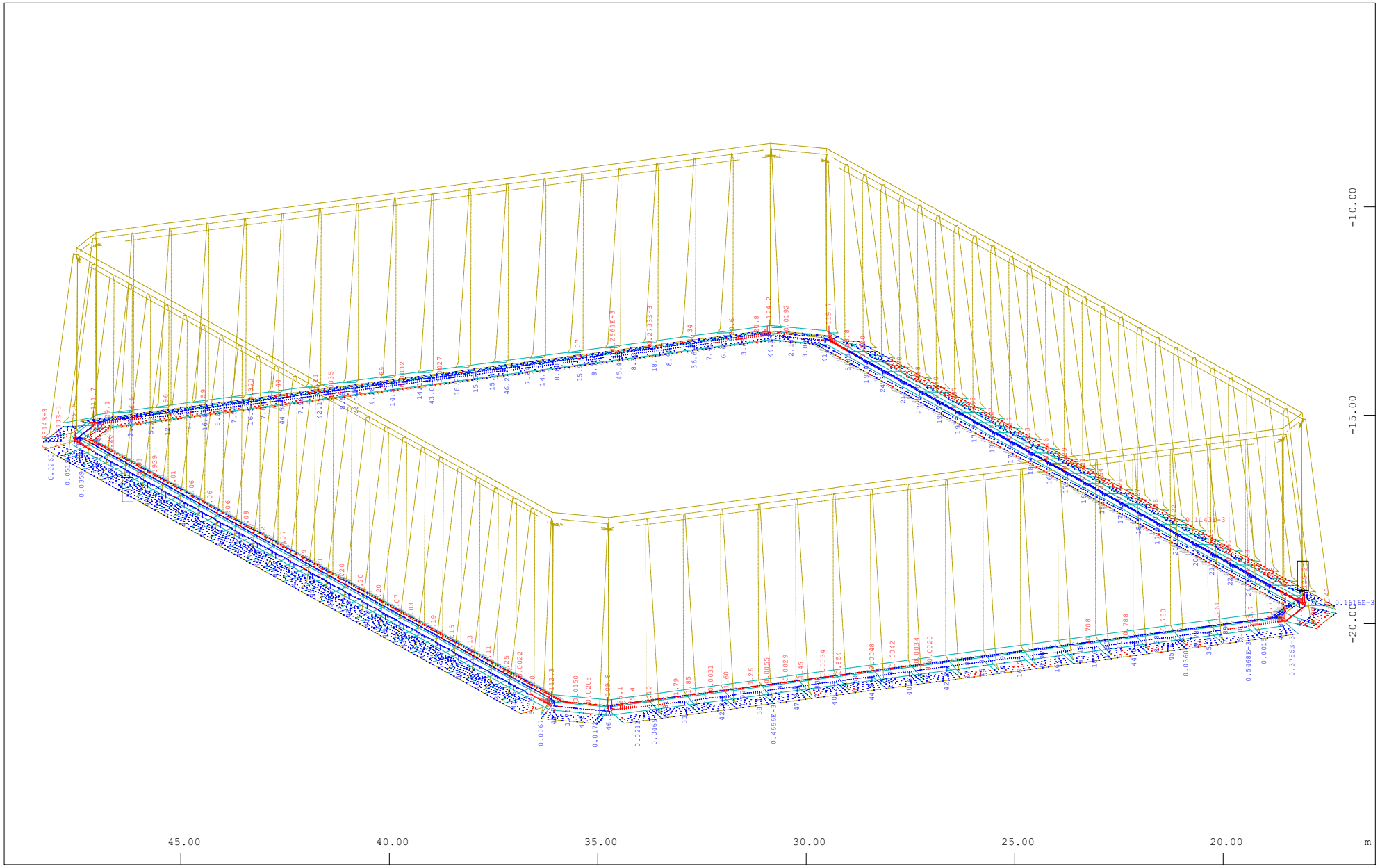
ρ	geometric part of reinforcements
Asl	total longitudinal reinforcement
vm	shift rule of longitudinal reinforcement (0.0 if already included by normal force)
Asl-0,Asl-1,Asl-2,Asl-3,Asl-4,Asl-5	longitudinal reinforcement per layer

Maximum Utilisation Level

	N	Vy	Vz	My	Mz	Mtp	Mts	Mb	Ncr	SCL	Total
	σ-x	σ+x	τ	σ-v	σ-s	σ-dyn	As-l	As-v	crack	c/t	
Section 11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-	0.000
Sección Muro	0.000	0.000	0.000	0.000	-	-	-	-	-	-	
Section 12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-	0.000
Sección Muro	0.000	0.000	0.000	0.000	-	-	-	-	-	-	
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-	0.000
	0.000	0.000	0.000	0.000	-	-	-	-	-	-	

N	normal force	τ	shear stress
Vy,Vz	shear force	σ-v	von Mises stress
My,Mz	bending	σ-s	stress in reinforcements
Mtp,Mts	torsion (p)rimary and (s)econdary	σ-dyn	stress range
Mb	warping moment	As-l	longitudinal reinforcements
Ncr	flexural buckling	As-v	transverse reinforcements
SCL	cross-section class	crack	crack width
σ-x	longitud. compressive stress	c/t	stress dependant utilisation level (see AQB Manual 2.3.2)
σ+x	longitud. tensile stress	Total	most unfavorable utilisation for all checks

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Z
Y
X

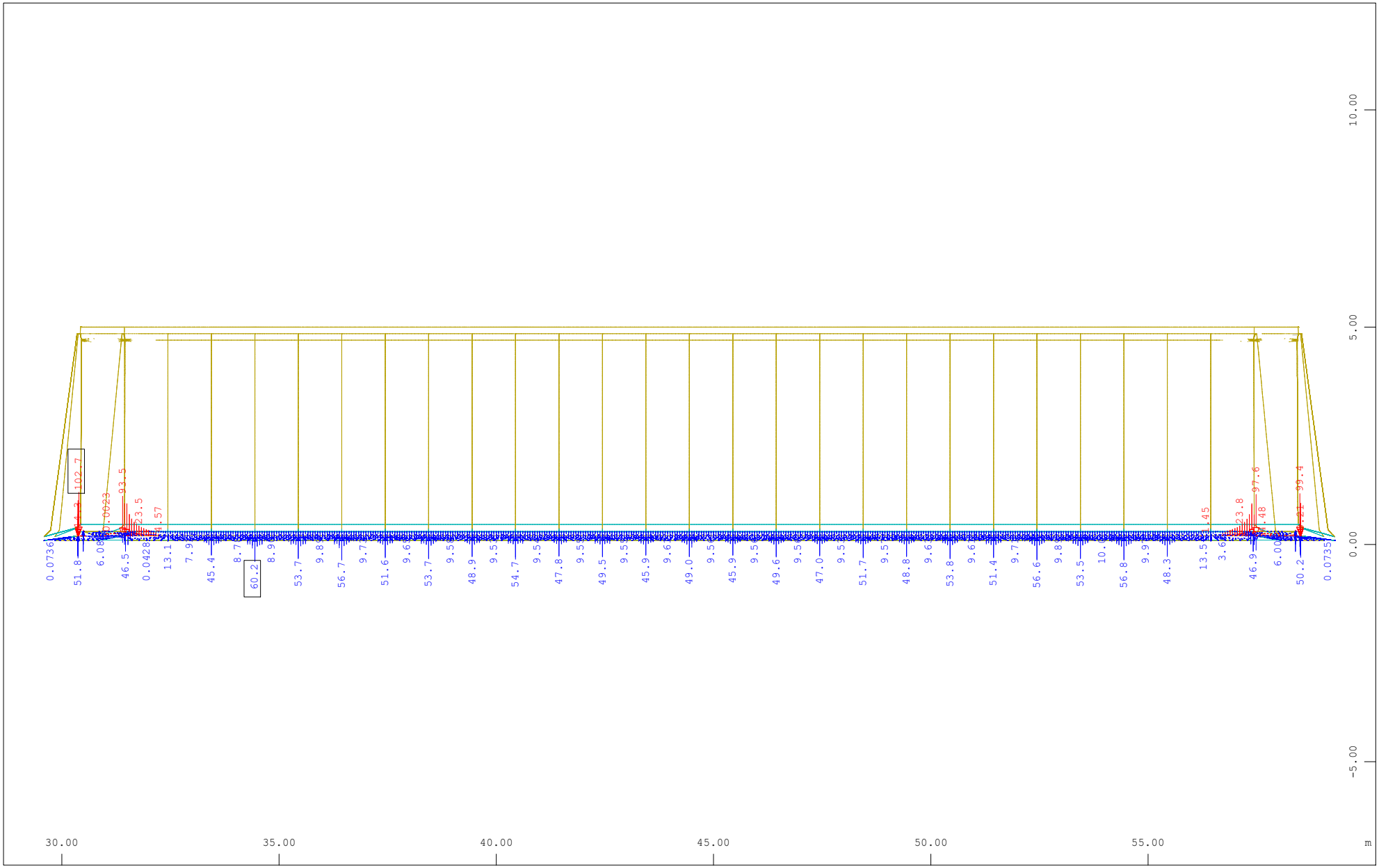
Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global Z, Loadcase 2154 MIN-PY NODE ELU , 1 cm 3D = 400.0 kN

(Min=-125.2) (Max=53.7) (total: 13647.)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962

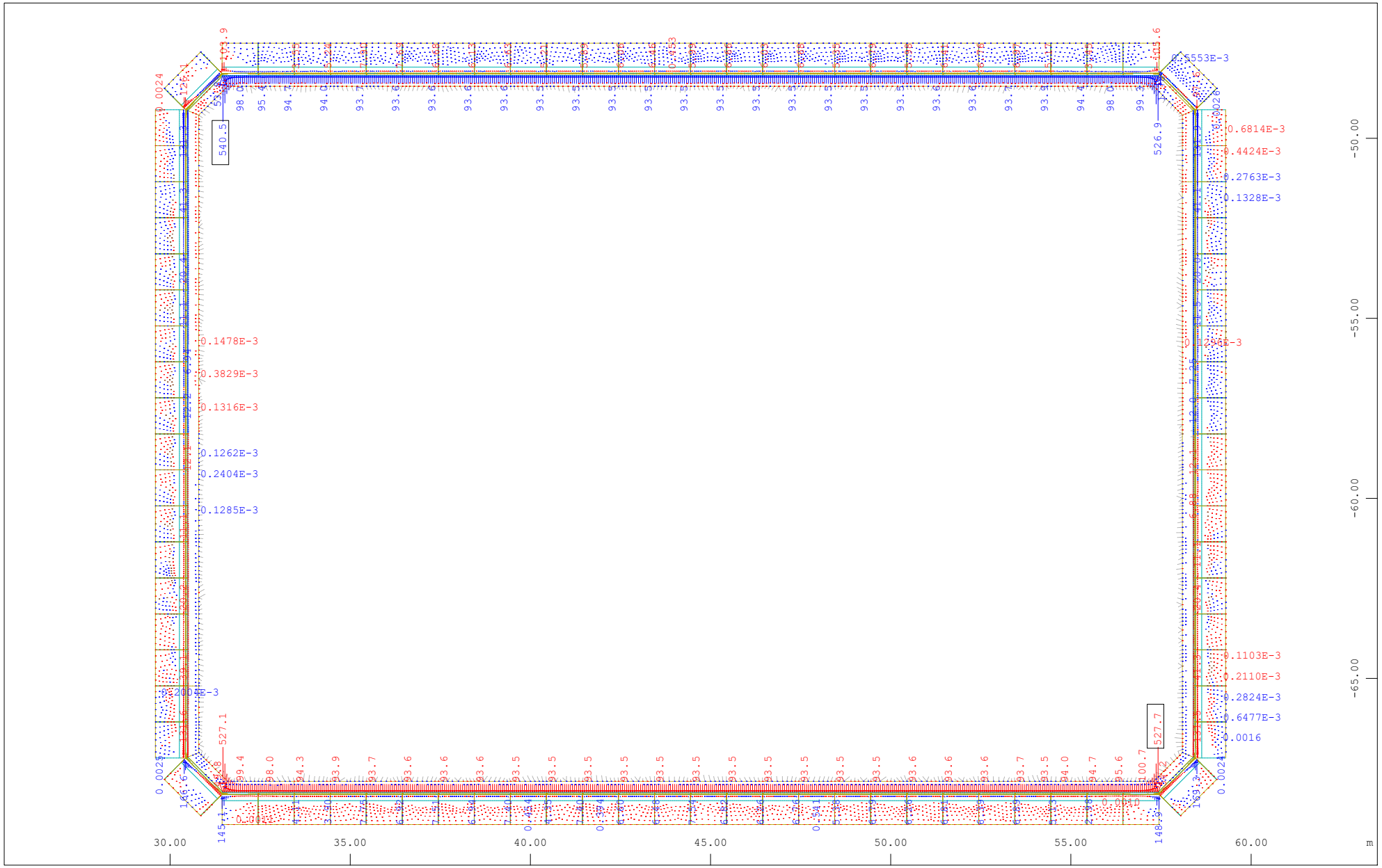


Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global Z, Loadcase 2155 MAX-PZ NODE ELU , 1 cm 3D = 123.4 kN

(Min=-102.7) (Max=60.2) (total: 26395.)

M 1 : 121



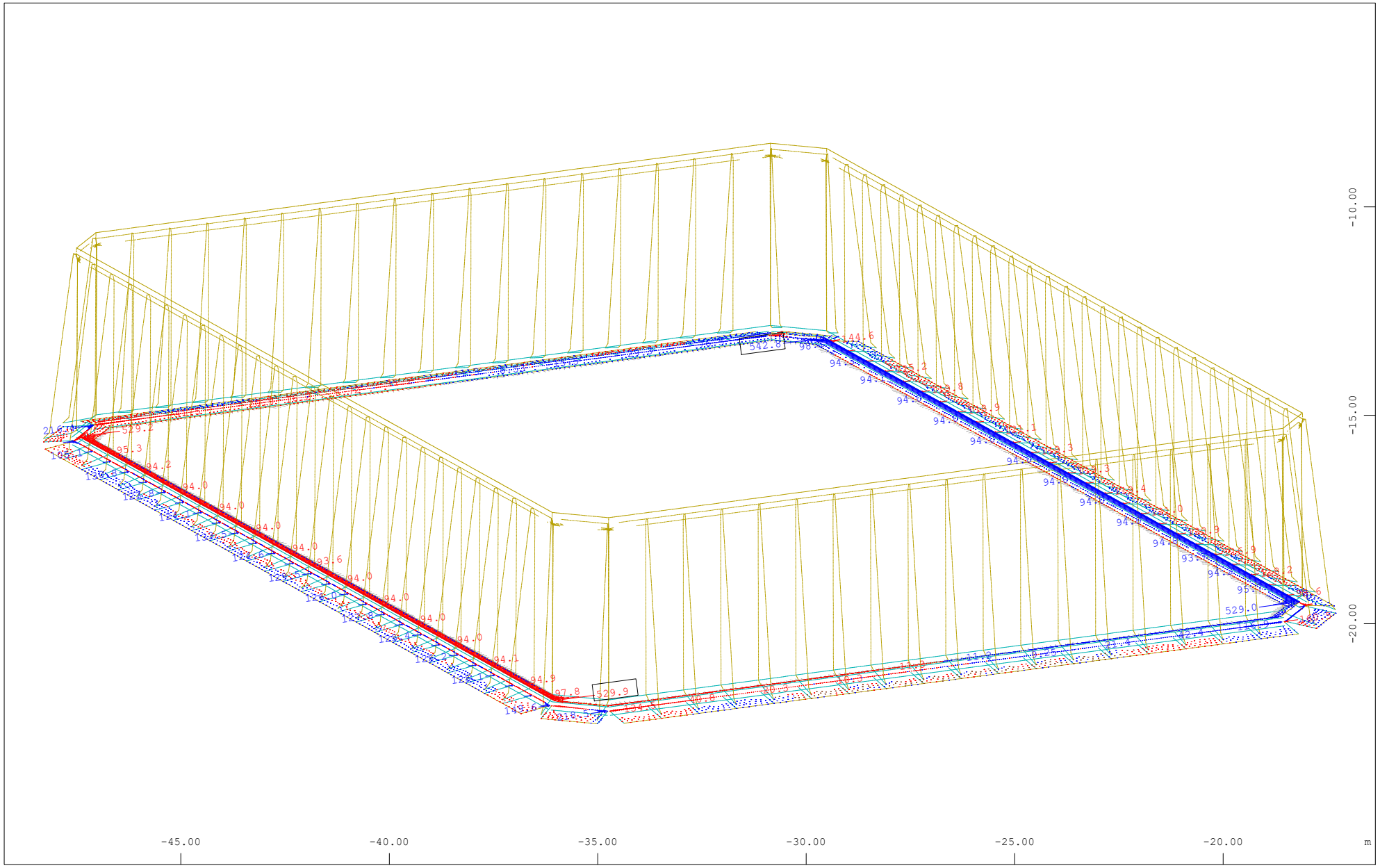
Y
Z X

Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global Y, Loadcase 2155 MAX-PZ NODE ELU , 1 cm 3D = 617.2 kN

(Min=-527.7) (Max=540.5) (total: 39.8)

M 1 : 146



Z
Y
X

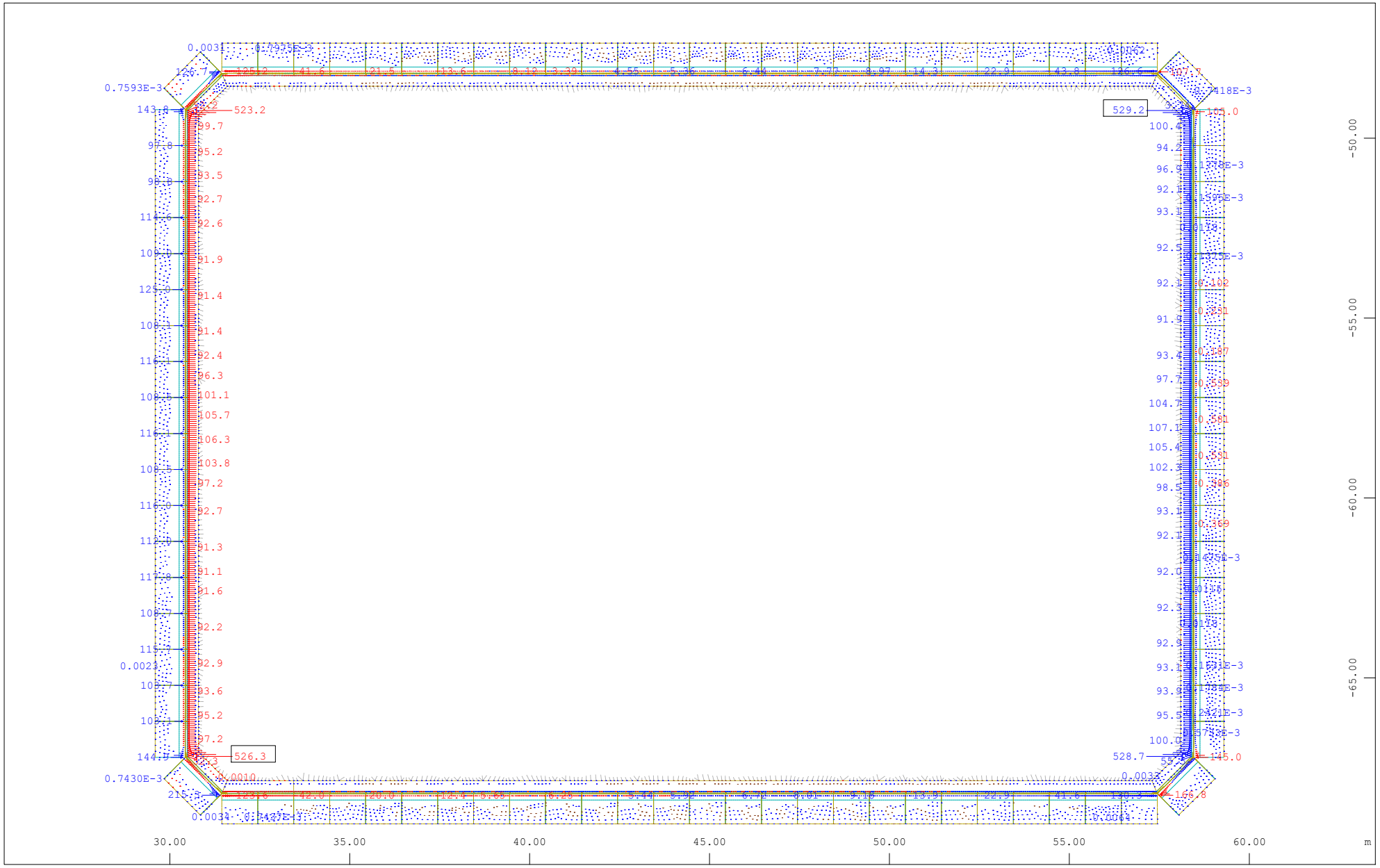
Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global Y, Loadcase 2156 MIN-PZ NODE ELU , 1 cm 3D = 617.2 kN

(Min=-529.9) (Max=542.8) (total: 52.8)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962

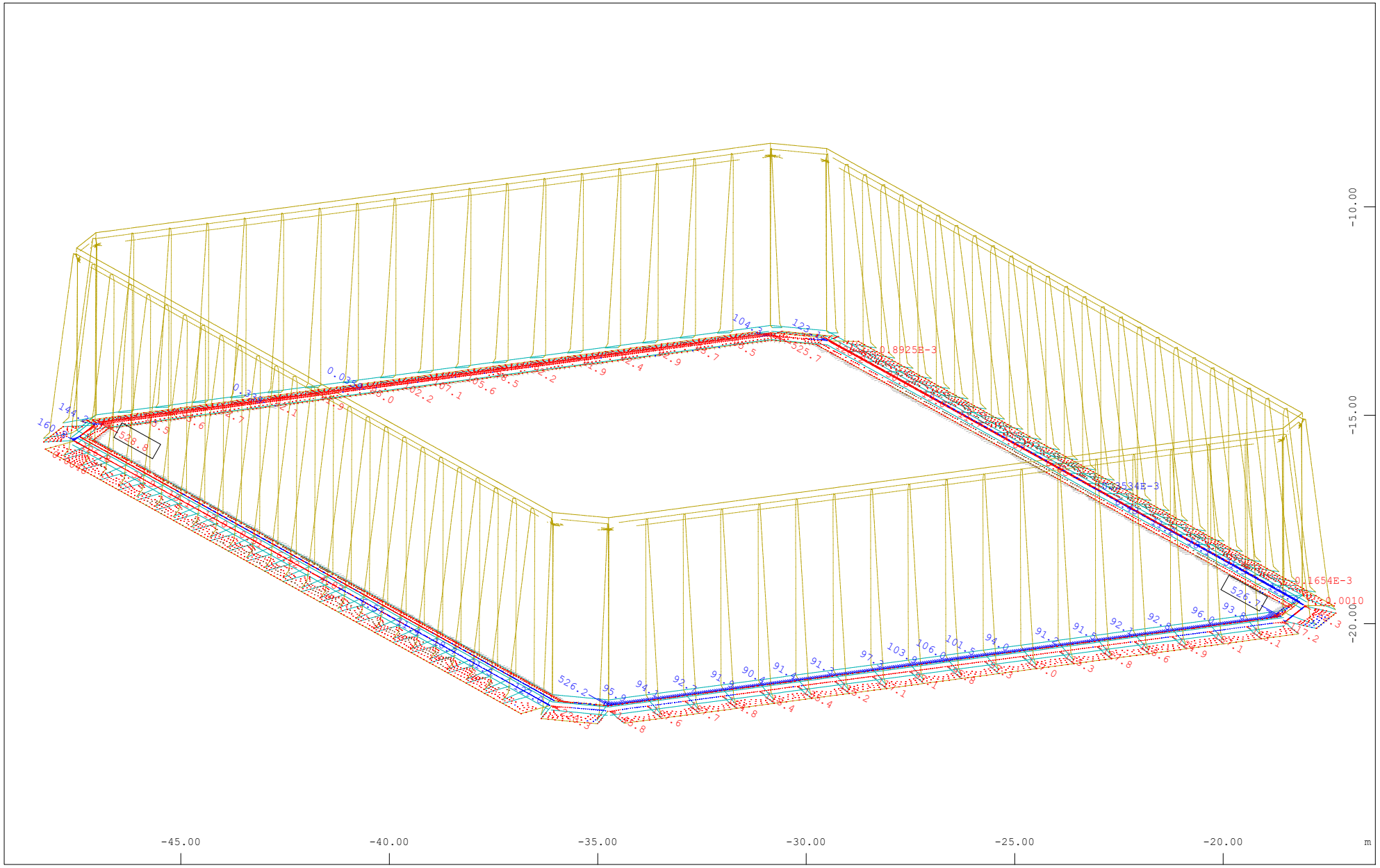


Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global X, Loadcase 2151 MAX-PX NODE ELU , 1 cm 3D = 617.2 kN

(Min=-526.3) (Max=529.2) (total: 4928.)

M 1 : 146



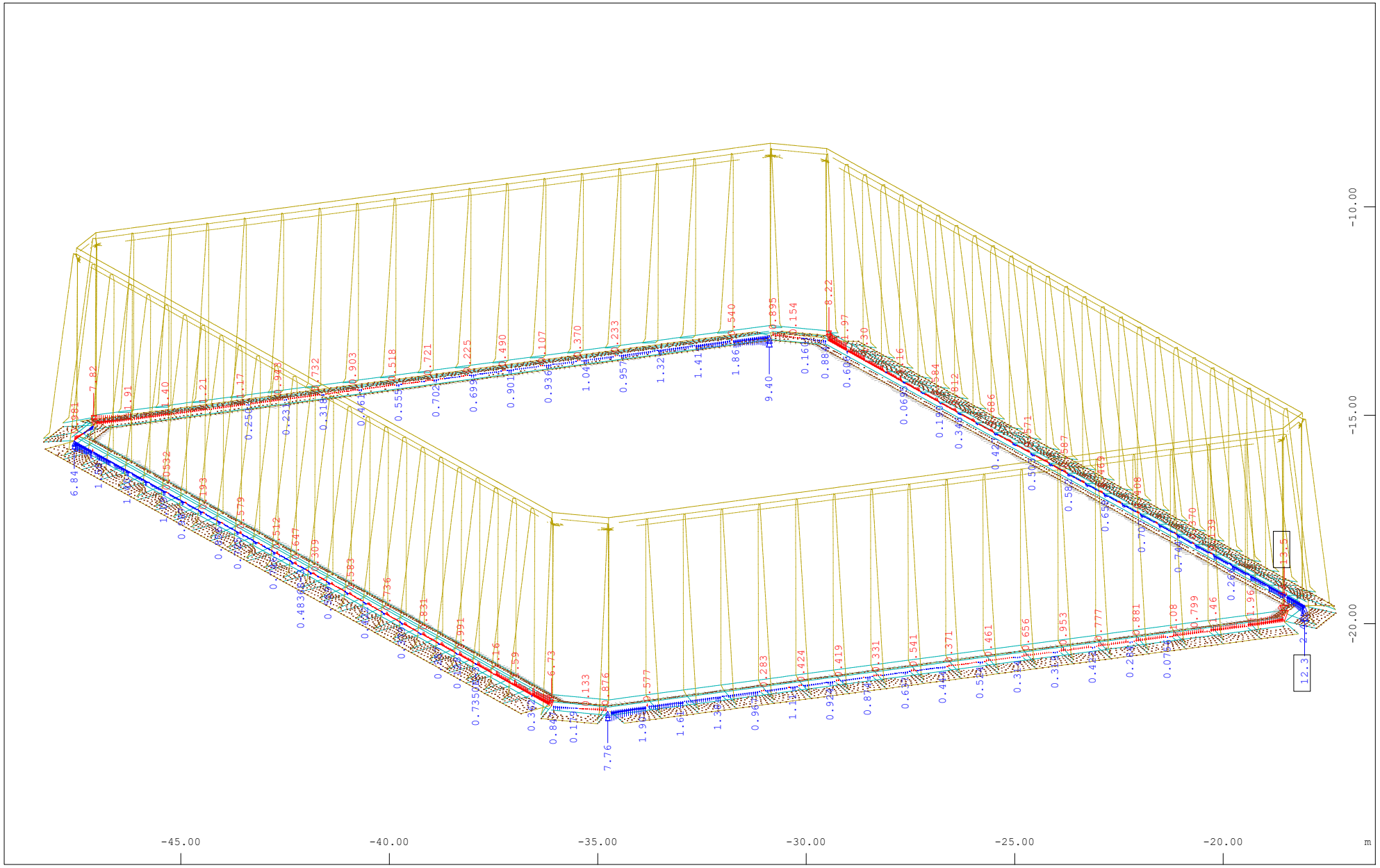
Z
Y X Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support force in global X, Loadcase 2152 MIN-PX NODE ELU , 1 cm 3D = 617.2 kN

(Min=-528.8) (Max=526.7) (total: -5103.)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



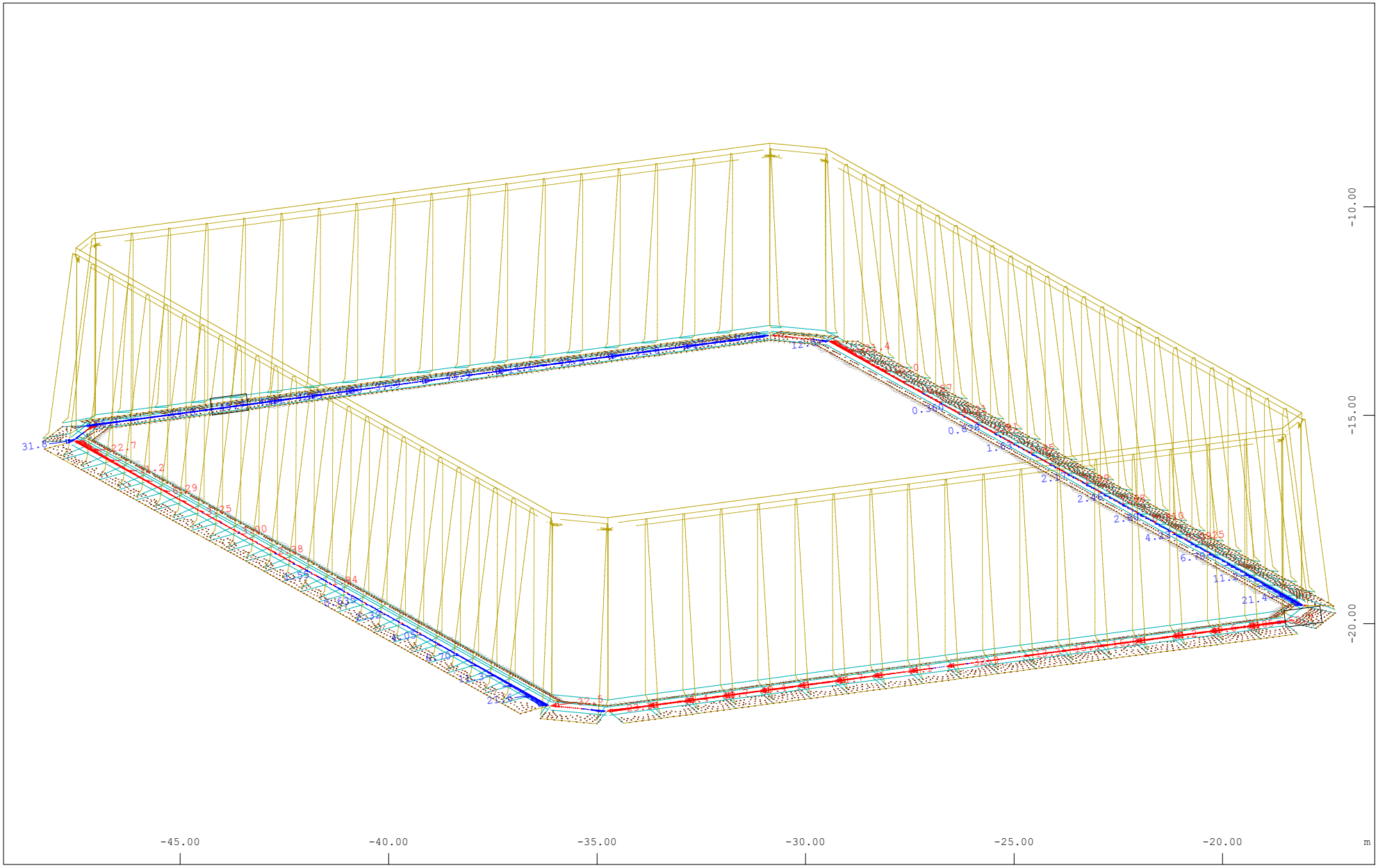
Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support moment about global Z, Loadcase 2155 MAX-PZ NODE ELU , 1 cm 3D = 12.3 kNm

(Min=-13.5) (Max=12.3) (total: 6.77)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



Z
Y
X

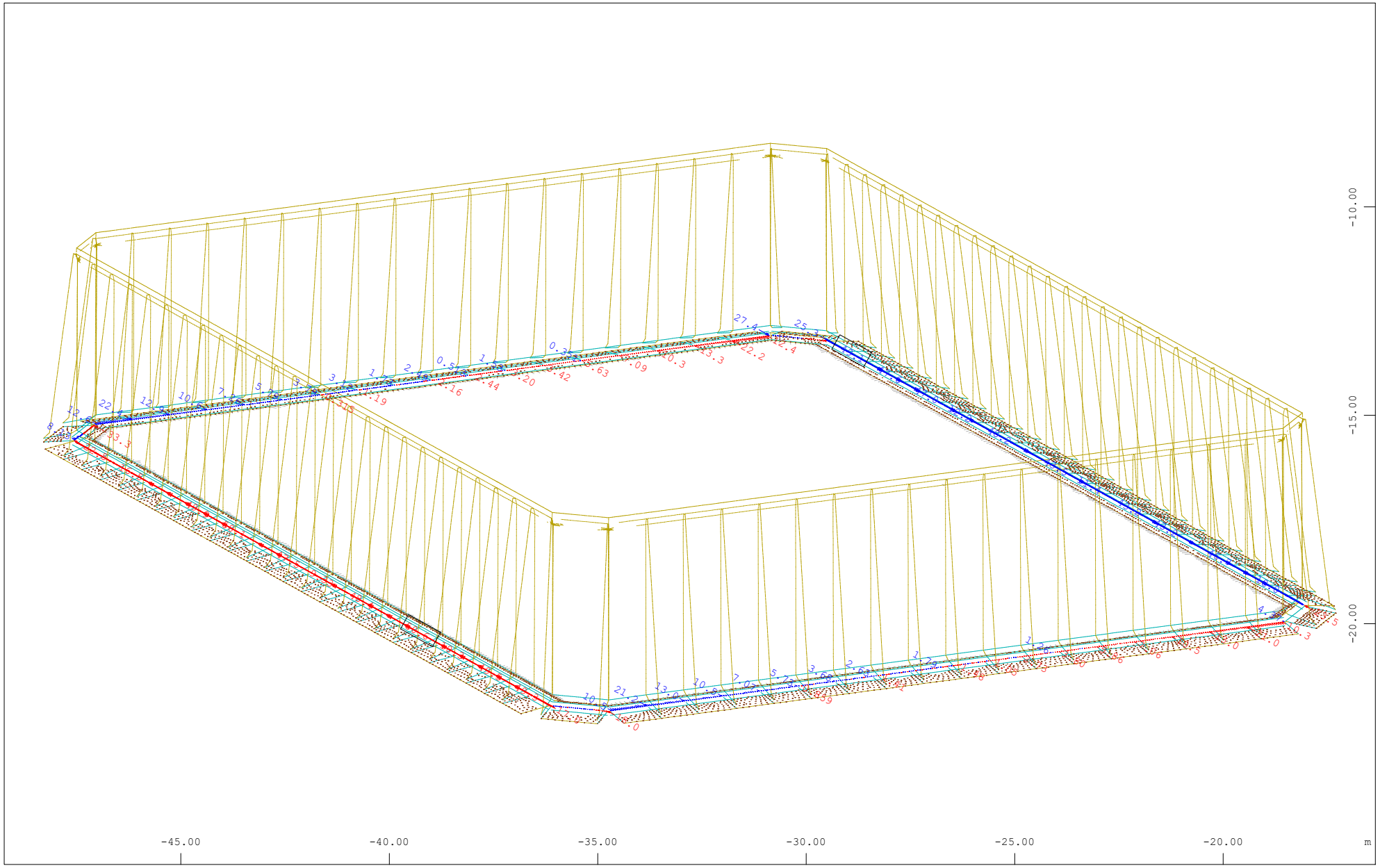
Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support moment about global Y, Loadcase 2153 MAX-PY NODE ELU , 1 cm 3D = 61.7 kNm

(Min=-52.7) (Max=45.7) (total: -342.6)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



Z
Y X

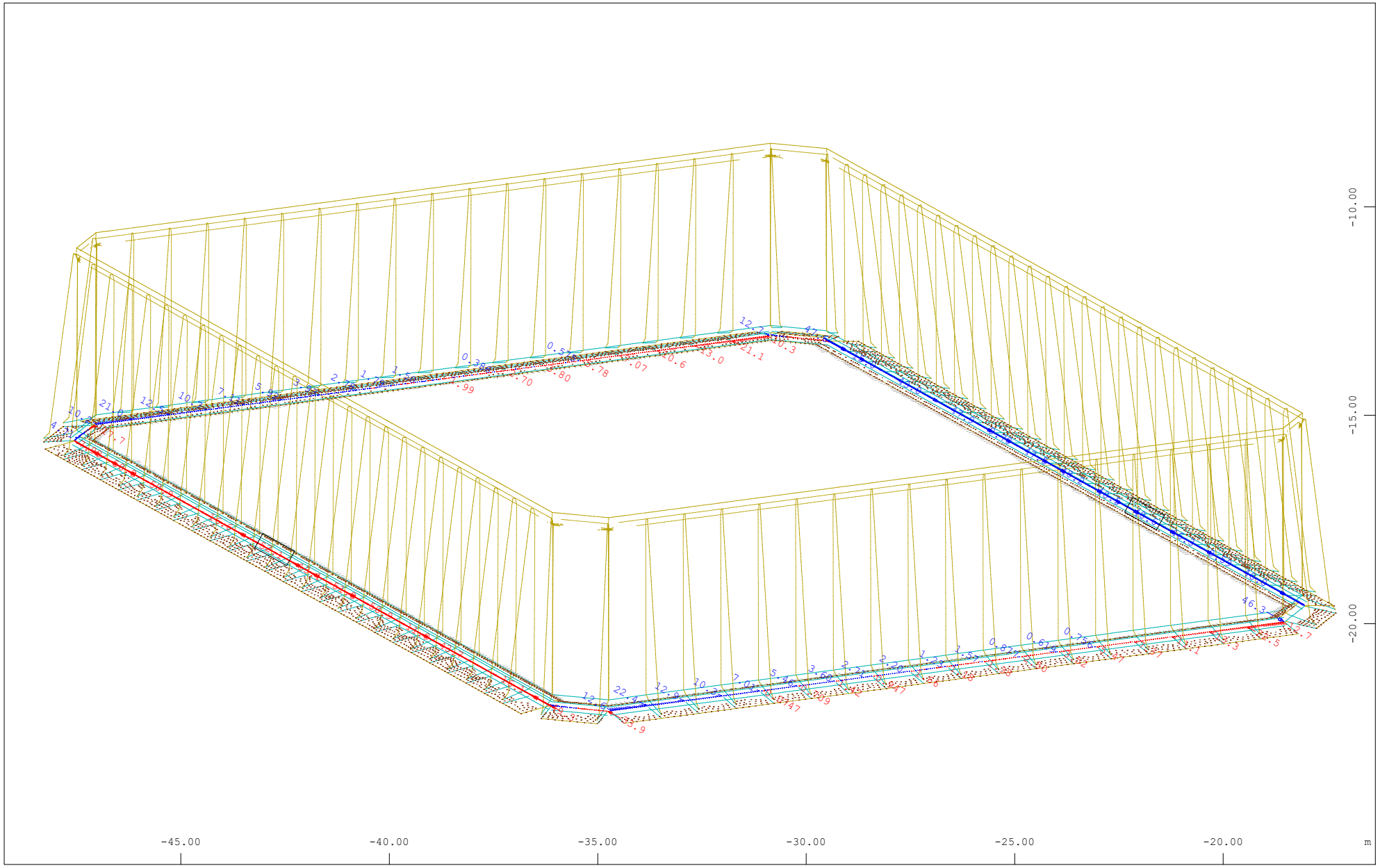
Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support moment about global X, Loadcase 2151 MAX-PX NODE ELU , 1 cm 3D = 61.7 kNm

(Min=-50.6) (Max=49.1) (total: -157.0)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962



Z
Y
X

Sector of system Quadrilateral Elements Group 11 12 21 22 31...34

Nodes , Support moment about global X, Loadcase 2152 MIN-PX NODE ELU , 1 cm 3D = 61.7 kNm

(Min=-52.1) (Max=48.6) (total: 215.7)

M 1 : 126

X * 0.502
Y * 0.906
Z * 0.962

PRONTUARIO INFORMÁTICO DEL HORMIGÓN ESTRUCTURAL 3.1 SEGÚN EHE-08

Cátedra de Hormigón Estructural ETSICCPM - IECA

Obra: 21226-Nuevo Depósito Formentera
Fecha: 16/07/2021
Hora: 10:39:44

Cálculo de secciones a cortante

1 Datos

- Materiales

```
Tipo de hormigón : HA-25
Tipo de acero    : B-500-S
fck [MPa]         = 25.00
fyk [MPa]         = 500.00
γc                = 1.50
γs                = 1.15
```

- Control del hormigón

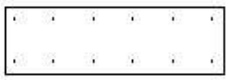
```
Control normal
```

- Tipo de elemento estructural

```
Tipo : elemento con armadura a cortante
```

- Sección

```
Sección : LOSA
b0  [m] = 1.00
h   [m] = 0.30
```



2 Dimensionamiento

Esfuerzo cortante de cálculo Vd [kN] = 175

Inclinación de las bielas [°] = 45
Inclinación de los cercos [°] = 90.0
ρ_l [·1.E-3] = 0
$\rho_{comprimida}$ [·1.E-3] = 0.0
Nd [kN] = 0.0
σ_{xd} [MPa] = 0.0
σ_{yd} [MPa] = 0.0
θ_e [°] = 45.0

ϕ [mm]	Separación [mm]	n° ramas	Area [cm²/m]	Tipo	Vsu [kN]	Vu2 [kN]
ø 6	----	----	----	----	----	----
ø 8	0.10	4	20.1	2	181.0	180.96
ø 10	0.15	4	20.9	2	188.5	188.50
ø 12	0.15	4	30.2	2	271.4	271.43

Área estricta [cm²/m] = 19.0
Vu1 [kN] = 1250.0
Vcu [kN] = 0.0

PRONTUARIO INFORMÁTICO DEL HORMIGÓN ESTRUCTURAL 3.1 SEGÚN EHE-08

Cátedra de Hormigón Estructural ETSICCPM - IECA

Obra: 21226-Nuevo Depósito Formentera
Fecha: 16/07/2021
Hora: 10:46:59

Cálculo de secciones a cortante

1 Datos

- Materiales

```
Tipo de hormigón : HA-25
Tipo de acero    : B-500-S
fck [MPa]         = 25.00
fyk [MPa]         = 500.00
```
γ_c = 1.50
γ_s = 1.15

- Control del hormigón

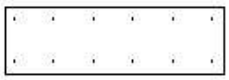
```
Control normal
```

- Tipo de elemento estructural

```
Tipo : elemento con armadura a cortante
```

- Sección

```
Sección : LOSA
b0  [m] = 1.00
h   [m] = 0.30
```



2 Dimensionamiento

Esfuerzo cortante de cálculo Vd [kN] = 204

Inclinación de las bielas [°] = 45
Inclinación de los cercos [°] = 90.0
ρ_l [·1.E-3] = 0
$\rho_{comprimida}$ [·1.E-3] = 0.0
Nd [kN] = 0.0
σ_{xd} [MPa] = 0.0
σ_{yd} [MPa] = 0.0
θ_e [°] = 45.0

ϕ [mm]	Separación [mm]	n° ramas	Area [cm²/m]	Tipo	Vsu [kN]	Vu2 [kN]
ø 6	----	----	----	----	----	----
ø 8	----	----	----	----	----	----
ø 10	0.10	4	31.4	2	282.7	282.74
ø 12	0.15	4	30.2	2	271.4	271.43

Área estricta [cm²/m] = 22.2
Vu1 [kN] = 1250.0
Vcu [kN] = 0.0

PRONTUARIO INFORMÁTICO DEL HORMIGÓN ESTRUCTURAL 3.1 SEGÚN EHE-08

Cátedra de Hormigón Estructural ETSICCPM - IECA

Obra: Depósito Formentera
Fecha: 16/07/2021
Hora: 10:37:41

Cálculo de secciones a flexión compuesta recta

1 Datos

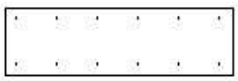
- Materiales

```
Tipo de hormigón : HA-25
Tipo de acero    : B-500-S
fck [MPa]         = 25.00
fyk [MPa]         = 500.00
```
γ_c = 1.50
γ_s = 1.15

- Sección

```
Sección : LOSA
b [m] = 1.00
h [m] = 0.30
r [m] = 0.050

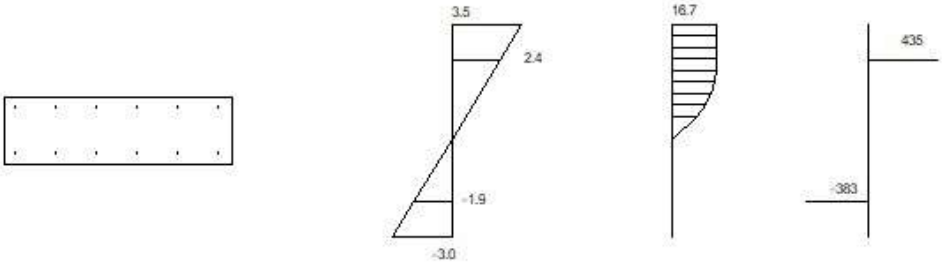
n° barras horizontales = 6
n° barras verticales   = 2
```



2 Comprobación

```
 ϕ [mm]    = 12
Nd [kN]    = 293.4
Md [kN·m]  = 31.3

Nu [kN]    = 2211.6
Mu [kN·m]  = 235.9
γ          = 7.54
```



Plano de deformación de agotamiento

```
x    [m]          = 0.162
1/r [1/m]·1.E-3 = 21.6
εs  ·1.E-3        = 3.5
εi  ·1.E-3        = -3.0
```

Deformación y tensión de armaduras superior e inferior

Profundidad [m]	Deformación ·1.E^{-3}	Tensión [MPa]
0.050	2.4	-434.8
0.250	-1.9	382.6

PRONTUARIO INFORMÁTICO DEL HORMIGÓN ESTRUCTURAL 3.1 SEGÚN EHE-08

Cátedra de Hormigón Estructural ETSICCPM - IECA

Obra: 21226-Nuevo Depósito Formentera
Fecha: 16/07/2021
Hora: 10:19:01

Cálculo de secciones rectangulares a torsion

1 Datos

- Materiales

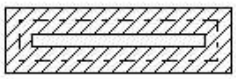
```
Tipo de hormigón : HA-25
Tipo de acero    : B-500-S
fck [MPa]         = 25.00
fyk [MPa]         = 500.00
```

γ_c = 1.50

γ_s = 1.15

- Sección

```
Sección : LOSA
b0  [m] = 1.00
h   [m] = 0.30
```



2 Comprobación

he [m] = 0.115
Ae [m²] = 0.164
ue [m] = 2.140
θ [°] = 45.0
α = 0.60

Torsor de cálculo [kN·m] = 50.6

Agotamiento de las bielas Tu1 [kN·m] = 113.2

- Armadura transversal

Area estricta [cm²] = 3.9

ϕ [mm]	Separación [mm]	nº estribos	Area [cm²/m]	Tu2 [kN·m]
6	0.10	2	5.7	74.2
8	0.10	1	5.0	65.9
10	0.10	1	7.9	103.0
12	0.10	1	11.3	148.4

- Armadura longitudinal

Area estricta [cm²] = 8.3

ϕ [mm]	número de redondos	Area [cm²]	Tu3 [kN·m]
10	12	9.4	57.8
12	8	9.0	55.5
14	8	12.3	75.5
16	6	12.1	74.0
20	4	12.6	77.0

ANEJOS DE CÁLCULO - AMPLIACIÓN CASETA DE BOMBAS

21226-Nuevo Depósito Formentera Caseta
Materials

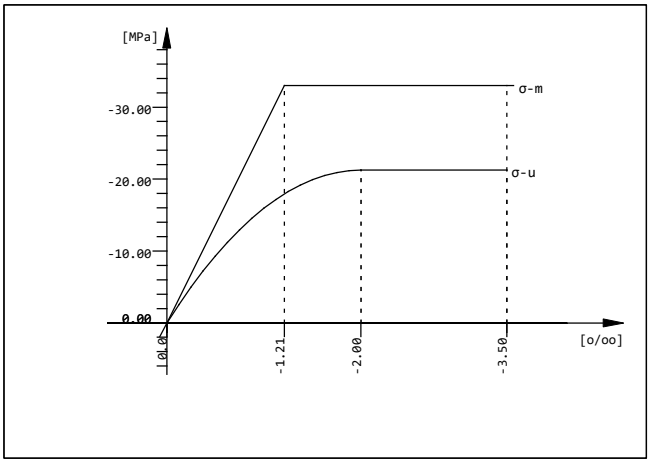
Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018

Mat 1 HA 25 (EHE)

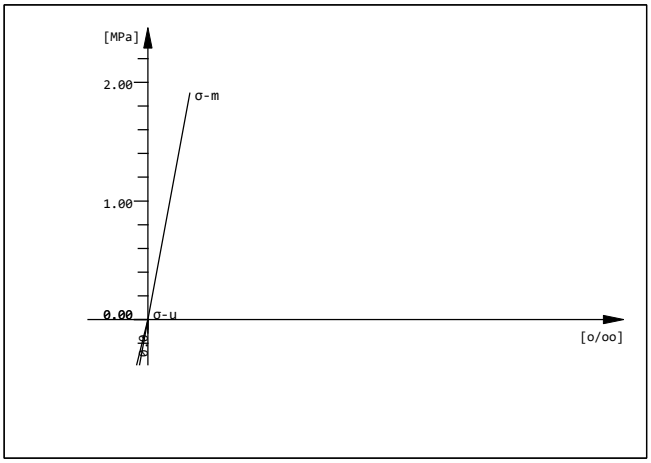
Young's modulus	E	27264	[MPa]	Safetyfactor		1.50	[-]
Poisson's ratio	μ	0.20	[-]	Strength	fc	21.25	[MPa]
Shear modulus	G	11360	[MPa]	Nominal strength	fck	25.00	[MPa]
Compression modulus	K	15147	[MPa]	Tensile strength	fctm	2.56	[MPa]
Nominal Weight	γ	25.0	[kN/m3]	Tensile strength	fctk,05	1.80	[MPa]
Mean density	ρ	2400.0	[kg/m3]	Tensile strength	fctk,95	3.33	[MPa]
Elongation coefficient	α	1.00E-05	[1/K]	Bond strength	fbd	2.69	[MPa]
				Service strength	fcm	33.00	[MPa]
				Fatigue strength	fcd,fat	12.75	[MPa]
				Tensile strength	fctd	1.20	[MPa]
				Tensile failure energy	Gf	0.14	[N/mm]

Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	0.000	0.00	27264
defined stress range	-1.210	-33.00	0
	-3.500	-33.00	0
	Safetyfactor		1.50

Stress-Strain for ultimate load	**ε[o/oo]**	**σ-u[MPa]**	**E-t[MPa]**
Is only valid within the defined	0.000	0.00	21250
stress range	-2.000	-21.25	0
	-3.500	-21.25	0
	Safetyfactor		1.50



HA 25 (EHE)



HA 25 (EHE)

Mat 2 B 500 (EHE)

Young's modulus	E	200000	[MPa]	Safetyfactor		1.15	[-]
Poisson's ratio	μ	0.30	[-]	Yield stress	fy	500.00	[MPa]
Shear modulus	G	76923	[MPa]	Compressive yield	fyc	500.00	[MPa]
Compression modulus	K	166667	[MPa]	Tensile strength	ft	550.00	[MPa]
Nominal Weight	γ	78.5	[kN/m3]	Compressive strength	fc	550.00	[MPa]
Mean density	ρ	7850.0	[kg/m3]	Ultimate strain		50.00	[o/oo]
Elongation coefficient	α	1.20E-05	[1/K]	relative bond coeff.		1.00	[-]
max. thickness	t-max	32.00	[mm]	EN 1992 bond coeff.	k1	0.80	[-]
				Hardening modulus	Eh	0.00	[MPa]
				Proportional limit	fp	500.00	[MPa]
				Dynamic allowance	σ-dyn	150.00	[MPa]

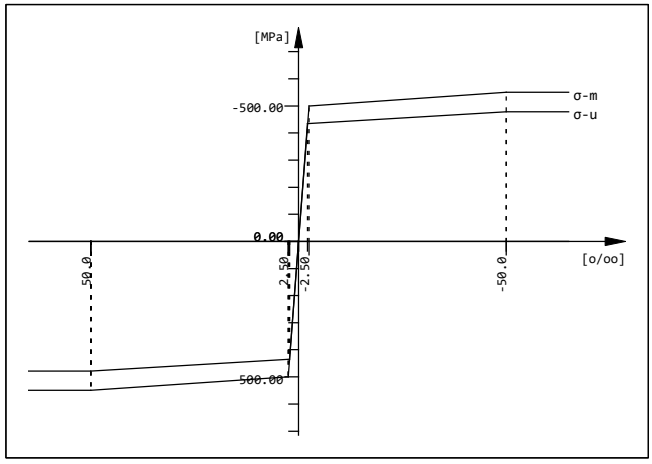
Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	1000.000	550.00	0
defined stress range	50.000	550.00	0
	2.500	500.00	1053

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21226-Nuevo Depósito Formentera Caseta
Materials

Stress-Strain for serviceability	ε[o/oo]	σ-m[MPa]	E-t[MPa]
	0.000	0.00	200000
	-2.500	-500.00	1053
	-50.000	-550.00	0
	-1000.000	-550.00	0
	Safetyfactor		1.15

Stress-Strain for ultimate load	ε[o/oo]	σ-u[MPa]	E-t[MPa]
Is also extended beyond the	1000.000	478.26	0
defined stress range	50.000	478.26	0
	2.174	434.78	909
	0.000	0.00	200000
	-2.174	-434.78	909
	-50.000	-478.26	0
	-1000.000	-478.26	0
	Safetyfactor		(1.15)



B 500 (EHE)

Mat 3 HA 30 (EHE)

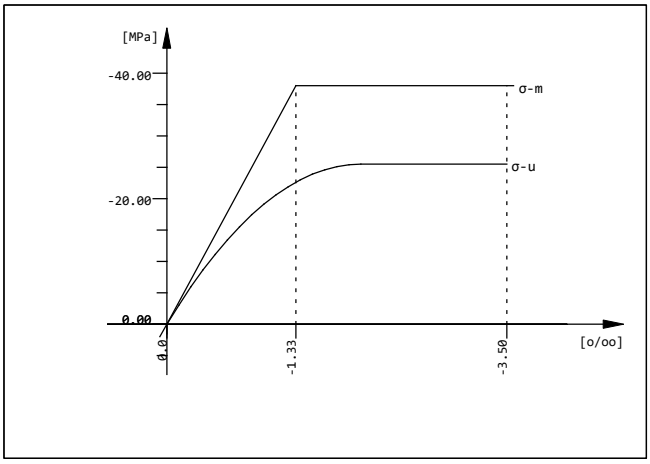
Young's modulus	E	28577	[MPa]	Safetyfactor		1.50	[-]
Poisson's ratio	μ	0.20	[-]	Strength	fc	25.50	[MPa]
Shear modulus	G	11907	[MPa]	Nominal strength	fck	30.00	[MPa]
Compression modulus	K	15876	[MPa]	Tensile strength	fctm	2.90	[MPa]
Nominal Weight	γ	25.0	[kN/m3]	Tensile strength	fctk,05	2.03	[MPa]
Mean density	ρ	2400.0	[kg/m3]	Tensile strength	fctk,95	3.77	[MPa]
Elongation coefficient	α	1.00E-05	[1/K]	Bond strength	fbd	3.04	[MPa]
				Service strength	fcm	38.00	[MPa]
				Fatigue strength	fcd,fat	14.96	[MPa]
				Tensile strength	fctd	1.35	[MPa]
				Tensile failure energy	Gf	0.14	[N/mm]

Stress-Strain for serviceability	ε[o/oo]	σ-m[MPa]	E-t[MPa]
Is also extended beyond the	0.000	0.00	28577
defined stress range	-1.330	-38.00	0
	-3.500	-38.00	0
	Safetyfactor		1.50

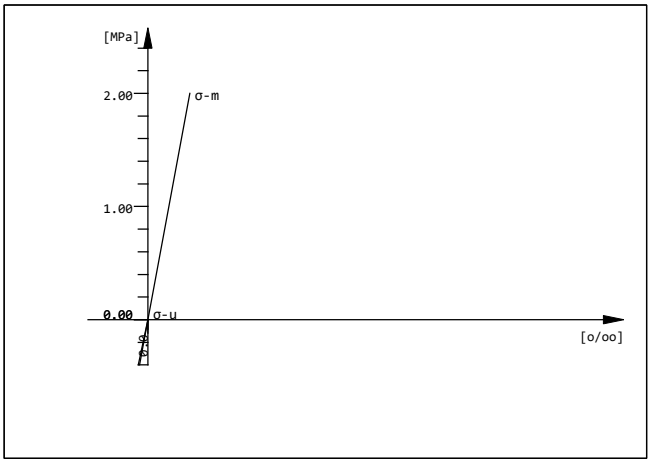
Stress-Strain for ultimate load	ε[o/oo]	σ-u[MPa]	E-t[MPa]
Is only valid within the defined	0.000	0.00	25500
stress range	-2.000	-25.50	0
	-3.500	-25.50	0
	Safetyfactor		1.50

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21226-Nuevo Depósito Formentera Caseta
Materials



HA 30 (EHE)



HA 30 (EHE)

Thermal material constants

Mat	T[°C]	S[kJ/K/m3]	Kxx[W/K/m]	Kyy[W/K/m]	Kzz[W/K/m]	
1	AUTO	2.16E+03	1.951E+00			HA 25 (EHE)
2	AUTO	3.45E+03	5.333E+01			B 500 (EHE)
3	AUTO	2.16E+03	1.951E+00			HA 30 (EHE)

Mat	material number	S[kJ/K/m3]	Heat capacity
T[°C]	Temperature	Kxx[W/K/m],Kyy[W/K/m],Kzz[W/K/m]	Heat conductivity

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Actions

type	part	sup	Designation	γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2
G	G	perm	dead load	1.35	1.00	1.00	1.00	1.00	1.00
	1		PP						
	2		CM						
	7		Terreno						
Q	Q	cond	variable load	1.50	0.00	1.00	0.70	0.50	0.30
	3		SCU						
S	Q	cond	snow loading	1.50	0.00	1.00	0.50	0.20	0.00
	4		N						
W	Q	excl	wind loading	1.50	0.00	1.00	0.60	0.50	0.00
	5		Wx						
	6		Wy						

type action γ-u,γ-f,γ-a partial safety factors for unfavourable/favourable/accidental
part partition of the action ψ_0,ψ_1,ψ_2 combination coefficients
sup superposition type

Load Case 1 (G) PP

Factor forces and moments		1.000
Factor dead weight	DL-ZZ	-1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Load Case 2 (G) CM

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	SAR 5						PG	2.50 [kN/m2]
						activated		100.00 percent
Area	SAR 6						PG	2.50 [kN/m2]
						activated		100.00 percent

Loads acting on QUAD elements

Element from	to	inc	Type	Remark Prim-LC/CC	Load value	Unit	Variation dP/dX	dP/dY	dP/dZ
50001	50132		PG		2.50	[kN/m2]			
50133	50222		PG		2.50	[kN/m2]			

Load Case 3 (Q) SCU

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.700 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.300 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	SAR 5						PG	1.00 [kN/m2]
						activated		100.00 percent

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	SAR 6						PG	1.00 [kN/m2]
						activated		100.00 percent

Loads acting on QUAD elements

Element from	to	inc	Type	Remark Prim-LC/CC	Load value	Unit	Variation dP/dX	dP/dY	dP/dZ
50001	50132		PG		1.00	[kN/m2]			
50133	50222		PG		1.00	[kN/m2]			

Load Case 4 (S) N

Factor forces and moments 1.000
unfavourable partial safety factor 1.500
favourable partial safety factor 0.000
Combination coefficient ψ_0 0.500 (rare)
Combination coefficient ψ_1 0.200 (frequent)
Combination coefficient ψ_2 0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	SAR 5						PG	0.20 [kN/m2]
						activated		100.00 percent
Area	SAR 6						PG	0.20 [kN/m2]
						activated		100.00 percent

Loads acting on QUAD elements

Element from	to	inc	Type	Remark Prim-LC/CC	Load value	Unit	Variation dP/dX	dP/dY	dP/dZ
50001	50132		PG		0.20	[kN/m2]			
50133	50222		PG		0.20	[kN/m2]			

Load Case 5 (W) Wx

Factor forces and moments 1.000
unfavourable partial safety factor 1.500
favourable partial safety factor 0.000
Combination coefficient ψ_0 0.600 (rare)
Combination coefficient ψ_1 0.500 (frequent)
Combination coefficient ψ_2 0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 2			13.482	12.005	2.760	PXX	-0.77 [kN/m2]
				13.482	12.005	4.060		-0.77 [kN/m2]
				13.482	5.005	4.060		-0.77 [kN/m2]
				13.482	5.005	2.760		-0.77 [kN/m2]
						activated		100.00 percent
Area	sar 7			10.482	12.005	2.760	PXX	-0.42 [kN/m2]
				10.482	12.005	4.060		-0.42 [kN/m2]
				10.482	5.005	4.060		-0.42 [kN/m2]
				10.482	5.005	2.760		-0.42 [kN/m2]
						activated		100.00 percent

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1002	-0.0								
1003	0.0								

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1004	0.0								
1009	-0.0								
1013	0.0								
1014	0.0								
1077	-0.0								
1078	-0.0								
1079	-0.0								
1080	-0.0								
1081	-0.0								
1082	-0.1								
1083	-0.1								
1084	-0.1								
1085	-0.1								
1086	-0.1								
1087	-0.1								
1088	-0.1								
1089	-0.1								
1090	-0.0								
1091	-0.0								
1092	-0.0								
1093	-0.0								
1094	-0.0								
1095	-0.0								
1096	-0.0								
1097	-0.0								
1098	-0.0								
1099	-0.0								
1100	-0.0								
1101	-0.1								
1102	-0.1								
1103	-0.1								
1104	-0.1								
1105	-0.1								
1106	-0.1								
1107	-0.1								
1108	-0.1								
1109	-0.0								
1110	-0.0								
1111	-0.0								
1112	-0.0								
1113	-0.0								
1114	-0.0								
1115	-0.0								
1116	-0.0								
1157	-0.0								
1158	-0.0								
1159	-0.0								
1160	-0.0								
1161	-0.1								
1162	-0.1								
1163	-0.1								
1164	-0.1								
1165	-0.1								
1166	-0.1								
1167	-0.1								
1168	-0.1								
1169	-0.1								
1170	-0.1								

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1171	-0.0								
1172	-0.0								
1173	-0.0								
1199	0.0								
1200	-0.0								
1201	-0.0								
1202	-0.0								
1203	-0.0								
1204	-0.0								
1205	-0.0								
1206	-0.0								
1207	-0.0								
1208	0.0								
1316	-0.1								
1317	-0.0								
1320	-0.1								
1321	-0.0								
1324	-0.1								
1325	0.0								
1328	-0.2								
1330	-0.1								
1333	-0.2								
1335	-0.1								
1336	0.0								
1339	-0.1								
1340	-0.0								
1351	0.0								
1358	-0.1								
1359	-0.1								
1360	-0.1								
1367	-0.1								
1368	-0.1								
1369	-0.1								
1370	-0.1								
1371	-0.1								
1372	-0.1								
1373	-0.0								
1374	-0.1								
1380	-0.1								
1381	-0.1								
1382	-0.1								
1383	-0.1								
1384	-0.1								
1389	-0.0								
1390	-0.0								
1391	0.0								
1392	-0.2								
1393	-0.2								
1394	-0.2								
1395	-0.2								
1399	-0.1								
1400	-0.1								
1401	-0.1								
1407	-0.2								
1408	-0.2								
1409	-0.2								
1414	-0.0								
1417	-0.1								

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1418	-0.1								
1419	-0.1								
1423	-0.1								
1424	-0.1								
1426	-0.0								
1427	-0.1								
1431	-0.1								
1432	-0.2								
1437	0.0								
1441	-0.1								
1442	-0.2								
1443	-0.0								
1444	-0.1								
1446	0.0								
1448	-0.1								
1451	-0.0								
1452	-0.0								
1455	-0.0								
1456	0.0								
1841	-0.1								
1842	-0.0								
1843	-0.1								
1844	-0.1								
1845	-0.2								
1846	-0.1								
1847	-0.1								
1848	-0.1								
1849	-0.1								
1850	-0.1								
1851	-0.1								
1852	-0.1								
1853	-0.1								
1854	-0.0								
1855	-0.0								
1856	-0.0								
1857	-0.0								
1858	-0.0								
1859	-0.0								
1860	-0.1								
1861	-0.0								
1862	-0.0								
1863	-0.0								
1864	-0.0								
1865	-0.0								
1866	-0.0								
1867	-0.0								
1868	-0.0								
1869	-0.0								
1870	-0.0								
1871	-0.0								
sum	-10.8								

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Generation of Node and Element Loads

Load Case 6 (W) Wy

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 3			13.482	5.005	2.760	PYY	0.77 [kN/m2]
				10.482	5.005	2.760		0.77 [kN/m2]
				10.482	5.005	4.060		0.77 [kN/m2]
				13.482	5.005	4.060		0.77 [kN/m2]
						activated		100.00 percent
Area	sar 1			13.482	12.005	2.760	PYY	0.38 [kN/m2]
				10.482	12.005	2.760		0.38 [kN/m2]
				10.482	12.005	4.060		0.38 [kN/m2]
				13.482	12.005	4.060		0.38 [kN/m2]
						activated		100.00 percent

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1002		0.0							
1003		0.0							
1004		0.0							
1009		0.0							
1013		0.0							
1014		0.0							
1094		0.0							
1095		0.1							
1096		0.0							
1114		0.0							
1115		0.0							
1116		0.0							
1148		0.0							
1149		0.0							
1150		0.0							
1151		0.1							
1152		0.1							
1153		0.1							
1154		0.1							
1155		0.0							
1156		0.0							
1174		0.0							
1175		0.0							
1176		0.0							
1177		0.0							
1178		0.0							
1179		0.0							
1180		0.0							
1181		0.0							
1182		0.0							
1199		0.0							
1200		0.0							
1201		0.0							
1202		0.1							
1203		0.0							
1204		0.0							

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1205		0.0							
1206		0.0							
1207		0.0							
1208		0.0							
1220		0.0							
1221		0.1							
1222		0.0							
1223		0.0							
1224		0.0							
1227		0.0							
1236		0.0							
1237		0.0							
1254		0.1							
1255		0.0							
1256		0.0							
1257		0.0							
1258		0.0							
1259		0.0							
1260		0.0							
1270		0.0							
1271		0.0							
1272		0.0							
1278		0.0							
1279		0.0							
1280		0.0							
1281		0.0							
1282		0.0							
1283		0.0							
1284		0.0							
1290		0.0							
1291		0.0							
1299		0.0							
1300		0.0							
1301		0.0							
1304		0.0							
1305		0.0							
1306		0.1							
1308		0.0							
1310		0.0							
1312		0.0							
1470		0.0							
1471		0.1							
1472		0.0							
1475		0.1							
1477		0.3							
1484		0.2							
1485		0.1							
1486		0.0							
1487		0.1							
1488		0.1							
1490		0.0							
1491		0.0							
1492		0.1							
1493		0.2							
1494		0.1							
1501		0.1							
1502		0.0							
1503		0.1							

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1521		0.1							
1522		0.0							
1531		0.1							
1532		0.1							
1533		0.1							
1536		0.1							
1537		0.1							
1538		0.1							
1545		0.0							
1569		0.0							
1570		0.0							
1571		0.0							
1572		0.0							
1573		0.0							
1574		0.0							
1576		0.1							
1577		0.0							
sum		4.5							

Load Case 7 (G) Terreno

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Volume	QGRP 2			30.258	5.005	2.760	Pz	0.00 [kN/m2]
				30.258	5.005	-97.240		1320.00 [kN/m2]
						activated		100.00 percent
Volume	QGRP 1			30.258	39.284	2.760	Pz	0.00 [kN/m2]
				30.258	39.284	-97.240		1320.00 [kN/m2]
						activated		100.00 percent

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1001	-0.7	-0.7							
1004		-0.1							
1005		-0.0							
1006		-0.4							
1008	-0.7	0.8							
1014		0.0							
1015		0.0							
1016		0.8							
1017		1.6							
1018		1.8							
1019		1.9							
1020		2.2							
1021		2.5							
1022		2.8							
1023		2.9							
1024		2.7							
1025		2.5							
1026		2.4							

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1027		2.3							
1028		2.2							
1029		1.7							
1030	-1.4								
1031	-1.7								
1032	-2.0								
1033	-2.4								
1034	-2.8								
1035	-3.5								
1036	-4.3								
1037	-5.0								
1038	-5.0								
1039	-4.4								
1040	-4.5								
1041	-4.4								
1042	-3.6								
1043	-2.8								
1044	-2.1								
1045	-1.8								
1046	-1.5								
1047		-1.4							
1048		-1.7							
1049		-2.3							
1050		-3.2							
1051		-3.8							
1052		-3.9							
1053		-3.4							
1054		-2.4							
1055		-1.7							
1056		-2.1							
1057		-2.6							
1058		-3.9							
1059		-1.1							
1134		0.2							
1135		0.6							
1136		1.1							
1137		1.5							
1138		1.8							
1139		1.7							
1140		1.6							
1141		-0.9							
1142		-1.4							
1143		-1.8							
1144		-2.2							
1145		-0.4							
1146		-0.3							
1147		-0.2							
1183		-0.1							
1184		-0.1							
1185		-0.1							
1186		-0.1							
1187		-0.1							
1188		0.0							
1189		0.1							
1190		0.1							
1191		0.1							
1192		0.1							
1193	-1.3	1.5							

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1194	-1.4	1.4							
1195	-1.3	1.0							
1196	-1.0	1.3							
1197	-0.6	1.3							
1198	-0.6	0.9							
1199	-0.3	0.4							
1200	-0.0	0.0							
1207	-0.0	-0.0							
1208	-0.2	-0.4							
1209	-0.5	-0.9							
1210	-0.9	-1.6							
1211	-1.2	-2.1							
1212	-1.3	-1.9							
1213	-1.3	-1.6							
1214	-1.3	-1.4							
1215		-0.6							
1216		-1.6							
1217		-3.9							
1218		-8.5							
1219		-1.7							
1221		-0.0							
1222		-0.1							
1225		-1.7							
1226		-1.7							
1227		-0.1							
1228		-7.4							
1229		-1.4							
1230		-1.4							
1231		-4.1							
1232		-5.9							
1233		-4.6							
1234		-0.9							
1235		-1.2							
1236		-0.1							
1237		-0.6							
1238		-1.3							
1239		-0.6							
1240		-1.8							
1241		-3.2							
1242		-6.9							
1243		-3.5							
1244		-5.9							
1245		-3.5							
1246		-4.3							
1247		-4.5							
1248		-2.8							
1249		-3.7							
1250		-3.7							
1251		-3.1							
1252		-1.8							
1253		-3.4							
1261		-2.8							
1262		-3.2							
1263		-5.0							
1264		-4.5							
1265		-3.7							
1266		-2.8							
1267		-1.3							

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1268		-1.7							
1269		-2.1							
1273		-0.4							
1274		-0.6							
1275		-0.4							
1276		-2.8							
1277		-2.7							
1279		-0.7							
1280		-0.1							
1281		-0.7							
1285		-0.6							
1286		-0.6							
1287		-2.3							
1288		-3.7							
1289		-5.0							
1292		-1.2							
1293		-0.5							
1294		-4.2							
1295		-7.4							
1296		-6.1							
1297		-6.4							
1298		-7.6							
1299		-0.6							
1300		-0.0							
1301		-0.6							
1302		-1.6							
1303		-2.5							
1306		-0.0							
1307		-1.5							
1308		-0.6							
1309		-4.0							
1311		-1.4							
1313		-2.1							
1314		-1.3							
1315		-0.5							
1317	-0.4								
1318	-3.2								
1319	-3.4								
1321	-0.3								
1322	-2.3								
1323	-4.1								
1325	-0.3								
1326	-3.1								
1327	-4.3								
1328	-0.6								
1329	-7.8								
1331	-2.8								
1332	-3.6								
1333	-0.2								
1334	-7.6								
1336	-1.5								
1337	-1.0								
1338	-3.7								
1340	-0.8								
1341	-2.1								
1342	-3.0								
1343	-5.9								
1344	-6.9								

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1345	-7.7								
1346	-7.6								
1347	-4.8								
1348	-4.8								
1349	-6.2								
1350	-1.5								
1351	-0.8								
1352	-1.5								
1353	-1.7								
1354	-1.3								
1355	-2.2								
1356	-0.9								
1357	-1.7								
1361	-3.4								
1362	-2.9								
1363	-2.9								
1364	-2.8								
1365	-3.3								
1366	-2.8								
1370	0.0								
1372	0.0								
1373	-0.4								
1374	0.0								
1375	-2.4								
1376	-3.4								
1377	-4.3								
1378	-3.1								
1379	-3.4								
1385	-3.2								
1386	-3.9								
1387	-4.3								
1388	-3.2								
1389	-0.7								
1390	-1.3								
1391	-2.4								
1393	0.0								
1396	-4.5								
1397	-3.8								
1398	-4.0								
1402	-6.1								
1403	-8.6								
1404	-8.1								
1405	-5.9								
1406	-5.1								
1408	-0.0								
1410	-2.6								
1411	-2.3								
1412	-2.4								
1413	-1.0								
1414	-0.3								
1415	-1.3								
1416	-1.2								
1417	-0.0								
1418	-0.1								
1419	-0.1								
1420	-1.4								
1421	-2.6								
1422	-1.4								

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1423	-0.0								
1424	-0.0								
1425	-2.6								
1426	-0.2								
1428	-3.3								
1429	-2.0								
1430	-2.7								
1433	-4.8								
1434	-7.3								
1435	-3.5								
1436	-4.5								
1437	-1.7								
1438	-1.6								
1439	-3.1								
1440	-3.4								
1441	0.0								
1443	-0.1								
1444	0.0								
1445	-1.4								
1446	-1.0								
1447	-5.2								
1448	-0.4								
1449	-2.8								
1450	-0.9								
1451	-0.2								
1452	-0.0								
1453	-0.5								
1454	-1.9								
1455	-0.0								
1456	-0.2								
1457		0.3							
1458		0.8							
1459		3.5							
1460		2.9							
1461		1.2							
1462		0.2							
1463		0.7							
1464		2.1							
1465		3.6							
1466		0.4							
1467		2.5							
1468		3.3							
1469		2.8							
1472		0.8							
1473		2.8							
1474		4.3							
1475		0.1							
1476		1.6							
1477		0.1							
1478		2.5							
1479		5.5							
1480		1.4							
1481		2.5							
1482		1.7							
1483		0.8							
1486		0.3							
1487		0.4							
1488		0.0							

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1489		2.9							
1490		1.0							
1491		1.5							
1495		1.2							
1496		0.6							
1497		0.5							
1498		3.3							
1499		3.3							
1500		3.2							
1504		1.1							
1505		0.4							
1506		0.6							
1507		2.1							
1508		3.9							
1509		2.9							
1510		3.0							
1511		4.6							
1512		3.5							
1513		4.6							
1514		4.8							
1515		2.6							
1516		3.1							
1517		3.4							
1518		3.1							
1519		3.7							
1520		4.1							
1521		0.0							
1522		0.8							
1523		2.9							
1524		4.5							
1525		3.5							
1526		2.1							
1527		2.2							
1528		4.8							
1529		4.6							
1530		4.8							
1534		2.6							
1535		3.5							
1539		3.7							
1540		2.9							
1541		3.9							
1542		3.2							
1543		4.1							
1544		0.4							
1545		0.2							
1546		0.4							
1547		2.7							
1548		2.4							
1549		2.3							
1550		2.6							
1551		2.0							
1552		2.6							
1553		4.5							
1554		0.2							
1555		0.3							
1556		0.1							
1557		0.2							
1558		1.3							

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1559		1.7							
1560		0.6							
1561		1.0							
1562		1.1							
1563		0.4							
1564		0.4							
1565		0.5							
1566		0.8							
1567		0.2							
1568		1.3							
1569		0.0							
1570		0.0							
1575		1.4							
sum	-351.8	-0.1							

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Load Case 1 (G) PP

Factor forces and moments		1.000
Factor dead weight	DL-ZZ	-1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Load Case 2 (G) CM

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	SAR 5						PG	2.50 [kN/m2]
						activated		100.00 percent
Area	SAR 6						PG	2.50 [kN/m2]
						activated		100.00 percent

Load Case 3 (Q) SCU

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.700 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.300 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	SAR 5						PG	1.00 [kN/m2]
						activated		100.00 percent
Area	SAR 6						PG	1.00 [kN/m2]
						activated		100.00 percent

Load Case 4 (S) N

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.500 (rare)
Combination coefficient	ψ_1	0.200 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	SAR 5						PG	0.20 [kN/m2]
						activated		100.00 percent
Area	SAR 6						PG	0.20 [kN/m2]
						activated		100.00 percent

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Calculation of forces and moments

Load Case 5 (W) Wx

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 2			13.482	12.005	2.760	PXX	-0.77 [kN/m2]
				13.482	12.005	4.060		-0.77 [kN/m2]
				13.482	5.005	4.060		-0.77 [kN/m2]
				13.482	5.005	2.760		-0.77 [kN/m2]
						activated		100.00 percent
Area	sar 7			10.482	12.005	2.760	PXX	-0.42 [kN/m2]
				10.482	12.005	4.060		-0.42 [kN/m2]
				10.482	5.005	4.060		-0.42 [kN/m2]
				10.482	5.005	2.760		-0.42 [kN/m2]
						activated		100.00 percent

Load Case 6 (W) Wy

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 3			13.482	5.005	2.760	PYY	0.77 [kN/m2]
				10.482	5.005	2.760		0.77 [kN/m2]
				10.482	5.005	4.060		0.77 [kN/m2]
				13.482	5.005	4.060		0.77 [kN/m2]
						activated		100.00 percent
Area	sar 1			13.482	12.005	2.760	PYY	0.38 [kN/m2]
				10.482	12.005	2.760		0.38 [kN/m2]
				10.482	12.005	4.060		0.38 [kN/m2]
				13.482	12.005	4.060		0.38 [kN/m2]
						activated		100.00 percent

Load Case 7 (G) Terreno

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Volume	QGRP 2			30.258	5.005	2.760	Pz	0.00 [kN/m2]
				30.258	5.005	-97.240		1320.00 [kN/m2]
						activated		100.00 percent
Volume	QGRP 1			30.258	39.284	2.760	Pz	0.00 [kN/m2]
				30.258	39.284	-97.240		1320.00 [kN/m2]

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Calculation of forces and moments

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
						activated		100.00 percent

Sum of Loadings

Loadcase	Σ(Loads) X[kN]	Y[kN]	Z[kN]	Designation
1	0.0	0.0	-954.3	PP
2	0.0	0.0	-87.5	CM
3	0.0	0.0	-35.0	SCU
4	0.0	0.0	-7.0	N
5	-10.8	0.0	0.0	Wx
6	0.0	4.5	0.0	Wy
7	-351.8	-0.1	0.0	Terreno

Sum of Reactions and Loadings

Loadcase	Σ(Reactions) X[kN]	Y[kN]	Z[kN]	Designation
	Σ(Loads)			
1	0.0	0.0	954.3	PP
	0.0	0.0	-954.3	
2	0.0	0.0	87.5	CM
	0.0	0.0	-87.5	
3	0.0	0.0	35.0	SCU
	0.0	0.0	-35.0	
4	0.0	0.0	7.0	N
	0.0	0.0	-7.0	
5	10.8	0.0	0.0	Wx
	-10.8	0.0	0.0	
6	0.0	-4.5	0.0	Wy
	0.0	4.5	0.0	
7	351.8	0.1	0.0	Terreno
	-351.8	-0.1	0.0	

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Superposition according to EHE Instrucción de hormigòn estructural 2008

Combination rule Number 100

SLS characteristic combination

Superposition according to manual MAXIMA formula 2.4

$$E_{d,rare} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus Q_{k,1} \oplus \sum_{i>1} \psi_{0,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS characteristic combination

Load Case selection and Actions

		Superposition Factors								
Act	Part	γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2			Designation
	LC							Fact	Type	
G	G	1.00	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	2							1.00	PERM	CM
	7							1.00	PERM	Terreno
Q	Q	1.00	0.00	1.00	0.70	0.50	0.30			variable load
	3							1.00	COND	SCU
S	Q	1.00	0.00	1.00	0.50	0.20	0.00			snow loading
	4							1.00	COND	N
W	Q	1.00	0.00	1.00	0.60	0.50	0.00			wind loading
	5							1.00	A10	Wx
	6							1.00	A10	Wy

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

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Combination rule Number 101

SLS frequent combination

Superposition according to manual MAXIMA formula 2.5

$$E_{d,frequ} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus \psi_{1,1} \cdot Q_{k,1} \oplus \sum_{i>1} \psi_{2,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS frequent combination

Load Case selection and Actions

		Superposition Factors								
Act	Part	γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2			Designation
	LC							Fact	Type	
G	G	1.00	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	2							1.00	PERM	CM
	7							1.00	PERM	Terreno
Q	Q	1.00	0.00	1.00	0.70	0.50	0.30			variable load
	3							1.00	COND	SCU
S	Q	1.00	0.00	1.00	0.50	0.20	0.00			snow loading
	4							1.00	COND	N
W	Q	1.00	0.00	1.00	0.60	0.50	0.00			wind loading
	5							1.00	A10	Wx
	6							1.00	A10	Wy

Act	action

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Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

Combination rule Number 102

SLS quasi-permanent combinatio

Superposition according to manual MAXIMA formula 2.7

$$E_{d,perm} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus \sum_{i\geq 1} \psi_{2,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS quasi-permanent combination

Load Case selection and Actions

		Superposition Factors								
Act	Part	γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2			Designation
	LC							Fact	Type	
G	G	1.00	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	2							1.00	PERM	CM
	7							1.00	PERM	Terreno
Q	Q	1.00	0.00	1.00	0.70	0.50	0.30			variable load
	3							1.00	COND	SCU
S	Q	1.00	0.00	1.00	0.50	0.20	0.00			snow loading
	4							1.00	COND	N
W	Q	1.00	0.00	1.00	0.60	0.50	0.00			wind loading
	5							1.00	A10	Wx
	6							1.00	A10	Wy

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

Combination rule Number 103

ULS fundamental combination

Superposition according to manual MAXIMA formula 2.1

$$E_d = E\left\{\sum_{j\geq 1} \gamma_{G,j} \cdot G_{k,j} \oplus \gamma_P \cdot P_k \oplus \gamma_{Q,1} \cdot Q_{k,1} \oplus \sum_{i>1} \gamma_{Q,i} \cdot \psi_{0,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type ULS fundamental combination

Load Case selection and Actions

		Superposition Factors								
Act	Part	γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2			Designation
	LC							Fact	Type	
G	G	1.35	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	2							1.00	PERM	CM
	7							1.00	PERM	Terreno
Q	Q	1.50	0.00	1.00	0.70	0.50	0.30			variable load
	3							1.00	COND	SCU
S	Q	1.50	0.00	1.00	0.50	0.20	0.00			snow loading

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Load Case selection and Actions

Act	Part	Superposition Factors γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2	Fact	Type	Designation
	LC									
	4							1.00	COND	N
W	Q	1.50	0.00	1.00	0.60	0.50	0.00			wind loading
	5							1.00	A10	Wx
	6							1.00	A10	Wy

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

Generated Load Cases

Number	Combination	Designation
1171	100	MAXR-UX NODE Nodal Displacements
1172	100	MINR-UX NODE Nodal Displacements
1173	100	MAXR-UY NODE Nodal Displacements
1174	100	MINR-UY NODE Nodal Displacements
1175	100	MAXR-UZ NODE Nodal Displacements
1176	100	MINR-UZ NODE Nodal Displacements
1177	100	MAXR-URX NODE Nodal Displacements
1178	100	MINR-URX NODE Nodal Displacements
1179	100	MAXR-URY NODE Nodal Displacements
1180	100	MINR-URY NODE Nodal Displacements
1181	100	MAXR-URZ NODE Nodal Displacements
1182	100	MINR-URZ NODE Nodal Displacements
1183	100	MAXR-URB NODE Nodal Displacements
1184	100	MINR-URB NODE Nodal Displacements
1271	101	MAXF-UX NODE Nodal Displacements
1272	101	MINF-UX NODE Nodal Displacements
1273	101	MAXF-UY NODE Nodal Displacements
1274	101	MINF-UY NODE Nodal Displacements
1275	101	MAXF-UZ NODE Nodal Displacements
1276	101	MINF-UZ NODE Nodal Displacements
1277	101	MAXF-URX NODE Nodal Displacements
1278	101	MINF-URX NODE Nodal Displacements
1279	101	MAXF-URY NODE Nodal Displacements
1280	101	MINF-URY NODE Nodal Displacements
1281	101	MAXF-URZ NODE Nodal Displacements
1282	101	MINF-URZ NODE Nodal Displacements
1283	101	MAXF-URB NODE Nodal Displacements
1284	101	MINF-URB NODE Nodal Displacements
1371	102	MAXP-UX NODE Nodal Displacements
1372	102	MINP-UX NODE Nodal Displacements
1373	102	MAXP-UY NODE Nodal Displacements
1374	102	MINP-UY NODE Nodal Displacements
1375	102	MAXP-UZ NODE Nodal Displacements
1376	102	MINP-UZ NODE Nodal Displacements
1377	102	MAXP-URX NODE Nodal Displacements
1378	102	MINP-URX NODE Nodal Displacements
1379	102	MAXP-URY NODE Nodal Displacements
1380	102	MINP-URY NODE Nodal Displacements
1381	102	MAXP-URZ NODE Nodal Displacements
1382	102	MINP-URZ NODE Nodal Displacements
1383	102	MAXP-URB NODE Nodal Displacements
1384	102	MINP-URB NODE Nodal Displacements
1301	102	MAXP-MXX QUAD Forces in Quadrilateral Elements

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Generated Load Cases

Number	Combination	Designation
1302	102	MINP-MXX QUAD Forces in Quadrilateral Elements
1303	102	MAXP-MYY QUAD Forces in Quadrilateral Elements
1304	102	MINP-MYY QUAD Forces in Quadrilateral Elements
1305	102	MAXP-MXY QUAD Forces in Quadrilateral Elements
1306	102	MINP-MXY QUAD Forces in Quadrilateral Elements
1307	102	MAXP-VX QUAD Forces in Quadrilateral Elements
1308	102	MINP-VX QUAD Forces in Quadrilateral Elements
1309	102	MAXP-VY QUAD Forces in Quadrilateral Elements
1310	102	MINP-VY QUAD Forces in Quadrilateral Elements
1311	102	MAXP-NXX QUAD Forces in Quadrilateral Elements
1312	102	MINP-NXX QUAD Forces in Quadrilateral Elements
1313	102	MAXP-NYY QUAD Forces in Quadrilateral Elements
1314	102	MINP-NYY QUAD Forces in Quadrilateral Elements
1315	102	MAXP-NXY QUAD Forces in Quadrilateral Elements
1316	102	MINP-NXY QUAD Forces in Quadrilateral Elements
1371	102	MAXP-SXT QUAD Forces in Quadrilateral Elements
1372	102	MINP-SXT QUAD Forces in Quadrilateral Elements
1373	102	MAXP-SYT QUAD Forces in Quadrilateral Elements
1374	102	MINP-SYT QUAD Forces in Quadrilateral Elements
1375	102	MAXPSXYT QUAD Forces in Quadrilateral Elements
1376	102	MINPSXYT QUAD Forces in Quadrilateral Elements
1377	102	MAXP-SXB QUAD Forces in Quadrilateral Elements
1378	102	MINP-SXB QUAD Forces in Quadrilateral Elements
1379	102	MAXP-SYB QUAD Forces in Quadrilateral Elements
1380	102	MINP-SYB QUAD Forces in Quadrilateral Elements
1381	102	MAXPSXYB QUAD Forces in Quadrilateral Elements
1382	102	MINPSXYB QUAD Forces in Quadrilateral Elements
1319	102	MAXPSIGT QUAD Stresses in Tendons
1320	102	MINPSIGT QUAD Stresses in Tendons
2151	103	MAX-PX NODE Supporting Forces in Nodes
2152	103	MIN-PX NODE Supporting Forces in Nodes
2153	103	MAX-PY NODE Supporting Forces in Nodes
2154	103	MIN-PY NODE Supporting Forces in Nodes
2155	103	MAX-PZ NODE Supporting Forces in Nodes
2156	103	MIN-PZ NODE Supporting Forces in Nodes
2157	103	MAX-MX NODE Supporting Forces in Nodes
2158	103	MIN-MX NODE Supporting Forces in Nodes
2159	103	MAX-MY NODE Supporting Forces in Nodes
2160	103	MIN-MY NODE Supporting Forces in Nodes
2161	103	MAX-MZ NODE Supporting Forces in Nodes
2162	103	MIN-MZ NODE Supporting Forces in Nodes
2191	103	MAX-MB NODE Supporting Forces in Nodes
2192	103	MIN-MB NODE Supporting Forces in Nodes
2163	103	MAX-PX BOUN Distributed Forces along Nodes
2164	103	MIN-PX BOUN Distributed Forces along Nodes
2165	103	MAX-PY BOUN Distributed Forces along Nodes
2166	103	MIN-PY BOUN Distributed Forces along Nodes
2167	103	MAX-PZ BOUN Distributed Forces along Nodes
2168	103	MIN-PZ BOUN Distributed Forces along Nodes
2169	103	MAX-M BOUN Distributed Forces along Nodes
2170	103	MIN-M BOUN Distributed Forces along Nodes
2101	103	MAX-MXX QUAD Forces in Quadrilateral Elements
2102	103	MIN-MXX QUAD Forces in Quadrilateral Elements
2103	103	MAX-MYY QUAD Forces in Quadrilateral Elements
2104	103	MIN-MYY QUAD Forces in Quadrilateral Elements
2105	103	MAX-MXY QUAD Forces in Quadrilateral Elements
2106	103	MIN-MXY QUAD Forces in Quadrilateral Elements
2107	103	MAX-VX QUAD Forces in Quadrilateral Elements
2108	103	MIN-VX QUAD Forces in Quadrilateral Elements

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Generated Load Cases

Number	Combination	Designation
2109	103	MAX-VY QUAD Forces in Quadrilateral Elements
2110	103	MIN-VY QUAD Forces in Quadrilateral Elements
2111	103	MAX-NXX QUAD Forces in Quadrilateral Elements
2112	103	MIN-NXX QUAD Forces in Quadrilateral Elements
2113	103	MAX-NYY QUAD Forces in Quadrilateral Elements
2114	103	MIN-NYY QUAD Forces in Quadrilateral Elements
2115	103	MAX-NXY QUAD Forces in Quadrilateral Elements
2116	103	MIN-NXY QUAD Forces in Quadrilateral Elements
2101	103	MAX-MXX QUAK Forces in Nodes
2102	103	MIN-MXX QUAK Forces in Nodes
2103	103	MAX-MYY QUAK Forces in Nodes
2104	103	MIN-MYY QUAK Forces in Nodes
2105	103	MAX-MXY QUAK Forces in Nodes
2106	103	MIN-MXY QUAK Forces in Nodes
2107	103	MAX-VX QUAK Forces in Nodes
2108	103	MIN-VX QUAK Forces in Nodes
2109	103	MAX-VY QUAK Forces in Nodes
2110	103	MIN-VY QUAK Forces in Nodes
2111	103	MAX-NXX QUAK Forces in Nodes
2112	103	MIN-NXX QUAK Forces in Nodes
2113	103	MAX-NYY QUAK Forces in Nodes
2114	103	MIN-NYY QUAK Forces in Nodes
2115	103	MAX-NXY QUAK Forces in Nodes
2116	103	MIN-NXY QUAK Forces in Nodes

```
+++++ warning no.  2034 in program MUEB ; input line:   58
 Element type QUAD Load Case 1, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   58
 Element type QUAD Load Case 2, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   58
 Element type QUAD Load Case 3, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   58
 Element type QUAD Load Case 4, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   58
 Element type QUAD Load Case 5, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   58
 Element type QUAD Load Case 6, does not contribute anything to the superposition
+++++ warning no.  2034 in program MUEB ; input line:   58
 Element type QUAD Load Case 7, does not contribute anything to the superposition
```

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design parameter list

Reinforcementparameter two layer reinforcement

Selection Grp no.	elem no.	distance d1-u d1-l [mm]	2.lay 2.lay [mm]	bar-diameter ds-u ds-l [mm]	2.lay 2.lay [mm]	crackwidth wk-u wk-l [mm]	2.lay 2.lay [mm]	steelstress sigsu sigsl [MPa]	2.lay 2.lay [MPa]	min.reinf. asu asl [cm2/m]	2.lay 2.lay [cm2/m]
default		-	-	-	-	-	-	-	-	-	-
1		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-
2		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-
5		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-

distance	upper / lower distance center of bar to surface
bar-diameter	upper / lower bar diameter
crackwidth	upper / lower required crack width
steelstress	upper / lower maximum steel stress in SLS check
min.reinf.	upper / lower minimum reinforcement

The reinforcement directions relate to the local coordinate system of
the elements and have to be plotted graphically.
With the input of a steel stress sigsu... the 'crack design according tables'
uses this given stress sigsu for the corresponding layer. With this input, the check can
be done for bar distances instead of bar diameters, see legend SLS control parameters.

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ULS design

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018
Loadcases have been calculated in the Ultimate Limit State
In BEMESS no additional load safety factor is applied.
The design uses the Baumann method.

Load Cases for the Design

Loadcase	factor	Designation
2101	1.000	MAX-MXX QUAD Forces in Quadrilat
2102	1.000	MIN-MXX QUAD Forces in Quadrilat
2103	1.000	MAX-MYY QUAD Forces in Quadrilat
2104	1.000	MIN-MYY QUAD Forces in Quadrilat
2105	1.000	MAX-MXY QUAD Forces in Quadrilat
2106	1.000	MIN-MXY QUAD Forces in Quadrilat
2107	1.000	MAX-VX QUAD Forces in Quadrilate
2108	1.000	MIN-VX QUAD Forces in Quadrilate
2109	1.000	MAX-VY QUAD Forces in Quadrilate
2110	1.000	MIN-VY QUAD Forces in Quadrilate
2111	1.000	MAX-NXX QUAD Forces in Quadrilat
2112	1.000	MIN-NXX QUAD Forces in Quadrilat
2113	1.000	MAX-NYY QUAD Forces in Quadrilat
2114	1.000	MIN-NYY QUAD Forces in Quadrilat
2115	1.000	MAX-NXY QUAD Forces in Quadrilat
2116	1.000	MIN-NXY QUAD Forces in Quadrilat
2151	1.000	MAX-PX NODE Supporting F Nodal reaction punching design
2152	1.000	MIN-PX NODE Supporting F Nodal reaction punching design
2153	1.000	MAX-PY NODE Supporting F Nodal reaction punching design
2154	1.000	MIN-PY NODE Supporting F Nodal reaction punching design
2155	1.000	MAX-PZ NODE Supporting F Nodal reaction punching design
2156	1.000	MIN-PZ NODE Supporting F Nodal reaction punching design
2157	1.000	MAX-MX NODE Supporting F Nodal reaction punching design
2158	1.000	MIN-MX NODE Supporting F Nodal reaction punching design
2159	1.000	MAX-MY NODE Supporting F Nodal reaction punching design
2160	1.000	MIN-MY NODE Supporting F Nodal reaction punching design
2161	1.000	MAX-MZ NODE Supporting F Nodal reaction punching design
2162	1.000	MIN-MZ NODE Supporting F Nodal reaction punching design
2191	1.000	MAX-MB NODE Supporting F Nodal reaction punching design
2192	1.000	MIN-MB NODE Supporting F Nodal reaction punching design

Material (EHE spanish code)

MAT	fck [MPa]	fc [MPa]	fctm [MPa]	fy [MPa]	ft [MPa]	minT	Type
1	25.00	21.25	2.56			0.20	
2				500.00	510.00		
3	30.00	25.50	2.90			0.20	

MAT material number
fck nominal strength of the concrete
fc strength of the concrete
fctm tensile strength of the concrete
fy yield stress reinforcing steel
ft tensile stress reinforcing steel
minT minimum transverse reinforcement
Type character of the loading

Design according to EHE spanish code
Reduction of FC in case of transvers tension = 25.0 [o/o]

Material-safety-factors:

MAT	concr SC1	SC2	steel SS1	SS2
1	1.50	1.50		
2			1.15	1.15
3	1.50	1.50		

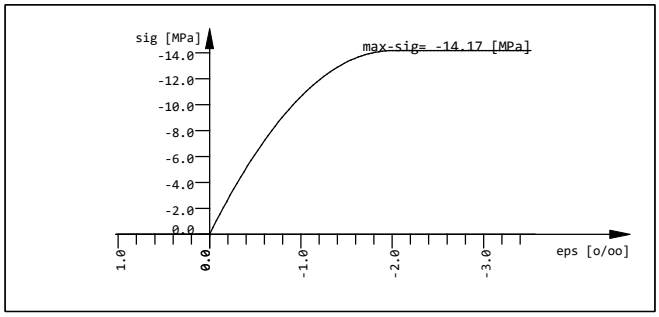
MAT material number
concr material safety SC1/SC2 = bending/compression
steel material safety steel bending/compression

At direct supports the shear force is linear reduced from 0.5*d up to the face of the support to 70%.

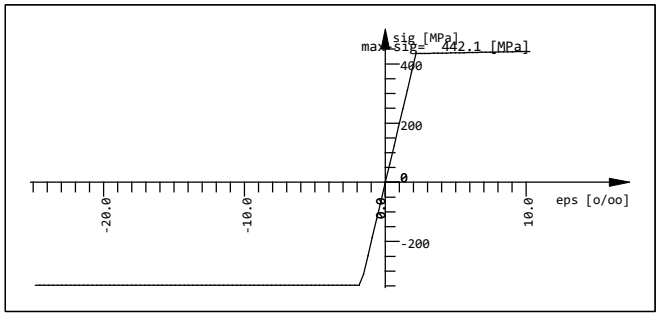
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ULS design

The maximum shear capacity is checked at the face of the support without reduction.
For punching design, the longitudinal reinforcement will be increased up to 1.50%
to avoid shear reinforcement [input PUNC...RO_V].
Outside the punching area, the normal slab shear design may increase the
longitudinal reinforcement up to 0.20% [input CTRL...RO_V].



Used work law Mno: 1 (first concrete)



Used work law Mno: 2 (first steel)

Reinforcementparameter two layer reinforcement

Selection Grp no.	elem no.	distance d1-u d1-l [mm]	2.lay 2.lay [mm]	bar-diameter ds-u ds-l [mm]	2.lay 2.lay [mm]	crackwidth wk-u wk-l [mm]	2.lay 2.lay [mm]	steelstress sigsu sigsl [MPa]	2.lay 2.lay [MPa]	min.reinf. asu asl [cm2/m]	2.lay 2.lay [cm2/m]
default		-	-	-	-	-	-	-	-	-	-
1		35.0	47.0	12	12	-	-	-	-	-	-
		35.0	47.0	12	12	-	-	-	-	-	-
2		35.0	47.0	12	12	-	-	-	-	-	-
		35.0	47.0	12	12	-	-	-	-	-	-
5		35.0	47.0	12	12	-	-	-	-	-	-
		35.0	47.0	12	12	-	-	-	-	-	-

distance upper / lower distance center of bar to surface
bar-diameter upper / lower bar diameter
crackwidth upper / lower required crack width
steelstress upper / lower maximum steel stress in SLS check
min.reinf. upper / lower minimum reinforcement

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The reinforcement directions relate to the local coordinate system of
the elements and have to be plotted graphically.
The design takes a uniform element thickness of 0.300 [m].
Over columns a greater element height is taken into account
The reinforcement is saved in the data base as reinforcement distribution number 1

Required Reinforcements acc. to EHE spanish code

Grp	Element	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
1	10228	0.300	0.61	1.23					0.71	1	
	10231	0.300	1.03	0.42					0.00	1	
5	50171	0.300	0.16	0.78		0.81	1.65			1	
	50220	0.300	0.09	0.47		0.90	1.07		0.82	1	

Grp primary group number
Element element number
t plate thickness
asu Principal reinforcements (1st layer) Top
asu2 Cross reinforcements (2nd layer) Top
asu3 Third reinforcements Top
asl Principal reinforcements (1st layer) Bottom
asl2 Cross reinforcements (2nd layer) Bottom
asl3 Third reinforcements Bottom
supp reduction factor for the shear force near supports, punc=point in punching zone -> punching shear design
shear shear zone: 1=Ok, 1s=asu/l increased for shear, 1d=for punching, 2=required ass, 2m=minimum shear reinforcement
ass Shear reinforcement
Elements with maximum values are printed

Required Reinforcements acc. to EHE spanish code at nodes

Grp	Node	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
1	1188	0.300	1.05	1.88					0.00	1	
5	1104	0.300	0.22	1.08		0.75	1.93		0.00	1	
	1111	0.300	0.07	0.36		0.93	0.95		0.00	1	

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ULS design

Required Reinforcements acc. to EHE spanish code at nodes

Grp	Node	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
5	1167	0.300	1.38	0.53					0.00	1	
	1188	0.300	0.45	2.06					0.00	1	

Grp primary group number
Node Number
t plate thickness
asu Principal reinforcements (1st layer) Top
asu2 Cross reinforcements (2nd layer) Top
asu3 Third reinforcements Top
asl Principal reinforcements (1st layer) Bottom
asl2 Cross reinforcements (2nd layer) Bottom
asl3 Third reinforcements Bottom
supp reduction factor for the shear force near supports, punc=point in punching zone -> punching shear design
shear shear zone: 1=Ok, 1s=asu/l increased for shear, 1d=for punching, 2=required ass, 2m=minimum shear reinforcement
ass Shear reinforcement
Elements with maximum values are printed

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SLS design

Maximum of reinforcement-distributions

The maximum reinforcement is build of the actual design and the previous distribution 1
and stored as new reinforcement-distribution 2 .
For the SLS stress results only the result of the actual desing is stored, not the maximum.
For a maximum of SLS stresses please use a pure superposition run without design.

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018
Loadcases have been calculated in the Serviceability State
In BEMESS no additional load safety factor is applied.
The design uses the Baumann method.

Load Cases for the Design

Loadcase	factor	Designation
1301	1.000	MAXP-MXX QUAD Forces in Quadrila
1302	1.000	MINP-MXX QUAD Forces in Quadrila
1303	1.000	MAXP-MYY QUAD Forces in Quadrila
1304	1.000	MINP-MYY QUAD Forces in Quadrila
1305	1.000	MAXP-MXY QUAD Forces in Quadrila
1306	1.000	MINP-MXY QUAD Forces in Quadrila
1307	1.000	MAXP-VX QUAD Forces in Quadrilat
1308	1.000	MINP-VX QUAD Forces in Quadrilat
1309	1.000	MAXP-VY QUAD Forces in Quadrilat
1310	1.000	MINP-VY QUAD Forces in Quadrilat
1311	1.000	MAXP-NXX QUAD Forces in Quadrila
1312	1.000	MINP-NXX QUAD Forces in Quadrila
1313	1.000	MAXP-NYY QUAD Forces in Quadrila
1314	1.000	MINP-NYY QUAD Forces in Quadrila
1315	1.000	MAXP-NXY QUAD Forces in Quadrila
1316	1.000	MINP-NXY QUAD Forces in Quadrila
1371	1.000	MAXP-SXT QUAD Forces in + Nodal reaction punching design
1372	1.000	MINP-SXT QUAD Forces in + Nodal reaction punching design
1373	1.000	MAXP-SYT QUAD Forces in + Nodal reaction punching design
1374	1.000	MINP-SYT QUAD Forces in + Nodal reaction punching design
1375	1.000	MAXPSXYT QUAD Forces in + Nodal reaction punching design
1376	1.000	MINPSXYT QUAD Forces in + Nodal reaction punching design
1377	1.000	MAXP-SXB QUAD Forces in + Nodal reaction punching design
1378	1.000	MINP-SXB QUAD Forces in + Nodal reaction punching design
1379	1.000	MAXP-SYB QUAD Forces in + Nodal reaction punching design
1380	1.000	MINP-SYB QUAD Forces in + Nodal reaction punching design
1381	1.000	MAXPSXYB QUAD Forces in + Nodal reaction punching design
1382	1.000	MINPSXYB QUAD Forces in + Nodal reaction punching design
1383	1.000	MAXP-URB NODE Nodal Disp Nodal reaction punching design
1384	1.000	MINP-URB NODE Nodal Disp Nodal reaction punching design

Material (EHE spanish code)

MAT	fck [MPa]	fc [MPa]	fctm [MPa]	fy [MPa]	ft [MPa]	minT	Type
1	25.00	21.25	2.56			0.20	
2				500.00	510.00		
3	30.00	25.50	2.90			0.20	

MAT	material number	fy	yield stress reinforcing steel
fck	nominal strength of the concrete	ft	tensile stress reinforcing steel
fc	strength of the concrete	minT	minimum transverse reinforcement
fctm	tensile strength of the concrete	Type	character of the loading

Design according to EHE spanish code

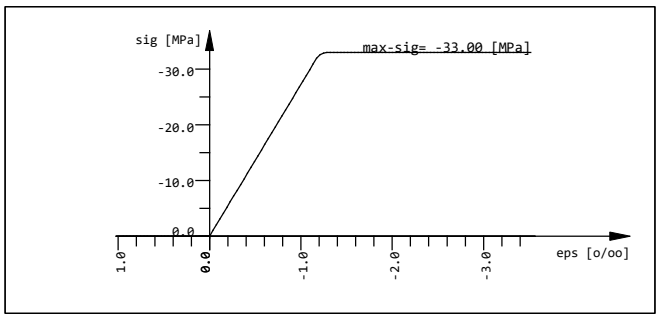
A robustness minimum reinforcement has not been requested [MREI] and
has to be checked separately.

A minimum reinforcement has not been requested [MREI] and

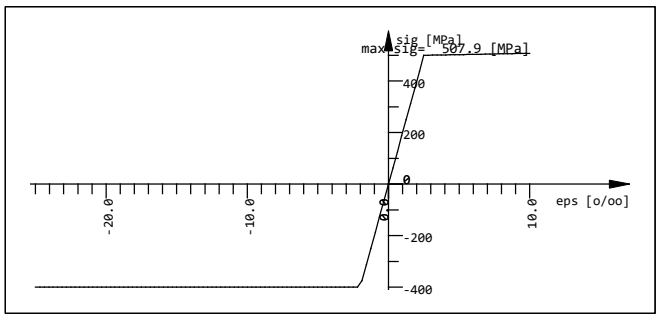
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21226-Nuevo Depósito Formentera Caseta
SLS design

has to be checked separately.



Used work law Mno: 1 (first concrete)



Used work law Mno: 2 (first steel)

Reinforcementparameter two layer reinforcement

Selection Grp no.	elem no.	distance d1-u d1-l [mm]	2.lay 2.lay [mm]	bar-diameter ds-u ds-l [mm]	2.lay 2.lay [mm]	crackwidth wk-u wk-l [mm]	2.lay 2.lay [mm]	steelstress sigsu sigsl [MPa]	2.lay 2.lay [MPa]	min.reinf. asu asl [cm2/m]	2.lay 2.lay [cm2/m]
default		-	-	-	-	-	-	-	-	-	-
1		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-
2		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-
5		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-

distance upper / lower distance center of bar to surface
bar-diameter upper / lower bar diameter
crackwidth upper / lower required crack width
steelstress upper / lower maximum steel stress in SLS check
min.reinf. upper / lower minimum reinforcement

The reinforcement directions relate to the local coordinate system of
the elements and have to be plotted graphically.
With the input of a steel stress sigsu... the 'crack design according tables'
uses this given stress sigsu for the corresponding layer. With this input, the check can
be done for bar distances instead of bar diameters, see legend SLS control parameters.
The design takes a uniform element thickness of 0.300 [m].
Over columns a greater element height is taken into account

Serviceability limit state control parameters

No	Code	dNW [mm]	
1	EN-1992	->para	steel stress limitation acc. tables

Reinforcement has been increased by SLS design -> WINGRAF: Decisive design check✓

dNW Check diameter in crack width design: ->para = values from design parameter definition
591 elements/nodes were designed with the bar diameter in the crack check (table EN 1992-1-1 7.2N)

Design via bar spacing/steel stress for elements with defined steel stress!
(In this case the maximum bar distance has to keep the condition of
table bar diameter according to the choosen steel stress).
Crack design via bar diameter for elements without defined steel stress!

Required Reinforcements acc. to EHE spanish code

Grp	Element	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
0	10228	0.300	0.61	1.23							
	10231	0.300	1.03	0.42							
	50171	0.300	0.16	0.78		0.81	1.65				
	50220	0.300	0.09	0.47		0.90	1.07				

Grp primary group number
Element element number
t plate thickness
asu Principal reinforcements (1st layer) Top
asu2 Cross reinforcements (2nd layer) Top
asu3 Third reinforcements Top
asl Principal reinforcements (1st layer) Bottom
asl2 Cross reinforcements (2nd layer) Bottom
asl3 Third reinforcements Bottom

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21226-Nuevo Depósito Formentera Caseta
SLS design

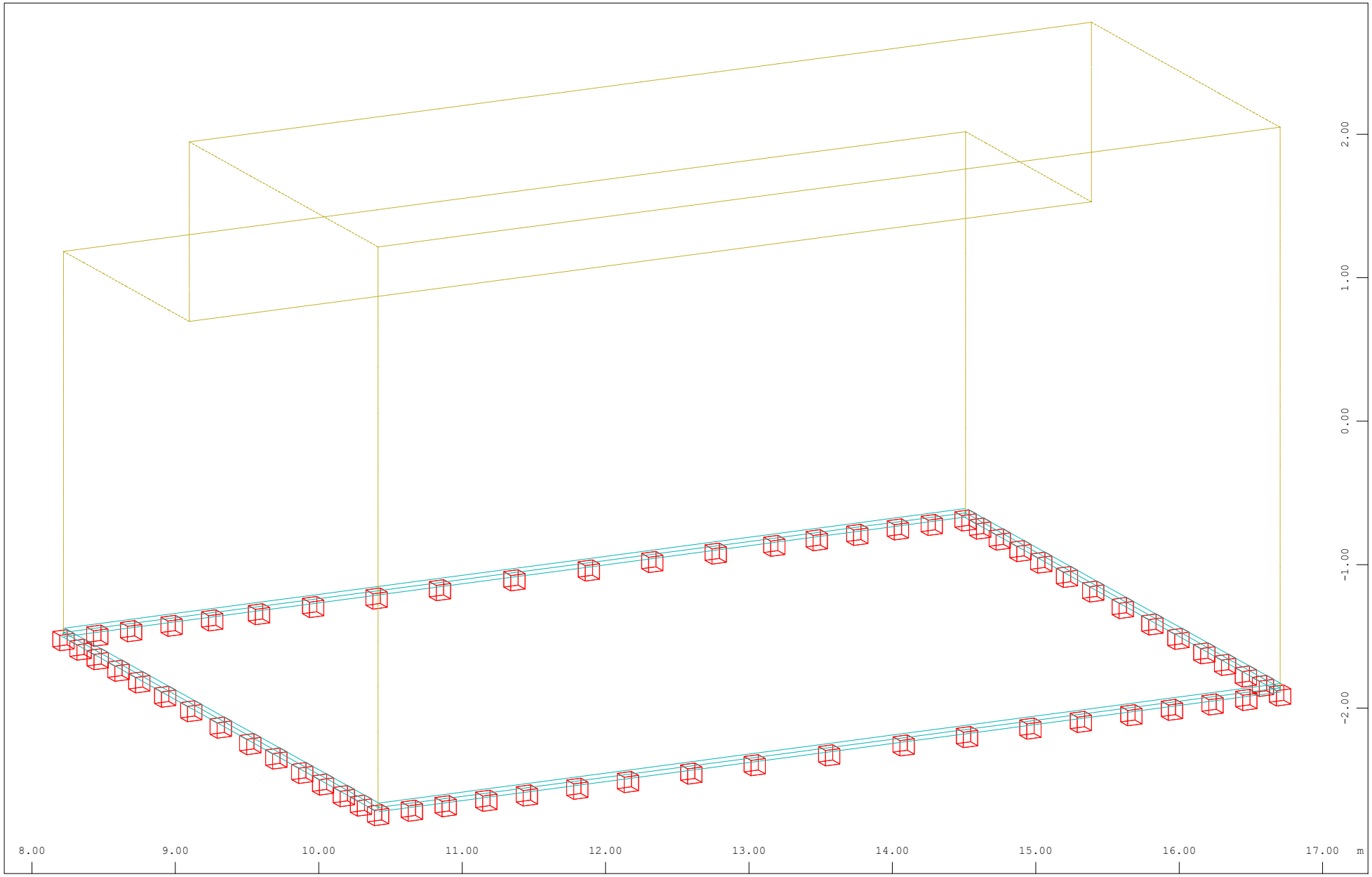
supp	reduction factor for the shear force near supports, punc=point in punching zone -> punching shear design
shear	shear zone: 1=Ok, 1s=asu/l increased for shear, 1d=for punching, 2=required ass, 2m=minimum shear reinforcement
ass	in a SLS design no shear design is done
	Elements with maximum values are printed

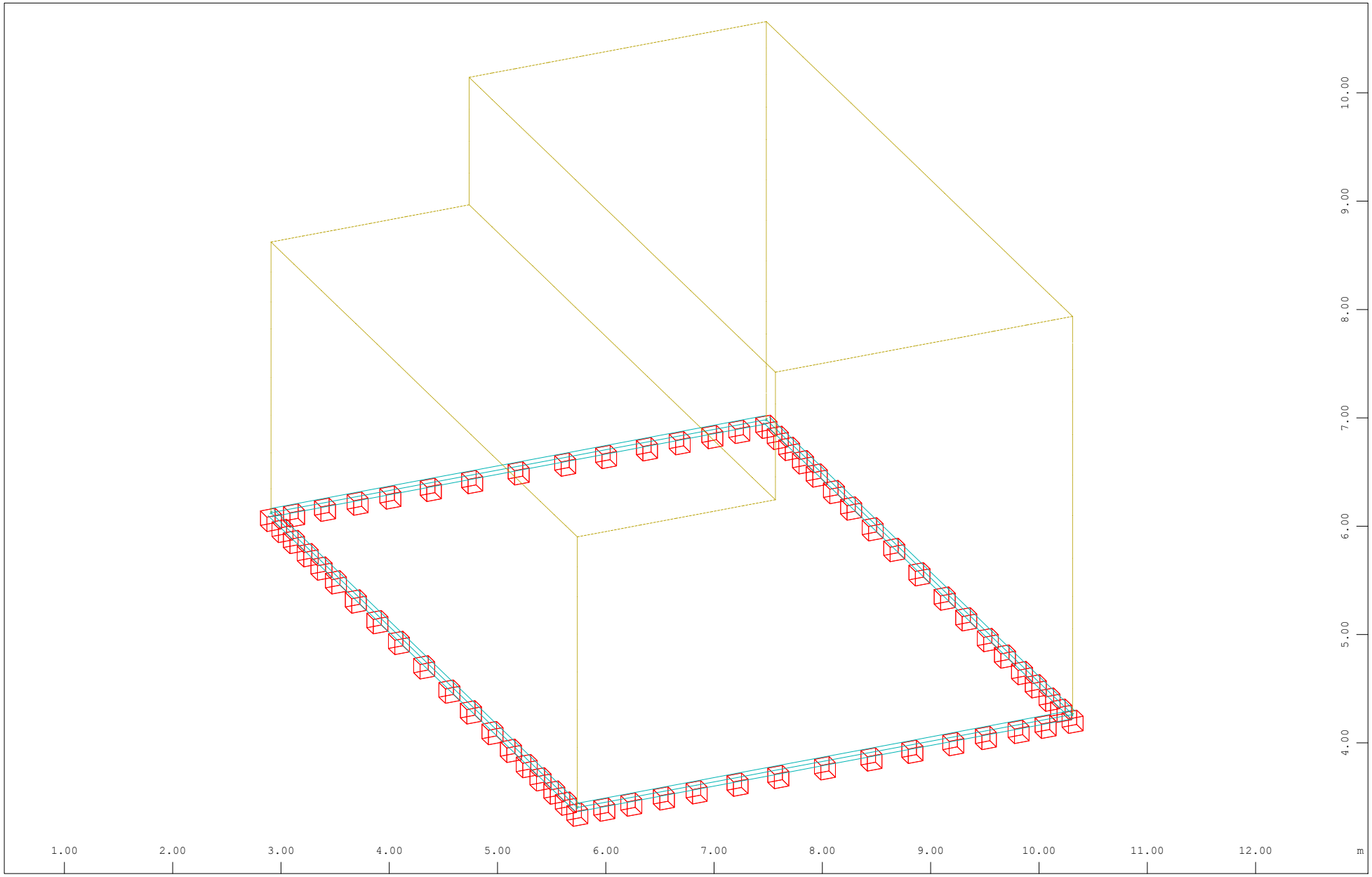
Serviceability load results

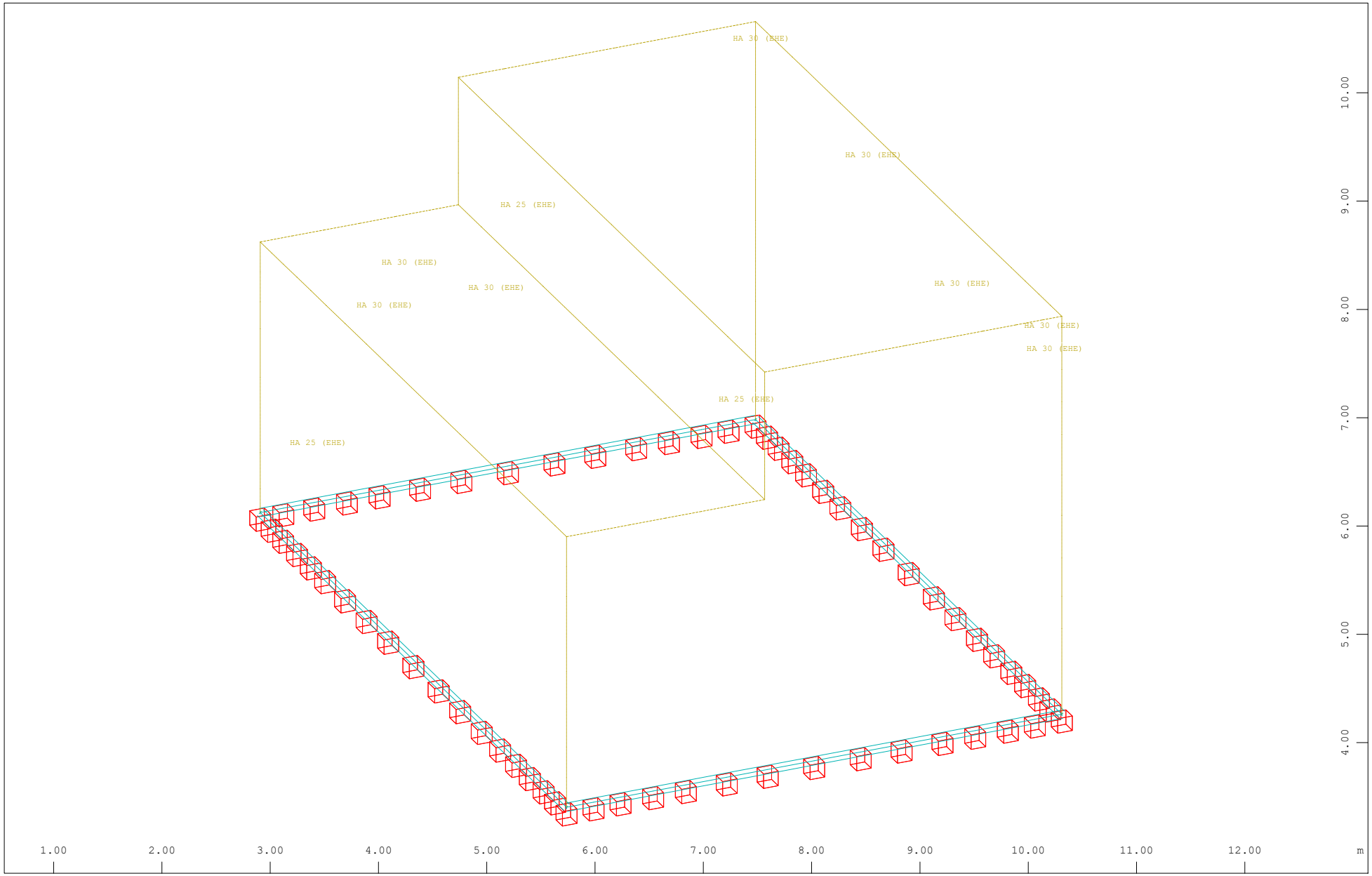
ELEM No	LC No	x [m]	wk [mm]	as1	as2	as3	d1 [mm]	d2 [mm]	d3 [mm]	wk+ [mm]	as1+	as2+	as3+
10228	1301 U		>0.20	0.61	1.23		12	12		0.20	0.91	2.12	
	1302 U		>0.20	0.61	1.23		12	12		0.20	0.92	2.15	
10231	1301 U		>0.20	1.03	0.42		12	12		0.20	1.50	0.75	
	1302 U		>0.20	1.03	0.42		12	12		0.20	1.53	0.76	
50170	1301 L		>0.40	0.85	1.61		12	12		0.40	0.90	2.01	
50171	L		>0.40	0.81	1.65		12	12		0.40	0.86	2.06	

x	height of compression zone
wk	crack width before increase of reinforcement
as1	reinforcement 1. layer before increase of reinforcement
as2	reinforcement 2. layer before increase of reinforcement
as3	reinforcement 3. layer before increase of reinforcement
d1	reinforcement diameter layer 1-3
wk+	crack width after increase of reinforcement
as1+	reinforcement after increase of reinforcement layer 1-3
	Elements with maximum values are printed

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2.00
1.00
0.00
-1.00
-2.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
m
Z
Y
X
Contour
M 1 : 37
X * 0.502
Y * 0.906
Z * 0.962

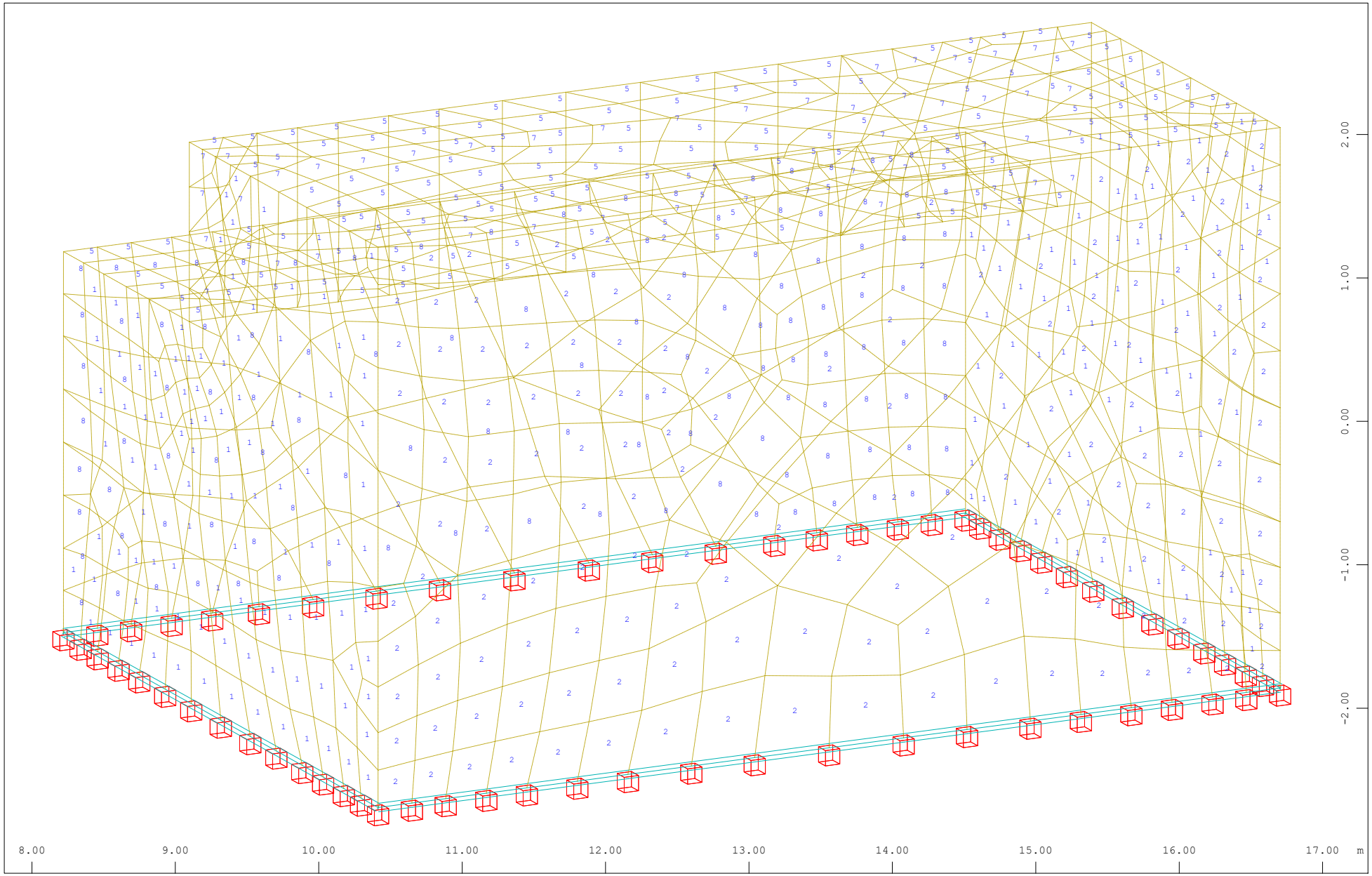

10.00
9.00
8.00
7.00
6.00
5.00
4.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
m
Contour
Z
Y
X
M 1 : 49
X * 0.931
Y * 0.561
Z * 0.905



Quadrilateral Elements , Material designations

Z
Y
X

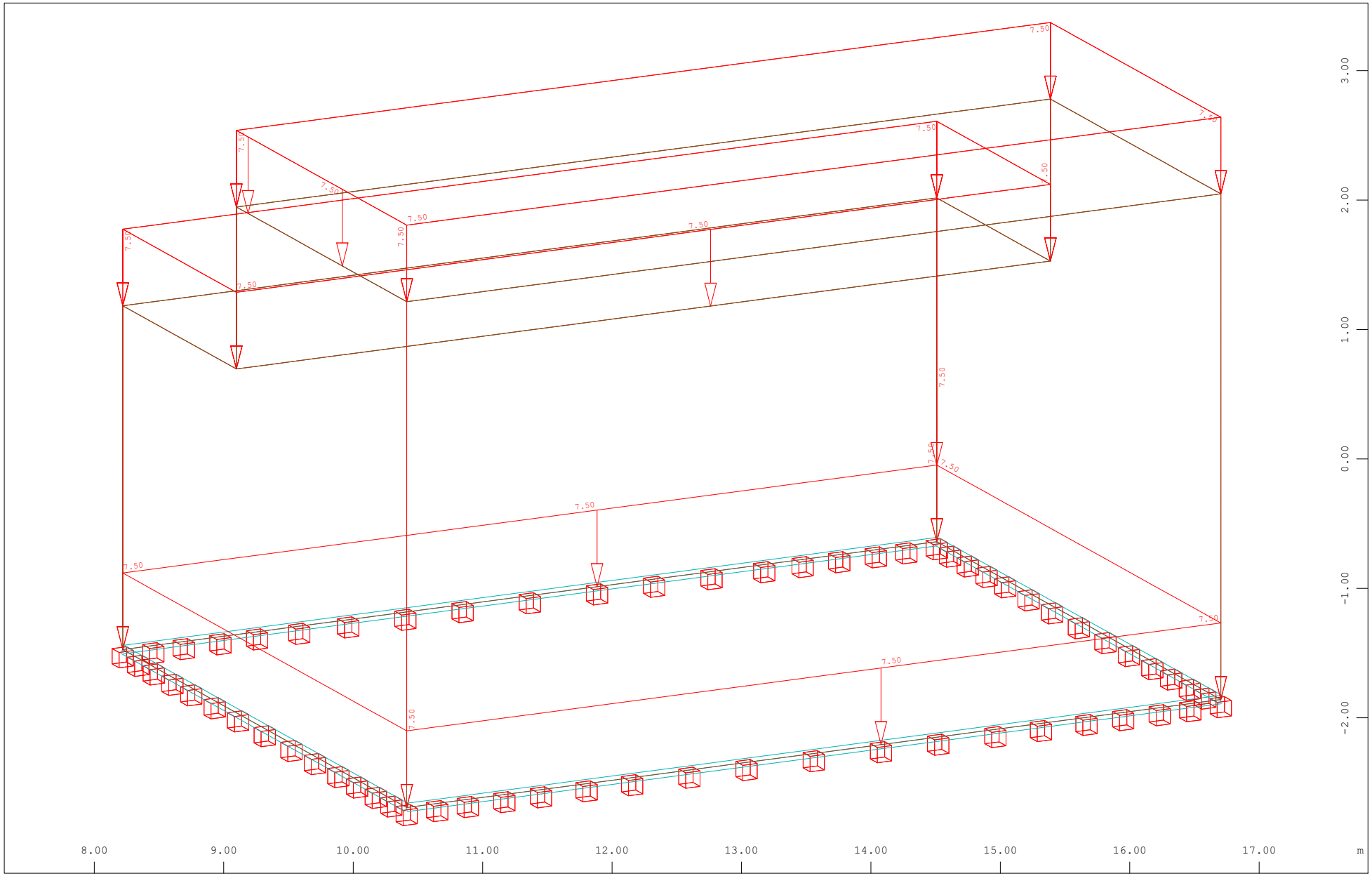
M 1 : 49
X * 0.931
Y * 0.561
Z * 0.905



Z
Y
X

Quadrilateral Elements , Number of group (Max=8)

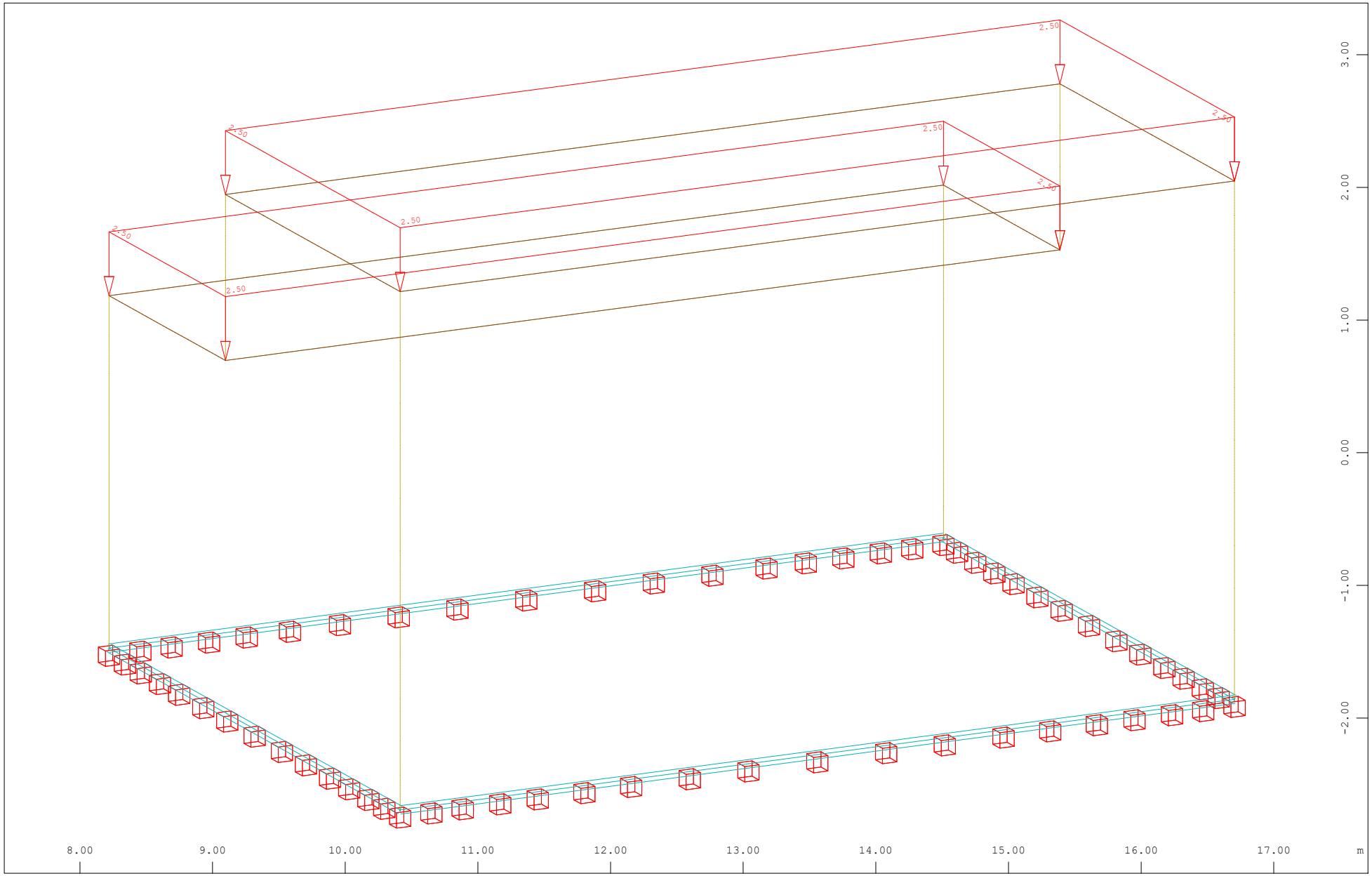
M 1 : 37
X * 0.502
Y * 0.906
Z * 0.962



Area load, Loadcase 1 PP , (1 cm 3D = unit) QUAD-Area dead load in global Z in Element (Unit=5.00 kN/m2) (Min=-7.50) (Max=-7.50)

M 1 : 41

X * 0.502
Y * 0.906
Z * 0.962

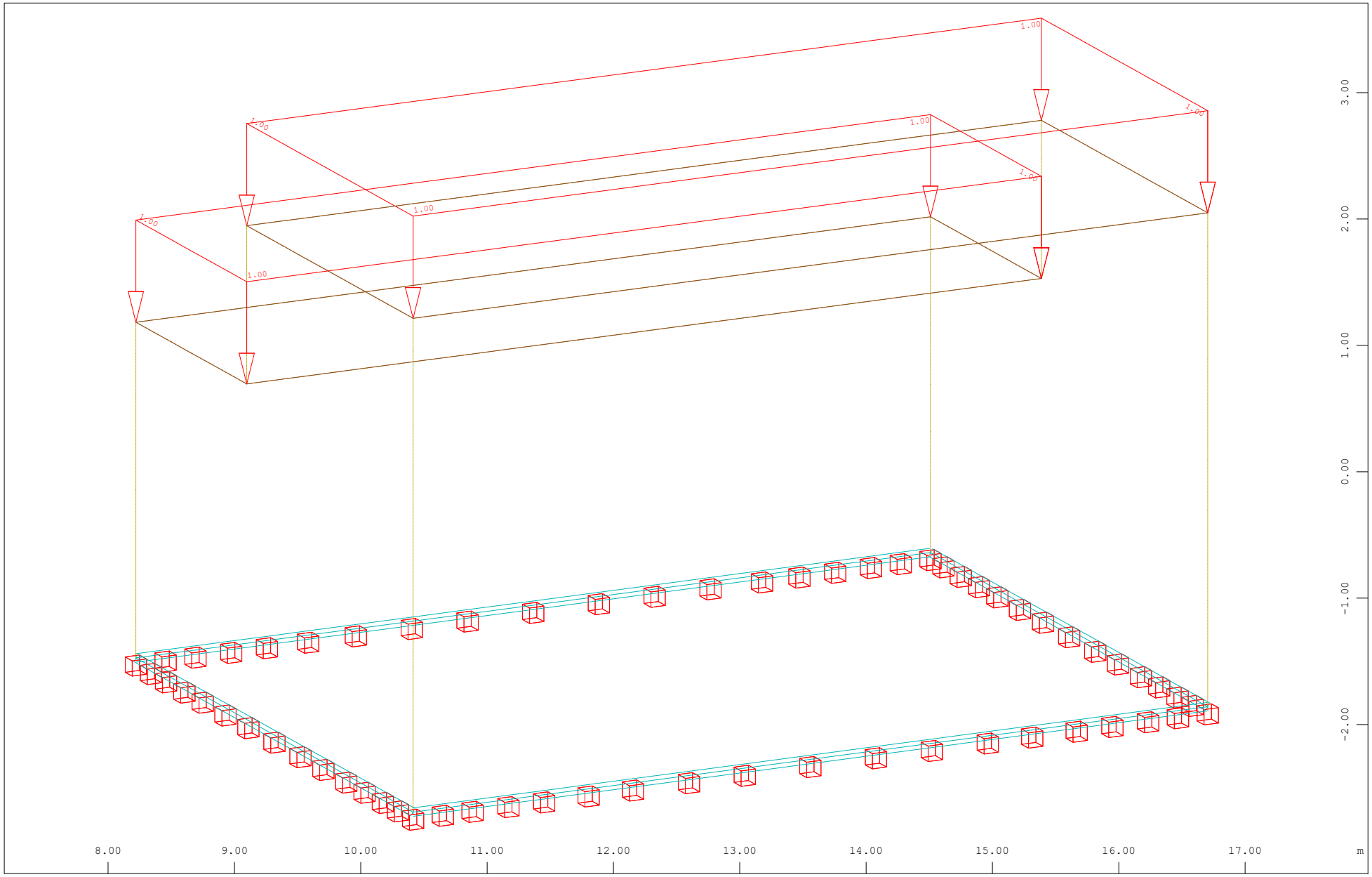


Z
Y
X

Area load, Loadcase 2 CM , (1 cm 3D = unit) Area element load (force) in global Z (Unit=2.00 kN/m2) (Min=-2.50) (Max=-2.50)

M 1 : 40

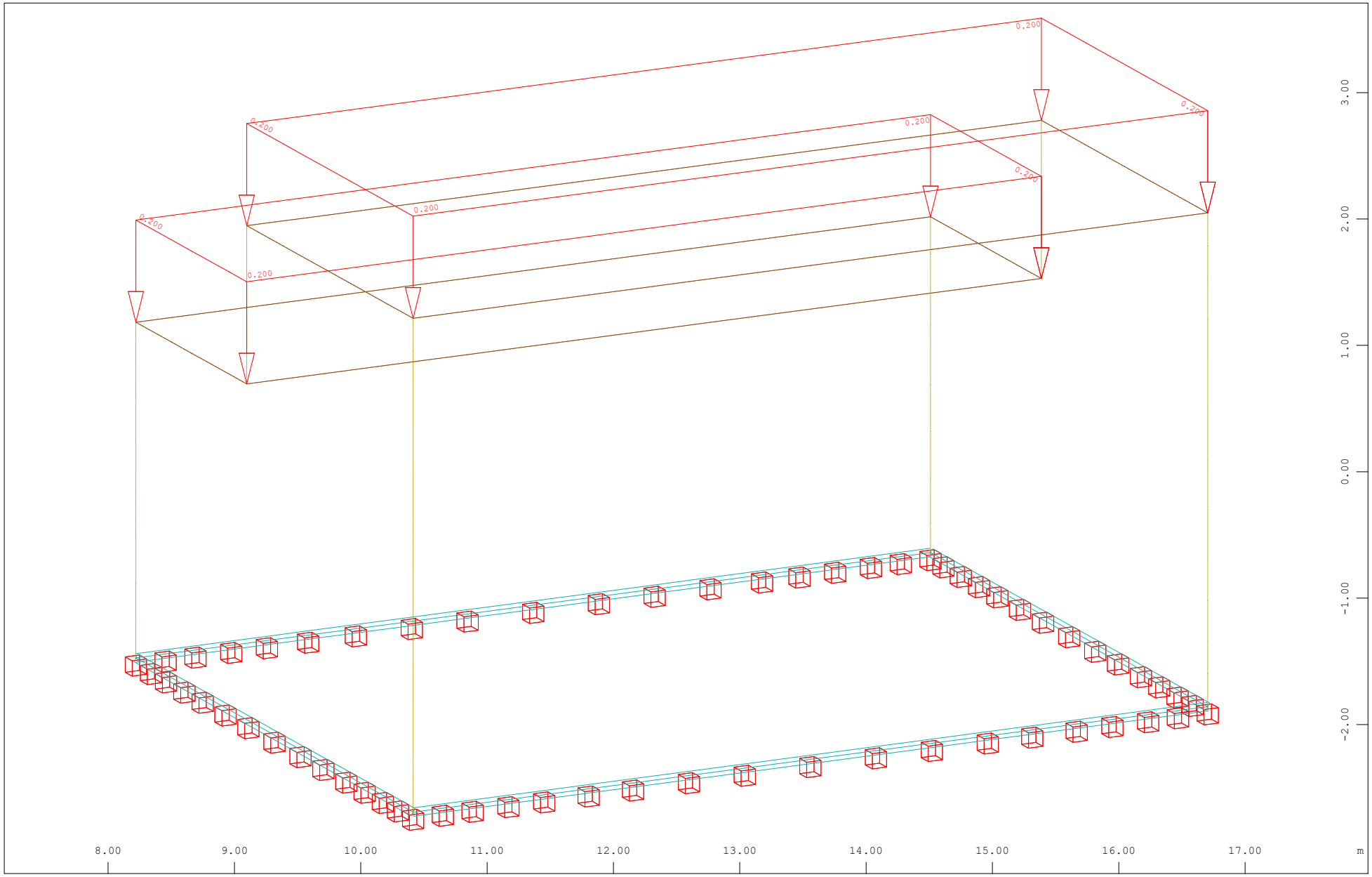
X * 0.502
Y * 0.906
Z * 0.962



Z
Y
X

Area load, Loadcase 3 SCU , (1 cm 3D = unit) Area element load (force) in global Z (Unit=0.500 kN/m2) (Min=-1.00) (Max=-1.00)

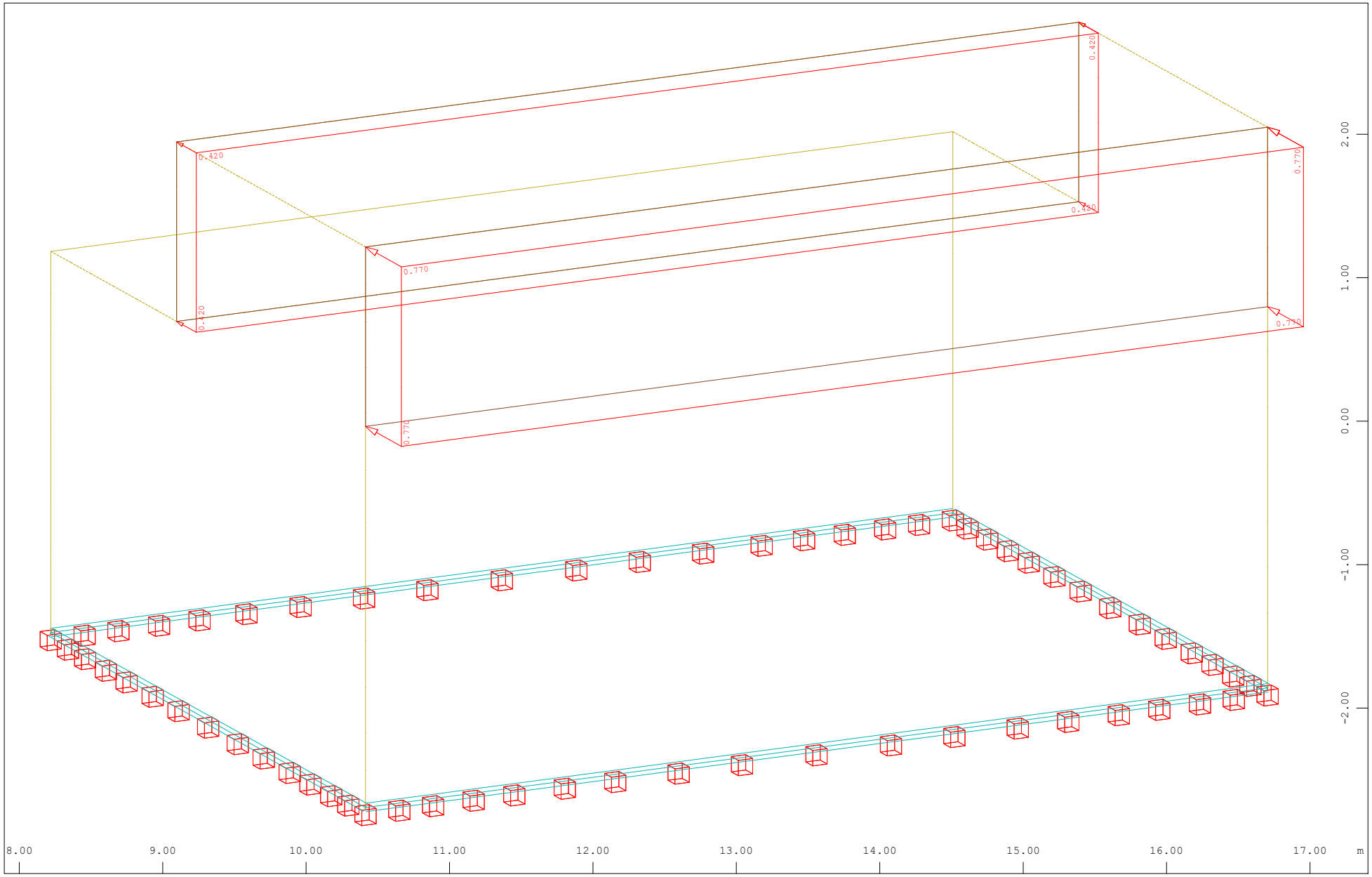
M 1 : 42
X * 0.502
Y * 0.906
Z * 0.962



Z
Y
X

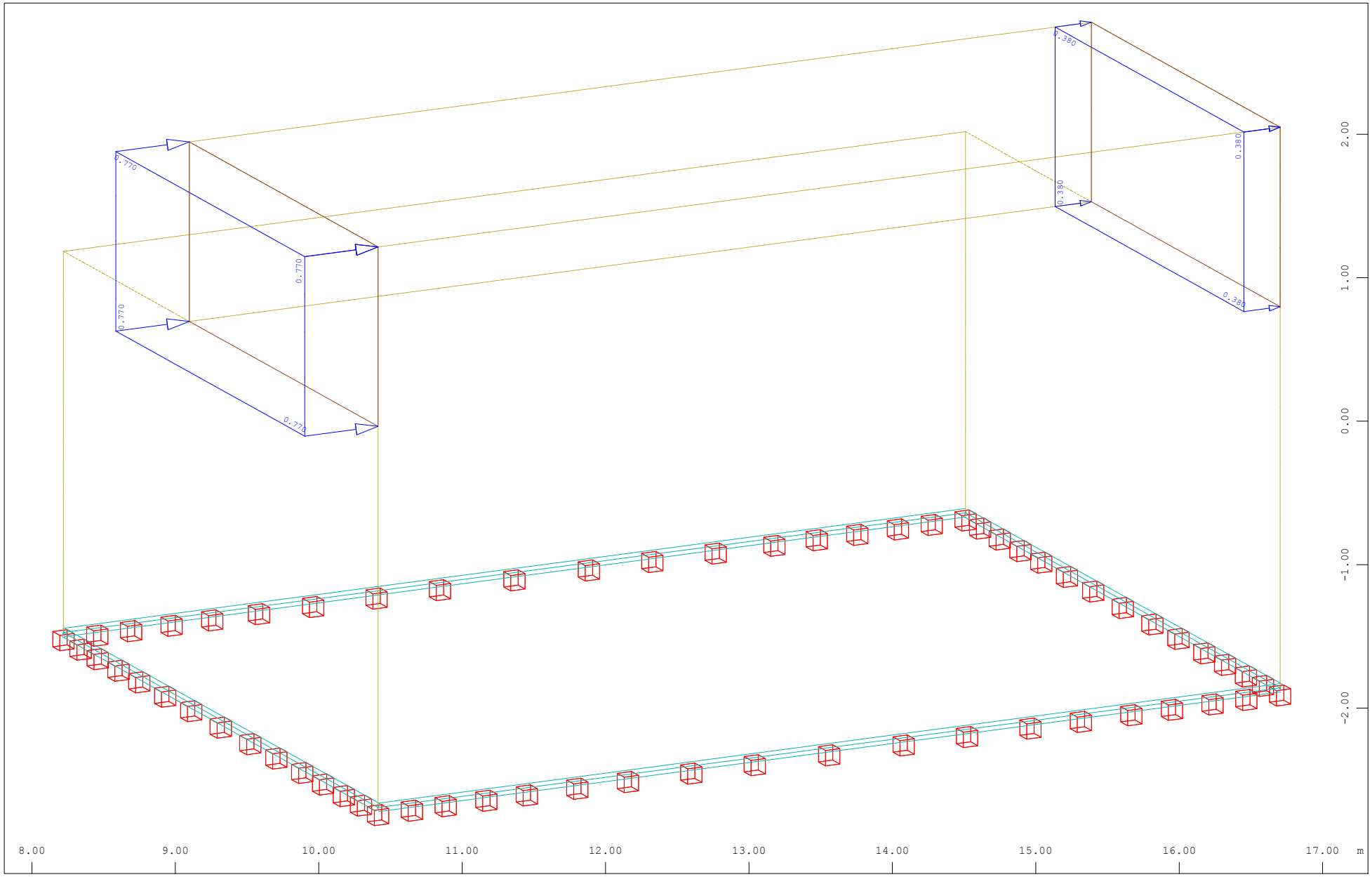
Area load, Loadcase 4 N , (1 cm 3D = unit) Area element load (force) in global Z (Unit=0.100 kN/m2) (Min=-0.200) (Max=-0.200)

M 1 : 42
X * 0.502
Y * 0.906
Z * 0.962



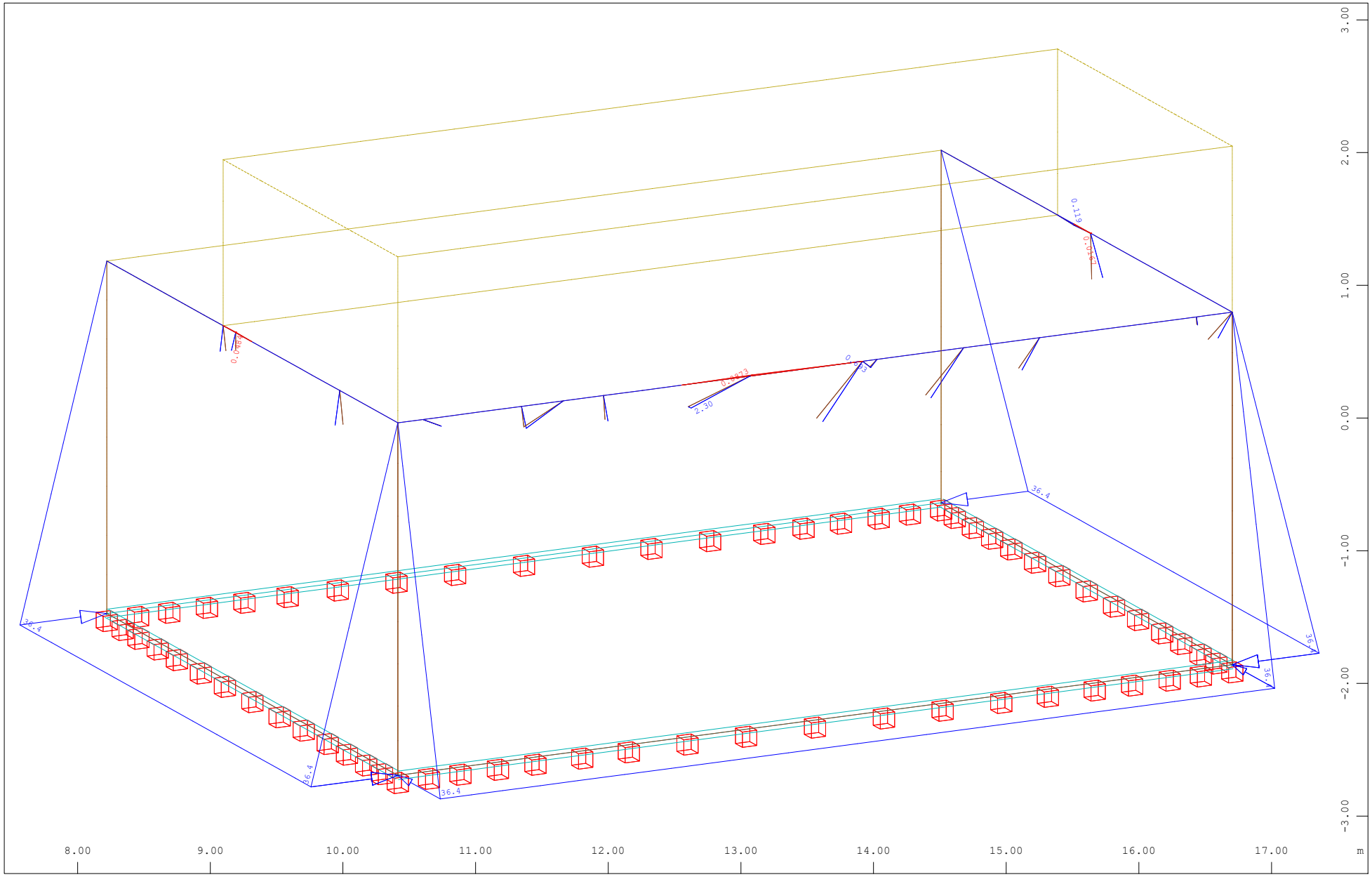
Area load, Loadcase 5 Wx , (1 cm 3D = unit) (force) in global X (Unit=0.500 kN/m2) (Min=-0.770) (Max=-0.420)

M 1 : 37
X * 0.502
Y * 0.906
Z * 0.962



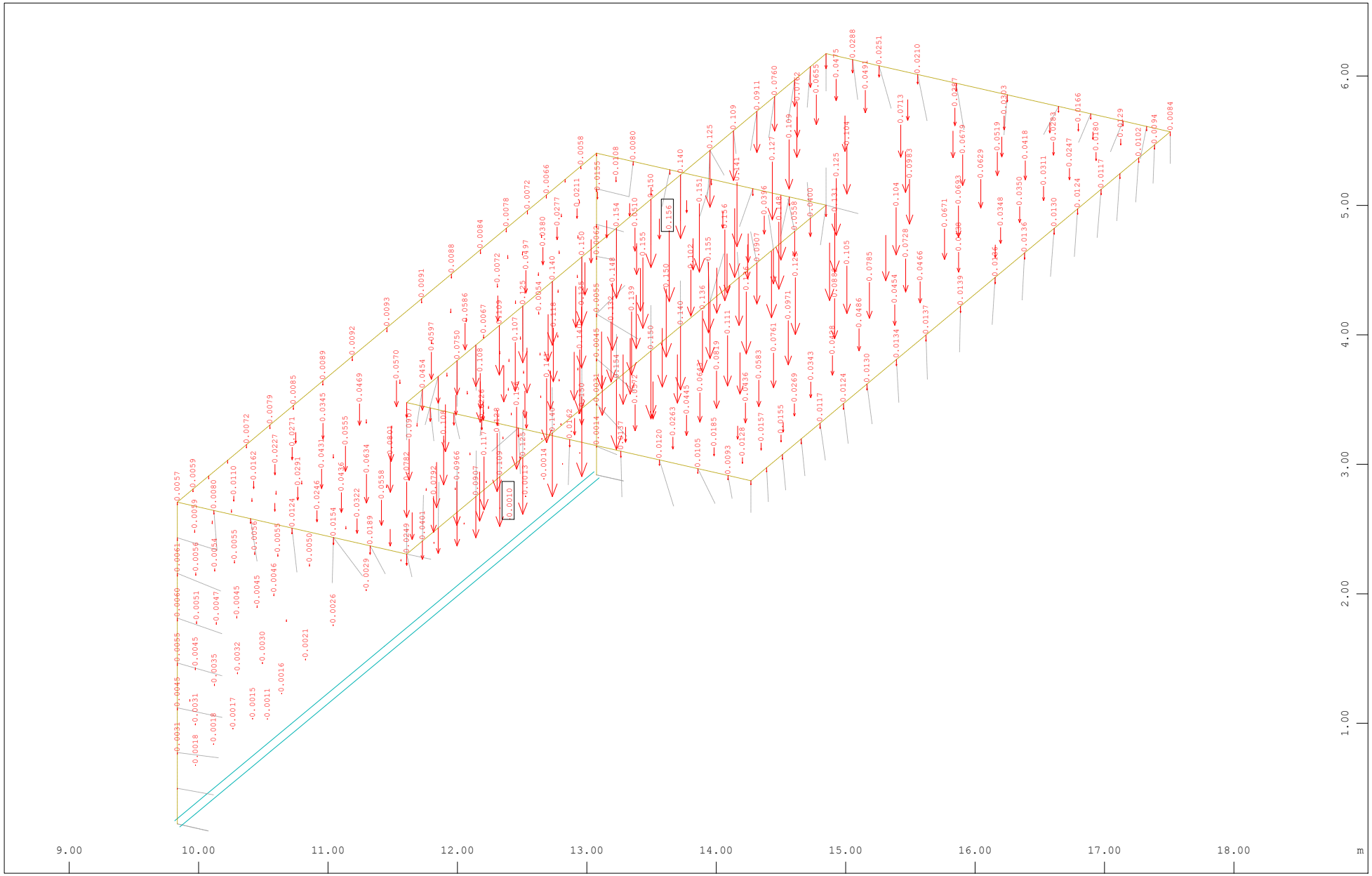
Area load, Loadcase 6 Wy , (1 cm 3D = unit) (force) in global Y (Unit=0.500 kN/m2) (Max=0.770)

M 1 : 37
X * 0.502
Y * 0.906
Z * 0.962



Area load, Loadcase 7 Terreno , (1 cm 3D = unit) (force) in local z (Unit=20.0 kN/m2) (Min=-0.0873) (Max=36.4)

M 1 : 40
X * 0.502
Y * 0.906
Z * 0.962



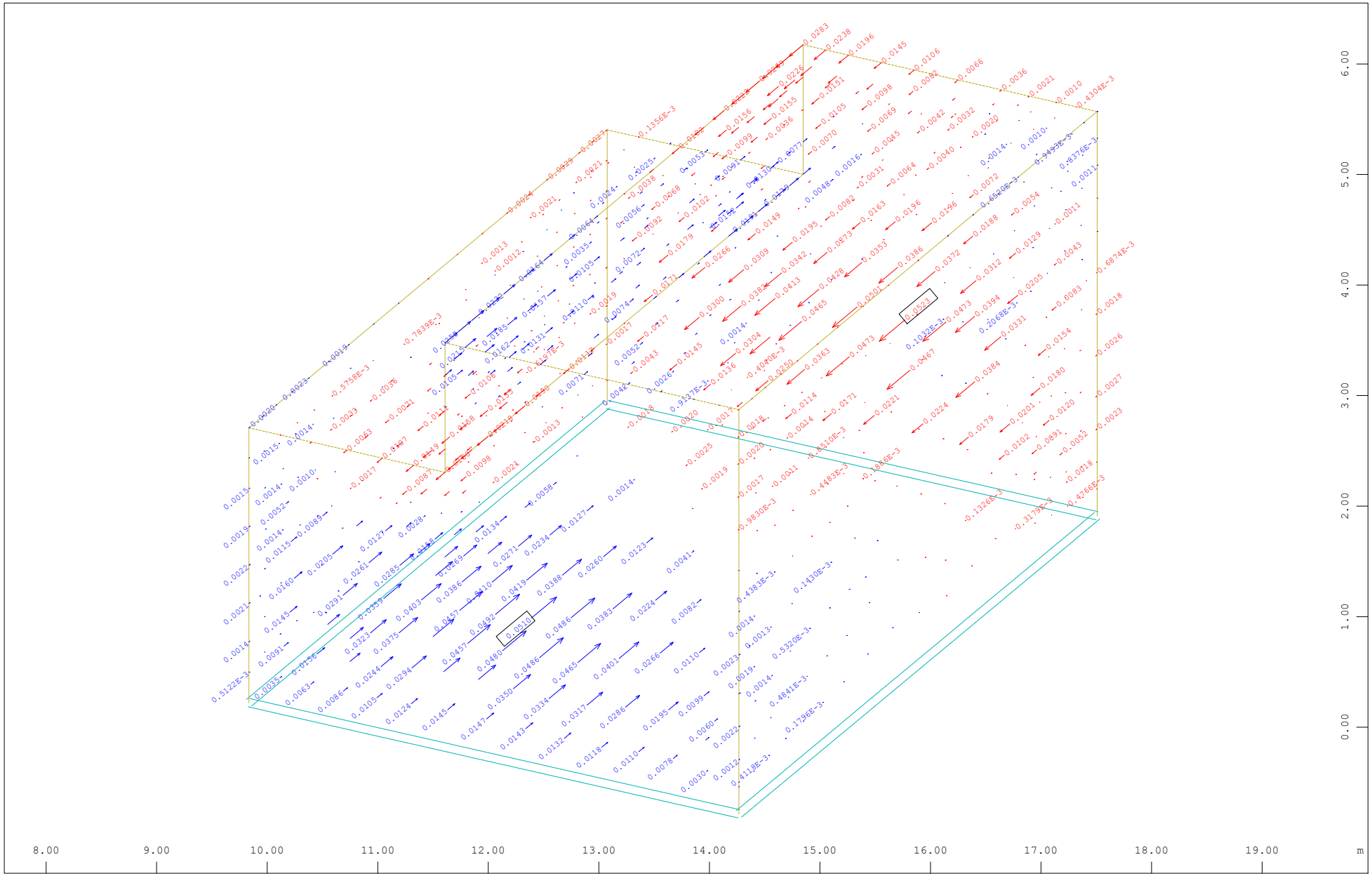
Sector of system Quadrilateral Elements Group 5 8

Nodal displacement in global Z, Loadcase 1176 MINR-UZ NODE Nodal Displacements , 1 cm 3D = 0.100 mm

(Min=-0.156) (Max=0)

M 1 : 41

X * 0.909
Y * 0.602
Z * 0.901



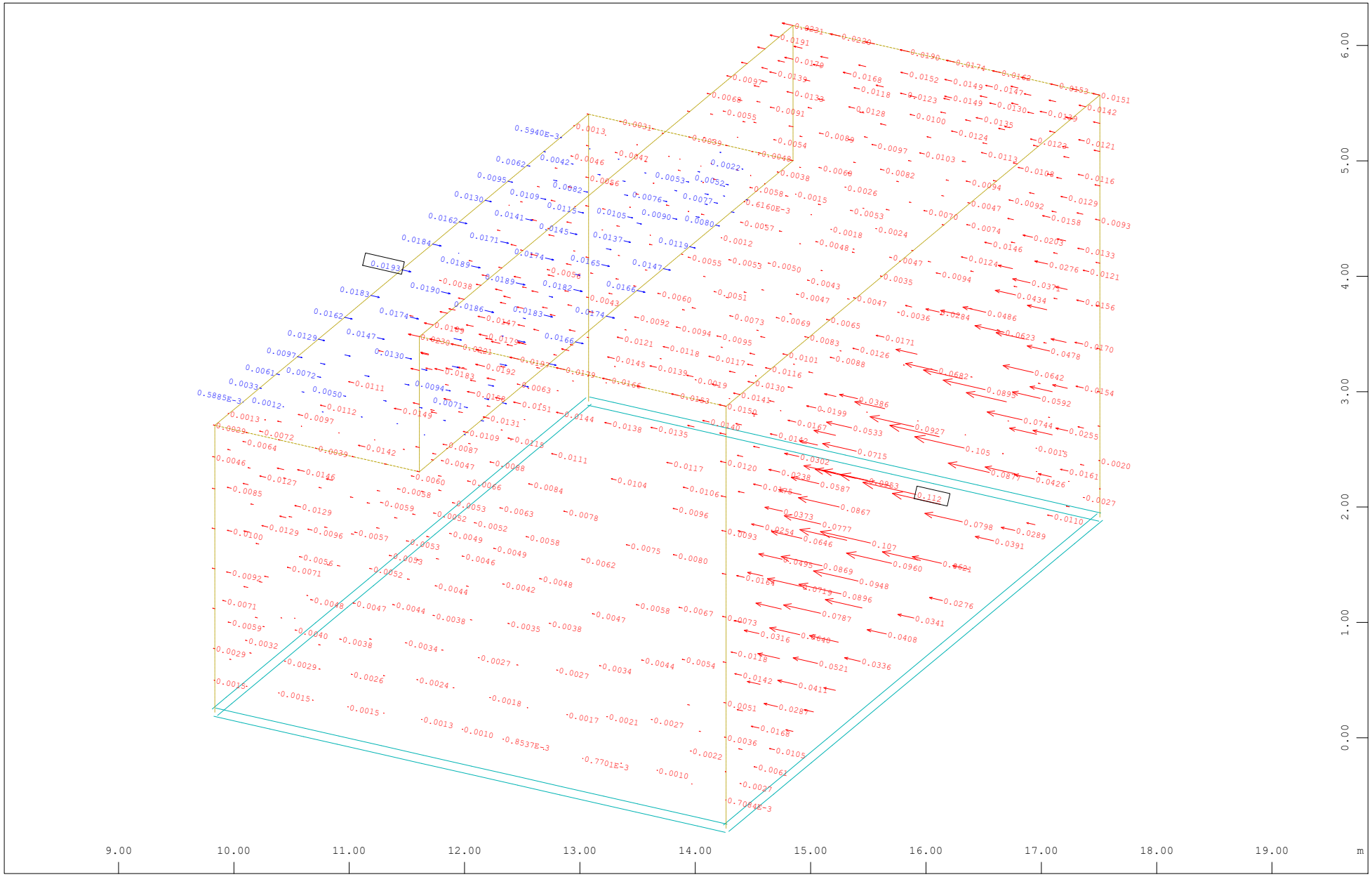
Sector of system Quadrilateral Elements

Nodal displacement in global Y, Loadcase 1174 MINR-UY NODE Nodal Displacements , 1 cm 3D = 0.0500 mm

(Min=-0.0523) (Max=0.0510)

M 1 : 48

X * 0.909
Y * 0.602
Z * 0.901



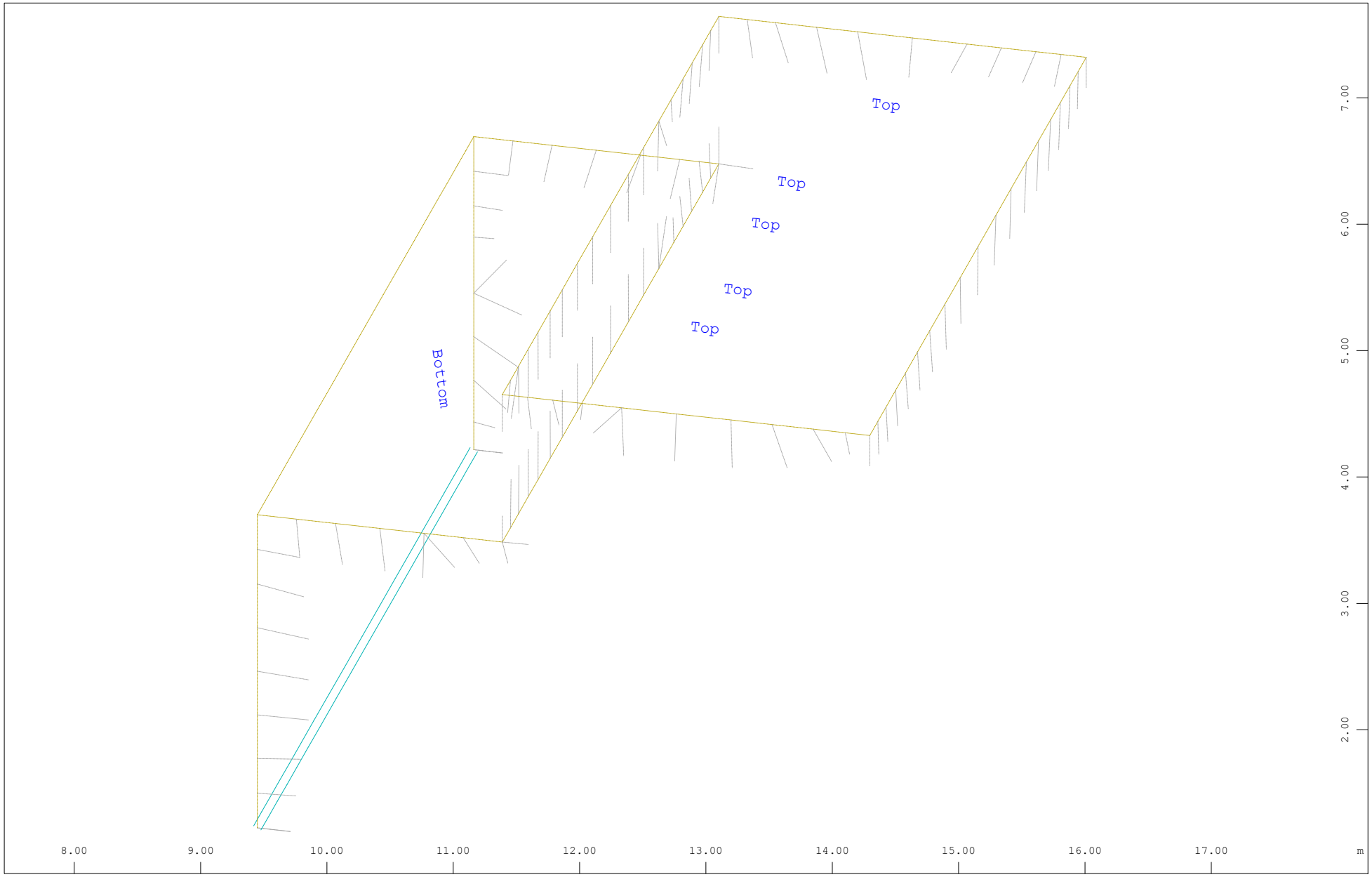
Sector of system Quadrilateral Elements

Nodal displacement in global X, Loadcase 1172 MINR-UX NODE Nodal Displacements , 1 cm 3D = 0.100 mm

(Min=-0.112) (Max=0.0193)

M 1 : 46

X * 0.909
Y * 0.602
Z * 0.901



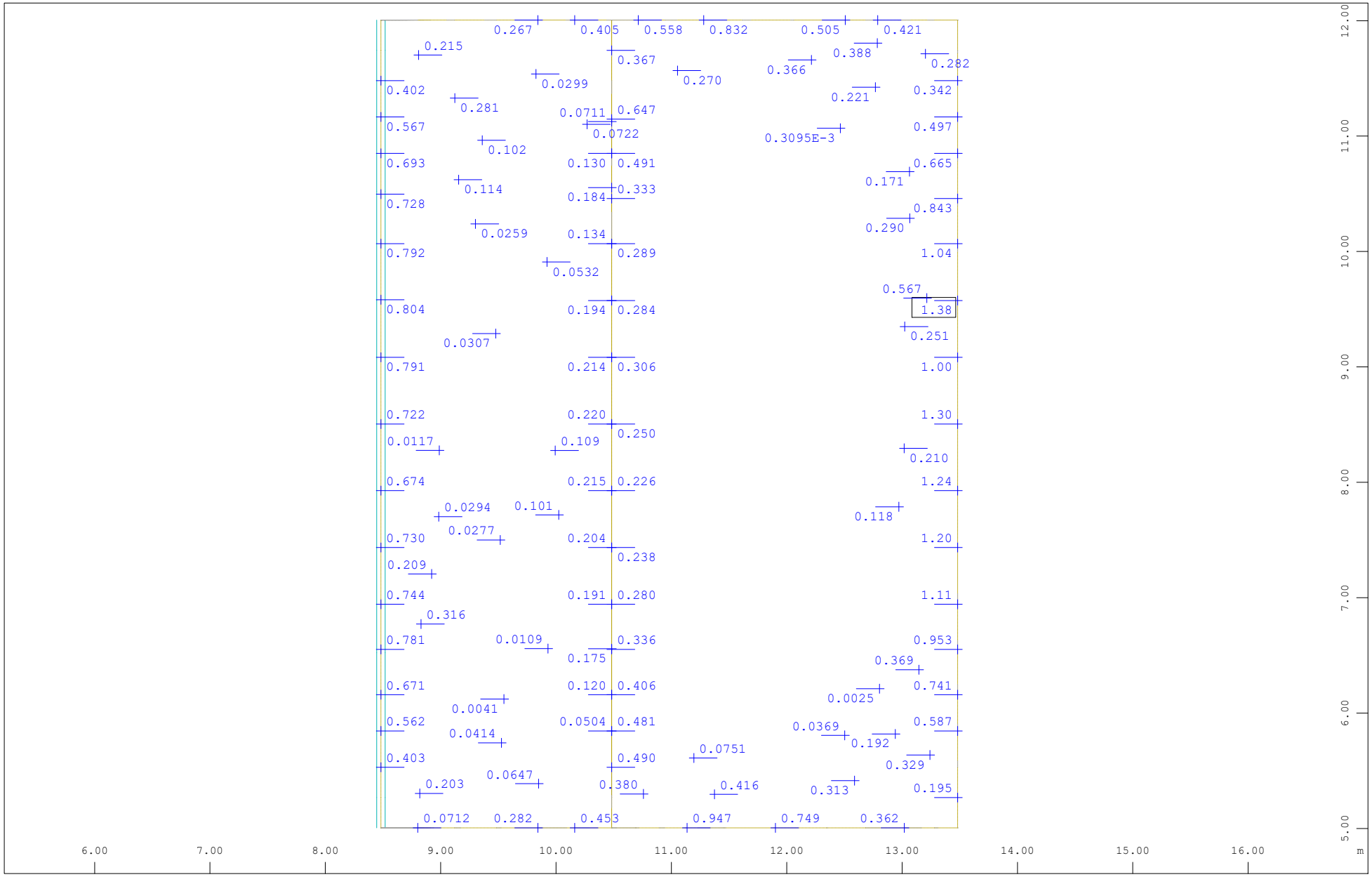
Z
Y
X

Sector of system Quadrilateral Elements Group 5 8

Visible QUAD surface top/bottom in Element

M 1 : 42

X * 0.976
Y * 0.493
Z * 0.898

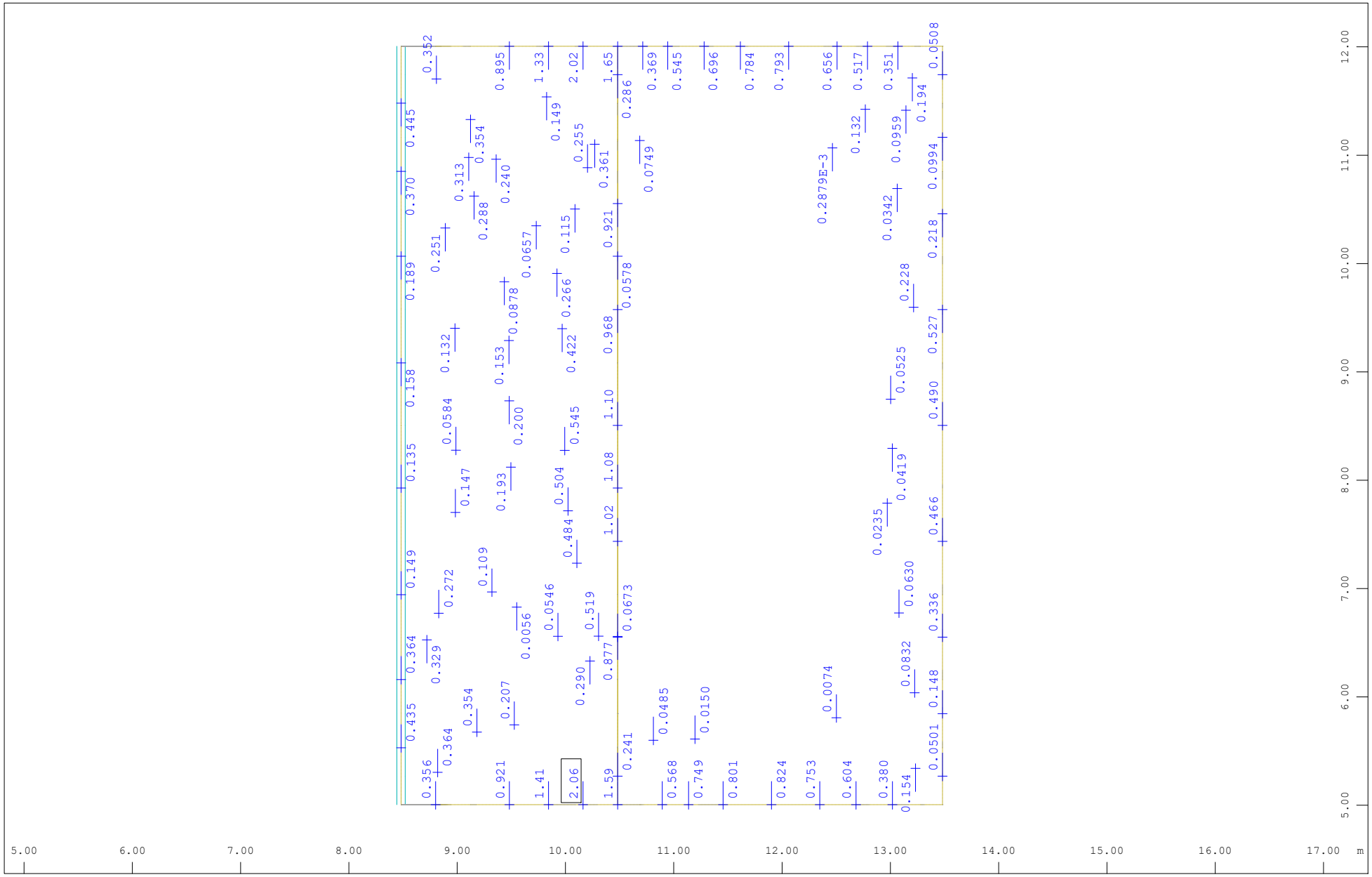


Y
Z X

Sector of system Quadrilateral Elements Group 5 8

M 1 : 46

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=1.38)

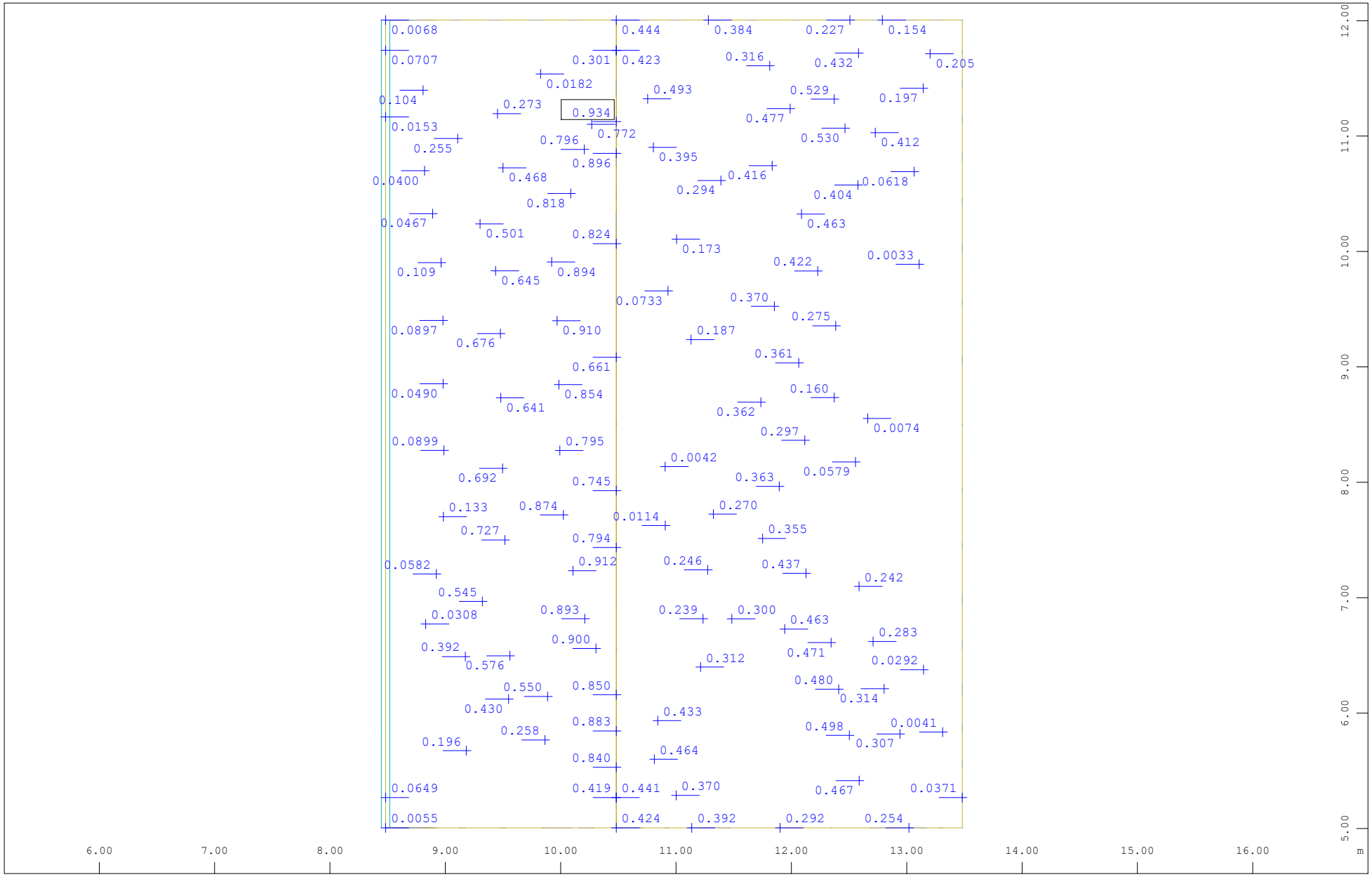


Y
Z X

Sector of system Quadrilateral Elements Group 5 8

M 1 : 49

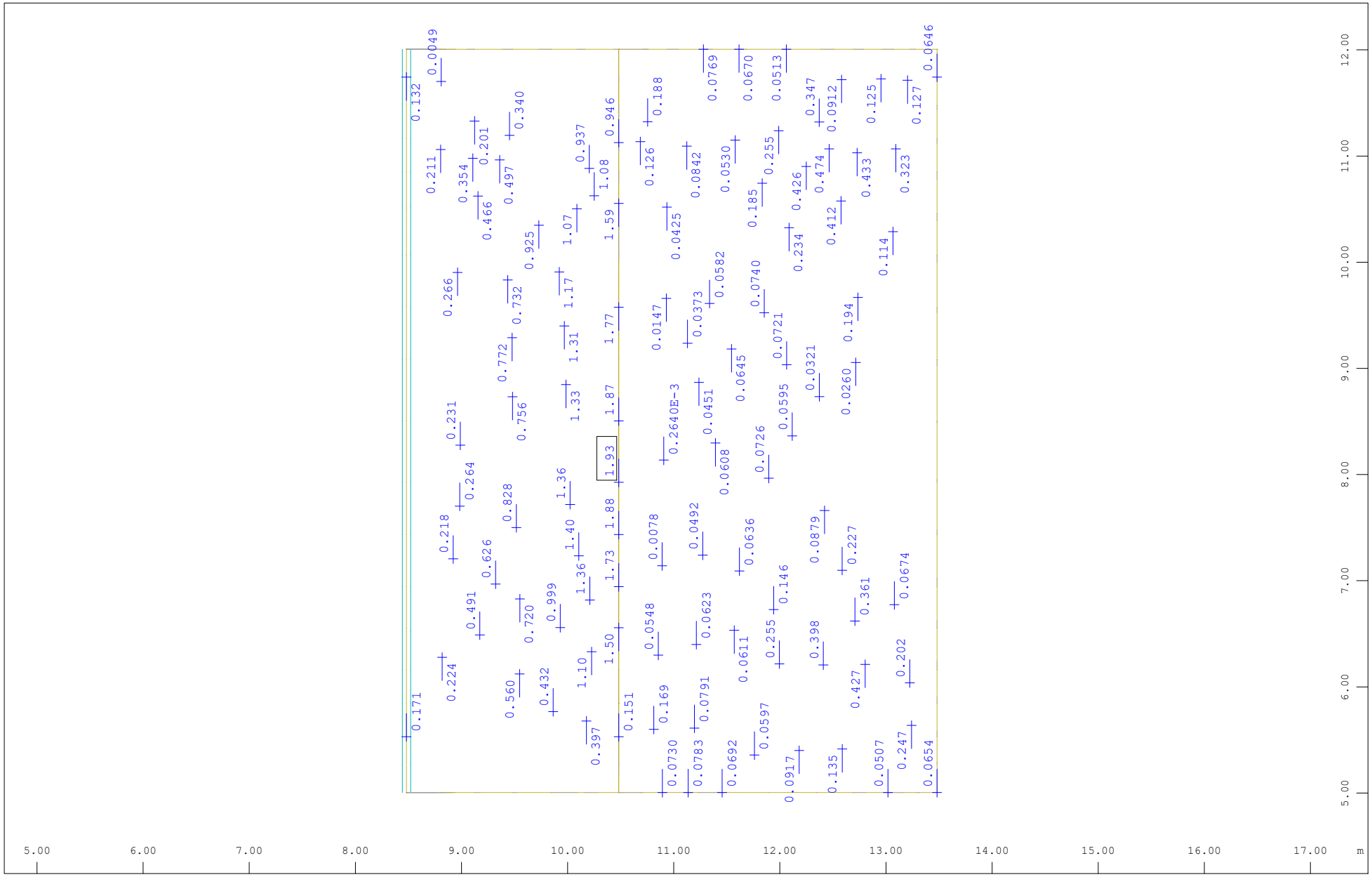
Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=2.06)



Y
Z X Sector of system Quadrilateral Elements Group 5 8

M 1 : 46

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=0.934)

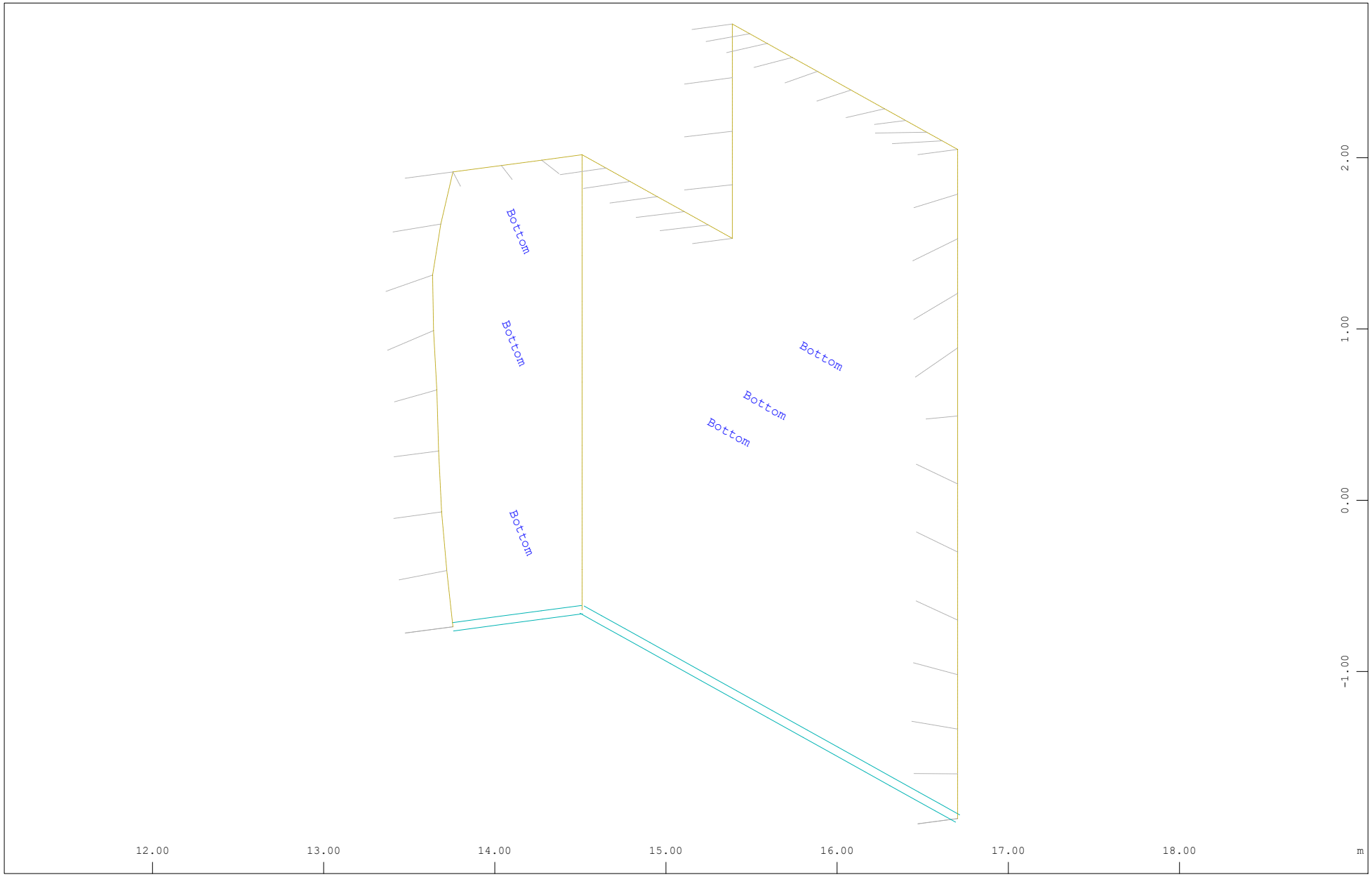


Y
Z X

Sector of system Quadrilateral Elements Group 5 8

M 1 : 50

Quadrilateral Elements , lower Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=1.93)



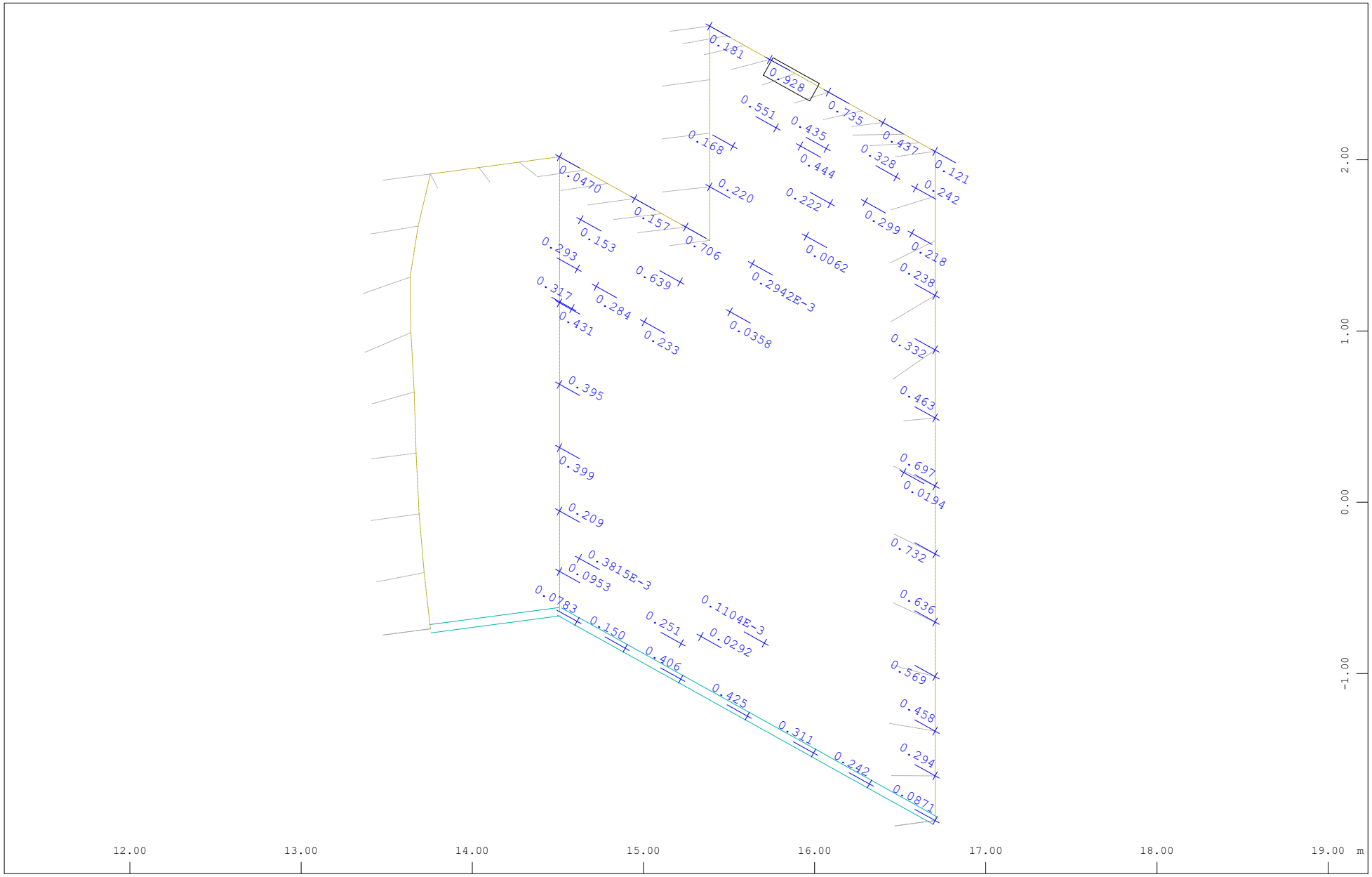
Z
Y
X

Sector of system Quadrilateral Elements Group 1 8

Visible QUAD surface top/bottom in Element

M 1 : 31

X * 0.502
Y * 0.906
Z * 0.962



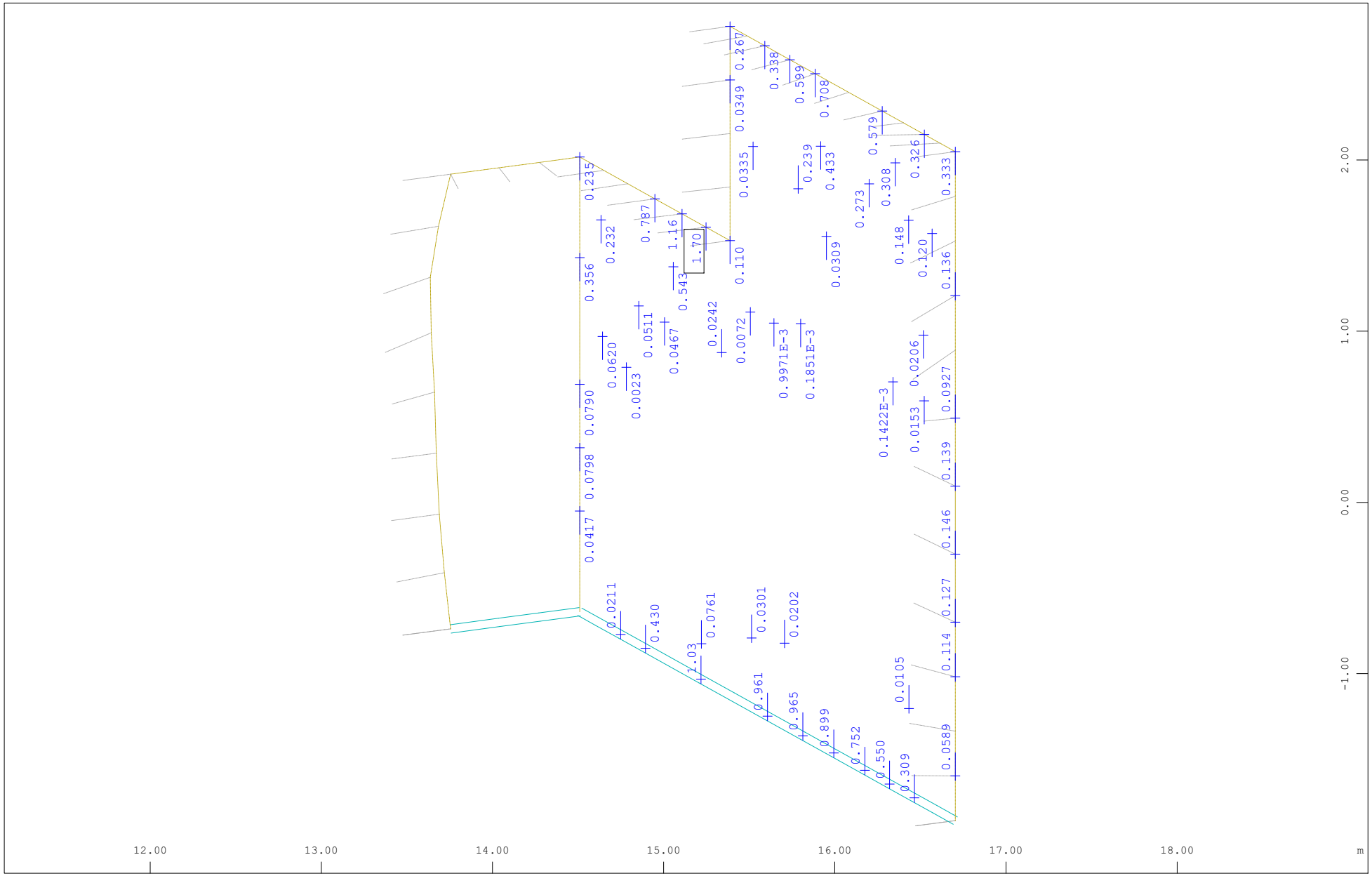
Z
Y
X

Sector of system Quadrilateral Elements Group 1 8

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=0.928)

M 1 : 31

X * 0.502
Y * 0.906
Z * 0.962



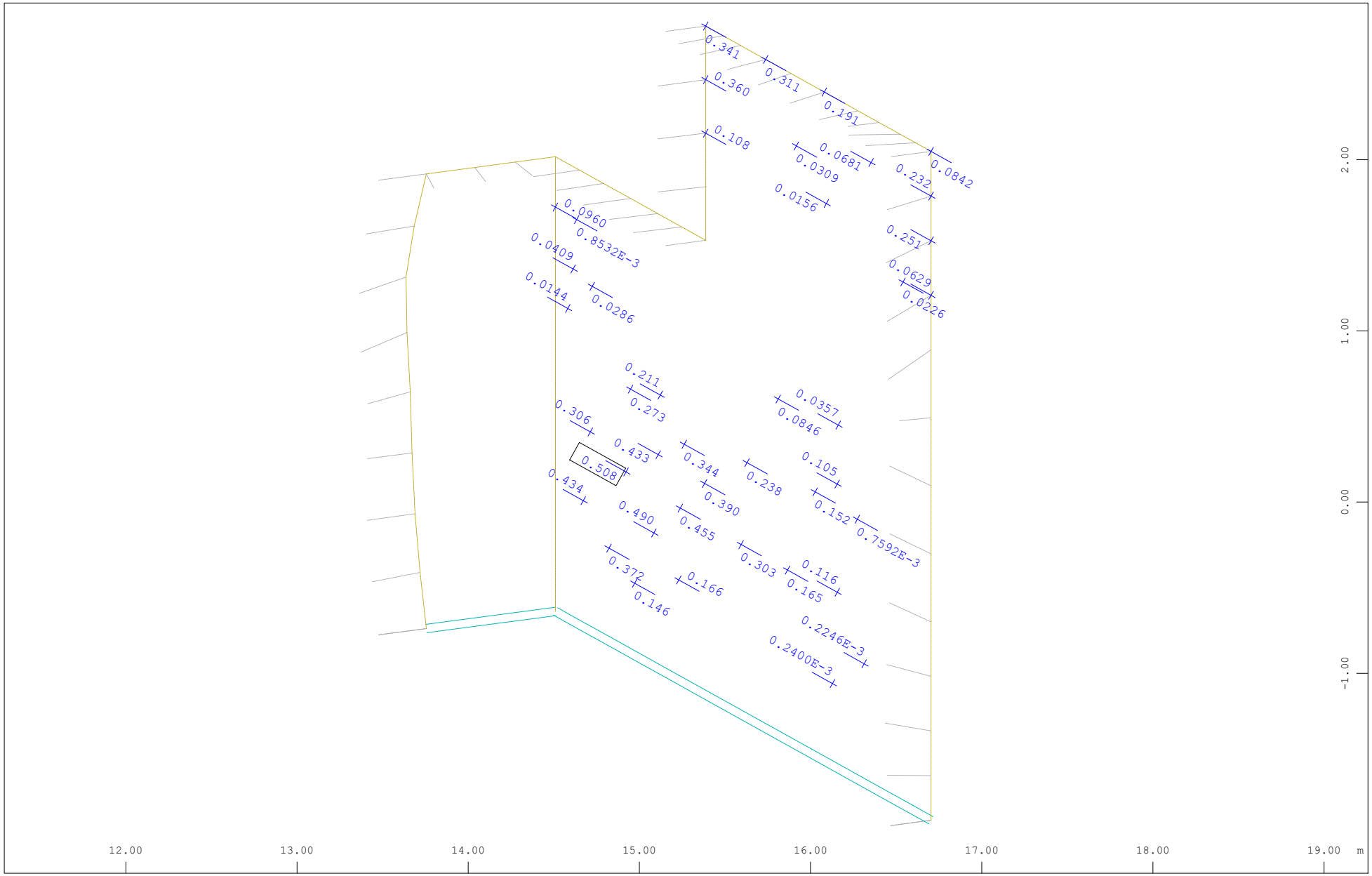
Z
Y
X

Sector of system Quadrilateral Elements Group 1 8

Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=1.70)

M 1 : 31

X * 0.502
Y * 0.906
Z * 0.962



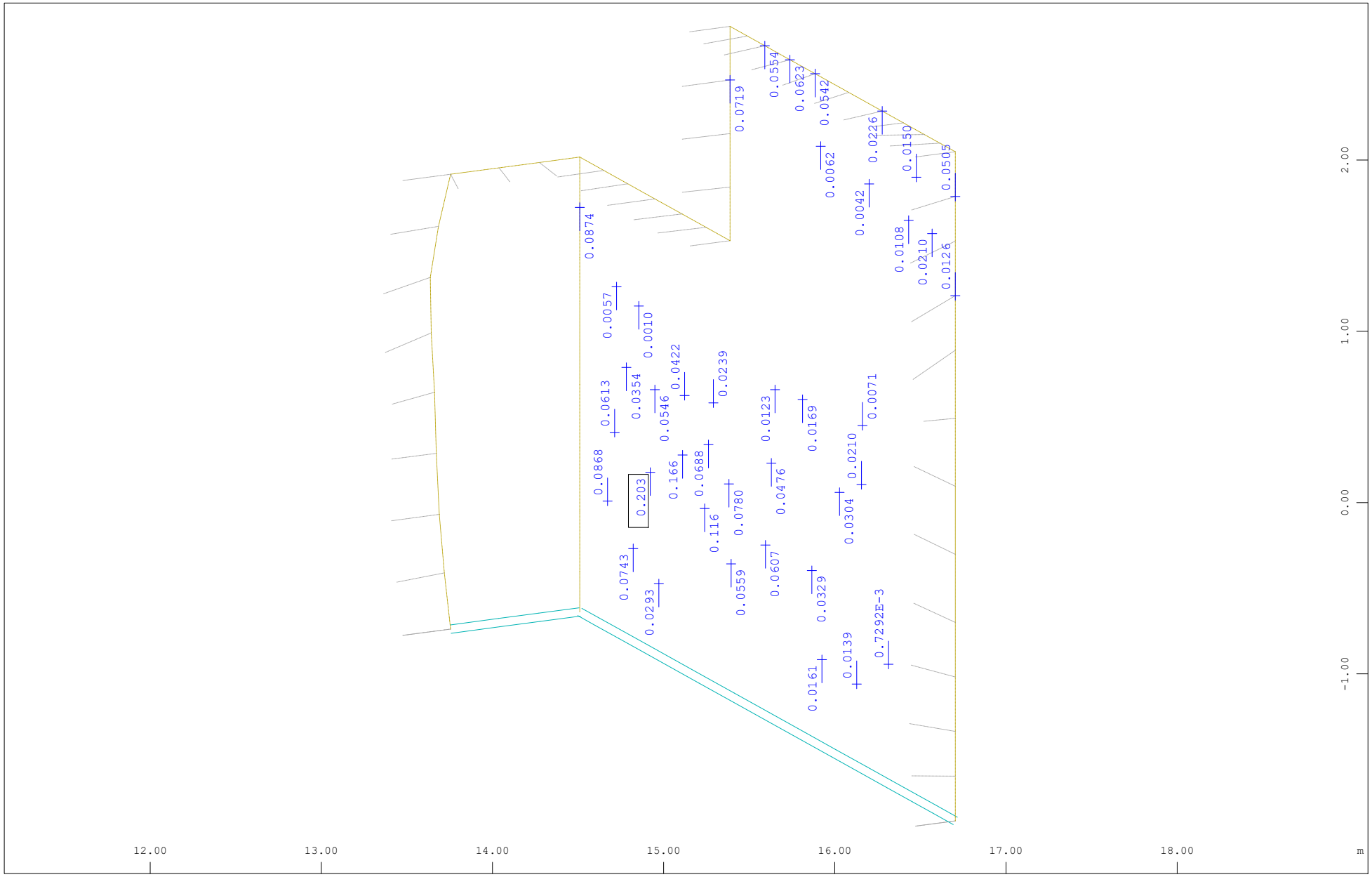
Z
Y
X

Sector of system Quadrilateral Elements Group 1 8

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=0.508)

M 1 : 31

X * 0.502
Y * 0.906
Z * 0.962



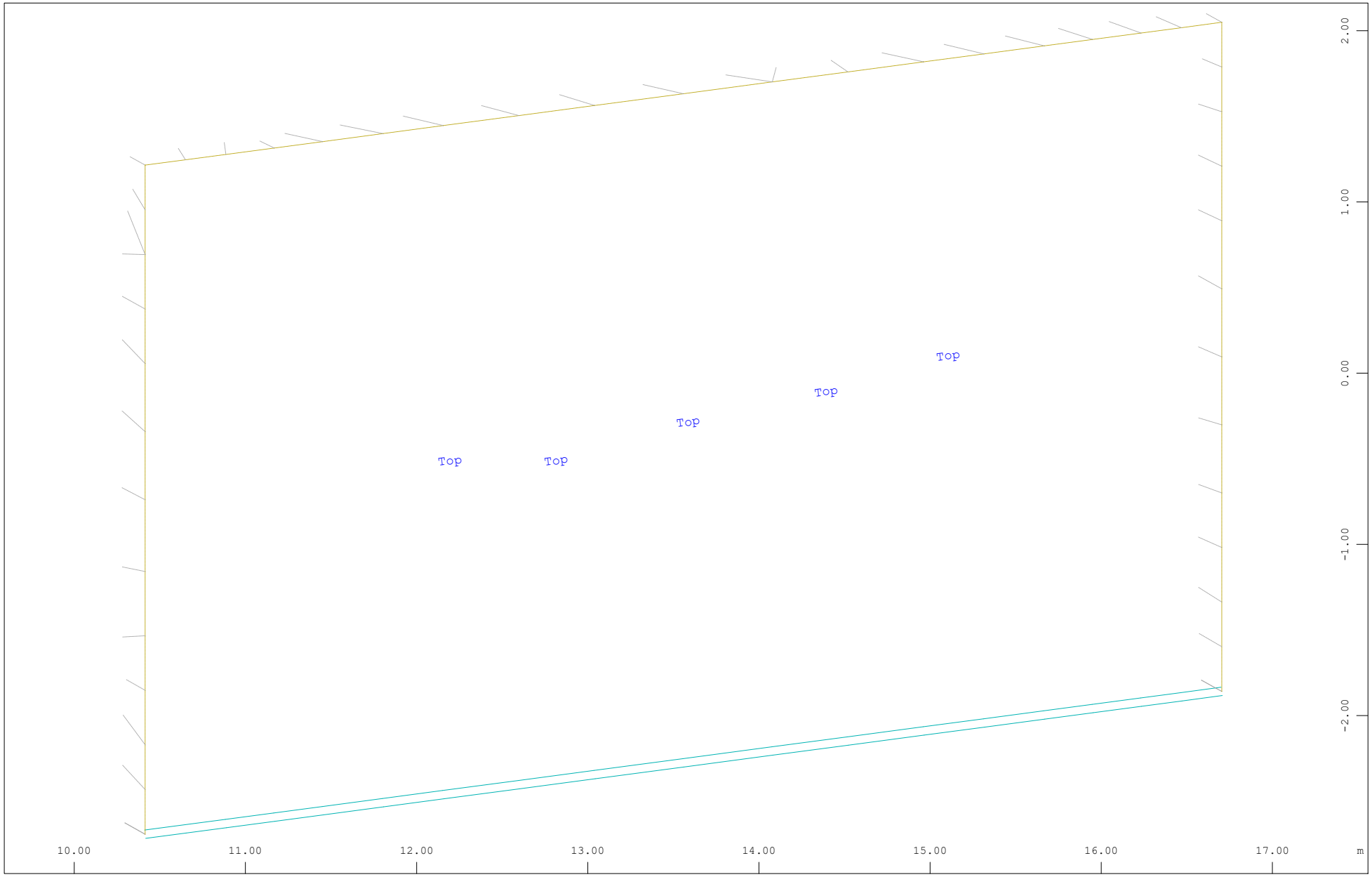
Z
Y
X

Sector of system Quadrilateral Elements Group 1 8

Quadrilateral Elements , lower Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=0.203)

M 1 : 31

X * 0.502
Y * 0.906
Z * 0.962



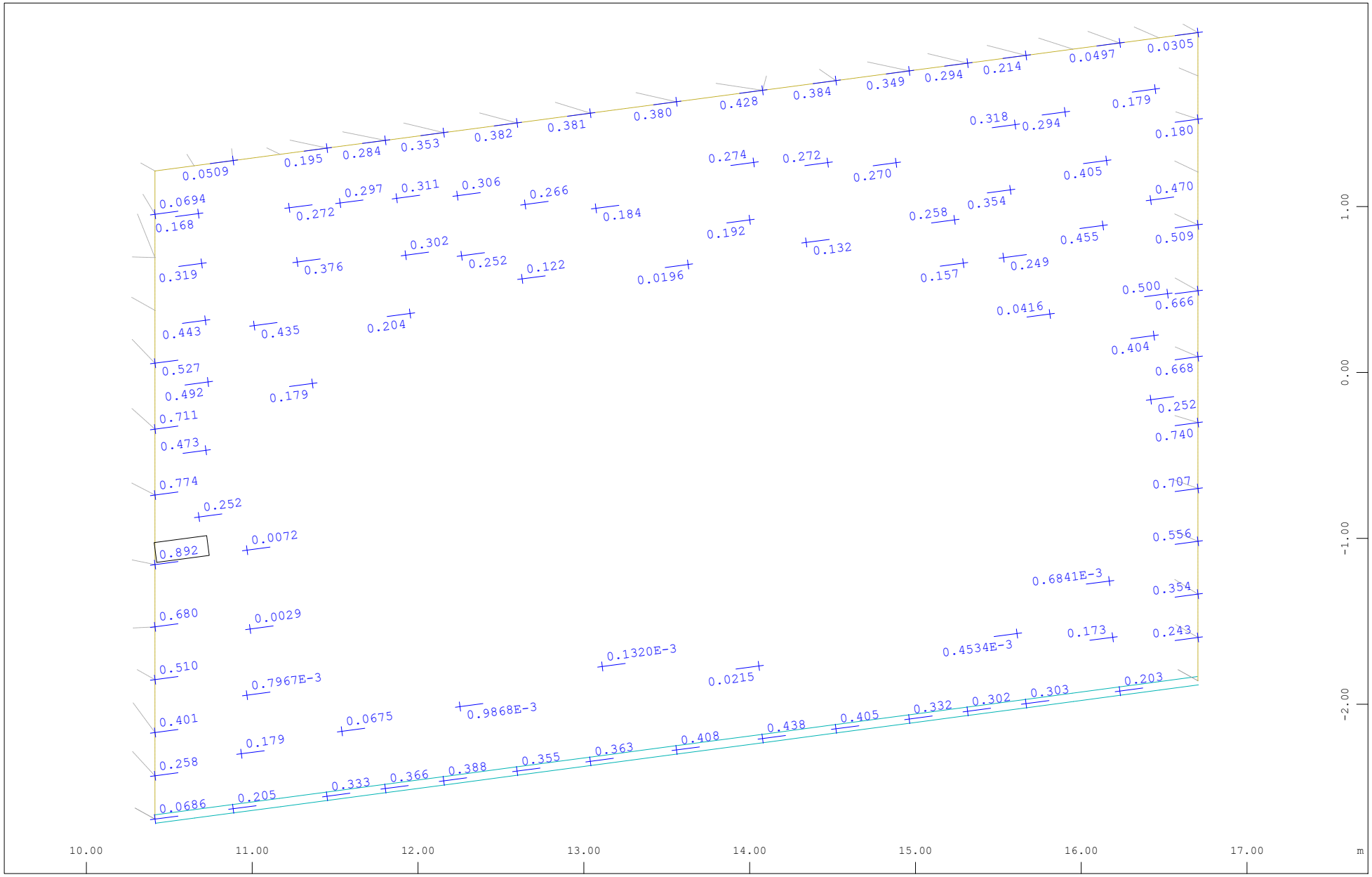
Z
Y
X

Sector of system Quadrilateral Elements Group 2 8

Visible QUAD surface top/bottom in Element

M 1 : 31

X * 0.502
Y * 0.906
Z * 0.962



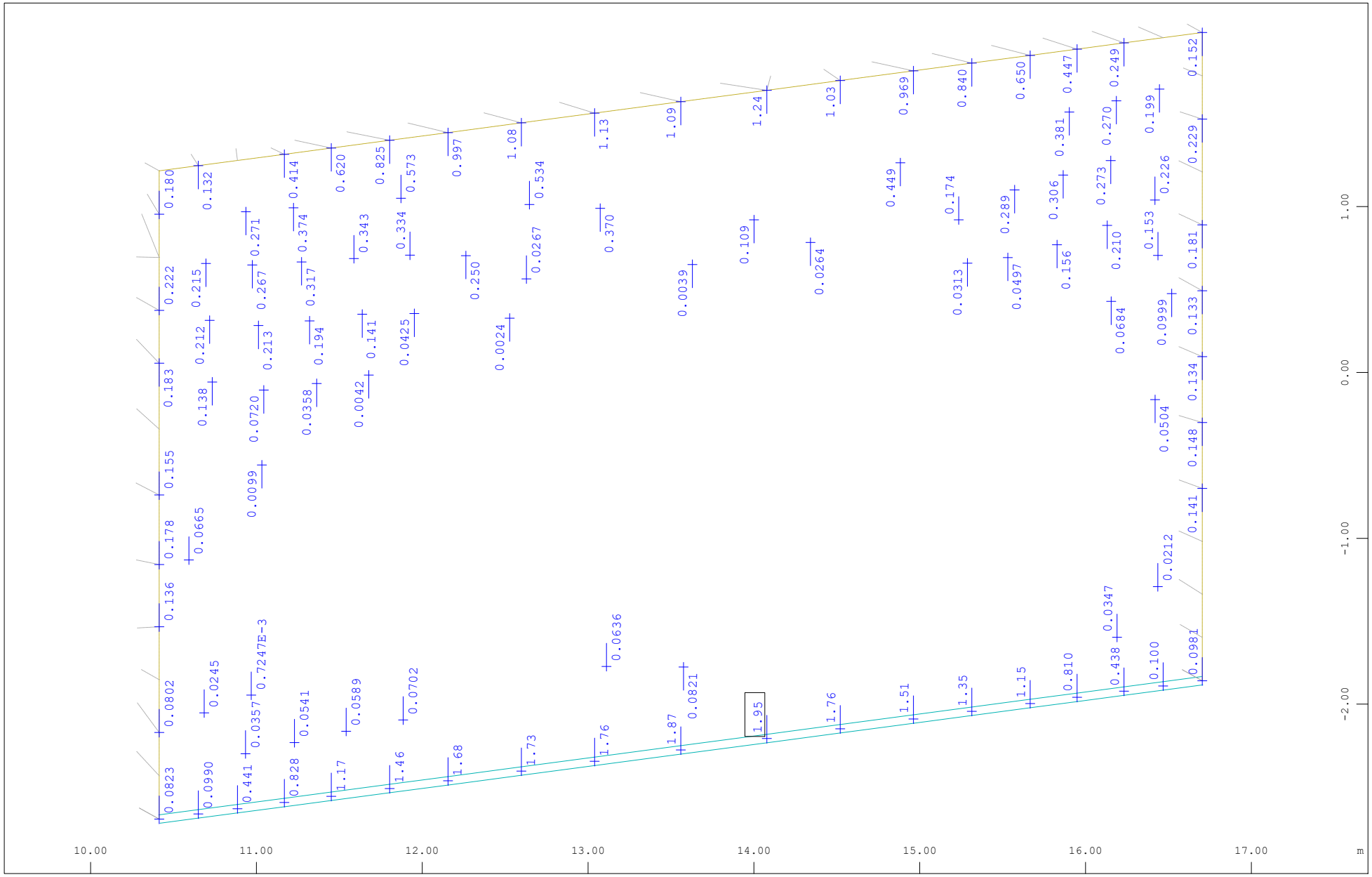
Z
Y
X

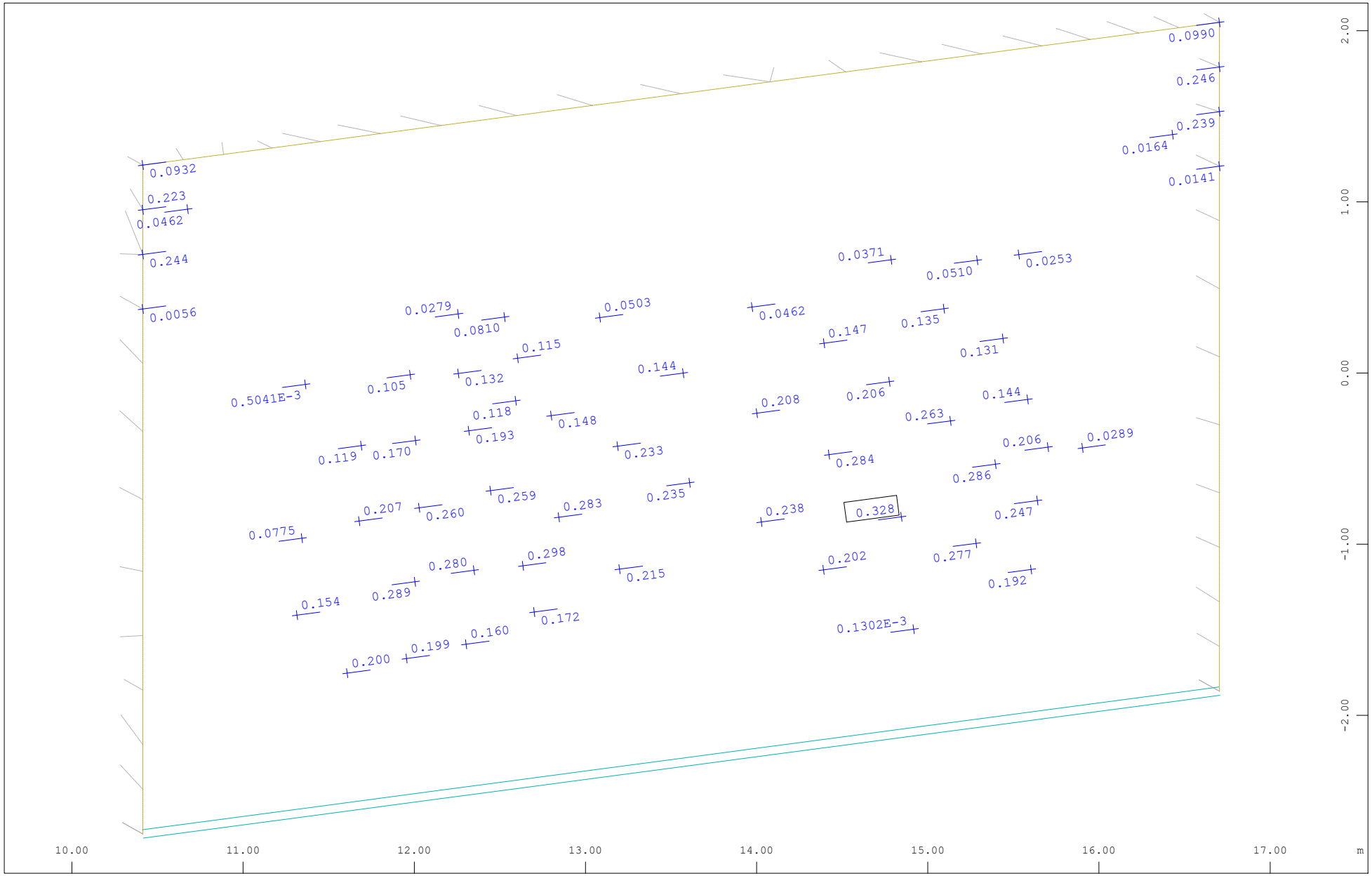
Sector of system Quadrilateral Elements Group 2 8

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=0.892)

M 1 : 32

X * 0.502
Y * 0.906
Z * 0.962


10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
m
1.00
0.00
-1.00
-2.00
0.180 0.132
0.222 0.215
0.183 0.212 0.138
0.155 0.271 0.267 0.0720 0.0099
0.178 0.374 0.317 0.213 0.0665
0.136 0.414 0.343 0.194 0.0358 0.7247E-3
0.0802 0.620 0.141 0.0042 0.0357 0.0245
0.825 0.334 0.0425 0.0541
0.0823 0.573 0.0589
0.0990 0.997 0.250 0.0702
0.441 0.0024 1.08 0.0267 0.534 1.68
0.828 1.13 0.370 1.73
1.17 1.09 0.0039 0.0636
1.46 1.24 0.109 1.76
1.87 1.03 0.0264 0.0821
1.95
1.76 0.969 0.449
1.51 0.840 0.174
1.35 0.0313 0.650
1.15 0.289 0.0497 0.447
0.810 0.381 0.306 0.156 0.249
0.0347 0.438 0.270 0.273 0.210 0.0684 0.199
0.100 0.226 0.153 0.0999 0.0504 0.152
0.0981 0.229 0.181 0.133 0.134 0.148 0.141 0.0212
Z
Y
X
Sector of system Quadrilateral Elements Group 2 8
Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=1.95)
M 1 : 32
X * 0.502
Y * 0.906
Z * 0.962



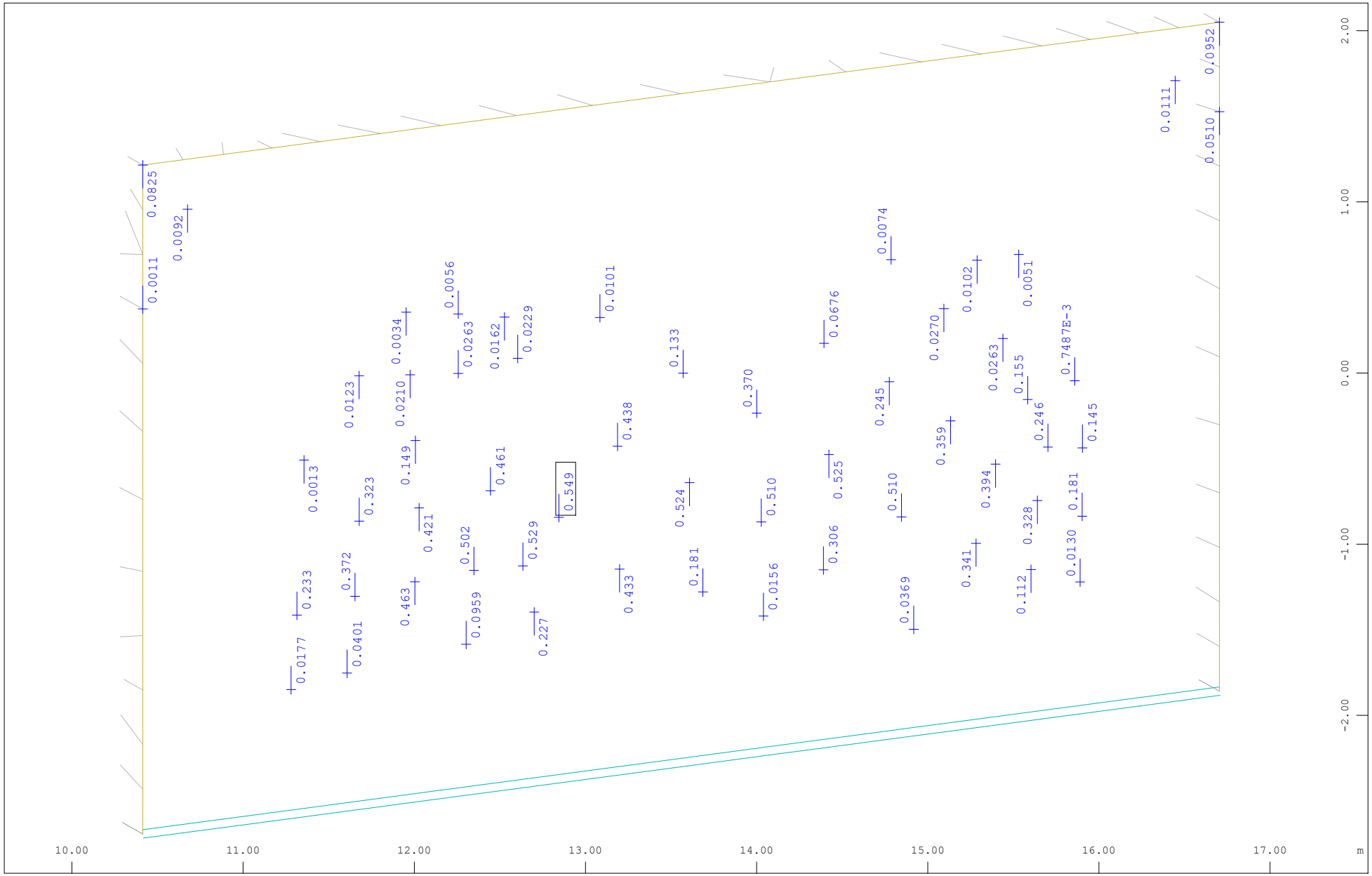
Z
Y
X

Sector of system Quadrilateral Elements Group 2 8

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=0.328)

M 1 : 31

X * 0.502
Y * 0.906
Z * 0.962



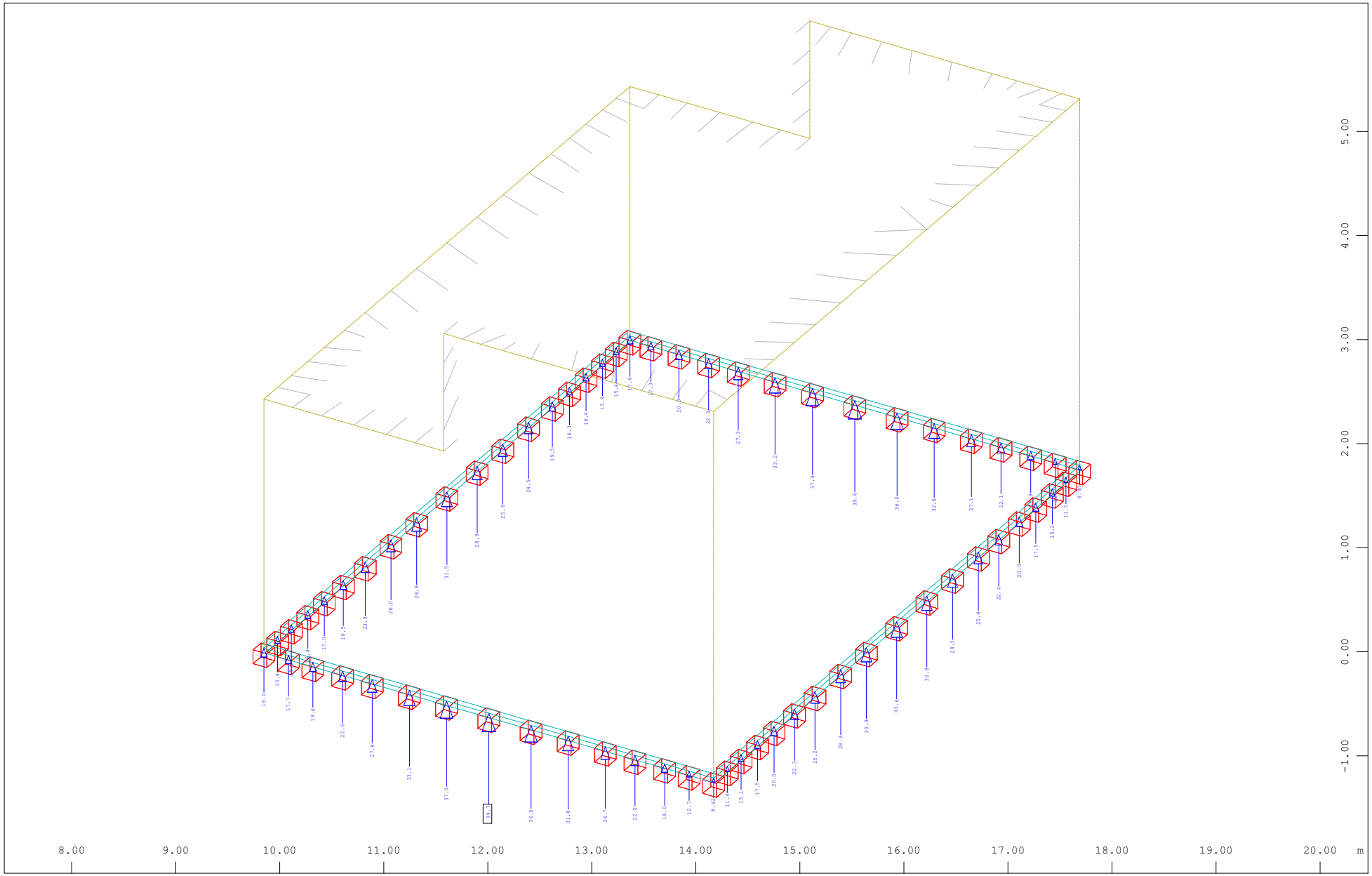
Z
Y
X

Sector of system Quadrilateral Elements Group 2 8

Quadrilateral Elements , lower Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=0.549)

M 1 : 31

X * 0.502
Y * 0.906
Z * 0.962



Sector of system Group 0...2 8

Nodes , Support force in global Z, Loadcase 2155 MAX-PZ NODE Supporting Forces in , 1 cm 3D = 20.0 kN

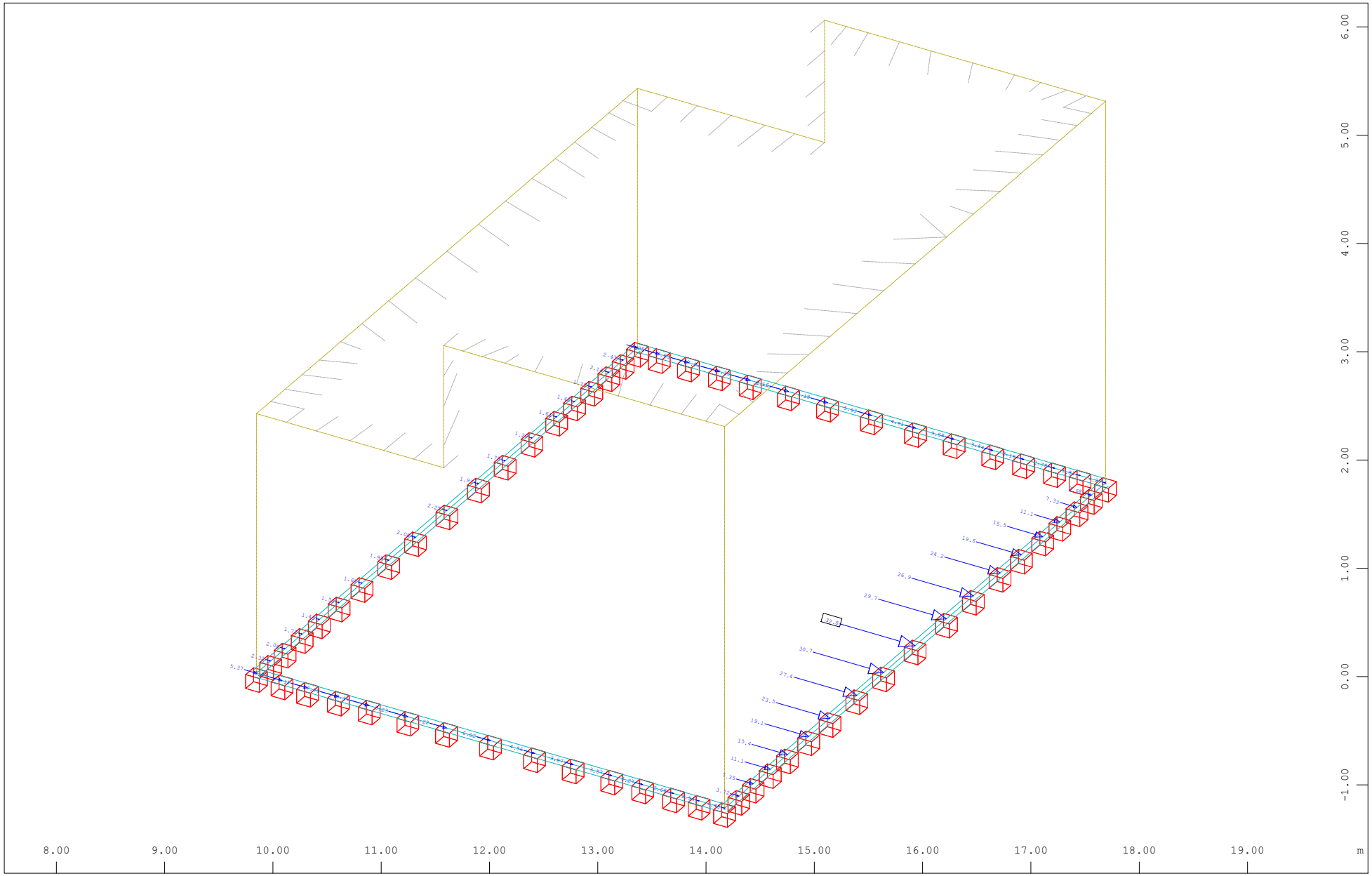
(Max=39.7) (total: 1475.)

M 1 : 51

X * 0.900

Y * 0.661

Z * 0.868



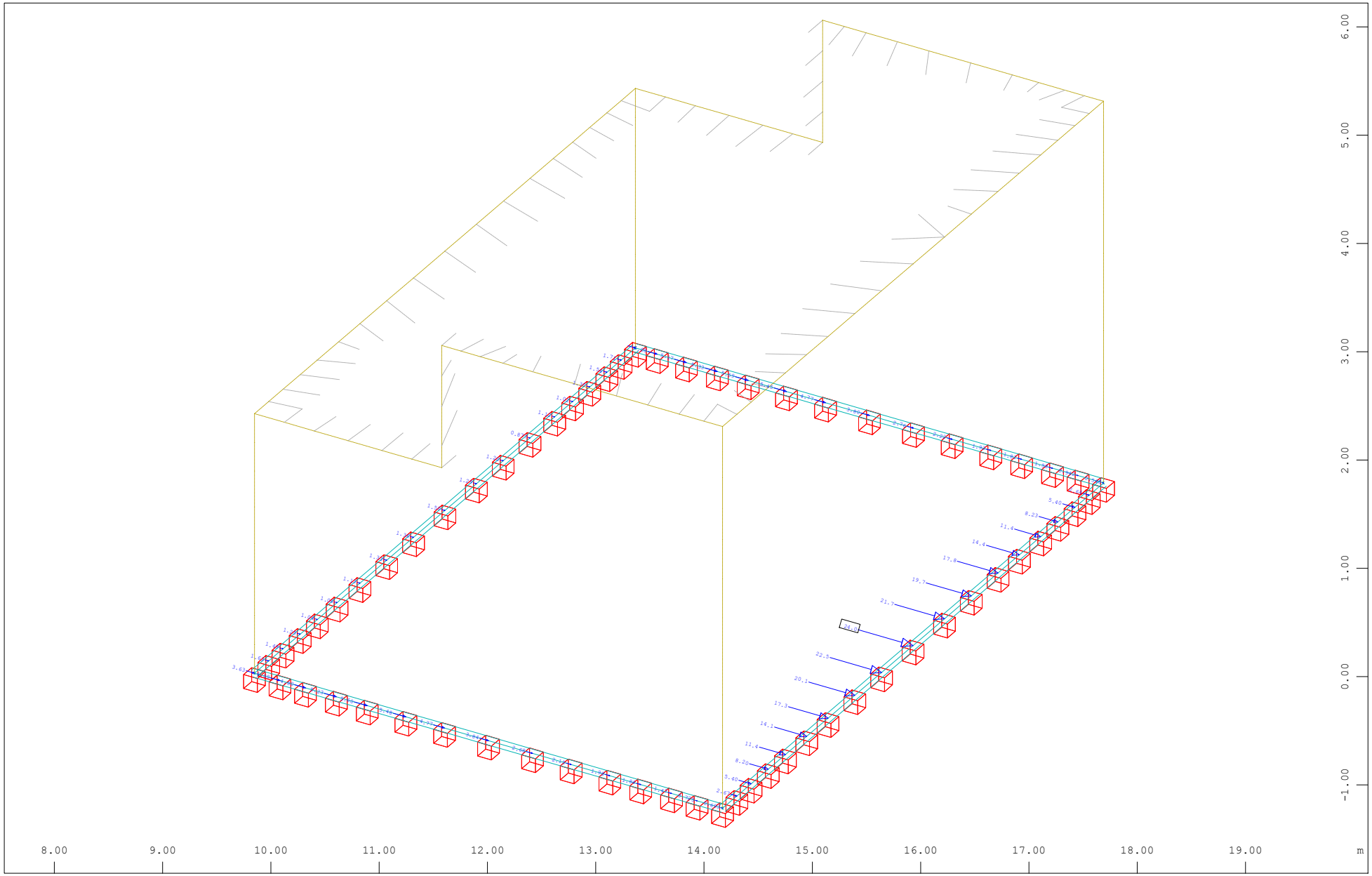
Sector of system Group 0...2 8

Nodes , Support force in global X, Loadcase 2151 MAX-PX NODE Supporting Forces in , 1 cm 3D = 20.0 kN

(Max=32.8) (total: 494.8)

M 1 : 49

X * 0.900
Y * 0.661
Z * 0.868



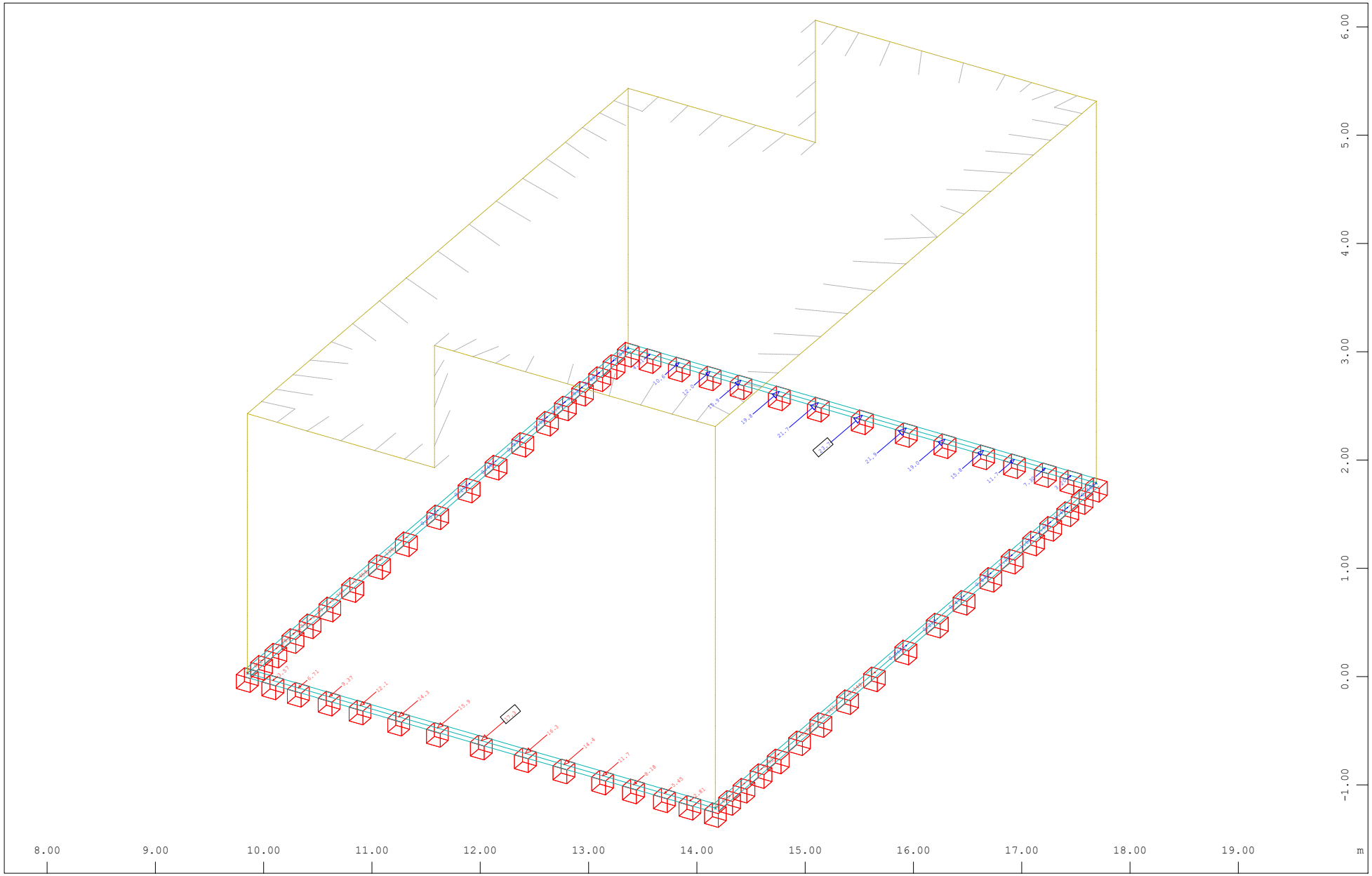
Sector of system Group 0...2 8

Nodes , Support force in global X, Loadcase 2152 MIN-PX NODE Supporting Forces in , 1 cm 3D = 20.0 kN

(Max=24.0) (total: 346.9)

M 1 : 49

X * 0.900
Y * 0.661
Z * 0.868



Sector of system Group 0...2 8

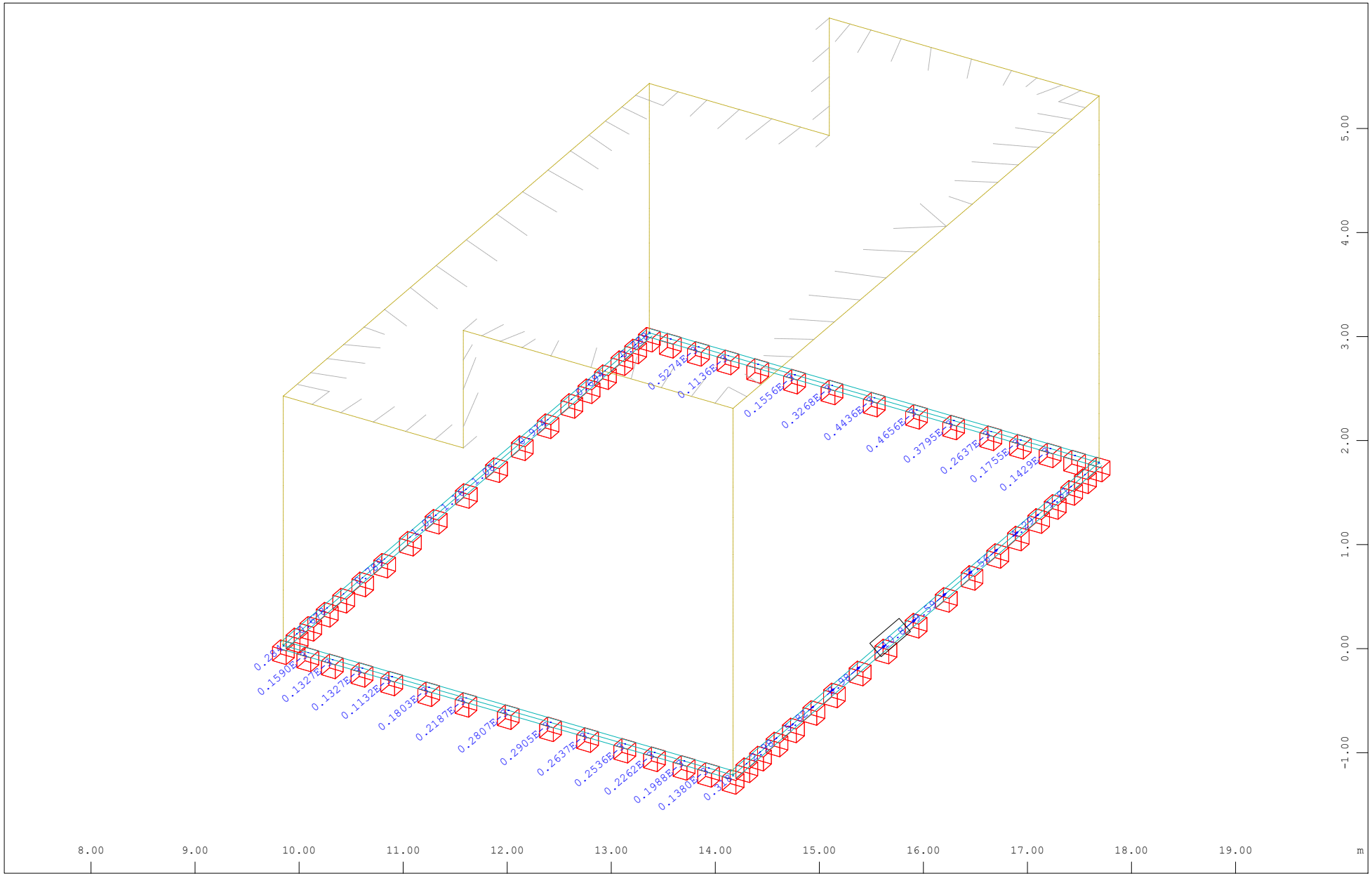
Nodes , Support force in global Y, Loadcase 2153 MAX-PY NODE Supporting Forces in , 1 cm 3D = 20.0 kN

(total: 58.1)

(Min=-17.3) (Max=23.7)

M 1 : 49

X * 0.900
Y * 0.661
Z * 0.868



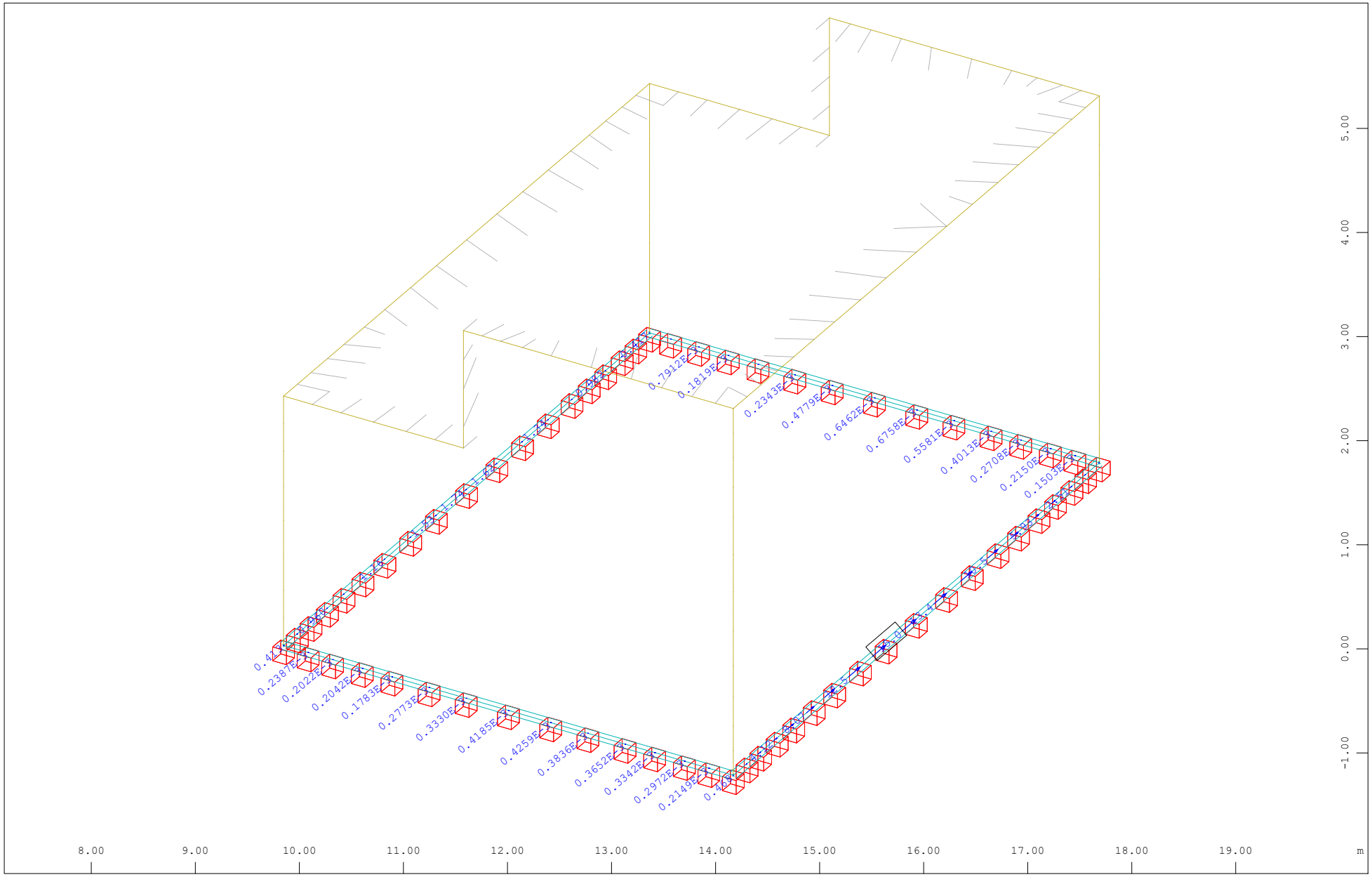
Sector of system Group 0...2 8

Nodes , Support moment about global Y, Loadcase 2160 MIN-MY NODE Supporting Forces in , 1 cm 3D = 27.5 kNm

(Max=10.8) (total: 109.6)

M 1 : 51

X * 0.900
Y * 0.661
Z * 0.868



Sector of system Group 0...2 8

Nodes , Support moment about global Y, Loadcase 2159 MAX-MY NODE Supporting Forces in , 1 cm 3D = 27.5 kNm

(Max=15.0) (total: 153.4)

M 1 : 51

X * 0.900

Y * 0.661

Z * 0.868

Referencia: P1 Dimensiones: 102 x 120 x 60 Armados: Xi:Ø12c/20 Yi:Ø16c/20 Xs:Ø12c/20 Ys:Ø12c/20		
Comprobación	Valores	Estado
Tensiones sobre el terreno: *Criterio de CYPE*		
- Tensión media en situaciones persistentes:	Máximo: 0.25 MPa Calculado: 0.12547 MPa	Cumple
- Tensión máxima en situaciones persistentes:	Máximo: 0.312449 MPa Calculado: 0.254471 MPa	Cumple
Vuelco de la zapata: *Si el % de reserva de seguridad es mayor que cero, quiere decir que los coeficientes de seguridad al vuelco son mayores que los valores estrictos exigidos para todas las combinaciones de equilibrio.*		
- En dirección X:	Reserva seguridad: 10863.5 %	Cumple
- En dirección Y:	Reserva seguridad: 38.8 %	Cumple
Flexión en la zapata:		
- En dirección X:	Momento: 0.00 kN·m	Cumple
- En dirección Y:	Momento: 30.81 kN·m	Cumple
Cortante en la zapata:		
- En dirección X:	Cortante: 0.00 kN	Cumple
- En dirección Y:	Cortante: 0.00 kN	Cumple
Compresión oblicua en la zapata: - Situaciones persistentes: *Criterio de CYPE*	Máximo: 5000 kN/m² Calculado: 61.4 kN/m²	Cumple
Canto mínimo: *Artículo 58.8.1 de la norma EHE-08*	Mínimo: 25 cm Calculado: 60 cm	Cumple
Espacio para anclar arranques en cimentación: - P1:	Mínimo: 20 cm Calculado: 53 cm	Cumple
Cuantía geométrica mínima: *Artículo 42.3.5 de la norma EHE-08*	Mínimo: 0.0009	
- Armado inferior dirección X:	Calculado: 0.0009	Cumple
- Armado superior dirección X:	Calculado: 0.0009	Cumple
- Armado inferior dirección Y:	Calculado: 0.0017	Cumple
- Armado superior dirección Y:	Calculado: 0.0009	Cumple
Cuantía mínima necesaria por flexión: *Artículo 42.3.2 de la norma EHE-08*		
- Armado inferior dirección Y:	Mínimo: 0.0005 Calculado: 0.0017	Cumple
- Armado superior dirección Y:	Mínimo: 0.0001 Calculado: 0.001	Cumple
Diámetro mínimo de las barras: *Recomendación del Artículo 58.8.2 (norma EHE-08)*	Mínimo: 12 mm	
- Parrilla inferior:	Calculado: 12 mm	Cumple
- Parrilla superior:	Calculado: 12 mm	Cumple
Separación máxima entre barras: *Artículo 58.8.2 de la norma EHE-08*	Máximo: 30 cm	
- Armado inferior dirección X:	Calculado: 20 cm	Cumple
- Armado inferior dirección Y:	Calculado: 20 cm	Cumple
- Armado superior dirección X:	Calculado: 20 cm	Cumple
- Armado superior dirección Y:	Calculado: 20 cm	Cumple
Separación mínima entre barras: *Criterio de CYPE, basado en: J. Calavera. "Cálculo de Estructuras de Cimentación". Capítulo 3.16*	Mínimo: 10 cm	
- Armado inferior dirección X:	Calculado: 20 cm	Cumple
- Armado inferior dirección Y:	Calculado: 20 cm	Cumple
- Armado superior dirección X:	Calculado: 20 cm	Cumple
- Armado superior dirección Y:	Calculado: 20 cm	Cumple

Referencia: P1

Dimensiones: 102 x 120 x 60

Armados: Xi:Ø12c/20 Yi:Ø16c/20 Xs:Ø12c/20 Ys:Ø12c/20

Comprobación	Valores	Estado
Longitud de anclaje: *Criterio del libro "Cálculo de estructuras de cimentación", J. Calavera. Ed. INTEMAC, 1991*		
- Armado inf. dirección X hacia der:	Mínimo: 0 cm Calculado: 0 cm	Cumple
- Armado inf. dirección X hacia izq:	Mínimo: 0 cm Calculado: 0 cm	Cumple
- Armado inf. dirección Y hacia arriba:	Mínimo: 16 cm Calculado: 50 cm	Cumple
- Armado inf. dirección Y hacia abajo:	Mínimo: 16 cm Calculado: 50 cm	Cumple
- Armado sup. dirección X hacia der:	Mínimo: 0 cm Calculado: 0 cm	Cumple
- Armado sup. dirección X hacia izq:	Mínimo: 0 cm Calculado: 0 cm	Cumple
- Armado sup. dirección Y hacia arriba:	Mínimo: 15 cm Calculado: 50 cm	Cumple
- Armado sup. dirección Y hacia abajo:	Mínimo: 15 cm Calculado: 50 cm	Cumple
Longitud mínima de las patillas:	Calculado: 50 cm	
- Armado inf. dirección X hacia der:	Mínimo: 12 cm	Cumple
- Armado inf. dirección X hacia izq:	Mínimo: 12 cm	Cumple
- Armado inf. dirección Y hacia arriba:	Mínimo: 16 cm	Cumple
- Armado inf. dirección Y hacia abajo:	Mínimo: 16 cm	Cumple
- Armado sup. dirección X hacia der:	Mínimo: 12 cm	Cumple
- Armado sup. dirección X hacia izq:	Mínimo: 12 cm	Cumple
- Armado sup. dirección Y hacia arriba:	Mínimo: 12 cm	Cumple
- Armado sup. dirección Y hacia abajo:	Mínimo: 12 cm	Cumple
Se cumplen todas las comprobaciones		

Información adicional:

- Zapata de tipo rígido (Artículo 58.2 de la norma EHE-08)
- Relación rotura pésima (En dirección X): 0.00
- Relación rotura pésima (En dirección Y): 0.18
- Cortante de agotamiento (En dirección X): 0.00 kN
- Cortante de agotamiento (En dirección Y): 0.00 kN

Referencia: P2 Dimensiones: 102 x 120 x 60 Armados: Xi:Ø12c/20 Yi:Ø12c/20 Xs:Ø12c/20 Ys:Ø12c/20		
Comprobación	Valores	Estado
Tensiones sobre el terreno: *Criterio de CYPE*		
- Tensión media en situaciones persistentes:	Máximo: 0.25 MPa Calculado: 0.0464994 MPa	Cumple
- Tensión máxima en situaciones persistentes:	Máximo: 0.312449 MPa Calculado: 0.0754389 MPa	Cumple
Vuelco de la zapata: *Si el % de reserva de seguridad es mayor que cero, quiere decir que los coeficientes de seguridad al vuelco son mayores que los valores estrictos exigidos para todas las combinaciones de equilibrio.*		
- En dirección X:	Reserva seguridad: 9591.9 %	Cumple
- En dirección Y:	Reserva seguridad: 408.6 %	Cumple
Flexión en la zapata:		
- En dirección X:	Momento: 0.00 kN·m	Cumple
- En dirección Y:	Momento: 32.73 kN·m	Cumple
Cortante en la zapata:		
- En dirección X:	Cortante: 0.00 kN	Cumple
- En dirección Y:	Cortante: 30.21 kN	Cumple
Compresión oblicua en la zapata: - Situaciones persistentes: *Criterio de CYPE*	Máximo: 5000 kN/m² Calculado: 101.4 kN/m²	Cumple
Canto mínimo: *Artículo 58.8.1 de la norma EHE-08*	Mínimo: 25 cm Calculado: 60 cm	Cumple
Espacio para anclar arranques en cimentación: - P2:	Mínimo: 20 cm Calculado: 53 cm	Cumple
Cuantía geométrica mínima: *Artículo 42.3.5 de la norma EHE-08*	Mínimo: 0.0009	
- Armado inferior dirección X:	Calculado: 0.0009	Cumple
- Armado superior dirección X:	Calculado: 0.0009	Cumple
- Armado inferior dirección Y:	Calculado: 0.0009	Cumple
- Armado superior dirección Y:	Calculado: 0.0009	Cumple
Cuantía mínima necesaria por flexión: - Armado inferior dirección Y: *Artículo 42.3.2 de la norma EHE-08*	Mínimo: 0.0005 Calculado: 0.001	Cumple
Diámetro mínimo de las barras: *Recomendación del Artículo 58.8.2 (norma EHE-08)*	Mínimo: 12 mm	
- Parrilla inferior:	Calculado: 12 mm	Cumple
- Parrilla superior:	Calculado: 12 mm	Cumple
Separación máxima entre barras: *Artículo 58.8.2 de la norma EHE-08*	Máximo: 30 cm	
- Armado inferior dirección X:	Calculado: 20 cm	Cumple
- Armado inferior dirección Y:	Calculado: 20 cm	Cumple
- Armado superior dirección X:	Calculado: 20 cm	Cumple
- Armado superior dirección Y:	Calculado: 20 cm	Cumple
Separación mínima entre barras: *Criterio de CYPE, basado en: J. Calavera. "Cálculo de Estructuras de Cimentación". Capítulo 3.16*	Mínimo: 10 cm	
- Armado inferior dirección X:	Calculado: 20 cm	Cumple
- Armado inferior dirección Y:	Calculado: 20 cm	Cumple
- Armado superior dirección X:	Calculado: 20 cm	Cumple
- Armado superior dirección Y:	Calculado: 20 cm	Cumple
Longitud de anclaje: *Criterio del libro "Cálculo de estructuras de cimentación", J. Calavera. Ed. INTEMAC, 1991*		
- Armado inf. dirección X hacia der:	Mínimo: 0 cm Calculado: 0 cm	Cumple

Referencia: P2

Dimensiones: 102 x 120 x 60

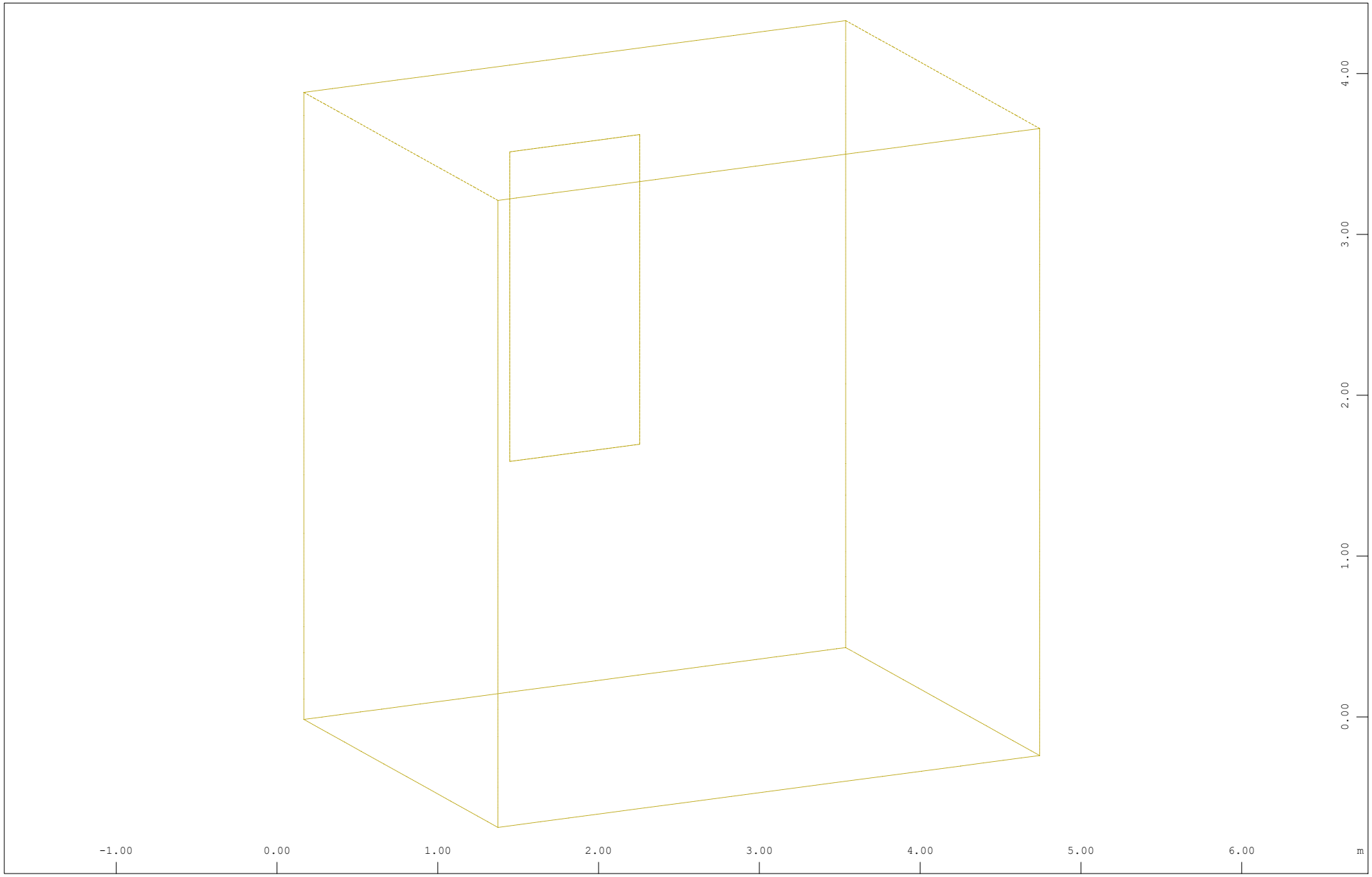
Armados: Xi:Ø12c/20 Yi:Ø12c/20 Xs:Ø12c/20 Ys:Ø12c/20

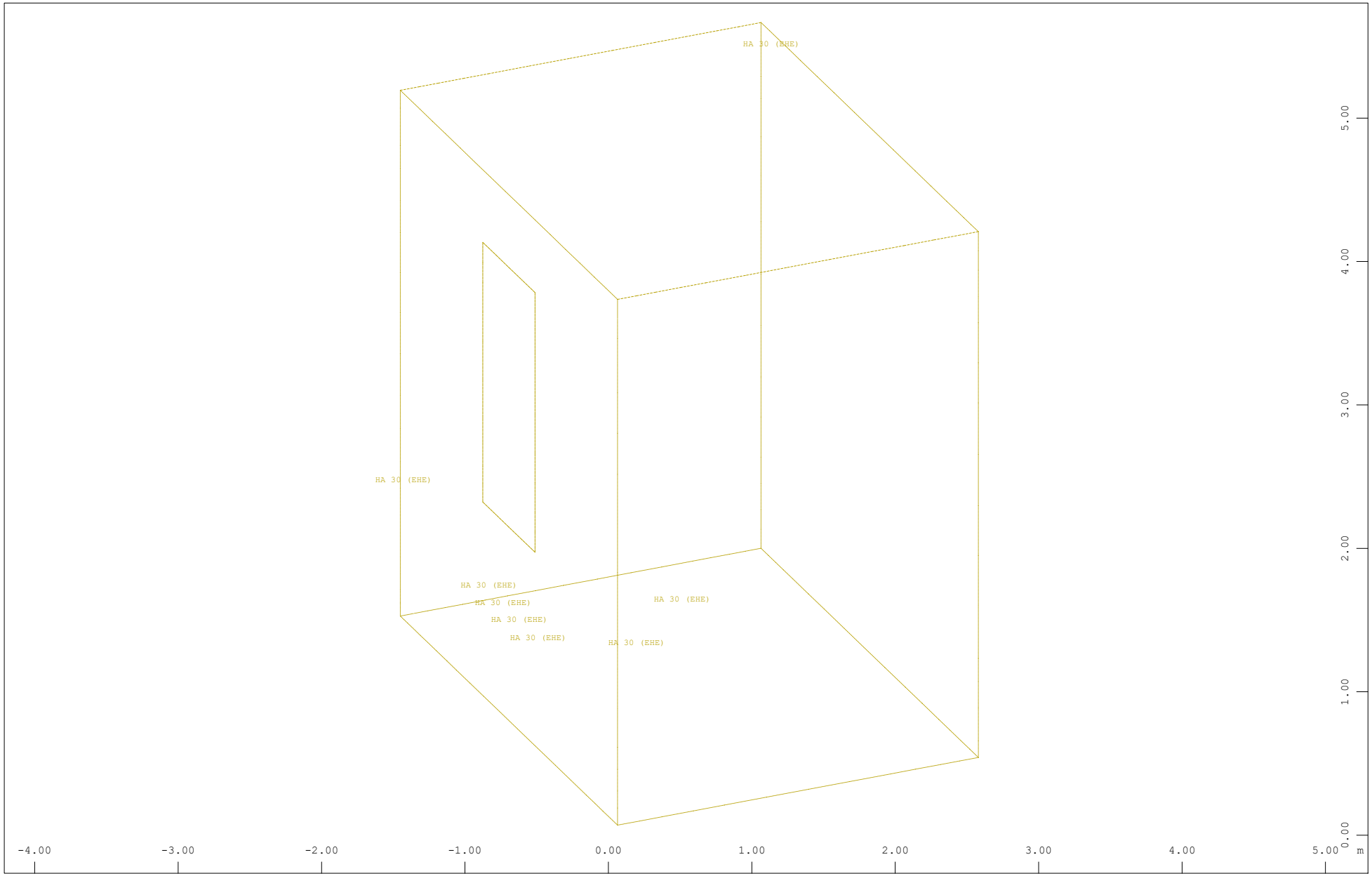
Comprobación	Valores	Estado
- Armado inf. dirección X hacia izq:	Mínimo: 0 cm Calculado: 0 cm	Cumple
- Armado inf. dirección Y hacia arriba:	Mínimo: 15 cm Calculado: 54 cm	Cumple
- Armado inf. dirección Y hacia abajo:	Mínimo: 0 cm Calculado: 0 cm	Cumple
- Armado sup. dirección X hacia der:	Mínimo: 0 cm Calculado: 0 cm	Cumple
- Armado sup. dirección X hacia izq:	Mínimo: 0 cm Calculado: 0 cm	Cumple
- Armado sup. dirección Y hacia arriba:	Mínimo: 15 cm Calculado: 88 cm	Cumple
- Armado sup. dirección Y hacia abajo:	Mínimo: 0 cm Calculado: 0 cm	Cumple
Longitud mínima de las patillas:	Mínimo: 12 cm	
- Armado inf. dirección X hacia der:	Calculado: 50 cm	Cumple
- Armado inf. dirección X hacia izq:	Calculado: 50 cm	Cumple
- Armado inf. dirección Y hacia arriba:	Calculado: 16 cm	Cumple
- Armado inf. dirección Y hacia abajo:	Calculado: 16 cm	Cumple
- Armado sup. dirección X hacia der:	Calculado: 50 cm	Cumple
- Armado sup. dirección X hacia izq:	Calculado: 50 cm	Cumple
- Armado sup. dirección Y hacia arriba:	Calculado: 50 cm	Cumple
- Armado sup. dirección Y hacia abajo:	Calculado: 50 cm	Cumple
Se cumplen todas las comprobaciones		

Información adicional:

- Zapata de tipo rígido (Artículo 58.2 de la norma EHE-08)
- Relación rotura pésima (En dirección X): 0.00
- Relación rotura pésima (En dirección Y): 0.33
- Cortante de agotamiento (En dirección X): 0.00 kN
- Cortante de agotamiento (En dirección Y): 280.27 kN

ANEJOS DE CÁLCULO – CÁMARA DE LLAVES

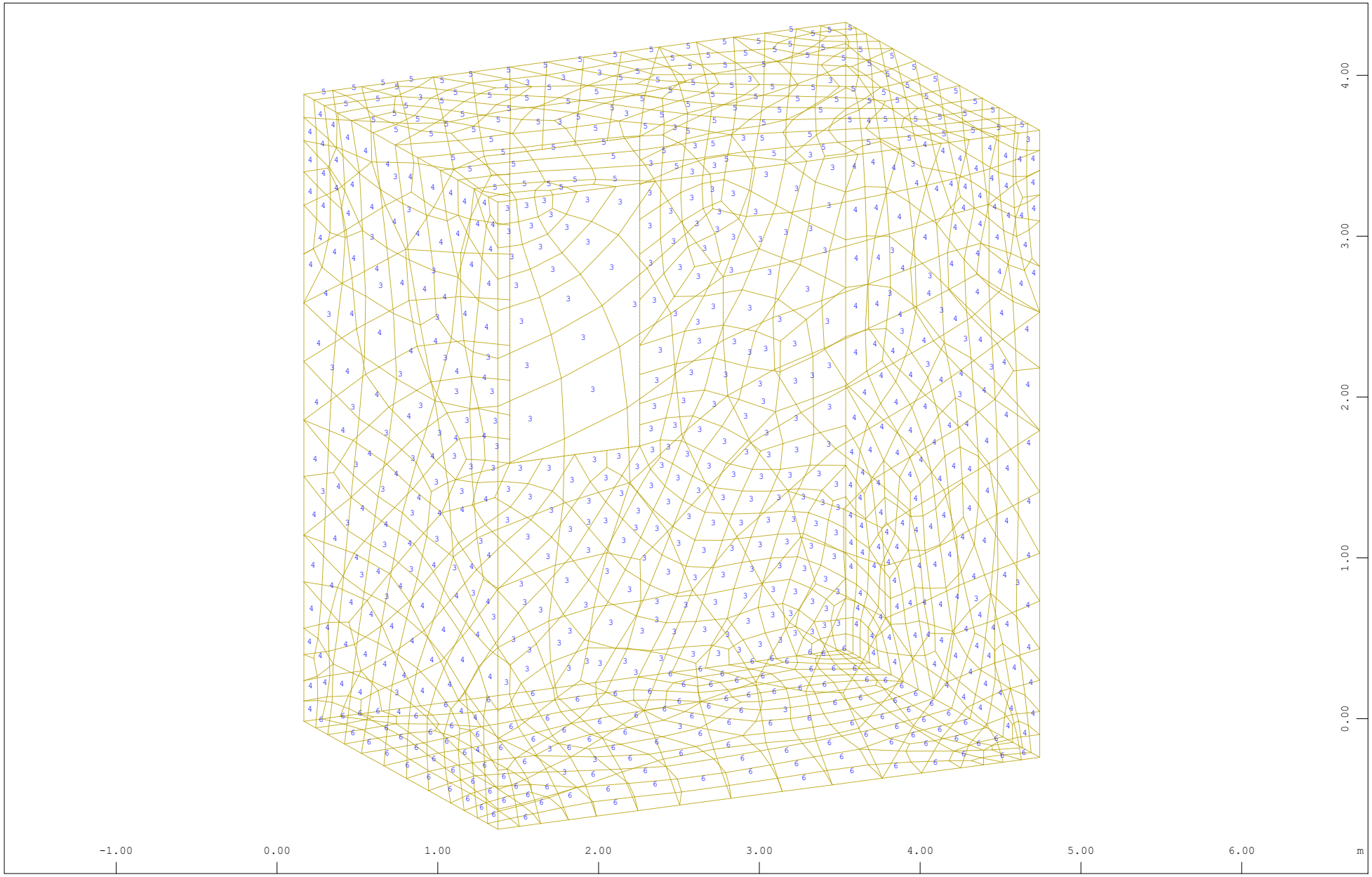

4.00
3.00
2.00
1.00
0.00
-1.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
m
Z
Y
X
Contour
M 1 : 33
X * 0.502
Y * 0.906
Z * 0.962



Material designations, Quadrilateral Elements

Z
Y
X

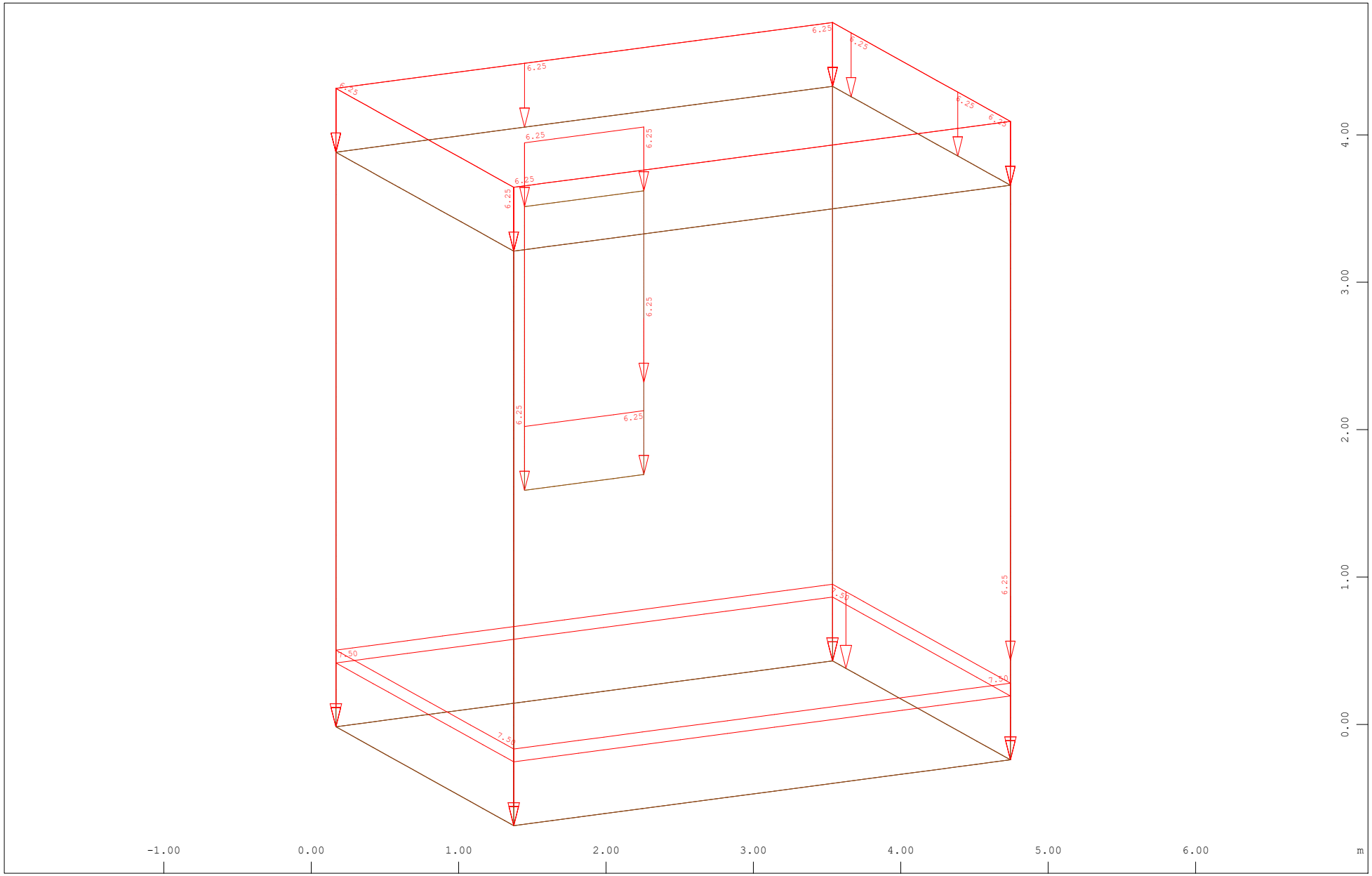
M 1 : 37
X * 0.931
Y * 0.561
Z * 0.905



Z
Y
X

Quadrilateral Elements , Number of group (Max=6)

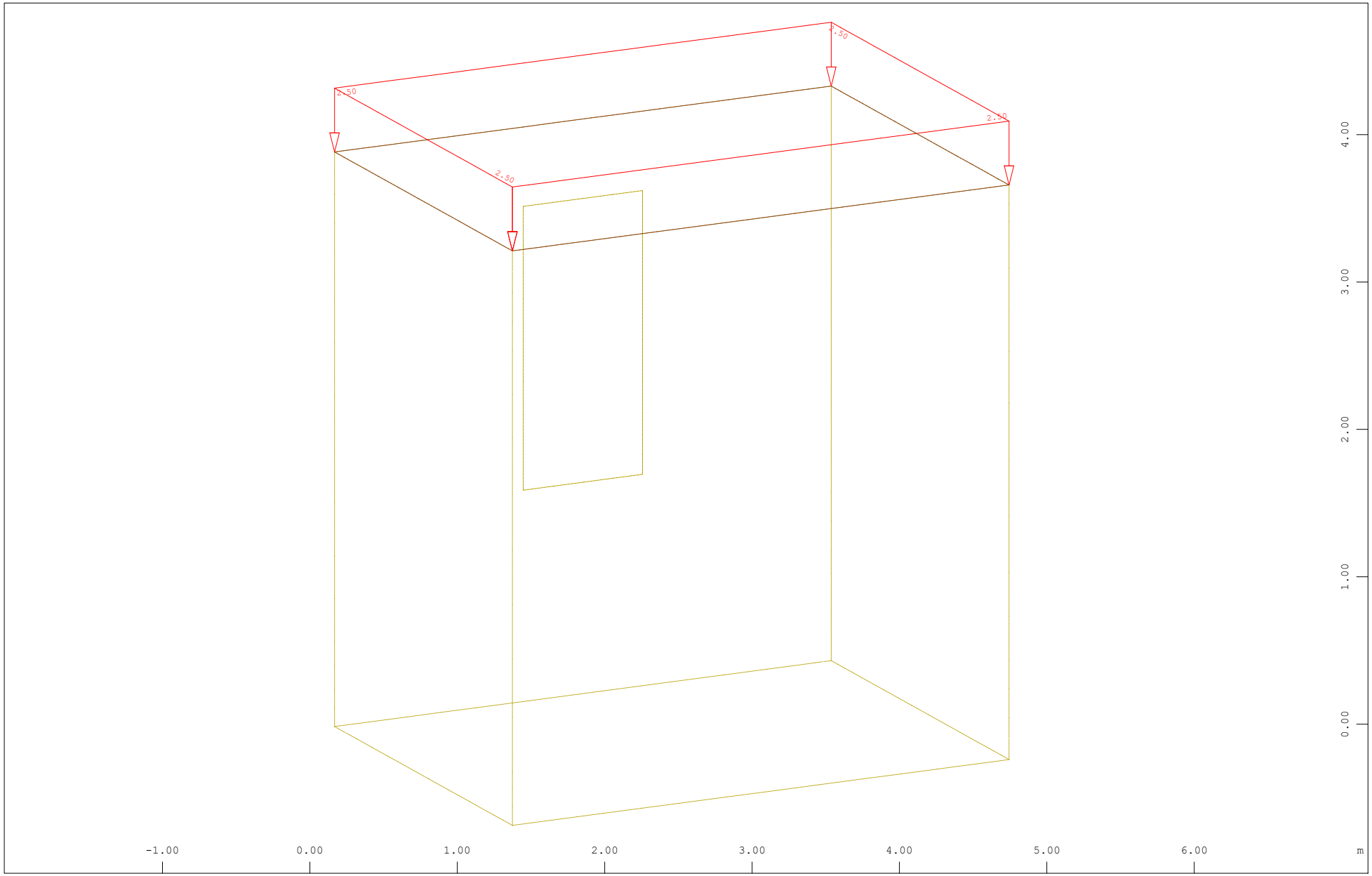
M 1 : 33
X * 0.502
Y * 0.906
Z * 0.962



Z
Y
X

Area load, Loadcase 1 PP , (1 cm 3D = unit) QUAD-Area dead load in global Z in Element (Unit=5.00 kN/m2) (Min=-7.50) (Max=-6.25)

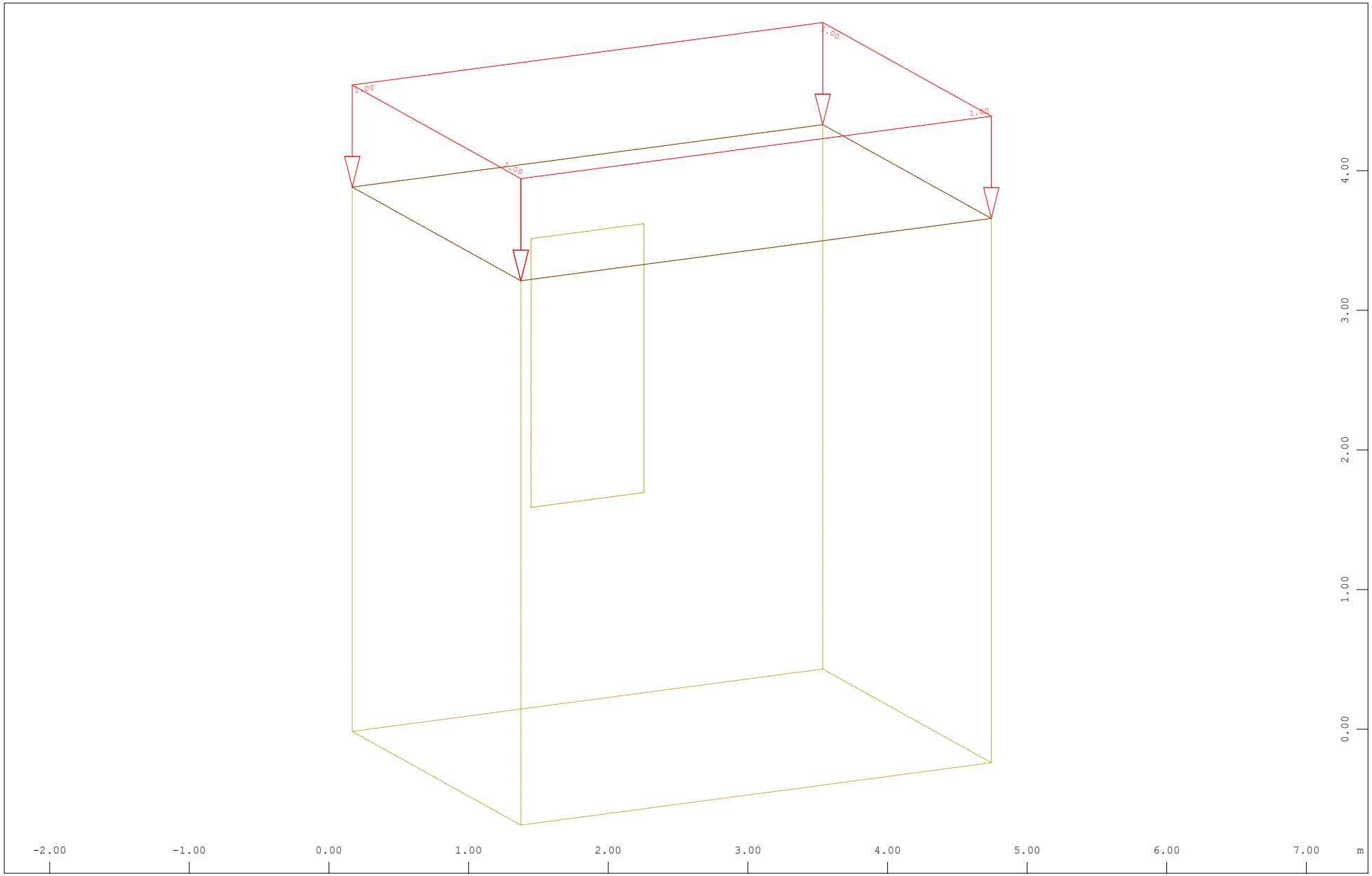
M 1 : 36
X * 0.502
Y * 0.906
Z * 0.962

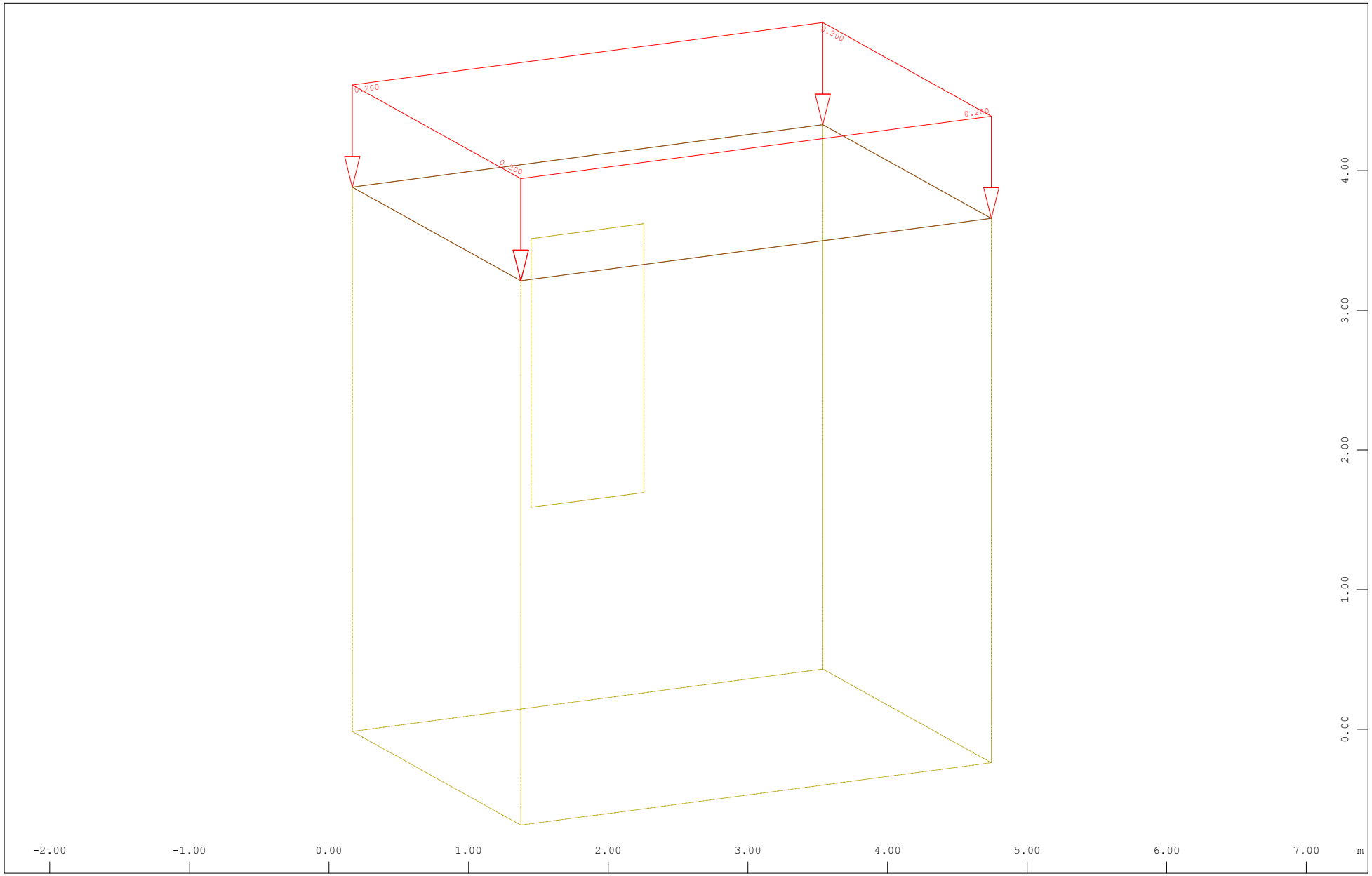


Area load, Loadcase 2 CM , (1 cm 3D = unit) (force) in global Z (Unit=2.00 kN/m2) (Min=-2.50) (Max=-2.50)

M 1 : 36

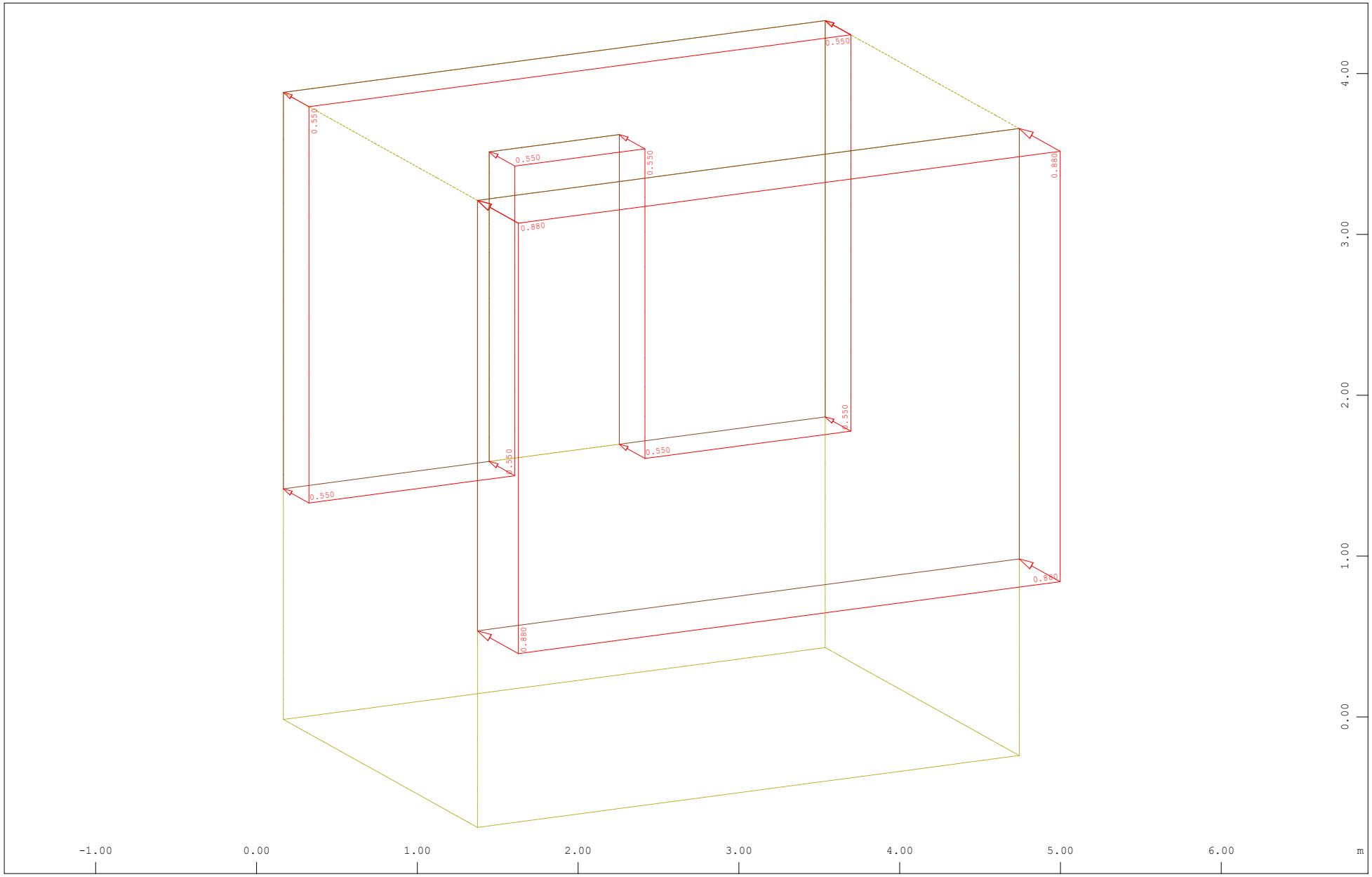
X * 0.502
Y * 0.906
Z * 0.962


1.00
1.00
1.00
4.00
3.00
2.00
1.00
0.00
-2.00
-1.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
m
Z
Y
X
Area load, Loadcase 3 SCU , (1 cm 3D = unit) (force) in global Z (Unit=0.500 kN/m2) (Min=-1.00) (Max=-1.00)
M 1 : 38
X * 0.502
Y * 0.906
Z * 0.962



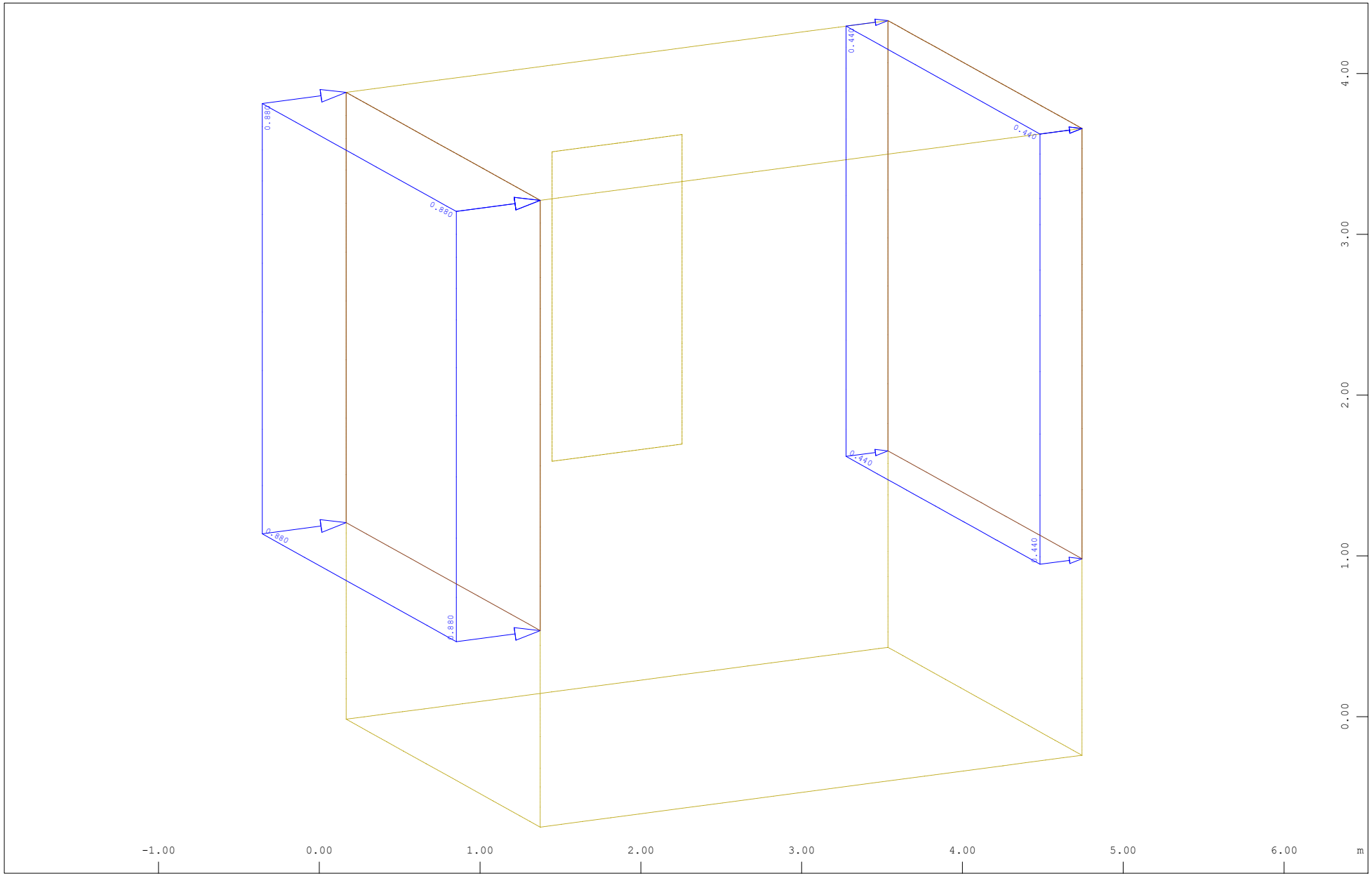
Area load, Loadcase 4 N , (1 cm 3D = unit) (force) in global Z (Unit=0.100 kN/m2) (Min=-0.200) (Max=-0.200)

M 1 : 38
X * 0.502
Y * 0.906
Z * 0.962



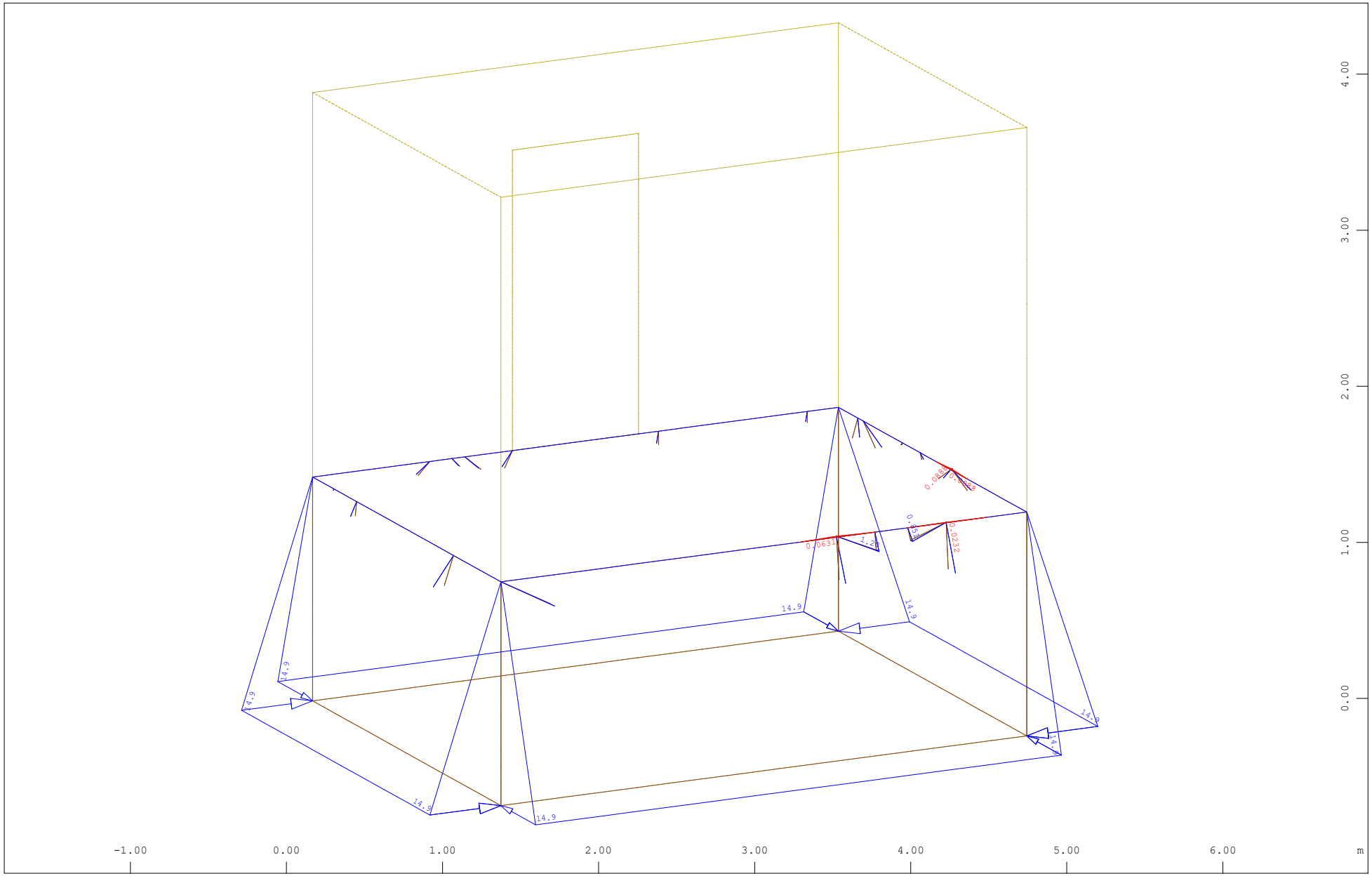
Area load, Loadcase 5 Wx , (1 cm 3D = unit) (force) in global X (Unit=0.500 kN/m2) (Min=-0.880) (Max=-0.550)

M 1 : 33
X * 0.502
Y * 0.906
Z * 0.962



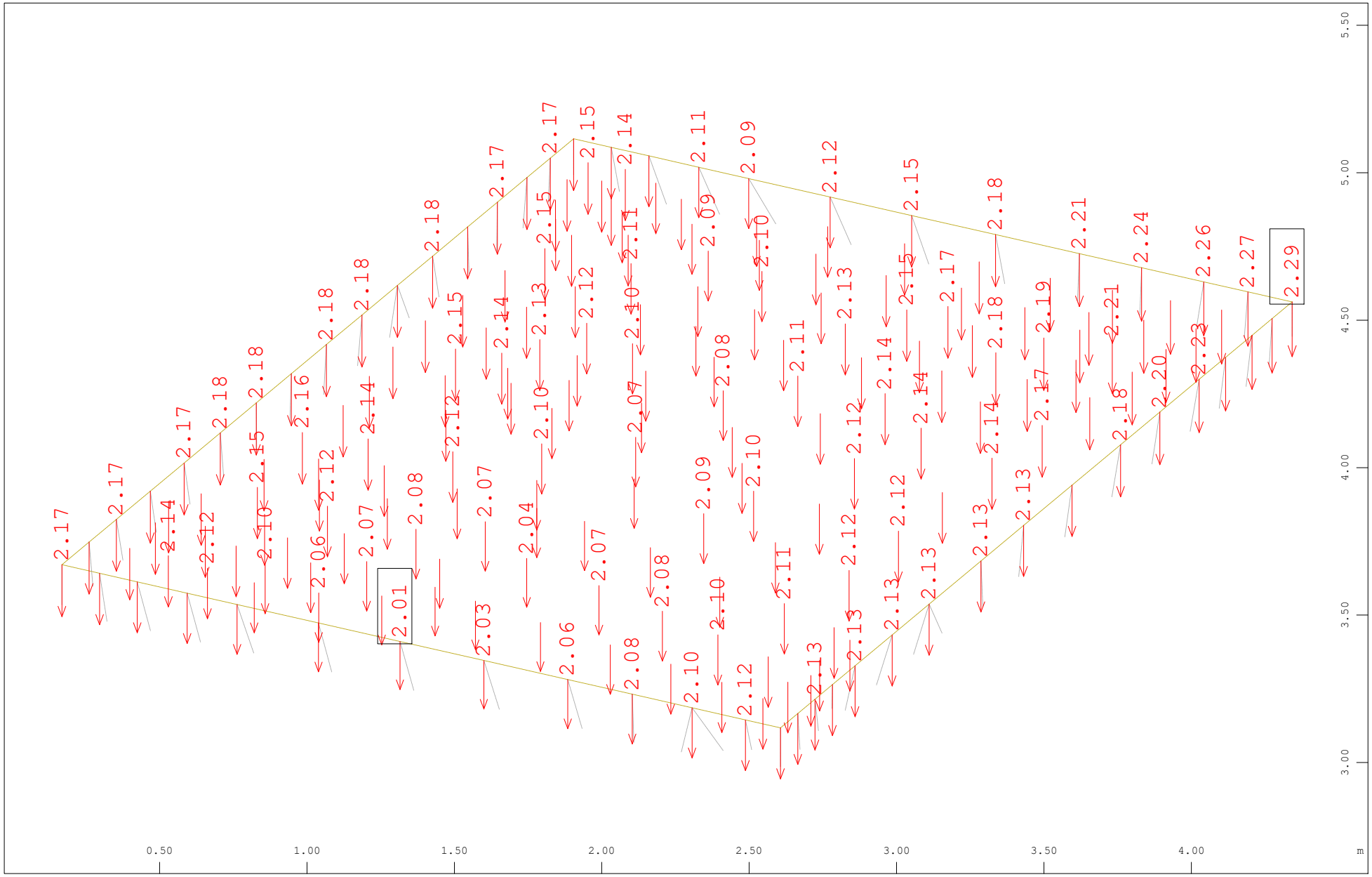
Area load, Loadcase 6 Wy , (1 cm 3D = unit) (force) in global Y (Unit=0.500 kN/m2) (Max=0.880)

M 1 : 33
X * 0.502
Y * 0.906
Z * 0.962



Area load, Loadcase 7 Terreno , (1 cm 3D = unit) (force) in local z (Unit=10.0 kN/m2) (Min=-0.0888) (Max=14.9)

M 1 : 34
X * 0.502
Y * 0.906
Z * 0.962



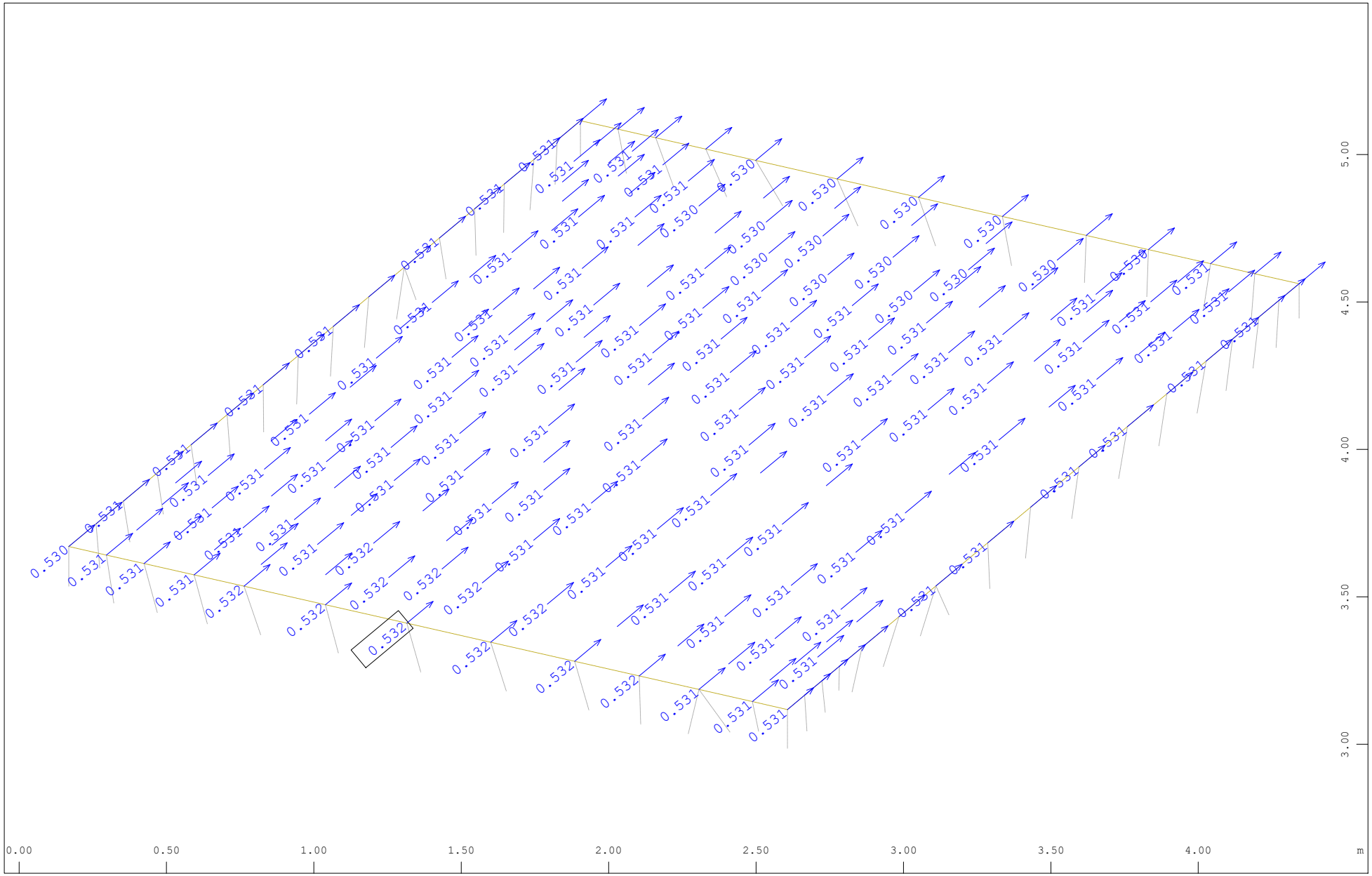
Sector of system Group 5

Nodal displacement in global Z, Loadcase 1176 MINR-UZ NODE Nodal Displacements , 1 cm 3D = 2.00 mm

(Min=-2.29) (Max=-2.01)

M 1 : 18

X * 0.909
Y * 0.602
Z * 0.901



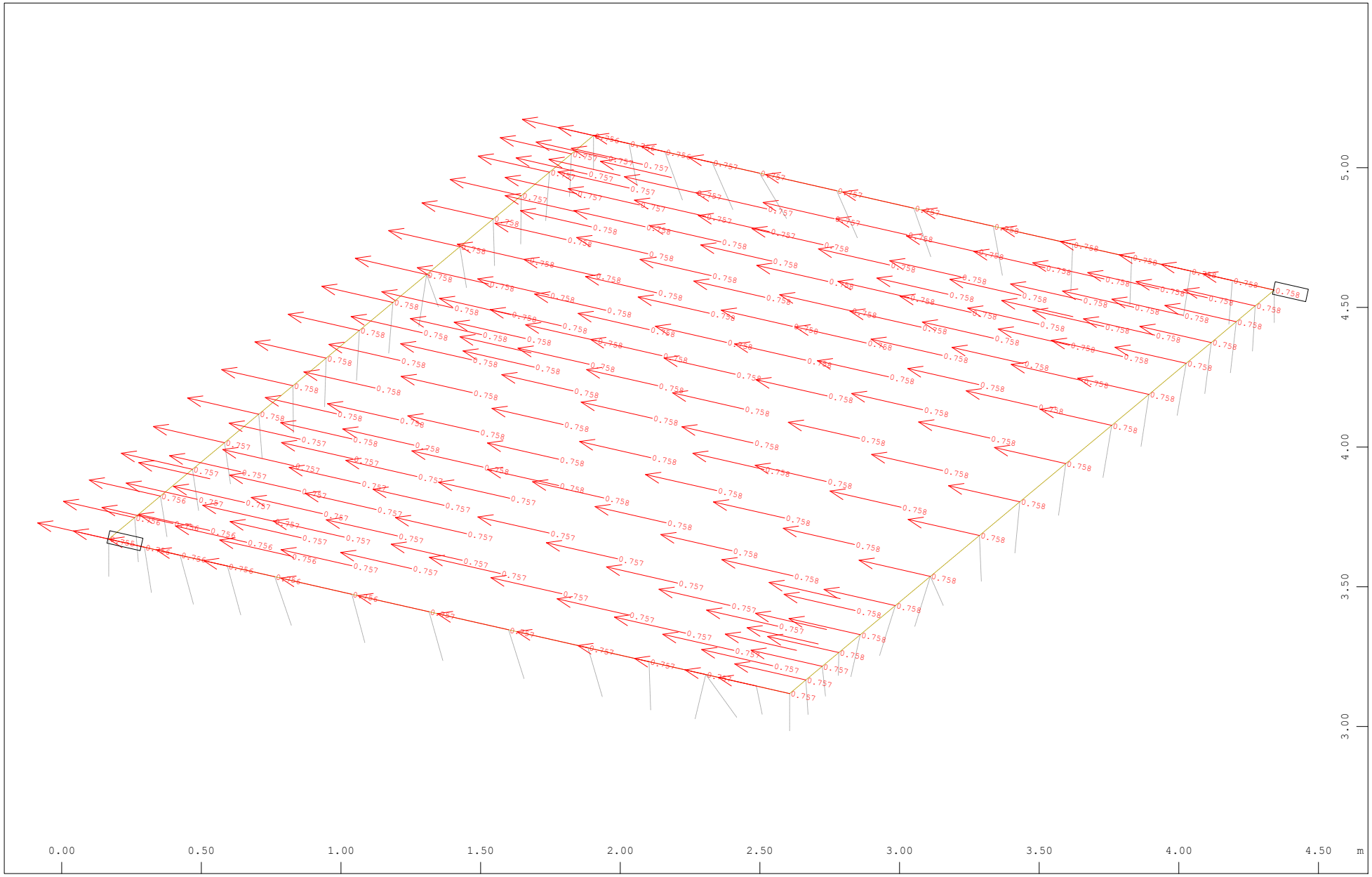
Sector of system Group 5

Nodal displacement in global Y, Loadcase 1173 MAXR-UY NODE Nodal Displacements , 1 cm 3D = 0.500 mm

(Max=0.532)

M 1 : 18

X * 0.909
Y * 0.602
Z * 0.901



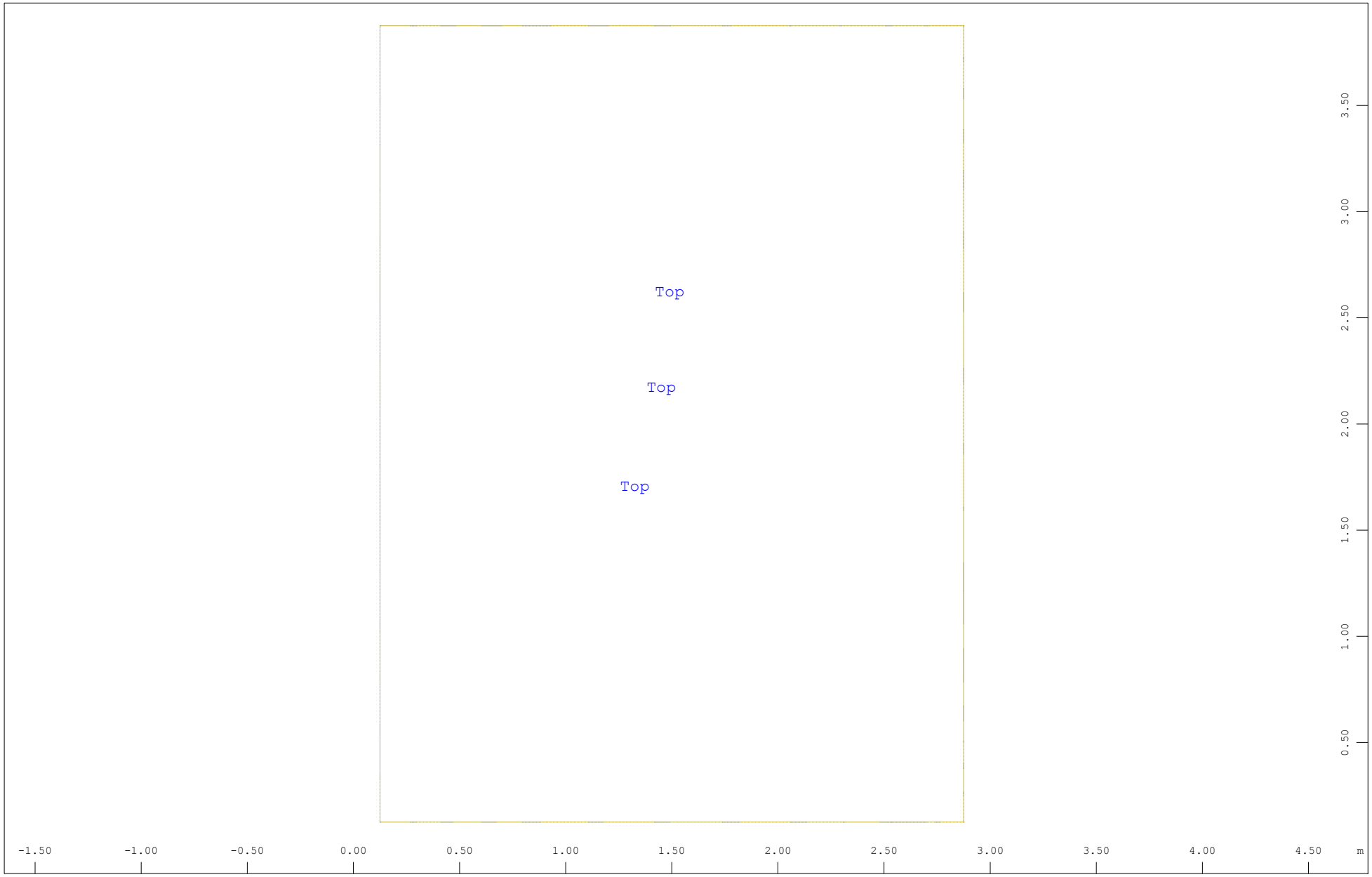
Sector of system Group 5

Nodal displacement in global X, Loadcase 1172 MINR-UX NODE Nodal Displacements , 1 cm 3D = 0.500 mm

(Min=-0.758) (Max=-0.755)

M 1 : 19

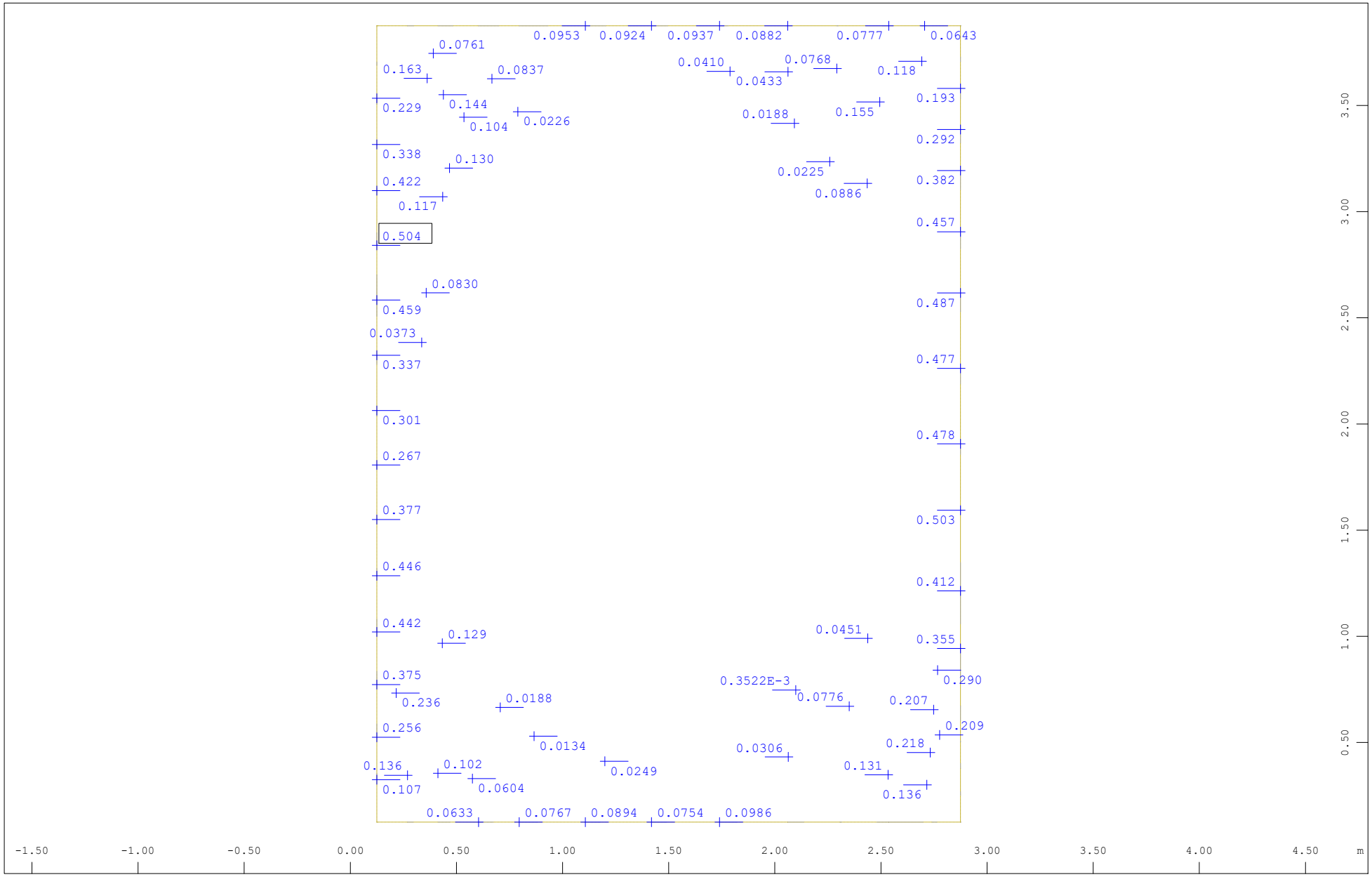
X * 0.909
Y * 0.602
Z * 0.901



Sector of system Group 5

Visible QUAD surface top/bottom in Element

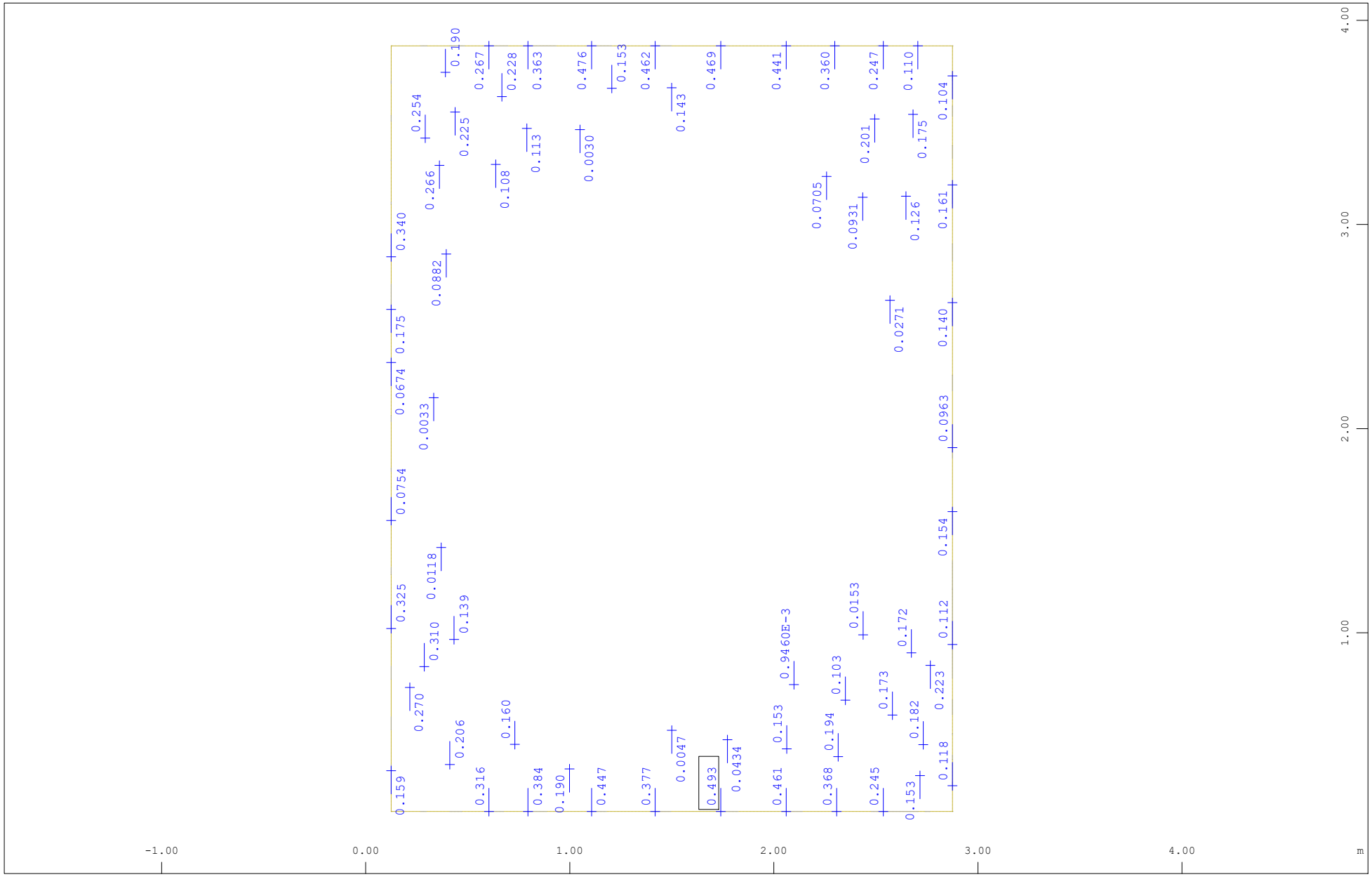
M 1 : 25



Sector of system Group 5

M 1 : 25

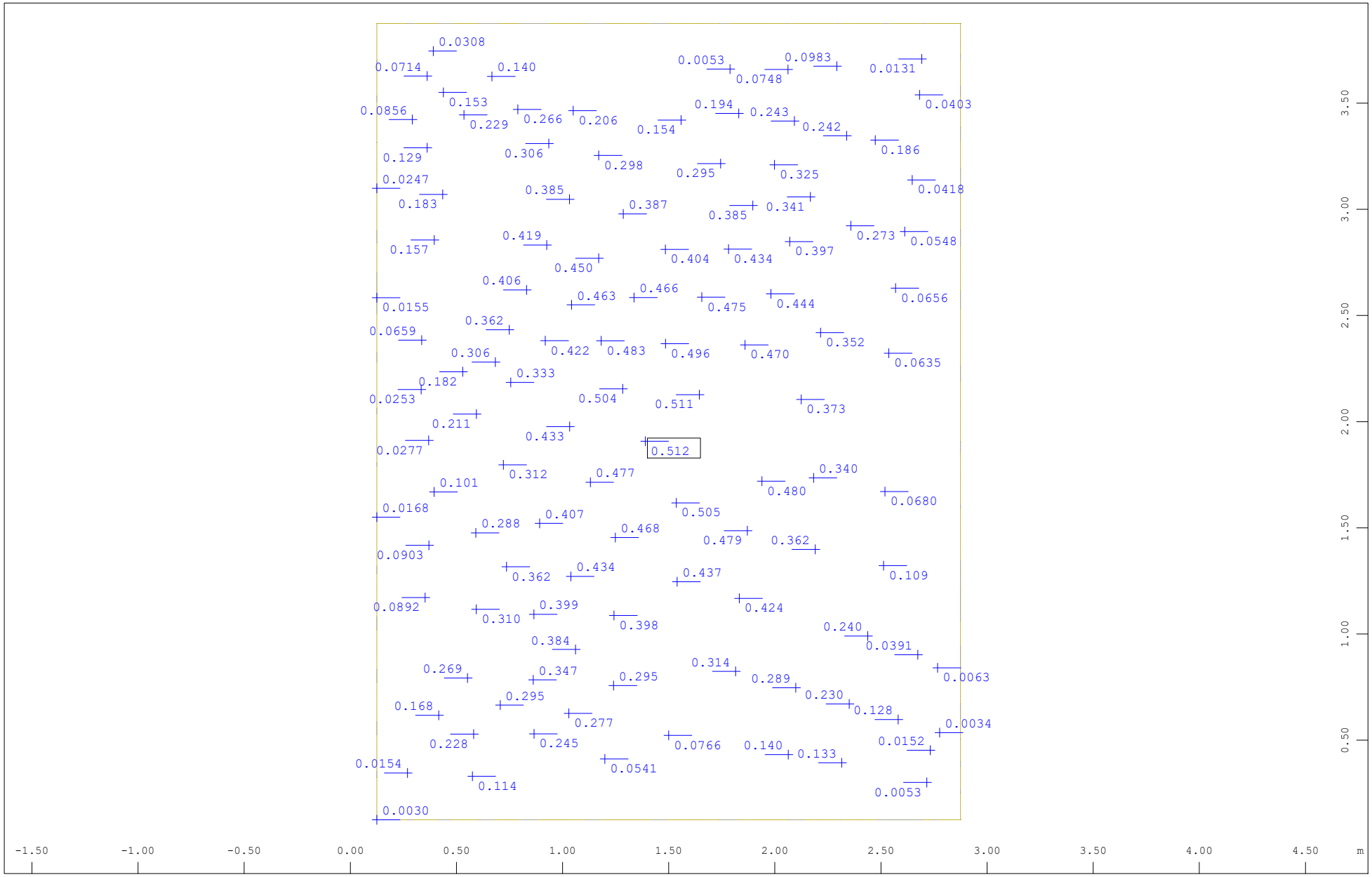
Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=0.504)



Y
Z X Sector of system Group 5

Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=0.493)

M 1 : 26

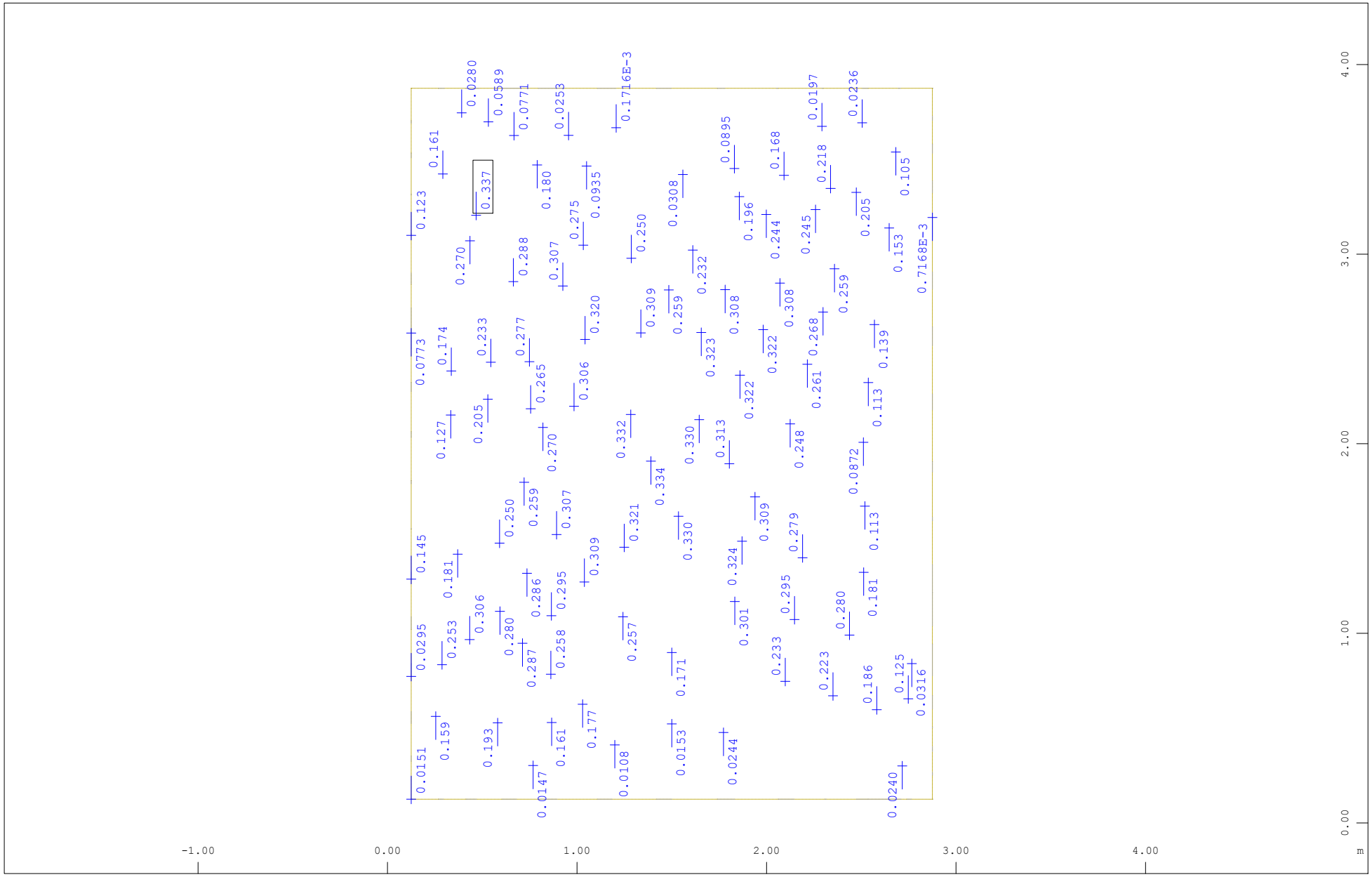


Y
Z X

Sector of system Group 5

M 1 : 25

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=0.512)



-1.00 0.00 1.00 2.00 3.00 4.00 m

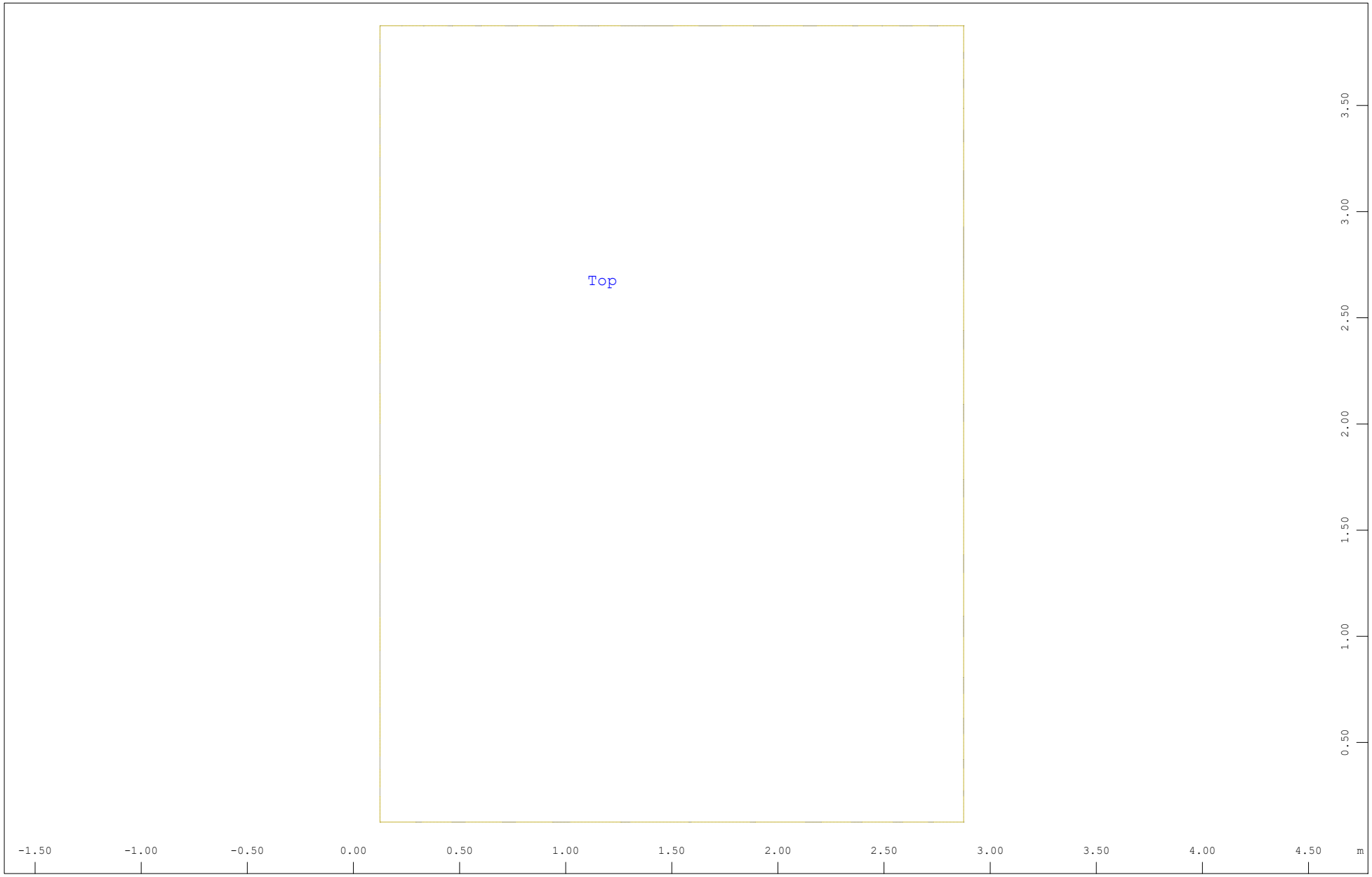
0.00 1.00 2.00 3.00 4.00

Y
Z X

Sector of system Group 5

Quadrilateral Elements , lower Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=0.337)

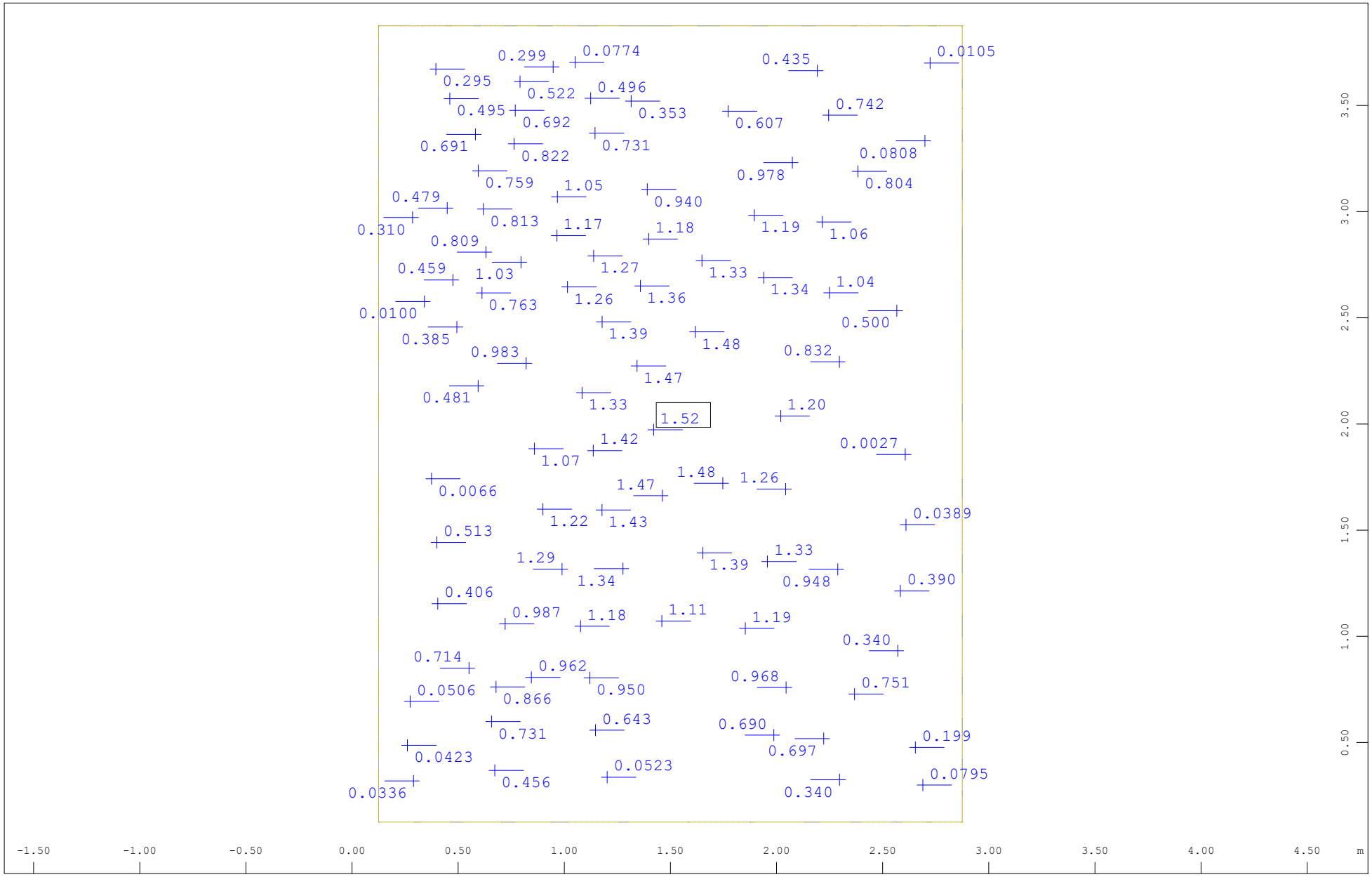
M 1 : 28



Sector of system Group 6

Visible QUAD surface top/bottom in Element

M 1 : 25



Sector of system Group 6

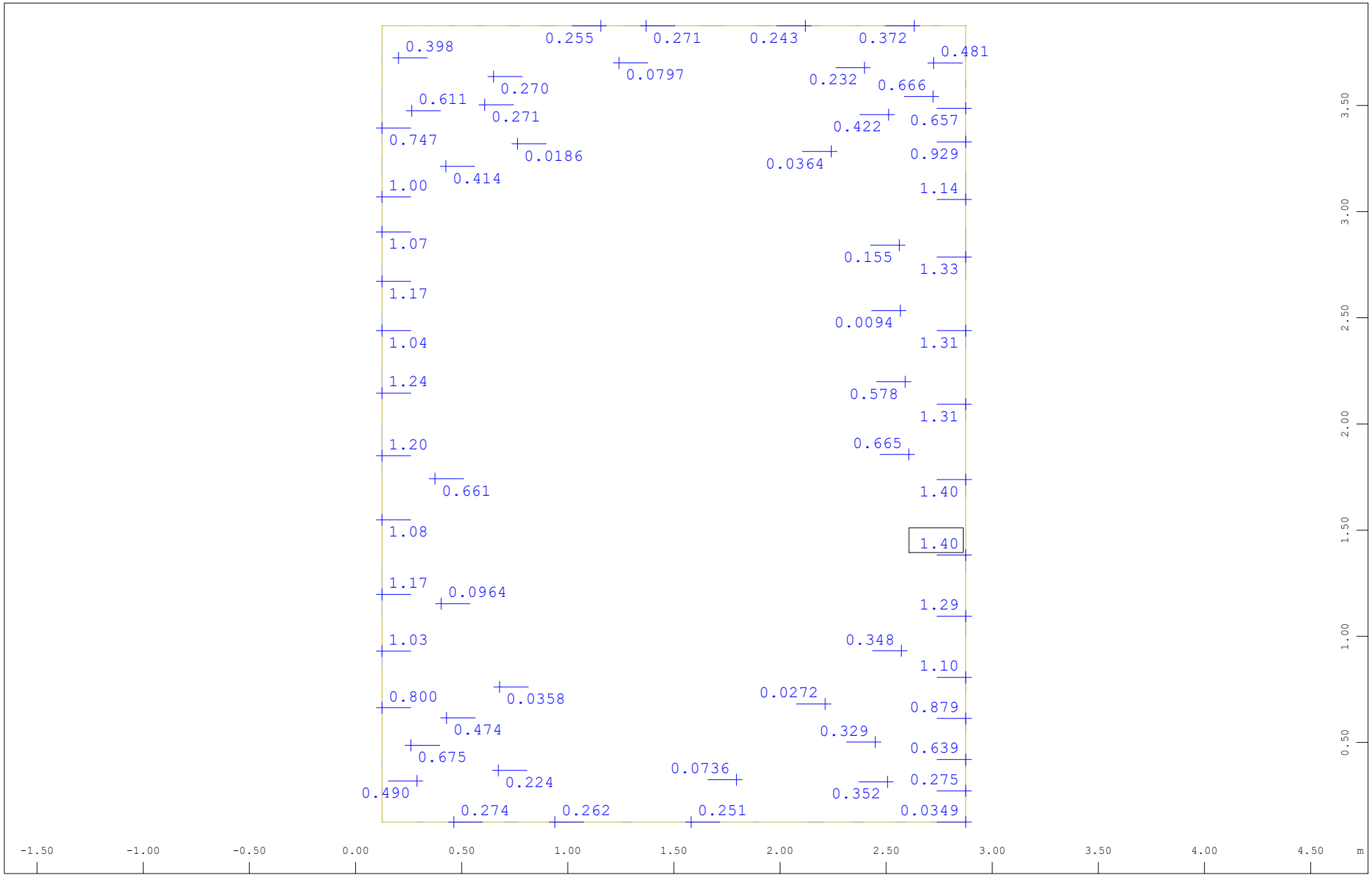
M 1 : 25

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=1.52)

Y
Z X Sector of system Group 6

Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 1 (Max=0.975)

M 1 : 27

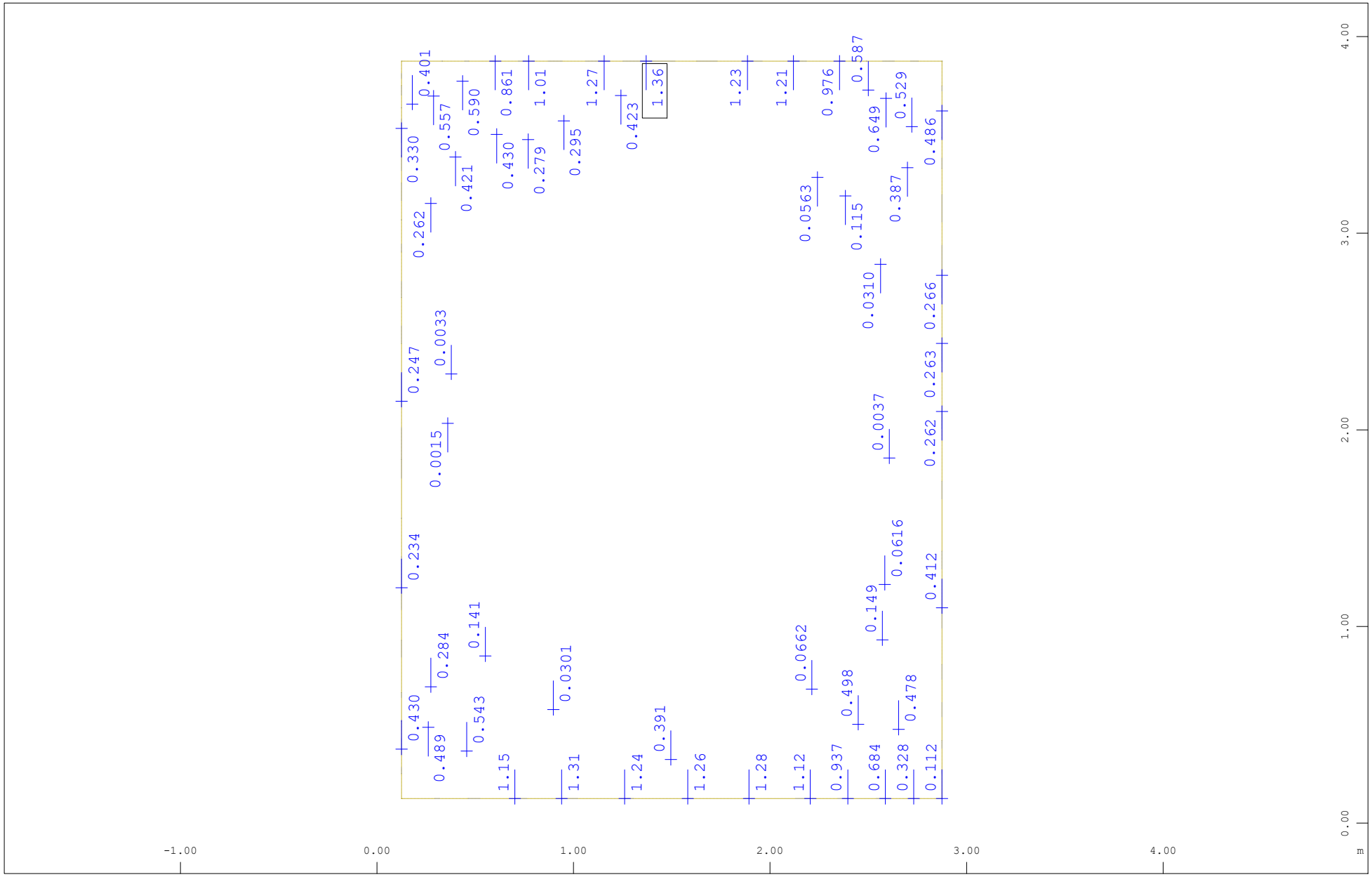


Y
Z X

Sector of system Group 6

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node in cm2/m, Design Case 1 (Max=1.40)

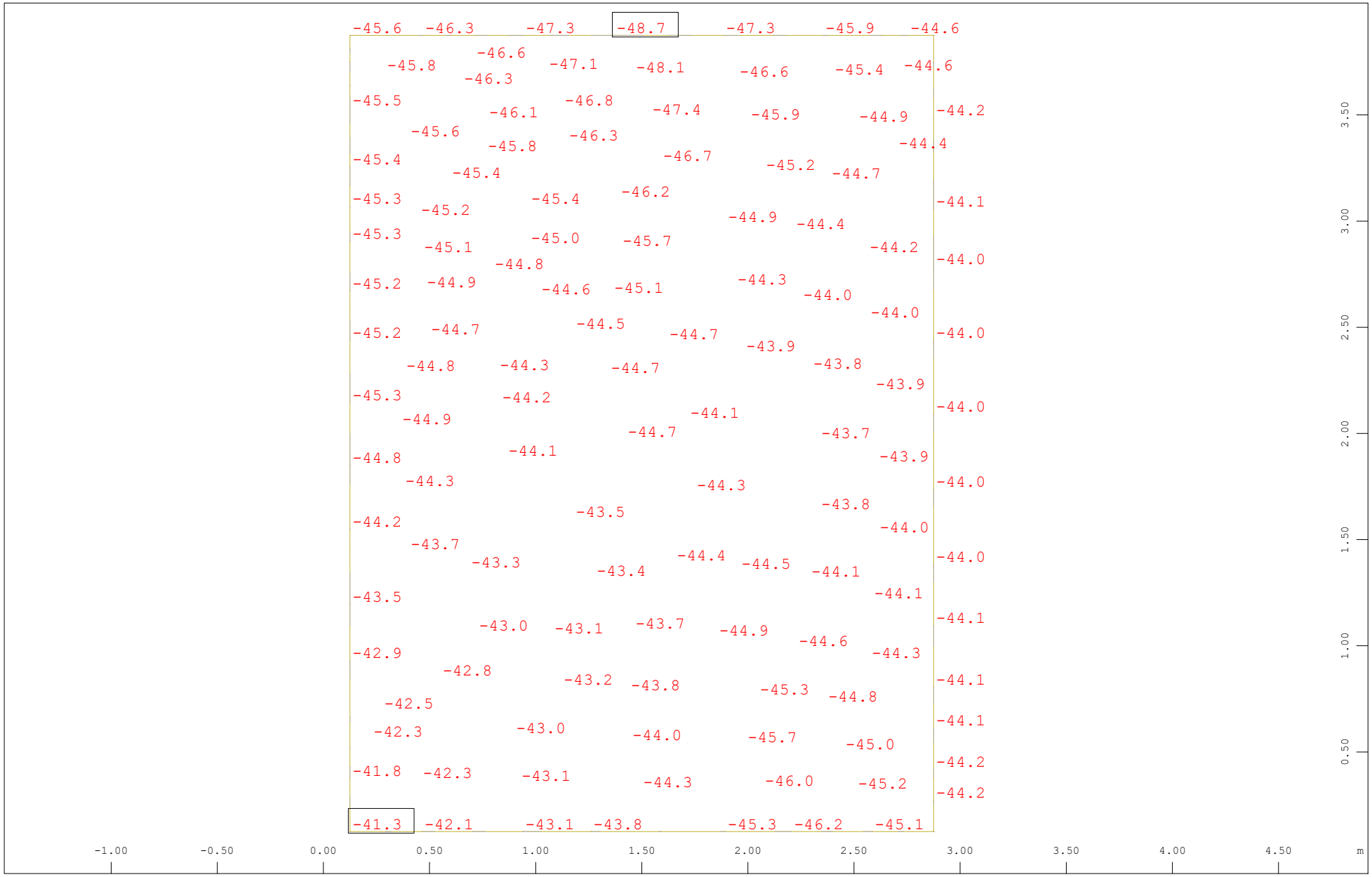
M 1 : 25



Y
Z X Sector of system Group 6

Quadrilateral Elements , lower Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 1 (Max=1.36)

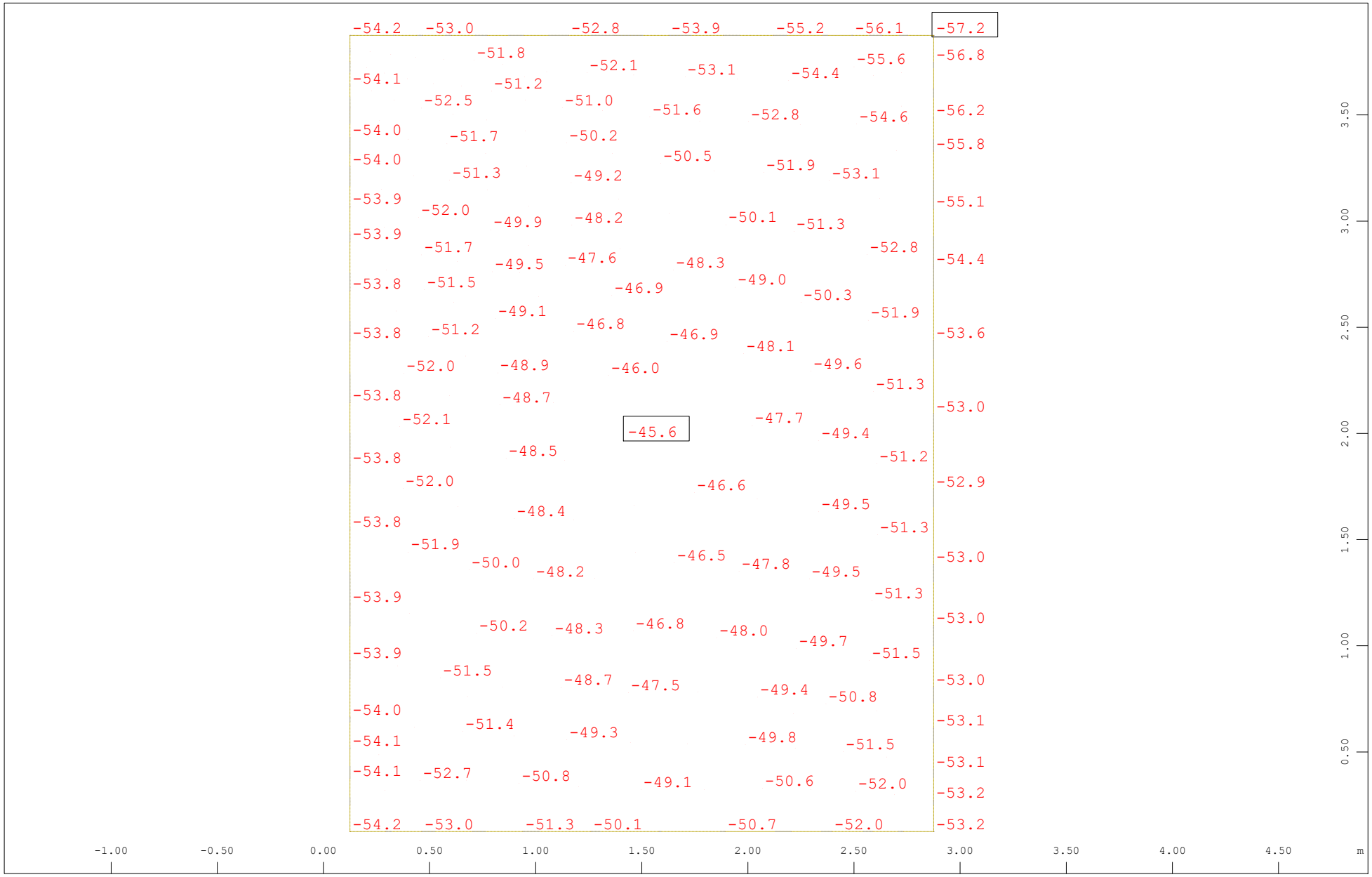
M 1 : 27



Y
Z X Sector of system Group 6

M 1 : 25

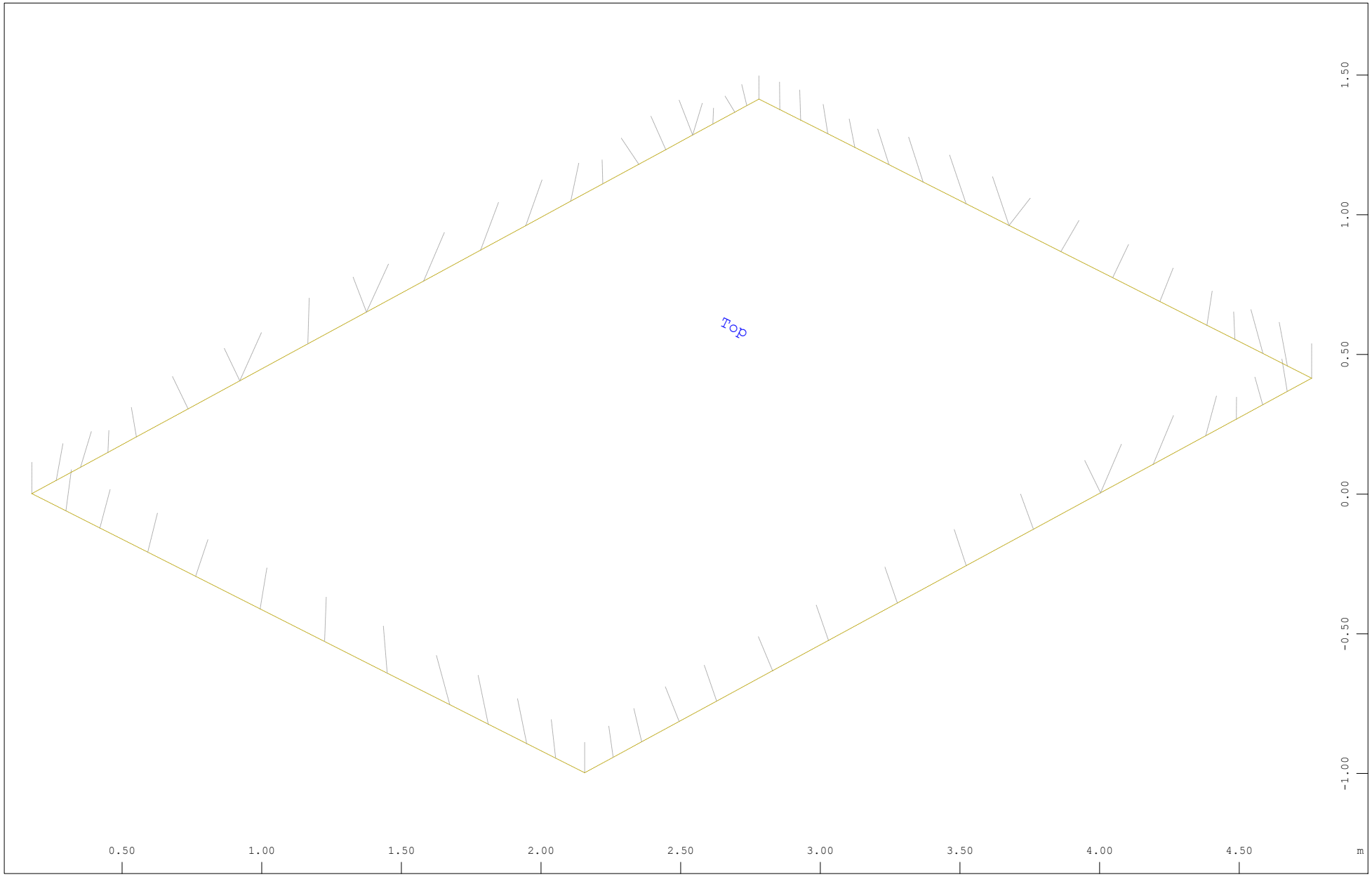
Bedding stress in Node, Loadcase 1117 MAXR-P QUAD Bedding Stresses , 1 cm 3D = 50.0 kN/m2 +=——— -=——— (Min=-48.7) (Max=-41.3)



Y
Z X Sector of system Group 6

M 1 : 25

Bedding stress in Node, Loadcase 1118 MINR-P QUAD Bedding Stresses , 1 cm 3D = 50.0 kN/m2 += -= (Min=-57.2) (Max=-45.6)



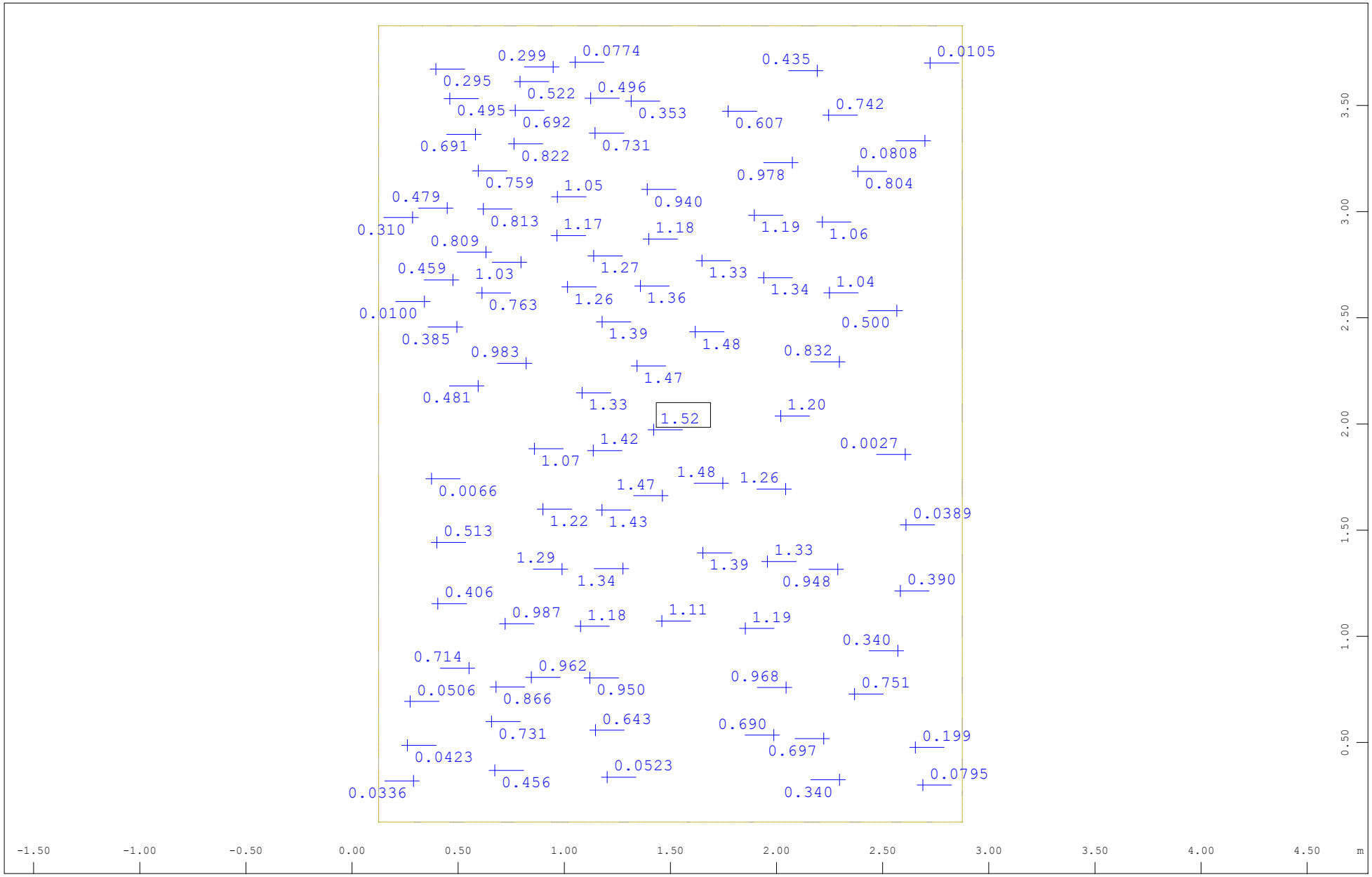
Z
Y
X

Sector of system Group 6

Visible QUAD surface top/bottom in Element

M 1 : 19

X * 0.806
Y * 0.790
Z * 0.852



Sector of system Group 6

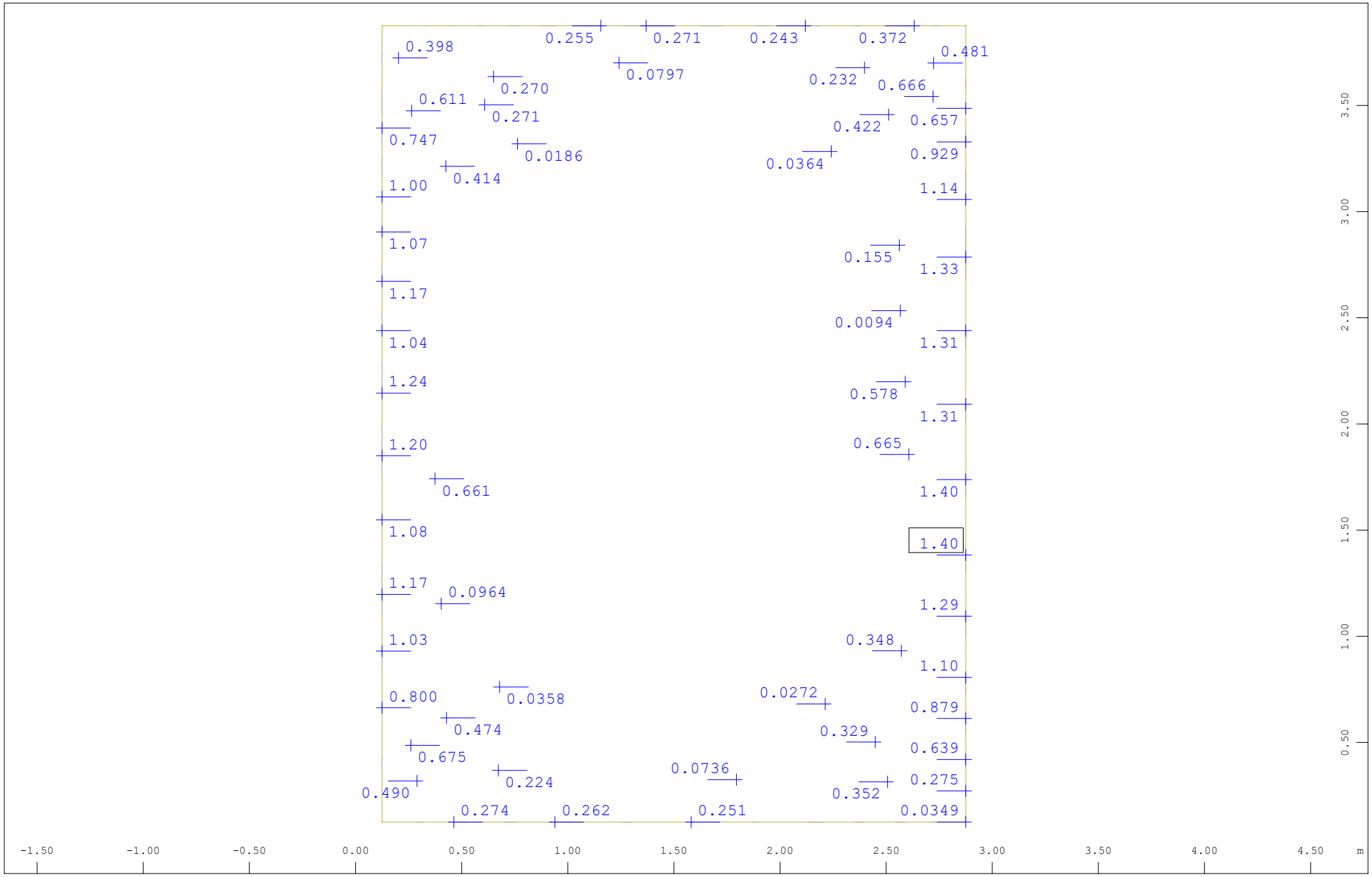
M 1 : 25

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=1.52)

Y
Z X Sector of system Group 6

Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=0.975)

M 1 : 27

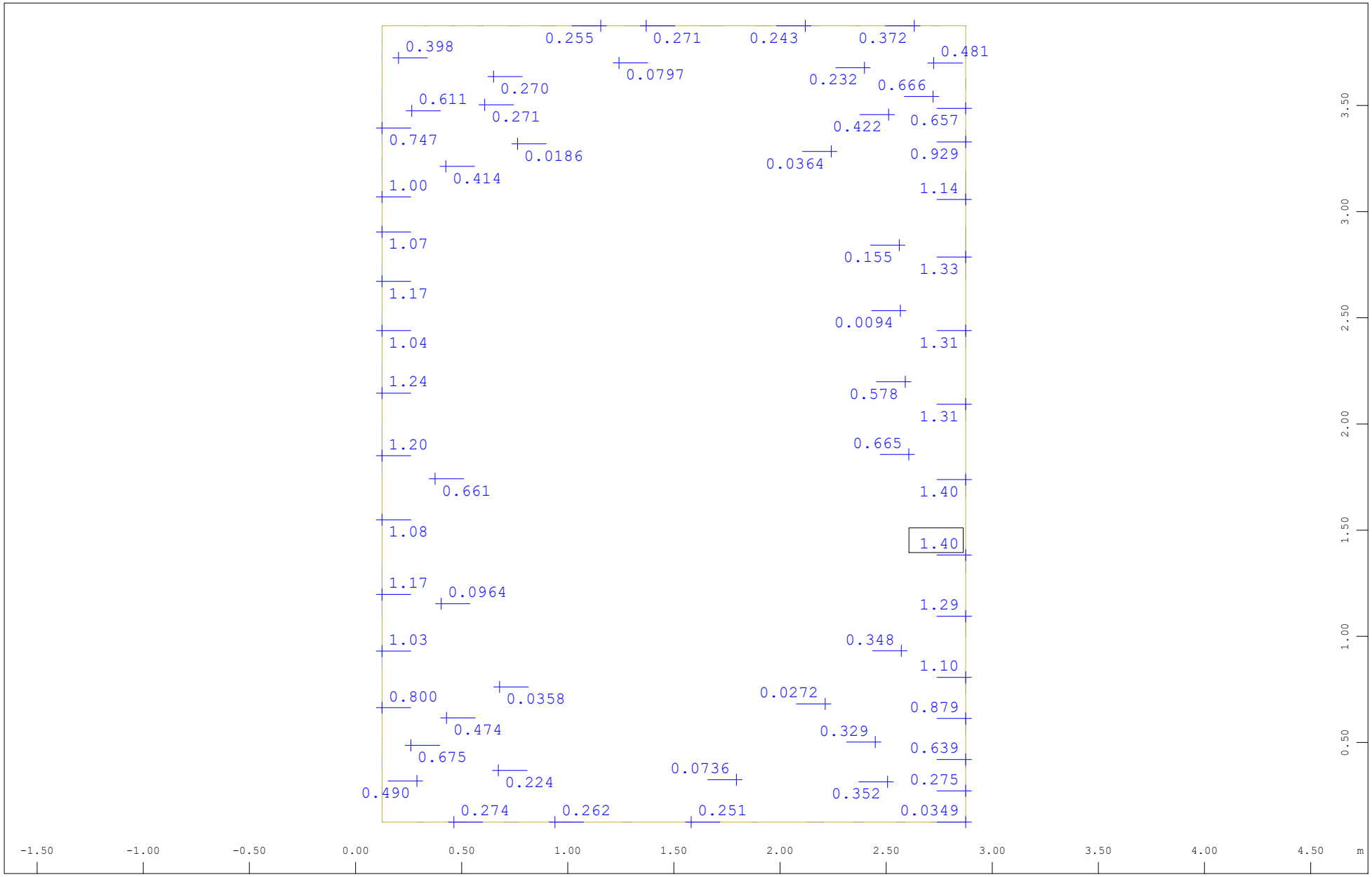


Y
Z X

Sector of system Group 6

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=1.40)

M 1 : 25

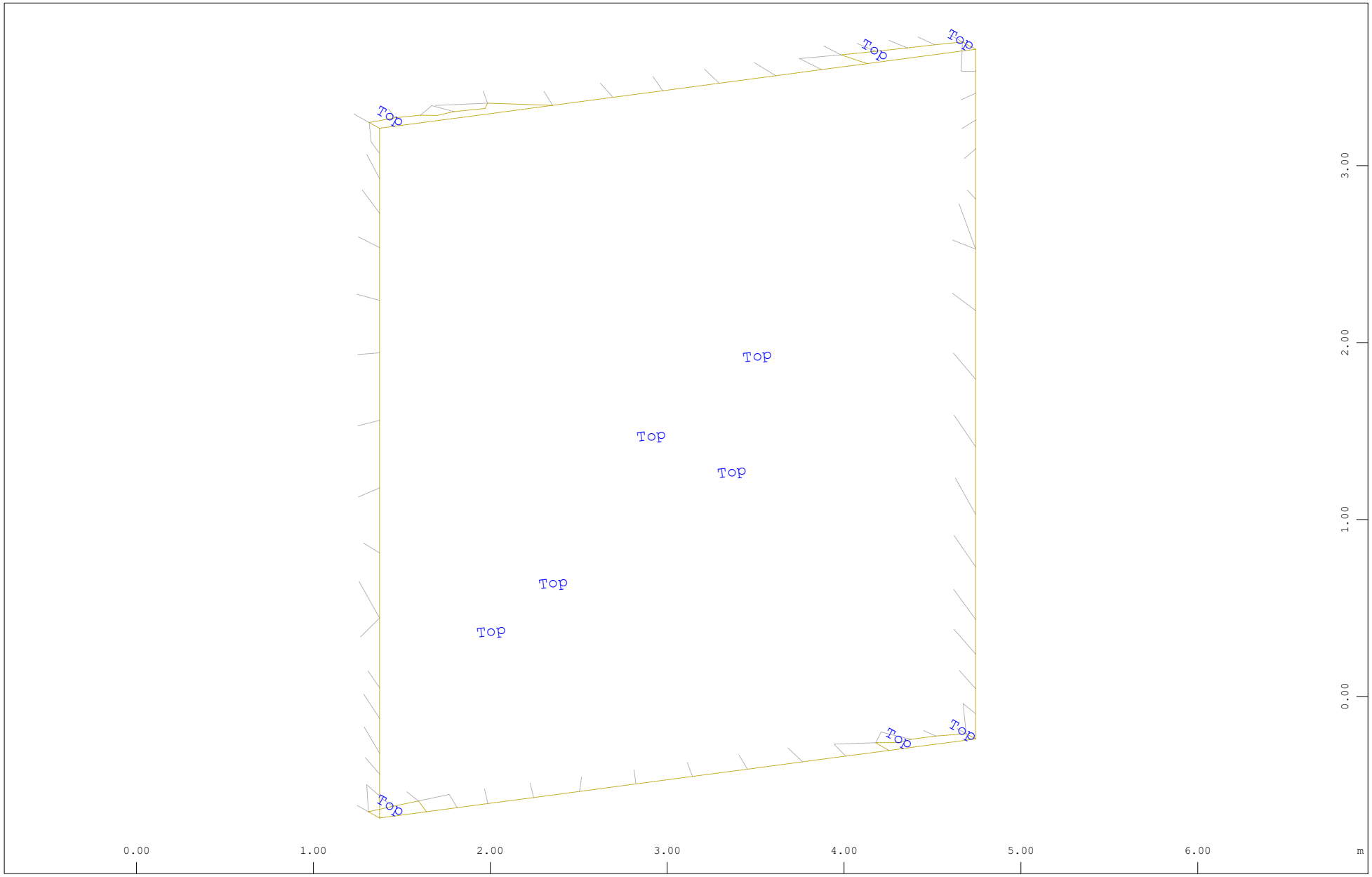


Y
Z X

Sector of system Group 6

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=1.40)

M 1 : 25



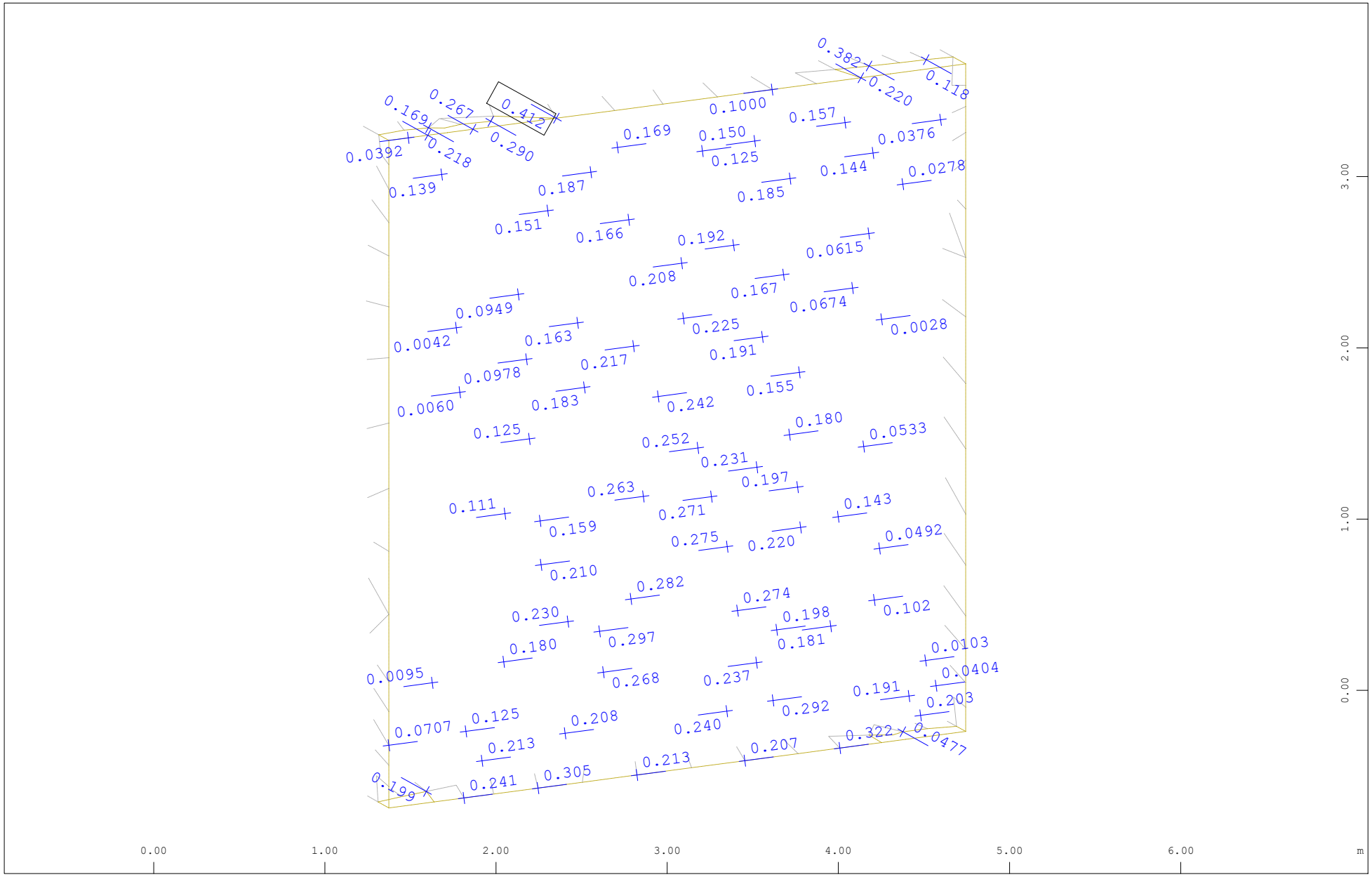
Z
Y
X

Sector of system Quadrilateral Elements Group 3 5 6

Visible QUAD surface top/bottom in Element

M 1 : 30

X * 0.502
Y * 0.906
Z * 0.962



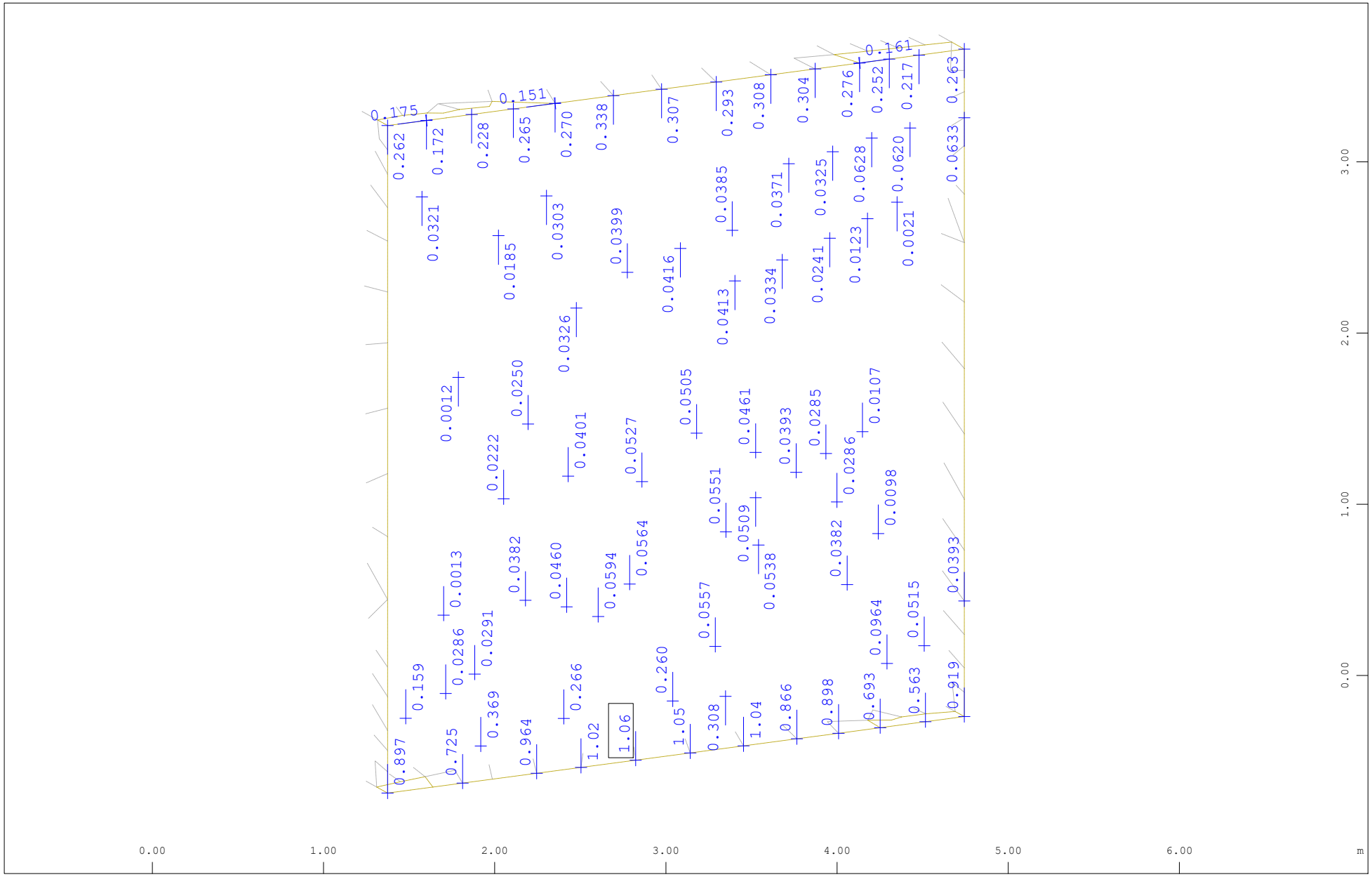
Z
Y
X

Sector of system Quadrilateral Elements Group 3 5 6

Quadrilateral Elements , upper Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=0.412)

M 1 : 31

X * 0.502
Y * 0.906
Z * 0.962



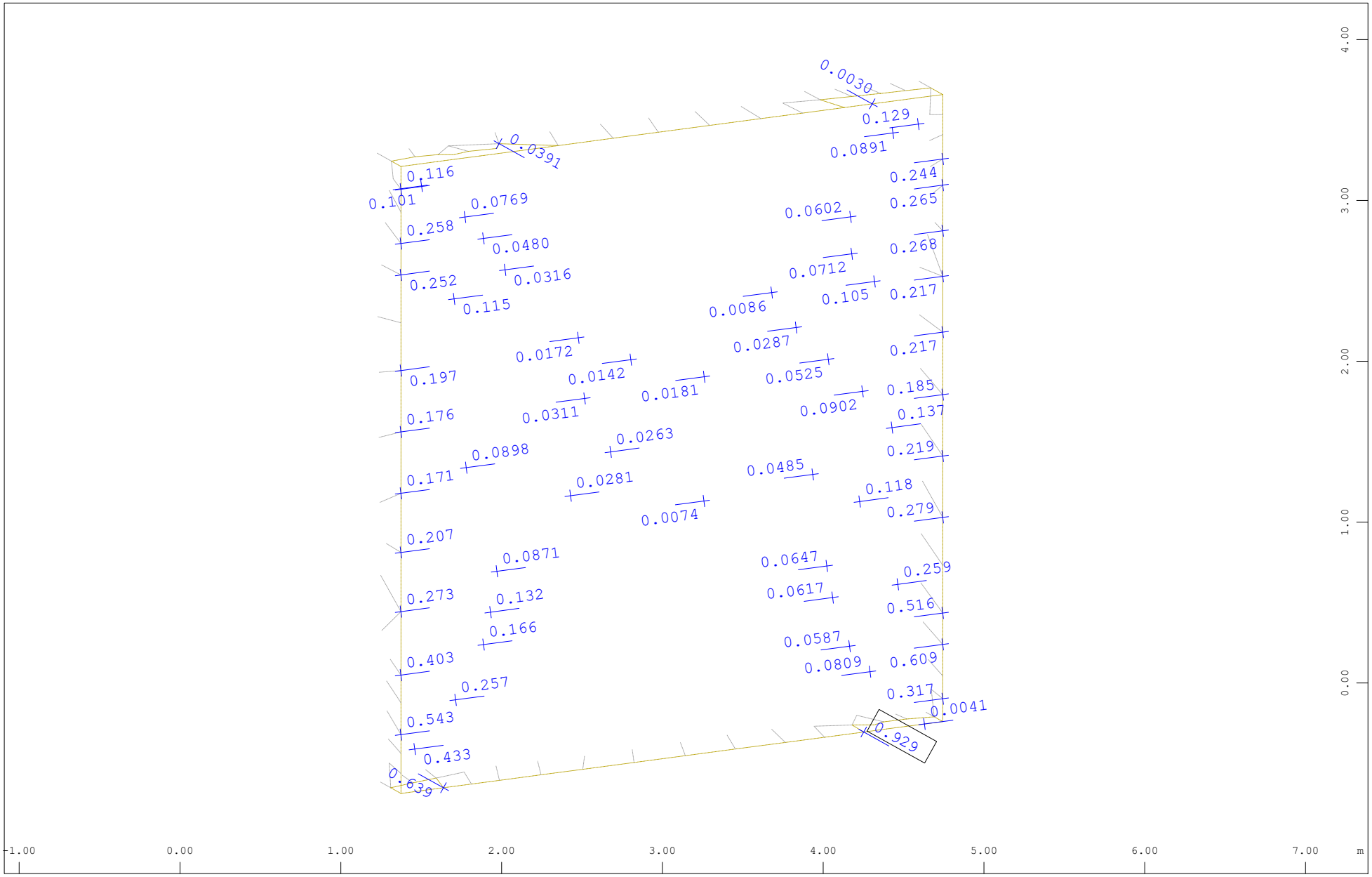
Z
Y
X

Sector of system Quadrilateral Elements Group 3 5 6

Quadrilateral Elements , upper Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=1.06)

M 1 : 31

X * 0.502
Y * 0.906
Z * 0.962



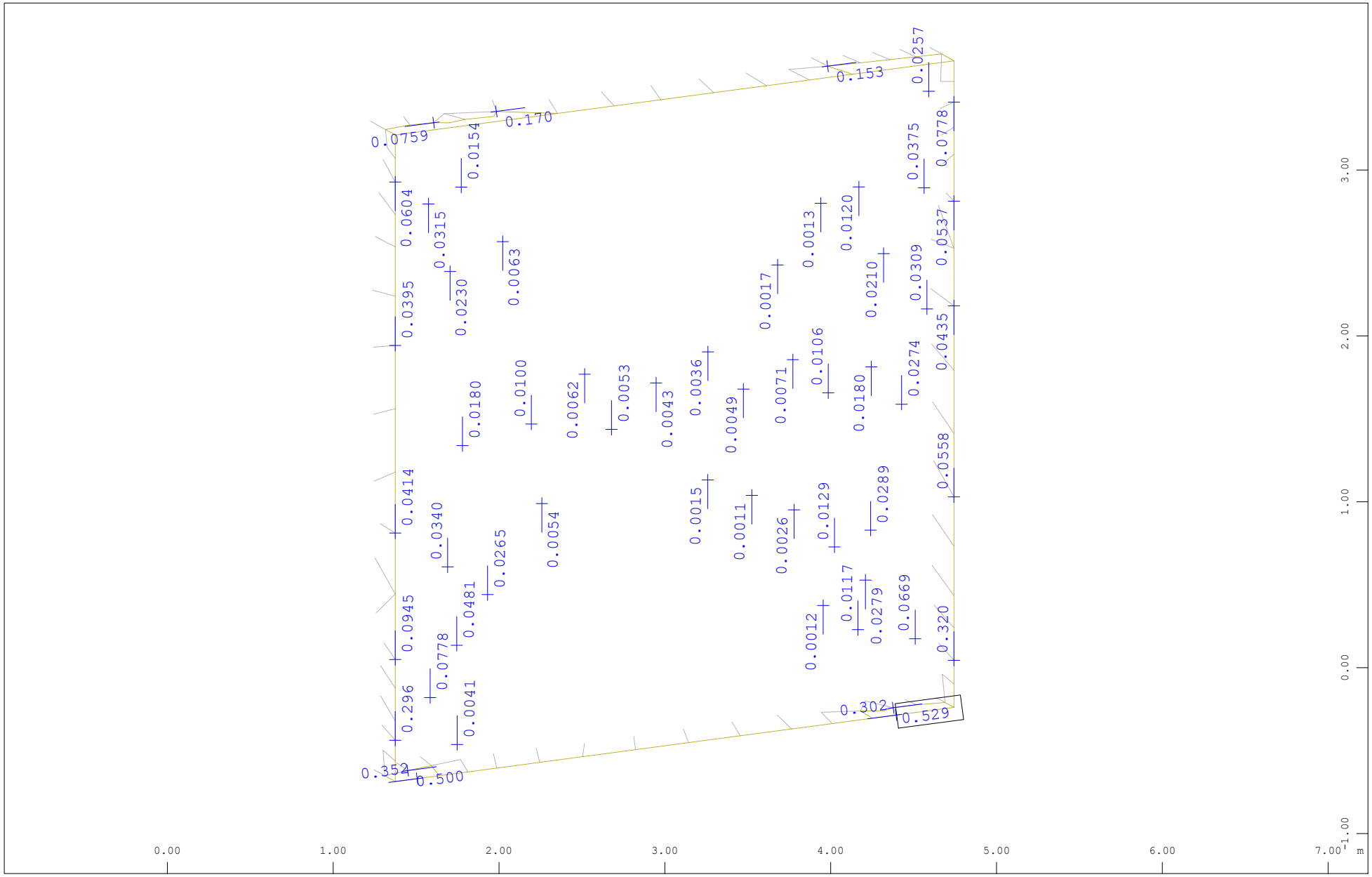
Z
Y
X

Sector of system Quadrilateral Elements Group 3 5 6

Quadrilateral Elements , lower Principal reinforcements (1st layer) in Node in cm2/m, Design Case 2 (Max=0.929)

M 1 : 33

X * 0.502
Y * 0.906
Z * 0.962



Z
Y
X

Sector of system Quadrilateral Elements Group 3 5 6

Quadrilateral Elements , lower Cross reinforcements (2nd layer) in Node in cm2/m, Design Case 2 (Max=0.529)

M 1 : 32

X * 0.502
Y * 0.906
Z * 0.962

21226-Nuevo Depósito Formentera Caseta
Materials

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018

Materials

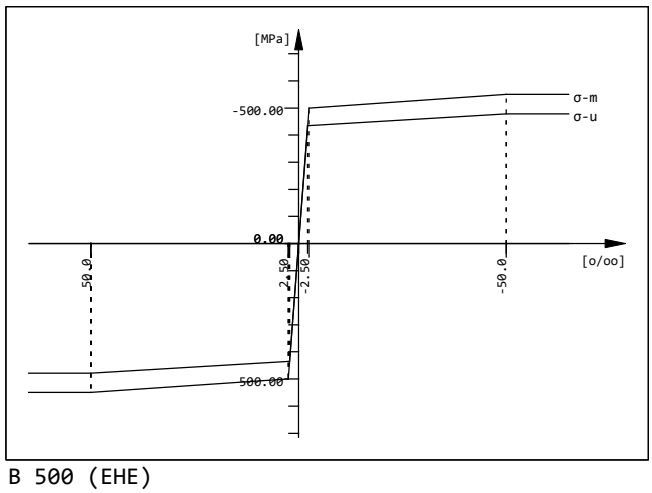
Mat	Classification
1	HA 25 (EHE)
2	B 500 (EHE)
3	HA 30 (EHE)

Mat 2 B 500 (EHE)

Young's modulus	E	200000	[MPa]	Safetyfactor		1.15	[-]
Poisson's ratio	μ	0.30	[-]	Yield stress	fy	500.00	[MPa]
Shear modulus	G	76923	[MPa]	Compressive yield	fyc	500.00	[MPa]
Compression modulus	K	166667	[MPa]	Tensile strength	ft	550.00	[MPa]
Nominal Weight	γ	78.5	[kN/m3]	Compressive strength	fc	550.00	[MPa]
Mean density	ρ	7850.0	[kg/m3]	Ultimate strain		50.00	[o/oo]
Elongation coefficient	α	1.20E-05	[1/K]	relative bond coeff.		1.00	[-]
max. thickness	t-max	32.00	[mm]	EN 1992 bond coeff.	k1	0.80	[-]
				Hardening modulus	Eh	0.00	[MPa]
				Proportional limit	fp	500.00	[MPa]
				Dynamic allowance	σ-dyn	150.00	[MPa]

Stress-Strain for serviceability	ε[o/oo]	σ-m[MPa]	E-t[MPa]
Is also extended beyond the	1000.000	550.00	0
defined stress range	50.000	550.00	0
	2.500	500.00	1053
	0.000	0.00	200000
	-2.500	-500.00	1053
	-50.000	-550.00	0
	-1000.000	-550.00	0
	Safetyfactor		1.15

Stress-Strain for ultimate load	ε[o/oo]	σ-u[MPa]	E-t[MPa]
Is also extended beyond the	1000.000	478.26	0
defined stress range	50.000	478.26	0
	2.174	434.78	909
	0.000	0.00	200000
	-2.174	-434.78	909
	-50.000	-478.26	0
	-1000.000	-478.26	0
	Safetyfactor		(1.15)



B 500 (EHE)

Mat 3 HA 30 (EHE)

Young's modulus	E	28577	[MPa]	Safetyfactor		1.50	[-]
Poisson's ratio	μ	0.20	[-]	Strength	fc	25.50	[MPa]

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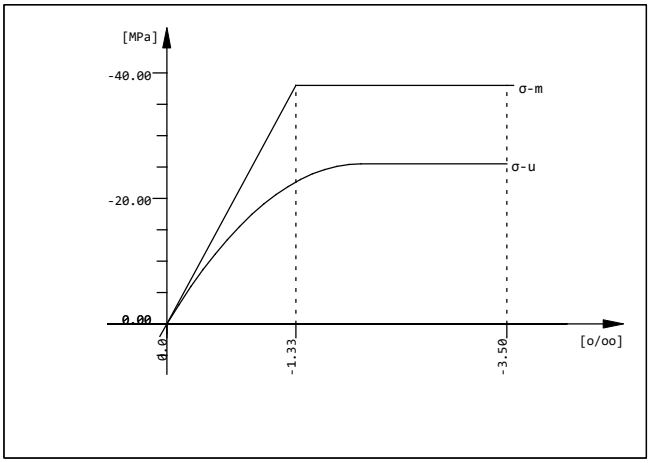
21226-Nuevo Depósito Formentera Caseta
Materials

Mat 3 HA 30 (EHE)

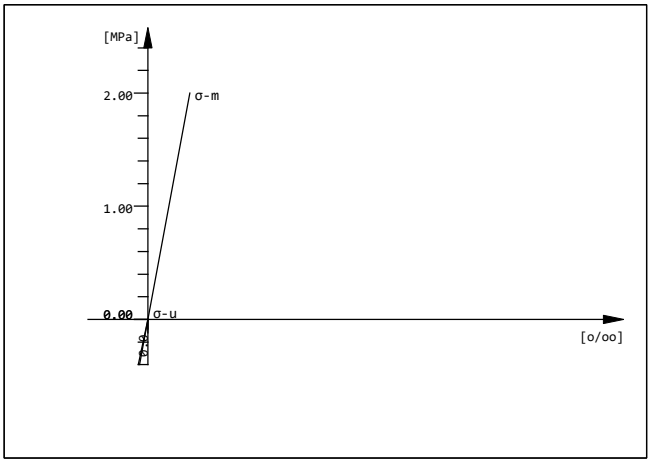
Shear modulus	G	11907	[MPa]	Nominal strength	fck	30.00	[MPa]
Compression modulus	K	15876	[MPa]	Tensile strength	fctm	2.90	[MPa]
Nominal Weight	γ	25.0	[kN/m3]	Tensile strength	fctk,05	2.03	[MPa]
Mean density	ρ	2400.0	[kg/m3]	Tensile strength	fctk,95	3.77	[MPa]
Elongation coefficient	α	1.00E-05	[1/K]	Bond strength	fbd	3.04	[MPa]
				Service strength	fcm	38.00	[MPa]
				Fatigue strength	fcd,fat	14.96	[MPa]
				Tensile strength	fctd	1.35	[MPa]
				Tensile failure energy	Gf	0.14	[N/mm]

Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	0.000	0.00	28577
defined stress range	-1.330	-38.00	0
	-3.500	-38.00	0
	Safetyfactor		1.50

Stress-Strain for ultimate load	**ε[o/oo]**	**σ-u[MPa]**	**E-t[MPa]**
Is only valid within the defined	0.000	0.00	25500
stress range	-2.000	-25.50	0
	-3.500	-25.50	0
	Safetyfactor		1.50



HA 30 (EHE)



HA 30 (EHE)

Thermal material constants

Mat	T[°C]	S[kJ/K/m3]	Kxx[W/K/m]	Kyy[W/K/m]	Kzz[W/K/m]	
1	AUTO	2.16E+03	1.951E+00			HA 25 (EHE)
2	AUTO	3.45E+03	5.333E+01			B 500 (EHE)
3	AUTO	2.16E+03	1.951E+00			HA 30 (EHE)

Mat material number S[kJ/K/m3] Heat capacity
T[°C] Temperature Kxx[W/K/m],Kyy[W/K/m],Kzz[W/K/m] Heat conductivity

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Mesh Generation

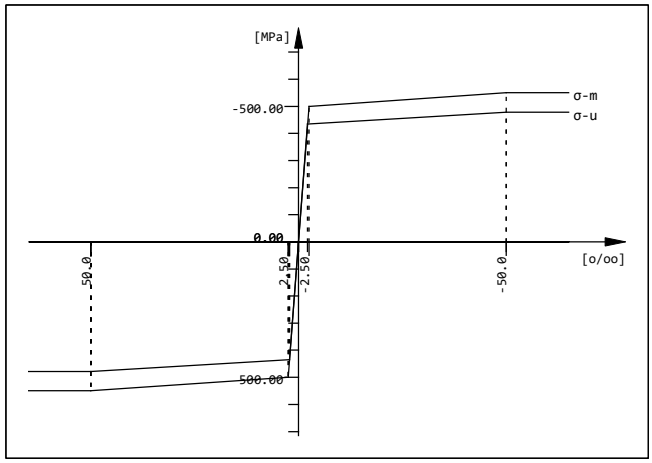
Mat 2 B 500 (EHE)

Young's modulus	E	200000	[MPa]	Safetyfactor		1.15	[-]
Poisson's ratio	μ	0.30	[-]	Yield stress	fy	500.00	[MPa]
Shear modulus	G	76923	[MPa]	Compressive yield	fyc	500.00	[MPa]
Compression modulus	K	166667	[MPa]	Tensile strength	ft	550.00	[MPa]
Nominal Weight	γ	78.5	[kN/m3]	Compressive strength	fc	550.00	[MPa]
Mean density	ρ	7850.0	[kg/m3]	Ultimate strain		50.00	[o/oo]
Elongation coefficient	α	1.20E-05	[1/K]	relative bond coeff.		1.00	[-]
max. thickness	t-max	32.00	[mm]	EN 1992 bond coeff.	k1	0.80	[-]
				Hardening modulus	Eh	0.00	[MPa]
				Proportional limit	fp	500.00	[MPa]
				Dynamic allowance	σ-dyn	150.00	[MPa]

Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	1000.000	550.00	0
defined stress range	50.000	550.00	0
	2.500	500.00	1053
	0.000	0.00	200000
	-2.500	-500.00	1053
	-50.000	-550.00	0
	-1000.000	-550.00	0
	Safetyfactor		1.15

Stress-Strain for ultimate load	**ε[o/oo]**	**σ-u[MPa]**	**E-t[MPa]**
Is also extended beyond the	1000.000	478.26	0
defined stress range	50.000	478.26	0
	2.174	434.78	909
	0.000	0.00	200000
	-2.174	-434.78	909
	-50.000	-478.26	0
	-1000.000	-478.26	0
	Safetyfactor		(1.15)

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B 500 (EHE)

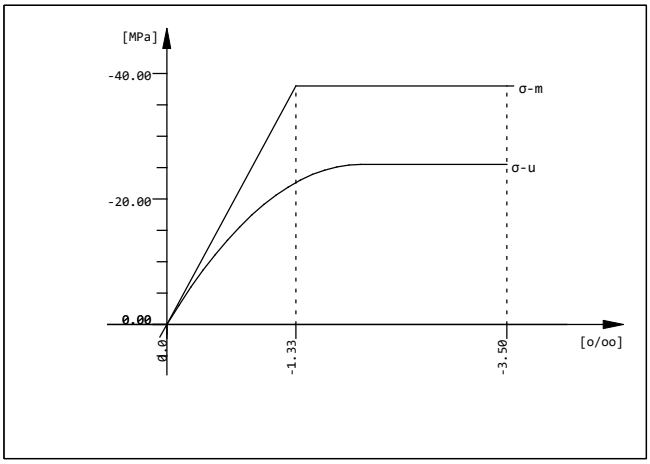
Mat 3 HA 30 (EHE)

Young's modulus	E	28577	[MPa]	Safetyfactor		1.50	[-]
Poisson's ratio	μ	0.20	[-]	Strength	fc	25.50	[MPa]
Shear modulus	G	11907	[MPa]	Nominal strength	fck	30.00	[MPa]
Compression modulus	K	15876	[MPa]	Tensile strength	fctm	2.90	[MPa]
Nominal Weight	γ	25.0	[kN/m3]	Tensile strength	fctk,05	2.03	[MPa]
Mean density	ρ	2400.0	[kg/m3]	Tensile strength	fctk,95	3.77	[MPa]
Elongation coefficient	α	1.00E-05	[1/K]	Bond strength	fbd	3.04	[MPa]
				Service strength	fcm	38.00	[MPa]
				Fatigue strength	fcd,fat	14.96	[MPa]
				Tensile strength	fctd	1.35	[MPa]
				Tensile failure energy	Gf	0.14	[N/mm]

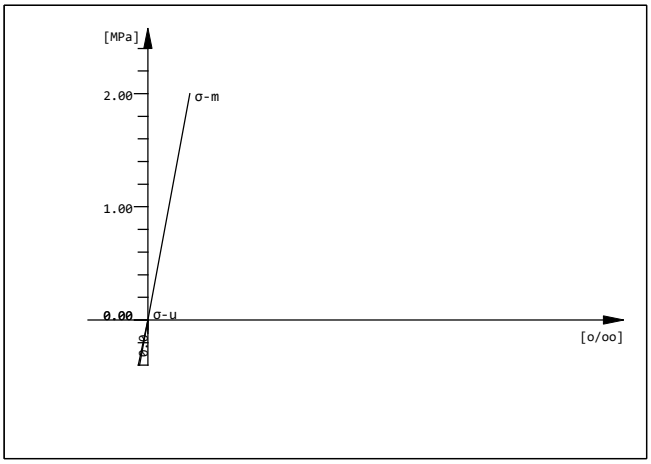
Mesh Generation

Stress-Strain for serviceability	**ε[o/oo]**	**σ-m[MPa]**	**E-t[MPa]**
Is also extended beyond the	0.000	0.00	28577
defined stress range	-1.330	-38.00	0
	-3.500	-38.00	0
	Safetyfactor		1.50

Stress-Strain for ultimate load	**ε[o/oo]**	**σ-u[MPa]**	**E-t[MPa]**
Is only valid within the defined	0.000	0.00	25500
stress range	-2.000	-25.50	0
	-3.500	-25.50	0
	Safetyfactor		1.50



HA 30 (EHE)



HA 30 (EHE)

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Actions

type	part	sup	Designation	γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2
G	G	perm	dead load	1.35	1.00	1.00	1.00	1.00	1.00
	1		PP						
	2		CM						
	7		Terreno						
Q	Q	cond	variable load	1.50	0.00	1.00	0.70	0.50	0.30
	3		SCU						
S	Q	cond	snow loading	1.50	0.00	1.00	0.50	0.20	0.00
	4		N						
W	Q	excl	wind loading	1.50	0.00	1.00	0.60	0.50	0.00
	5		Wx						
	6		Wy						

type action γ-u,γ-f,γ-a partial safety factors for unfavourable/favourable/accidental
part partition of the action ψ_0,ψ_1,ψ_2 combination coefficients
sup superposition type

Load Case 1 (G) PP

Factor forces and moments 1.000
Factor dead weight DL-ZZ -1.000
unfavourable partial safety factor 1.350
favourable partial safety factor 1.000
Combination coefficient ψ_0 1.000 (rare)
Combination coefficient ψ_1 1.000 (frequent)
Combination coefficient ψ_2 1.000 (permanent)

Load Case 2 (G) CM

Factor forces and moments 1.000
unfavourable partial safety factor 1.350
favourable partial safety factor 1.000
Combination coefficient ψ_0 1.000 (rare)
Combination coefficient ψ_1 1.000 (frequent)
Combination coefficient ψ_2 1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 5			0.125	3.875	4.050	PG	2.50 [kN/m2]
				2.875	3.875	4.050		2.50 [kN/m2]
				2.875	0.125	4.050		2.50 [kN/m2]
				0.125	0.125	4.050		2.50 [kN/m2]
						activated		100.00 percent

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1003			-0.0						
1004			-0.0						
1007			-0.0						
1011			-0.0						
1060			-0.0						
1061			-0.0						
1062			-0.0						
1063			-0.0						
1064			-0.0						
1065			-0.2						
1066			-0.2						
1067			-0.1						
1068			-0.1						
1069			-0.1						
1070			-0.1						
1071			-0.1						

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1072			-0.1						
1073			-0.0						
1074			-0.0						
1124			-0.0						
1125			-0.0						
1126			-0.0						
1127			-0.1						
1128			-0.1						
1129			-0.1						
1130			-0.1						
1131			-0.1						
1132			-0.1						
1133			-0.0						
1134			-0.0						
1151			-0.0						
1152			-0.0						
1153			-0.0						
1154			-0.1						
1155			-0.1						
1156			-0.1						
1157			-0.1						
1158			-0.1						
1159			-0.1						
1160			-0.1						
1161			-0.1						
1162			-0.1						
1163			-0.0						
1164			-0.0						
1165			-0.0						
1166			-0.0						
1167			-0.0						
1168			-0.0						
1169			-0.1						
1170			-0.1						
1171			-0.2						
1172			-0.1						
1173			-0.1						
1174			-0.1						
1175			-0.1						
1176			-0.0						
1944			-0.1						
1945			-0.2						
1946			-0.3						
1947			-0.2						
1948			-0.2						
1949			-0.1						
1950			-0.1						
1951			-0.1						
1952			-0.1						
1953			-0.3						
1954			-0.3						
1955			-0.3						
1956			-0.1						
1957			-0.1						
1958			-0.2						
1959			-0.2						
1960			-0.1						
1961			-0.2						

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1962			-0.1						
1963			-0.4						
1964			-0.2						
1965			-0.2						
1966			-0.1						
1967			-0.1						
1968			-0.1						
1969			-0.1						
1970			-0.0						
1971			-0.1						
1972			-0.2						
1973			-0.2						
1974			-0.1						
1975			-0.0						
1976			-0.1						
1977			-0.1						
1978			-0.1						
1979			-0.1						
1980			-0.2						
1981			-0.2						
1982			-0.1						
1983			-0.2						
1984			-0.1						
1985			-0.1						
1986			-0.1						
1987			-0.1						
1988			-0.1						
1989			-0.2						
1990			-0.3						
1991			-0.2						
1992			-0.3						
1993			-0.1						
1994			-0.1						
1995			-0.1						
1996			-0.1						
1997			-0.2						
1998			-0.2						
1999			-0.2						
2000			-0.1						
2001			-0.1						
2002			-0.1						
2003			-0.2						
2004			-0.3						
2005			-0.3						
2006			-0.3						
2007			-0.2						
2008			-0.3						
2009			-0.2						
2010			-0.1						
2011			-0.1						
2012			-0.2						
2013			-0.1						
2014			-0.1						
2015			-0.2						
2016			-0.1						
2017			-0.2						
2018			-0.1						
2019			-0.2						

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
2020			-0.1						
2021			-0.1						
2022			-0.1						
2023			-0.1						
2024			-0.2						
2025			-0.1						
2026			-0.2						
2027			-0.1						
2028			-0.2						
2029			-0.1						
2030			-0.1						
2031			-0.2						
2032			-0.2						
2033			-0.2						
2034			-0.2						
2035			-0.2						
2036			-0.1						
2037			-0.1						
2038			-0.1						
2039			-0.1						
2040			-0.1						
2041			-0.2						
2042			-0.2						
2043			-0.2						
2044			-0.2						
2045			-0.3						
2046			-0.3						
2047			-0.1						
2048			-0.0						
2049			-0.1						
2050			-0.1						
2051			-0.1						
2052			-0.1						
2053			-0.2						
2054			-0.2						
2055			-0.3						
2056			-0.1						
2057			-0.1						
2058			-0.2						
2059			-0.1						
2060			-0.1						
2061			-0.1						
2062			-0.1						
2063			-0.1						
2064			-0.1						
2065			-0.0						
2066			-0.1						
2067			-0.1						
2068			-0.1						
2069			-0.1						
2070			-0.2						
2071			-0.1						
2072			-0.2						
2073			-0.2						
2074			-0.2						
2075			-0.1						
2076			-0.2						
2077			-0.2						

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
2078			-0.1						
2079			-0.2						
2080			-0.1						
2081			-0.1						
2082			-0.2						
2083			-0.1						
2084			-0.1						
2085			-0.1						
2086			-0.1						
2087			-0.1						
2088			-0.0						
2089			-0.1						
2090			-0.1						
2091			-0.0						
2092			-0.1						
2093			-0.1						
2094			-0.1						
2095			-0.1						
2096			-0.1						
2097			-0.0						
sum			-25.8						

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Load Case 3 (Q) SCU

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.700 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.300 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 5			0.125	3.875	4.050	PG	1.00 [kN/m2]
				2.875	3.875	4.050		1.00 [kN/m2]
				2.875	0.125	4.050		1.00 [kN/m2]
				0.125	0.125	4.050		1.00 [kN/m2]
						activated		100.00 percent

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1003			0.0						
1004			0.0						
1007			0.0						
1011			0.0						
1060			-0.0						
1061			0.0						
1062			0.0						
1063			-0.0						
1064			-0.0						
1065			-0.1						
1066			-0.1						
1067			-0.1						
1068			-0.1						
1069			-0.0						
1070			-0.0						
1071			-0.0						

21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1072			-0.0						
1073			-0.0						
1074			-0.0						
1124			-0.0						
1125			-0.0						
1126			-0.0						
1127			-0.0						
1128			-0.0						
1129			-0.0						
1130			-0.0						
1131			-0.0						
1132			-0.0						
1133			-0.0						
1134			-0.0						
1151			-0.0						
1152			-0.0						
1153			-0.0						
1154			-0.0						
1155			-0.0						
1156			-0.0						
1157			-0.0						
1158			-0.0						
1159			-0.0						
1160			-0.0						
1161			-0.0						
1162			-0.0						
1163			-0.0						
1164			-0.0						
1165			-0.0						
1166			-0.0						
1167			-0.0						
1168			-0.0						
1169			-0.0						
1170			-0.0						
1171			-0.1						
1172			-0.1						
1173			-0.0						
1174			-0.0						
1175			-0.0						
1176			-0.0						
1944			-0.0						
1945			-0.1						
1946			-0.1						
1947			-0.1						
1948			-0.1						
1949			-0.0						
1950			-0.1						
1951			-0.0						
1952			-0.1						
1953			-0.1						
1954			-0.1						
1955			-0.1						
1956			-0.1						
1957			-0.0						
1958			-0.1						
1959			-0.1						
1960			-0.0						
1961			-0.1						

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1962			-0.0						
1963			-0.1						
1964			-0.1						
1965			-0.1						
1966			-0.1						
1967			-0.0						
1968			-0.0						
1969			-0.0						
1970			-0.0						
1971			-0.0						
1972			-0.1						
1973			-0.1						
1974			-0.0						
1975			-0.0						
1976			-0.0						
1977			-0.0						
1978			-0.1						
1979			-0.1						
1980			-0.1						
1981			-0.1						
1982			-0.1						
1983			-0.1						
1984			-0.1						
1985			-0.1						
1986			-0.0						
1987			-0.0						
1988			-0.0						
1989			-0.1						
1990			-0.1						
1991			-0.1						
1992			-0.1						
1993			-0.0						
1994			-0.0						
1995			-0.0						
1996			-0.0						
1997			-0.1						
1998			-0.1						
1999			-0.1						
2000			-0.0						
2001			-0.1						
2002			-0.0						
2003			-0.1						
2004			-0.1						
2005			-0.1						
2006			-0.1						
2007			-0.1						
2008			-0.1						
2009			-0.1						
2010			-0.0						
2011			-0.0						
2012			-0.1						
2013			-0.1						
2014			-0.1						
2015			-0.1						
2016			-0.1						
2017			-0.1						
2018			-0.1						
2019			-0.1						

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
2020			-0.0						
2021			-0.0						
2022			-0.0						
2023			-0.1						
2024			-0.1						
2025			-0.0						
2026			-0.1						
2027			-0.0						
2028			-0.1						
2029			-0.0						
2030			-0.1						
2031			-0.1						
2032			-0.1						
2033			-0.1						
2034			-0.1						
2035			-0.1						
2036			-0.0						
2037			-0.0						
2038			-0.0						
2039			-0.0						
2040			-0.0						
2041			-0.1						
2042			-0.1						
2043			-0.1						
2044			-0.1						
2045			-0.1						
2046			-0.1						
2047			-0.0						
2048			-0.0						
2049			-0.0						
2050			-0.0						
2051			-0.0						
2052			-0.0						
2053			-0.1						
2054			-0.1						
2055			-0.1						
2056			-0.0						
2057			-0.0						
2058			-0.1						
2059			-0.0						
2060			-0.0						
2061			-0.1						
2062			-0.1						
2063			-0.0						
2064			-0.0						
2065			-0.0						
2066			-0.0						
2067			-0.0						
2068			-0.0						
2069			-0.0						
2070			-0.1						
2071			-0.1						
2072			-0.1						
2073			-0.1						
2074			-0.1						
2075			-0.0						
2076			-0.1						
2077			-0.1						

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
2078			-0.1						
2079			-0.1						
2080			-0.0						
2081			-0.0						
2082			-0.1						
2083			-0.1						
2084			-0.1						
2085			-0.1						
2086			-0.0						
2087			-0.0						
2088			-0.0						
2089			-0.0						
2090			-0.0						
2091			-0.0						
2092			-0.0						
2093			-0.0						
2094			-0.1						
2095			-0.0						
2096			-0.0						
2097			-0.0						
sum			-10.3						

Load Case 4 (S) N

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.500 (rare)
Combination coefficient	ψ_1	0.200 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 5			0.125	3.875	4.050	PG	0.20 [kN/m2]
				2.875	3.875	4.050		0.20 [kN/m2]
				2.875	0.125	4.050		0.20 [kN/m2]
				0.125	0.125	4.050		0.20 [kN/m2]
						activated		100.00 percent

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1003			0.0						
1004			0.0						
1007			0.0						
1011			0.0						
1060			0.0						
1061			0.0						
1062			0.0						
1063			0.0						
1064			0.0						
1065			-0.0						
1066			-0.0						
1067			-0.0						
1068			-0.0						
1069			0.0						
1070			0.0						
1071			0.0						

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1072			0.0						
1073			0.0						
1074			0.0						
1124			0.0						
1125			0.0						
1126			0.0						
1127			0.0						
1128			0.0						
1129			0.0						
1130			0.0						
1131			0.0						
1132			0.0						
1133			0.0						
1134			0.0						
1151			0.0						
1152			0.0						
1153			0.0						
1154			0.0						
1155			0.0						
1156			0.0						
1157			0.0						
1158			0.0						
1159			0.0						
1160			0.0						
1161			0.0						
1162			0.0						
1163			0.0						
1164			0.0						
1165			0.0						
1166			0.0						
1167			0.0						
1168			0.0						
1169			0.0						
1170			0.0						
1171			-0.0						
1172			-0.0						
1173			0.0						
1174			0.0						
1175			0.0						
1176			0.0						
1944			0.0						
1945			-0.0						
1946			-0.0						
1947			-0.0						
1948			-0.0						
1949			0.0						
1950			-0.0						
1951			0.0						
1952			-0.0						
1953			-0.0						
1954			-0.0						
1955			-0.0						
1956			-0.0						
1957			0.0						
1958			-0.0						
1959			-0.0						
1960			0.0						
1961			-0.0						

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1962			0.0						
1963			-0.0						
1964			-0.0						
1965			-0.0						
1966			-0.0						
1967			0.0						
1968			0.0						
1969			0.0						
1970			0.0						
1971			0.0						
1972			-0.0						
1973			-0.0						
1974			0.0						
1975			0.0						
1976			0.0						
1977			0.0						
1978			-0.0						
1979			-0.0						
1980			-0.0						
1981			-0.0						
1982			-0.0						
1983			-0.0						
1984			-0.0						
1985			-0.0						
1986			0.0						
1987			0.0						
1988			0.0						
1989			-0.0						
1990			-0.0						
1991			-0.0						
1992			-0.0						
1993			0.0						
1994			0.0						
1995			0.0						
1996			0.0						
1997			-0.0						
1998			-0.0						
1999			-0.0						
2000			0.0						
2001			-0.0						
2002			0.0						
2003			-0.0						
2004			-0.0						
2005			-0.0						
2006			-0.0						
2007			-0.0						
2008			-0.0						
2009			-0.0						
2010			0.0						
2011			0.0						
2012			-0.0						
2013			-0.0						
2014			-0.0						
2015			-0.0						
2016			-0.0						
2017			-0.0						
2018			-0.0						
2019			-0.0						

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
2020			0.0						
2021			0.0						
2022			0.0						
2023			-0.0						
2024			-0.0						
2025			0.0						
2026			-0.0						
2027			0.0						
2028			-0.0						
2029			0.0						
2030			-0.0						
2031			-0.0						
2032			-0.0						
2033			-0.0						
2034			-0.0						
2035			-0.0						
2036			0.0						
2037			0.0						
2038			0.0						
2039			0.0						
2040			0.0						
2041			-0.0						
2042			-0.0						
2043			-0.0						
2044			-0.0						
2045			-0.0						
2046			-0.0						
2047			0.0						
2048			0.0						
2049			0.0						
2050			0.0						
2051			0.0						
2052			0.0						
2053			-0.0						
2054			-0.0						
2055			-0.0						
2056			0.0						
2057			0.0						
2058			-0.0						
2059			0.0						
2060			0.0						
2061			-0.0						
2062			-0.0						
2063			0.0						
2064			0.0						
2065			0.0						
2066			0.0						
2067			0.0						
2068			0.0						
2069			0.0						
2070			-0.0						
2071			-0.0						
2072			-0.0						
2073			-0.0						
2074			-0.0						
2075			0.0						
2076			-0.0						
2077			-0.0						

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
2078			-0.0						
2079			-0.0						
2080			0.0						
2081			0.0						
2082			-0.0						
2083			-0.0						
2084			-0.0						
2085			-0.0						
2086			0.0						
2087			0.0						
2088			0.0						
2089			0.0						
2090			0.0						
2091			0.0						
2092			0.0						
2093			0.0						
2094			-0.0						
2095			0.0						
2096			0.0						
2097			0.0						
sum			-2.1						

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Load Case 5 (W) Wx

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 1			2.875	0.125	1.270	PXX	-0.88 [kN/m2]
				2.875	3.875	1.270		-0.88 [kN/m2]
				2.875	3.875	4.050		-0.88 [kN/m2]
				2.875	0.125	4.050		-0.88 [kN/m2]
						activated		100.00 percent
Area	sar 3			0.125	3.875	1.490	PXX	-0.55 [kN/m2]
				0.125	2.450	1.490		-0.55 [kN/m2]
				0.125	2.450	3.490		-0.55 [kN/m2]
				0.125	1.550	3.490		-0.55 [kN/m2]
				0.125	1.550	1.490		-0.55 [kN/m2]
				0.125	0.125	1.490		-0.55 [kN/m2]
				0.125	0.125	4.050		-0.55 [kN/m2]
				0.125	3.875	4.050		-0.55 [kN/m2]
						activated		100.00 percent

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1003	0.0								
1004	0.0								
1007	0.0								
1011	0.0								
1026	0.0								
1027	-0.0								
1028	0.0								

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1029	-0.0								
1050	-0.0								
1051	-0.1								
1052	-0.1								
1053	-0.1								
1054	-0.1								
1055	-0.0								
1056	-0.0								
1057	-0.0								
1058	-0.0								
1059	0.0								
1060	0.0								
1061	0.0								
1062	0.0								
1063	-0.0								
1064	-0.0								
1065	-0.1								
1066	-0.0								
1067	-0.0								
1068	-0.0								
1069	-0.0								
1070	-0.0								
1071	-0.0								
1072	-0.0								
1073	-0.0								
1074	-0.0								
1075	-0.0								
1076	0.0								
1077	0.0								
1078	-0.0								
1079	-0.0								
1080	-0.1								
1081	-0.0								
1082	-0.1								
1083	-0.1								
1084	-0.0								
1085	0.0								
1113	0.0								
1114	-0.0								
1115	-0.0								
1116	-0.0								
1117	-0.0								
1118	-0.0								
1119	0.0								
1120	-0.0								
1121	0.0								
1122	0.0								
1123	0.0								
1141	0.0								
1142	-0.0								
1143	-0.1								
1144	-0.0								
1145	-0.0								
1146	-0.0								
1147	-0.0								
1148	0.0								
1149	-0.0								
1150	0.0								

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1151	-0.0								
1152	-0.0								
1153	-0.0								
1154	-0.0								
1155	-0.0								
1156	-0.0								
1157	-0.0								
1158	-0.0								
1159	-0.0								
1160	-0.0								
1161	-0.0								
1162	-0.0								
1163	-0.0								
1164	0.0								
1165	0.0								
1188	-0.0								
1189	-0.0								
1190	-0.0								
1191	0.0								
1192	0.0								
1193	-0.0								
1194	-0.0								
1195	-0.0								
1196	-0.0								
1197	-0.0								
1198	-0.0								
1199	0.0								
1203	0.0								
1204	0.0								
1205	-0.0								
1206	-0.0								
1207	-0.0								
1208	-0.0								
1209	0.0								
1210	0.0								
1211	0.0								
1231	0.0								
1232	-0.0								
1233	-0.2								
1234	-0.1								
1235	-0.1								
1236	-0.1								
1237	-0.0								
1238	-0.1								
1239	-0.1								
1240	-0.1								
1241	-0.1								
1242	-0.1								
1243	-0.1								
1244	-0.0								
1245	-0.1								
1246	-0.0								
1247	-0.1								
1248	-0.1								
1249	-0.0								
1251	0.0								
1253	-0.1								
1256	-0.1								

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1257	-0.2								
1261	-0.0								
1263	0.0								
1267	-0.1								
1268	-0.0								
1269	-0.1								
1270	-0.1								
1271	-0.1								
1272	-0.1								
1273	-0.1								
1274	-0.1								
1275	-0.1								
1276	-0.0								
1277	-0.0								
1278	-0.0								
1284	-0.0								
1285	-0.0								
1286	-0.0								
1287	-0.1								
1288	-0.1								
1289	-0.1								
1290	-0.1								
1291	-0.1								
1298	-0.1								
1299	-0.2								
1300	-0.2								
1301	-0.2								
1302	0.0								
1305	0.0								
1306	-0.1								
1307	-0.1								
1308	-0.1								
1309	-0.1								
1310	-0.1								
1312	0.0								
1313	-0.1								
1314	0.0								
1315	0.0								
1319	-0.1								
1320	-0.1								
1321	-0.1								
1322	-0.1								
1323	-0.1								
1324	-0.1								
1325	-0.0								
1326	-0.1								
1327	-0.1								
1331	-0.1								
1332	-0.1								
1333	-0.0								
1334	-0.0								
1335	0.0								
1336	-0.1								
1337	-0.1								
1338	-0.1								
1339	-0.1								
1340	-0.1								
1341	-0.1								

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1342	-0.1								
1343	-0.0								
1344	-0.0								
1349	-0.1								
1350	-0.1								
1351	-0.1								
1352	-0.1								
1355	-0.1								
1356	-0.1								
1357	-0.1								
1358	-0.0								
1359	-0.1								
1360	-0.0								
1361	-0.0								
1362	-0.1								
1363	-0.1								
1364	-0.1								
1365	-0.1								
1366	-0.1								
1367	-0.0								
1368	-0.1								
1373	-0.1								
1374	-0.1								
1375	0.0								
1376	0.0								
1377	-0.1								
1378	-0.0								
1379	-0.1								
1380	-0.1								
1381	-0.1								
1382	0.0								
1383	-0.0								
1385	-0.0								
1386	-0.0								
1388	0.0								
1389	-0.1								
1575	-0.0								
1576	0.0								
1577	-0.0								
1578	-0.0								
1579	-0.0								
1580	-0.0								
1581	-0.0								
1582	-0.0								
1590	0.0								
1591	0.0								
1592	-0.0								
1593	-0.0								
1596	-0.0								
1597	-0.0								
1598	-0.0								
1599	-0.0								
1602	0.0								
1604	-0.1								
1605	-0.0								
1606	-0.0								
1607	-0.0								
1608	-0.0								

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1609	-0.1								
1610	0.0								
1623	-0.0								
1624	-0.0								
1625	-0.0								
1626	-0.0								
1627	-0.0								
1628	-0.0								
1629	-0.0								
1630	-0.0								
1631	-0.0								
1632	-0.0								
1633	-0.0								
1638	-0.0								
1639	-0.0								
1640	-0.0								
1641	-0.0								
1642	-0.0								
1643	-0.0								
1644	-0.0								
1645	-0.0								
1646	0.0								
1647	-0.0								
1649	0.0								
1652	-0.0								
1653	-0.0								
1654	-0.0								
1660	-0.0								
1661	-0.0								
1662	-0.0								
1666	-0.0								
1667	-0.0								
1668	-0.0								
1673	-0.0								
1674	-0.1								
1675	-0.0								
1676	-0.1								
1691	-0.0								
1692	-0.0								
1693	-0.0								
1694	-0.0								
1695	-0.0								
1696	-0.1								
1697	-0.0								
1698	-0.0								
1699	-0.0								
1700	-0.0								
1701	-0.1								
1702	-0.1								
1706	0.0								
1707	0.0								
1710	0.0								
1714	-0.0								
1715	-0.0								
1716	-0.0								
1717	-0.0								
1718	-0.0								
1719	-0.0								

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1720	-0.0								
1721	0.0								
1722	0.0								
1723	-0.0								
1737	-0.0								
1738	0.0								
1739	-0.0								
1740	-0.0								
1741	-0.1								
1742	-0.0								
1743	-0.0								
1744	-0.0								
1745	-0.0								
1751	-0.0								
1752	-0.0								
1753	-0.0								
1755	0.0								
1757	-0.0								
1758	-0.0								
1759	-0.0								
1761	-0.0								
1762	-0.0								
1763	-0.0								
1764	-0.0								
1765	-0.0								
1766	-0.0								
1767	-0.0								
1769	0.0								
1771	-0.0								
1772	-0.0								
1773	-0.0								
1774	-0.0								
1775	-0.0								
1776	-0.0								
1777	0.0								
1778	-0.0								
1779	0.0								
1786	-0.0								
1787	-0.0								
1788	-0.0								
1789	-0.0								
1790	-0.0								
1795	-0.0								
1796	0.0								
1797	-0.0								
1803	-0.0								
1804	-0.0								
1813	0.0								
1816	-0.0								
1817	-0.0								
1818	0.0								
1820	0.0								
1824	-0.0								
1825	-0.0								
1826	0.0								
1827	-0.0								
sum	-13.5								

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Load Case 6 (W) Wy

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 4			2.875	0.125	1.270	PYY	0.88 [kN/m2]
				0.125	0.125	1.270		0.88 [kN/m2]
				0.125	0.125	4.050		0.88 [kN/m2]
				2.875	0.125	4.050		0.88 [kN/m2]
						activated		100.00 percent
Area	sar 2			2.875	3.875	1.270	PYY	0.44 [kN/m2]
				0.125	3.875	1.270		0.44 [kN/m2]
				0.125	3.875	4.050		0.44 [kN/m2]
				2.875	3.875	4.050		0.44 [kN/m2]
						activated		100.00 percent

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1003		0.0							
1004		0.0							
1007		0.0							
1011		0.0							
1050		0.0							
1051		0.0							
1052		0.0							
1053		0.1							
1054		0.1							
1055		0.0							
1056		0.0							
1057		0.0							
1058		0.0							
1059		0.0							
1075		0.0							
1076		0.0							
1077		0.0							
1078		0.0							
1079		0.0							
1080		0.0							
1081		0.0							
1082		0.0							
1083		0.0							
1084		0.0							
1085		0.0							
1112		0.0							
1113		0.0							
1114		0.0							
1115		0.0							
1116		0.0							
1117		0.0							
1118		0.0							
1119		0.0							
1120		0.0							
1121		0.0							
1122		0.0							

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1123		0.0							
1124		0.0							
1125		0.0							
1126		0.0							
1127		0.0							
1128		0.0							
1129		0.0							
1130		0.0							
1131		0.0							
1132		0.0							
1133		0.0							
1134		0.0							
1141		0.0							
1142		0.0							
1143		0.1							
1144		0.1							
1145		0.1							
1146		0.0							
1147		0.0							
1148		0.0							
1149		0.0							
1150		0.0							
1166		0.0							
1167		0.0							
1168		0.0							
1169		0.0							
1170		0.0							
1171		0.0							
1172		0.0							
1173		0.0							
1174		0.0							
1175		0.0							
1176		0.0							
1392		0.0							
1393		0.0							
1394		0.0							
1395		0.1							
1396		0.0							
1397		0.0							
1398		0.0							
1399		0.0							
1400		0.1							
1401		0.0							
1402		0.0							
1403		0.0							
1404		0.0							
1405		0.0							
1406		0.0							
1407		0.0							
1408		0.0							
1409		0.0							
1414		0.0							
1415		0.0							
1416		0.0							
1418		0.0							
1420		0.0							
1421		0.0							
1422		0.0							

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1423		0.0							
1424		0.0							
1431		0.0							
1432		0.0							
1433		0.0							
1435		0.0							
1436		0.0							
1437		0.0							
1438		0.0							
1439		0.0							
1440		0.0							
1441		0.1							
1442		0.0							
1443		0.0							
1444		0.0							
1445		0.0							
1446		0.0							
1447		0.0							
1448		0.0							
1449		0.0							
1450		0.0							
1451		0.0							
1452		0.0							
1453		0.0							
1454		0.0							
1464		0.0							
1465		0.0							
1466		0.0							
1467		0.0							
1468		0.0							
1469		0.0							
1470		0.0							
1471		0.0							
1476		0.0							
1477		0.0							
1478		0.0							
1479		0.1							
1480		0.0							
1481		0.1							
1482		0.0							
1483		0.0							
1484		0.0							
1485		0.0							
1489		0.0							
1490		0.0							
1491		0.0							
1492		0.0							
1493		0.0							
1494		0.0							
1498		0.0							
1499		0.0							
1500		0.0							
1501		0.0							
1502		0.0							
1506		0.0							
1507		0.0							
1508		0.0							
1512		0.0							

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1513		0.0							
1514		0.0							
1522		0.0							
1523		0.0							
1524		0.0							
1529		0.0							
1530		0.0							
1531		0.0							
1532		0.0							
1538		0.0							
1539		0.0							
1540		0.0							
1541		0.0							
1542		0.0							
1543		0.0							
1544		0.0							
1545		0.0							
1550		0.0							
1551		0.0							
1552		0.0							
1553		0.0							
1554		0.0							
1558		0.0							
1559		0.0							
1560		0.0							
1561		0.0							
1563		0.0							
1564		0.0							
1565		0.0							
1566		0.0							
1567		0.0							
1568		0.0							
1569		0.0							
1838		0.0							
1839		0.0							
1840		0.0							
1842		0.1							
1843		0.1							
1844		0.1							
1845		0.1							
1846		0.3							
1847		0.0							
1848		0.1							
1849		0.1							
1850		0.1							
1851		0.1							
1852		0.0							
1853		0.1							
1854		0.1							
1855		0.1							
1856		0.1							
1857		0.0							
1858		0.0							
1859		0.0							
1867		0.1							
1868		0.1							
1869		0.1							
1870		0.0							

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1871		0.0							
1872		0.0							
1874		0.0							
1883		0.1							
1884		0.1							
1885		0.1							
1886		0.1							
1889		0.1							
1890		0.1							
1891		0.1							
1892		0.1							
1893		0.1							
1894		0.1							
1895		0.1							
1896		0.1							
1897		0.1							
1898		0.0							
1899		0.1							
1900		0.1							
1903		0.1							
1904		0.1							
1905		0.1							
1906		0.1							
1907		0.2							
1908		0.1							
1909		0.0							
1910		0.0							
1911		0.1							
1912		0.1							
1913		0.1							
1915		0.0							
1916		0.1							
1917		0.0							
1919		0.0							
1921		0.1							
1922		0.1							
1929		0.1							
1930		0.2							
1931		0.0							
1932		0.0							
1937		0.0							
1938		0.1							
1939		0.0							
1940		0.1							
1941		0.0							
1942		0.0							
1943		0.0							
sum		10.1							

Load Case 7 (G) Terreno

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Volume	QGRP 3			-21.599	3.875	1.490	Pz	0.00 [kN/m2]
				-21.599	3.875	-98.510		1000.00 [kN/m2]
						activated		100.00 percent
Volume	QGRP 4			0.125	-38.945	1.490	Pz	0.00 [kN/m2]
				0.125	-38.945	-98.510		1000.00 [kN/m2]
						activated		100.00 percent

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1001	-0.1	-0.1							
1002	-0.1	0.1							
1006	0.0	-0.0							
1010	0.1	0.1							
1025	0.1								
1026	0.0								
1028	0.0								
1030	-0.1								
1031	-0.1								
1032	-0.1								
1033	-0.2								
1034	-0.4								
1035	-1.0								
1036	-0.8								
1037	-0.8								
1038	-0.8								
1039	-0.7								
1040	-0.5								
1041	-0.4								
1042	-0.2								
1043	-0.2								
1044	-0.1								
1045	-0.1	0.2							
1046	-0.1	0.2							
1047	-0.1	0.2							
1048	-0.1	0.2							
1049	-0.1	0.1							
1050	-0.2	0.2							
1051	-0.0	0.0							
1083	0.0	0.0							
1084	-0.1	-0.1							
1085	-0.2	-0.2							
1086	-0.3	-0.3							
1087	-0.3	-0.3							
1088	-0.2	-0.2							
1089	-0.2	-0.2							
1090		-0.2							
1091		-0.1							
1092		-0.1							
1093		-0.2							
1094		-0.3							
1095		-0.3							
1096		-0.4							
1097		-0.6							
1098		-0.3							
1099		-0.2							
1100		-0.2							
1101		-0.1							

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1102		-0.1							
1103		-0.1							
1104		-0.1							
1105	0.1	-0.1							
1106	0.1	-0.1							
1107	0.1	-0.1							
1108	0.2	-0.1							
1109	0.1	-0.1							
1110	0.1	-0.1							
1111	0.0	-0.1							
1112	0.1	-0.1							
1113	0.0	-0.0							
1135	0.1								
1136	0.1	0.2							
1137	0.2	0.2							
1138	0.2	0.1							
1139	0.2	0.2							
1140	0.2	0.2							
1141	0.2	0.1							
1142	0.0	0.0							
1177		0.2							
1178		0.2							
1179		0.3							
1180		0.4							
1181		0.5							
1182		0.5							
1183		0.5							
1184		0.5							
1185		0.4							
1186		0.3							
1187		0.2							
1200	0.0								
1201	0.0								
1202	0.0								
1212	0.1								
1213	0.1								
1214	0.1								
1215	0.2								
1216	0.4								
1217	0.8								
1218	0.5								
1219	0.8								
1220	0.4								
1221	0.3								
1222	0.2								
1223	0.2								
1224	0.1								
1225	0.2								
1226	0.2								
1227	0.2								
1228	0.1								
1229	-0.3								
1230	-0.9								
1231	-0.5								
1232	-0.1								
1249	-0.2								
1250	-0.5								
1251	-1.2								

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1252	-1.1								
1253	-0.2								
1254	-0.5								
1255	-0.2								
1256	-0.1								
1258	-0.2								
1259	-0.3								
1260	-0.6								
1261	-0.2								
1262	-0.4								
1263	-0.5								
1264	-0.5								
1265	-0.4								
1266	-0.5								
1267	-0.0								
1268	-0.3								
1269	-0.1								
1271	-0.0								
1279	-0.2								
1280	-0.3								
1281	-0.3								
1282	-0.2								
1283	-0.2								
1292	-1.2								
1293	-0.7								
1294	-0.6								
1295	-0.9								
1296	-0.3								
1297	-0.4								
1302	-0.5								
1303	-0.8								
1304	-0.6								
1305	-0.5								
1307	0.0								
1308	-0.0								
1311	-0.4								
1312	-0.5								
1313	-0.1								
1314	-0.2								
1315	-0.4								
1316	-1.0								
1317	-0.4								
1318	-0.7								
1328	-1.4								
1329	-1.0								
1330	-1.4								
1335	-0.2								
1336	-0.0								
1337	-0.1								
1339	-0.0								
1340	-0.2								
1341	0.0								
1342	-0.0								
1345	-0.3								
1346	-0.2								
1347	-0.2								
1348	-0.3								
1353	-1.0								

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1354	-1.2								
1369	-0.5								
1370	-0.8								
1371	-0.3								
1372	-0.4								
1375	-0.3								
1376	-0.3								
1378	-0.5								
1379	-0.2								
1384	-0.2								
1387	-0.1								
1388	-0.4								
1389	0.0								
1390	-0.1								
1391	-0.1								
1392		-0.1							
1393		-0.1							
1410		-0.2							
1411		-0.2							
1412		-0.1							
1413		-0.3							
1414		-0.3							
1415		-0.1							
1416		-0.0							
1417		-0.3							
1418		-0.1							
1419		-0.1							
1420		-0.0							
1421		-0.1							
1424		-0.8							
1425		-0.6							
1426		-0.4							
1427		-0.4							
1428		-0.7							
1429		-0.1							
1430		-0.4							
1434		-0.2							
1435		-0.1							
1436		-0.1							
1437		-0.1							
1447		0.0							
1448		-0.0							
1452		0.0							
1453		-0.1							
1454		-0.0							
1455		-0.2							
1456		-0.1							
1457		-0.2							
1458		-0.2							
1459		-0.2							
1460		-0.2							
1461		-0.2							
1462		-0.2							
1463		-0.2							
1464		-0.0							
1465		-0.2							
1466		-0.1							
1467		0.0							

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1468		-0.1							
1472		-0.2							
1473		-0.2							
1474		-0.2							
1475		-0.1							
1476		-0.1							
1477		-0.1							
1486		-0.2							
1487		-0.2							
1488		-0.2							
1495		-0.3							
1496		-0.5							
1497		-0.3							
1503		-0.2							
1504		-0.2							
1505		-0.2							
1506		-0.1							
1507		-0.1							
1508		-0.3							
1509		-0.5							
1510		-0.5							
1511		-0.4							
1515		-0.4							
1516		-0.4							
1517		-0.5							
1518		-0.5							
1519		-0.2							
1520		-0.3							
1521		-0.6							
1522		-0.2							
1523		-0.1							
1524		-0.4							
1525		-0.3							
1526		-0.5							
1527		-0.4							
1528		-0.4							
1533		-0.2							
1534		-0.5							
1535		-0.6							
1536		-0.5							
1537		-0.6							
1543		0.0							
1545		-0.1							
1546		-0.4							
1547		-0.4							
1548		-0.5							
1549		-0.1							
1555		-0.3							
1556		-0.5							
1557		-0.6							
1562		-0.2							
1567		-0.1							
1570		-0.2							
1571		-0.4							
1572		-0.2							
1573		-0.3							
1574		-0.3							
1583	0.1								

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1584	0.2								
1585	0.3								
1586	0.3								
1587	0.2								
1588	0.2								
1589	0.1								
1590	0.1								
1591	0.0								
1592	0.0								
1594	0.1								
1595	0.1								
1600	0.2								
1601	0.4								
1602	0.2								
1603	0.0								
1607	0.0								
1611	0.6								
1612	0.4								
1613	0.2								
1614	0.5								
1615	0.5								
1616	0.2								
1617	0.6								
1618	0.1								
1619	0.3								
1620	0.5								
1621	0.3								
1622	0.5								
1634	0.3								
1635	0.3								
1636	0.3								
1637	0.3								
1646	0.0								
1648	0.1								
1649	0.0								
1650	0.3								
1651	0.3								
1655	0.2								
1656	0.2								
1657	0.2								
1658	0.3								
1659	0.3								
1663	0.1								
1664	0.1								
1665	0.1								
1669	0.3								
1670	0.4								
1671	0.5								
1672	0.4								
1677	0.2								
1678	0.2								
1679	0.4								
1680	0.5								
1681	0.3								
1682	0.1								
1683	0.1								
1684	0.2								
1685	0.1								

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1686	0.3								
1687	0.4								
1688	0.5								
1689	0.3								
1690	0.4								
1703	0.8								
1704	0.4								
1705	0.6								
1706	0.1								
1707	0.1								
1708	0.3								
1709	0.3								
1710	0.2								
1711	0.8								
1712	0.5								
1713	0.7								
1721	0.0								
1722	0.0								
1723	0.0								
1724	0.4								
1725	0.2								
1726	0.3								
1727	0.4								
1728	0.2								
1729	0.1								
1730	0.2								
1731	0.2								
1732	0.2								
1733	0.8								
1734	0.4								
1735	0.8								
1736	0.6								
1738	0.0								
1746	0.1								
1747	0.1								
1748	0.1								
1749	0.2								
1750	0.1								
1754	0.1								
1755	0.0								
1756	0.0								
1760	0.4								
1768	0.1								
1769	0.0								
1770	0.1								
1779	0.0								
1780	0.1								
1781	0.2								
1782	0.1								
1783	0.1								
1784	0.6								
1785	0.7								
1791	0.2								
1792	0.2								
1793	0.3								
1794	0.2								
1796	0.0								
1797	0.0								

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21226-Nuevo Depósito Formentera Caseta
Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1798	0.3								
1799	0.4								
1800	0.3								
1801	0.2								
1802	0.4								
1805	0.3								
1806	0.1								
1807	0.2								
1808	0.3								
1809	0.4								
1810	0.3								
1811	0.1								
1812	0.1								
1813	0.0								
1814	0.1								
1815	0.1								
1818	0.0								
1819	0.1								
1820	0.0								
1821	0.1								
1822	0.1								
1823	0.1								
1827	0.0								
1828	0.1								
1829	0.5								
1830	0.0								
1831	0.2								
1832	0.1								
1833		0.8							
1834		0.7							
1835		0.7							
1836		0.5							
1837		0.4							
1838		0.4							
1839		0.4							
1840		0.4							
1841		0.5							
1843		0.0							
1844		0.0							
1860		0.3							
1861		0.4							
1862		0.3							
1863		0.7							
1864		0.8							
1865		0.9							
1866		0.9							
1873		0.6							
1874		0.3							
1875		0.4							
1876		0.5							
1877		0.6							
1878		0.4							
1879		0.4							
1880		0.6							
1881		0.6							
1882		0.8							
1887		0.7							
1888		0.8							

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Generation of Node and Element Loads

Loads acting on Nodes

Node	PX[kN]	PY[kN]	PZ[kN]	MX[kNm]	MY[kNm]	MZ[kNm]	MB[kNm2]		
1892		0.1							
1893		0.1							
1901		0.4							
1902		0.5							
1909		0.4							
1910		0.2							
1911		0.0							
1912		0.1							
1913		0.2							
1914		0.5							
1915		0.4							
1916		0.1							
1917		0.3							
1918		0.6							
1919		0.4							
1920		0.6							
1921		0.0							
1922		0.1							
1923		0.3							
1924		0.3							
1925		0.4							
1926		0.4							
1927		0.5							
1928		0.5							
1933		0.5							
1934		0.2							
1935		0.2							
1936		0.2							
1937		0.0							
sum	0.0	0.0							

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Load Case 1 (G) PP

Factor forces and moments		1.000
Factor dead weight	DL-ZZ	-1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Load Case 2 (G) CM

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 5			0.125	3.875	4.050	PG	2.50 [kN/m2]
				2.875	3.875	4.050		2.50 [kN/m2]
				2.875	0.125	4.050		2.50 [kN/m2]
				0.125	0.125	4.050		2.50 [kN/m2]
						activated		100.00 percent

Load Case 3 (Q) SCU

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.700 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.300 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 5			0.125	3.875	4.050	PG	1.00 [kN/m2]
				2.875	3.875	4.050		1.00 [kN/m2]
				2.875	0.125	4.050		1.00 [kN/m2]
				0.125	0.125	4.050		1.00 [kN/m2]
						activated		100.00 percent

Load Case 4 (S) N

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.500 (rare)
Combination coefficient	ψ_1	0.200 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 5			0.125	3.875	4.050	PG	0.20 [kN/m2]
				2.875	3.875	4.050		0.20 [kN/m2]
				2.875	0.125	4.050		0.20 [kN/m2]
				0.125	0.125	4.050		0.20 [kN/m2]
						activated		100.00 percent

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Calculation of forces and moments

Load Case 5 (W) Wx

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 1			2.875	0.125	1.270	PXX	-0.88 [kN/m2]
				2.875	3.875	1.270		-0.88 [kN/m2]
				2.875	3.875	4.050		-0.88 [kN/m2]
				2.875	0.125	4.050		-0.88 [kN/m2]
						activated		100.00 percent
Area	sar 3			0.125	3.875	1.490	PXX	-0.55 [kN/m2]
				0.125	2.450	1.490		-0.55 [kN/m2]
				0.125	2.450	3.490		-0.55 [kN/m2]
				0.125	1.550	3.490		-0.55 [kN/m2]
				0.125	1.550	1.490		-0.55 [kN/m2]
				0.125	0.125	1.490		-0.55 [kN/m2]
				0.125	0.125	4.050		-0.55 [kN/m2]
				0.125	3.875	4.050		-0.55 [kN/m2]
						activated		100.00 percent

Load Case 6 (W) Wy

Factor forces and moments		1.000
unfavourable partial safety factor		1.500
favourable partial safety factor		0.000
Combination coefficient	ψ_0	0.600 (rare)
Combination coefficient	ψ_1	0.500 (frequent)
Combination coefficient	ψ_2	0.000 (permanent)

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Area	sar 4			2.875	0.125	1.270	PYY	0.88 [kN/m2]
				0.125	0.125	1.270		0.88 [kN/m2]
				0.125	0.125	4.050		0.88 [kN/m2]
				2.875	0.125	4.050		0.88 [kN/m2]
						activated		100.00 percent
Area	sar 2			2.875	3.875	1.270	PYY	0.44 [kN/m2]
				0.125	3.875	1.270		0.44 [kN/m2]
				0.125	3.875	4.050		0.44 [kN/m2]
				2.875	3.875	4.050		0.44 [kN/m2]
						activated		100.00 percent

Load Case 7 (G) Terreno

Factor forces and moments		1.000
unfavourable partial safety factor		1.350
favourable partial safety factor		1.000
Combination coefficient	ψ_0	1.000 (rare)
Combination coefficient	ψ_1	1.000 (frequent)
Combination coefficient	ψ_2	1.000 (permanent)

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Loads

Kind	Reference to	Projection Designation	W[m]	Coordinates X[m]	Y[m]	Z[m]	Type	Load value
Volume	QGRP 3			-21.599	3.875	1.490	Pz	0.00 [kN/m2]
				-21.599	3.875	-98.510		1000.00 [kN/m2]
						activated		100.00 percent
Volume	QGRP 4			0.125	-38.945	1.490	Pz	0.00 [kN/m2]
				0.125	-38.945	-98.510		1000.00 [kN/m2]
						activated		100.00 percent

Sum of Loadings

Loadcase	Σ(Loads) X[kN]	Y[kN]	Z[kN]	Designation
1	0.0	0.0	-459.6	PP
2	0.0	0.0	-25.8	CM
3	0.0	0.0	-10.3	SCU
4	0.0	0.0	-2.1	N
5	-13.5	0.0	0.0	Wx
6	0.0	10.1	0.0	Wy
7	0.0	0.0	0.0	Terreno

Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1001			0.2			
1002			0.3			
1006			0.1			
1010			0.3			
1025			0.1			
1030			0.5			
1031			0.5			
1032			0.4			
1033			0.9			
1034			1.6			
1035			2.2			
1036			2.5			
1037			2.4			
1038			2.3			
1039			2.1			
1040			2.1			
1041			1.8			
1042			1.3			
1043			1.0			
1044			0.7			
1090			0.5			
1091			0.5			
1092			0.5			
1093			0.8			
1094			1.1			
1095			1.2			
1096			1.1			
1097			1.0			
1098			0.8			
1099			0.9			
1100			0.4			
1101			0.4			
1102			0.3			
1103			0.2			
1104			0.2			
1135			0.1			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1177			0.7			
1178			0.8			
1179			1.0			
1180			1.2			
1181			1.4			
1182			1.4			
1183			1.5			
1184			1.4			
1185			1.3			
1186			1.0			
1187			0.7			
1212			0.5			
1213			0.4			
1214			0.3			
1215			0.7			
1216			1.2			
1217			1.7			
1218			1.8			
1219			1.6			
1220			1.5			
1221			1.9			
1222			0.9			
1223			0.7			
1224			0.6			
1225			0.4			
1226			0.3			
1227			0.4			
1228			0.1			
2098			3.2			
2099			2.3			
2100			2.1			
2101			1.3			
2102			0.9			
2103			0.7			
2104			0.4			
2105			2.3			
2106			4.2			
2107			3.3			
2108			4.0			
2109			4.4			
2110			4.4			
2111			5.1			
2112			5.4			
2113			2.0			
2114			2.4			
2115			3.0			
2116			2.4			
2117			3.1			
2118			2.7			
2119			5.5			
2120			5.0			
2121			0.9			
2122			1.3			
2123			1.8			
2124			2.3			
2125			2.1			
2126			1.8			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2127			2.7			
2128			1.3			
2129			1.3			
2130			1.3			
2131			0.4			
2132			0.3			
2133			0.3			
2134			2.6			
2135			2.0			
2136			2.0			
2137			2.4			
2138			2.0			
2139			1.7			
2140			1.5			
2141			0.6			
2142			0.7			
2143			0.6			
2144			3.7			
2145			3.9			
2146			2.4			
2147			2.8			
2148			3.3			
2149			2.1			
2150			3.6			
2151			2.8			
2152			1.7			
2153			2.7			
2154			1.2			
2155			1.1			
2156			1.2			
2157			4.3			
2158			4.8			
2159			3.8			
2160			4.3			
2161			1.9			
2162			2.9			
2163			4.5			
2164			3.3			
2165			1.0			
2166			1.3			
2167			0.8			
2168			0.9			
2169			1.2			
2170			1.1			
2171			1.0			
2172			4.6			
2173			3.8			
2174			4.8			
2175			4.9			
2176			1.3			
2177			2.1			
2178			3.4			
2179			2.3			
2180			1.5			
2181			1.5			
2182			1.0			
2183			1.3			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2184			3.3			
2185			2.1			
2186			2.7			
2187			3.2			
2188			3.0			
2189			1.7			
2190			2.3			
2191			2.3			
2192			2.3			
2193			4.5			
2194			4.6			
2195			4.8			
2196			3.3			
2197			4.6			
2198			4.0			
2199			2.0			
2200			2.3			
2201			2.2			
2202			3.6			
2203			3.1			
2204			3.5			
2205			1.4			
2206			1.7			
2207			2.4			
2208			1.7			
2209			1.8			
2210			2.8			
2211			2.8			
2212			4.4			
2213			4.7			
2214			4.6			
2215			0.4			
2216			0.7			
2217			0.7			
2218			2.3			
2219			3.4			
2220			2.5			
2221			2.7			
2222			2.4			
2223			2.7			
2224			3.5			
2225			4.1			
2226			1.3			
2227			1.3			
2228			0.8			
2229			1.2			
2230			1.7			
2231			2.2			
2232			1.9			
2233			2.4			
2234			2.9			
2235			2.8			
2236			1.2			
2237			1.6			
2238			1.9			
2239			2.0			
2240			4.4			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 1 PP

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2241			2.8			
2242			0.8			
2243			0.8			
2244			1.3			
2245			1.5			
2246			1.3			
2247			1.4			
2248			1.4			
2249			2.7			
2250			3.5			
2251			1.9			
2252			2.5			
2253			1.4			
2254			1.3			
2255			1.3			
2256			1.6			
2257			3.1			
2258			3.5			
2259			0.6			
2260			0.7			
2261			0.5			
2262			1.8			
2263			1.1			
2264			1.3			
2265			0.5			
2266			1.4			
2267			1.0			
2268			0.7			
2269			0.4			
2270			0.2			

Nodal Reactions Loadcase 2 CM

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1001			0.0			
1002			0.0			
1010			0.0			
1025			0.0			
1030			0.0			
1031			0.0			
1032			0.0			
1033			0.0			
1034			0.1			
1035			0.1			
1036			0.1			
1037			0.1			
1038			0.1			
1039			0.1			
1040			0.1			
1041			0.1			
1042			0.1			
1043			0.1			
1044			0.0			
1090			0.0			
1091			0.0			
1092			0.0			
1093			0.0			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 2 CM

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1094			0.1			
1095			0.1			
1096			0.1			
1097			0.1			
1098			0.0			
1099			0.1			
1100			0.0			
1101			0.0			
1102			0.0			
1103			0.0			
1104			0.0			
1135			0.0			
1177			0.0			
1178			0.0			
1179			0.1			
1180			0.1			
1181			0.1			
1182			0.1			
1183			0.1			
1184			0.1			
1185			0.1			
1186			0.1			
1187			0.0			
1212			0.0			
1213			0.0			
1214			0.0			
1215			0.0			
1216			0.1			
1217			0.1			
1218			0.1			
1219			0.1			
1220			0.1			
1221			0.1			
1222			0.1			
1223			0.0			
1224			0.0			
1225			0.0			
1226			0.0			
1227			0.0			
1228			0.0			
2098			0.2			
2099			0.1			
2100			0.1			
2101			0.1			
2102			0.1			
2103			0.0			
2104			0.0			
2105			0.1			
2106			0.2			
2107			0.2			
2108			0.2			
2109			0.2			
2110			0.2			
2111			0.3			
2112			0.3			
2113			0.1			
2114			0.1			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 2 CM

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2115			0.2			
2116			0.1			
2117			0.2			
2118			0.2			
2119			0.3			
2120			0.3			
2121			0.1			
2122			0.1			
2123			0.1			
2124			0.1			
2125			0.1			
2126			0.1			
2127			0.2			
2128			0.1			
2129			0.1			
2130			0.1			
2131			0.0			
2132			0.0			
2133			0.0			
2134			0.2			
2135			0.1			
2136			0.1			
2137			0.1			
2138			0.1			
2139			0.1			
2140			0.1			
2141			0.0			
2142			0.0			
2143			0.0			
2144			0.2			
2145			0.2			
2146			0.1			
2147			0.2			
2148			0.2			
2149			0.1			
2150			0.2			
2151			0.2			
2152			0.1			
2153			0.2			
2154			0.1			
2155			0.1			
2156			0.1			
2157			0.2			
2158			0.3			
2159			0.2			
2160			0.2			
2161			0.1			
2162			0.2			
2163			0.2			
2164			0.2			
2165			0.1			
2166			0.1			
2167			0.0			
2168			0.1			
2169			0.1			
2170			0.1			
2171			0.1			

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Calculation of forces and moments

Nodal Reactions Loadcase 2 CM

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2172			0.2			
2173			0.2			
2174			0.3			
2175			0.3			
2176			0.1			
2177			0.1			
2178			0.2			
2179			0.1			
2180			0.1			
2181			0.1			
2182			0.1			
2183			0.1			
2184			0.2			
2185			0.1			
2186			0.2			
2187			0.2			
2188			0.2			
2189			0.1			
2190			0.1			
2191			0.1			
2192			0.1			
2193			0.2			
2194			0.2			
2195			0.3			
2196			0.2			
2197			0.3			
2198			0.2			
2199			0.1			
2200			0.1			
2201			0.1			
2202			0.2			
2203			0.2			
2204			0.2			
2205			0.1			
2206			0.1			
2207			0.1			
2208			0.1			
2209			0.1			
2210			0.2			
2211			0.2			
2212			0.2			
2213			0.3			
2214			0.3			
2215			0.0			
2216			0.0			
2217			0.0			
2218			0.1			
2219			0.2			
2220			0.1			
2221			0.1			
2222			0.1			
2223			0.1			
2224			0.2			
2225			0.2			
2226			0.1			
2227			0.1			
2228			0.1			

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Calculation of forces and moments

Nodal Reactions Loadcase 2 CM

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2229			0.1			
2230			0.1			
2231			0.1			
2232			0.1			
2233			0.1			
2234			0.2			
2235			0.2			
2236			0.1			
2237			0.1			
2238			0.1			
2239			0.1			
2240			0.2			
2241			0.2			
2242			0.0			
2243			0.0			
2244			0.1			
2245			0.1			
2246			0.1			
2247			0.1			
2248			0.1			
2249			0.1			
2250			0.2			
2251			0.1			
2252			0.1			
2253			0.1			
2254			0.1			
2255			0.1			
2256			0.1			
2257			0.2			
2258			0.2			
2259			0.0			
2260			0.0			
2261			0.0			
2262			0.1			
2263			0.1			
2264			0.1			
2265			0.0			
2266			0.1			
2267			0.1			
2268			0.0			
2269			0.0			
2270			0.0			

Nodal Reactions Loadcase 3 SCU

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1001			0.0			
1002			0.0			
1010			0.0			
1025			0.0			
1030			0.0			
1031			0.0			
1032			0.0			
1033			0.0			
1034			0.0			
1035			0.0			
1036			0.1			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 3 SCU

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1037			0.1			
1038			0.0			
1039			0.0			
1040			0.0			
1041			0.0			
1042			0.0			
1043			0.0			
1044			0.0			
1090			0.0			
1091			0.0			
1092			0.0			
1093			0.0			
1094			0.0			
1095			0.0			
1096			0.0			
1097			0.0			
1098			0.0			
1099			0.0			
1100			0.0			
1101			0.0			
1102			0.0			
1103			0.0			
1104			0.0			
1135			0.0			
1177			0.0			
1178			0.0			
1179			0.0			
1180			0.0			
1181			0.0			
1182			0.0			
1183			0.0			
1184			0.0			
1185			0.0			
1186			0.0			
1187			0.0			
1212			0.0			
1213			0.0			
1214			0.0			
1215			0.0			
1216			0.0			
1217			0.0			
1218			0.0			
1219			0.0			
1220			0.0			
1221			0.0			
1222			0.0			
1223			0.0			
1224			0.0			
1225			0.0			
1226			0.0			
1227			0.0			
1228			0.0			
2098			0.1			
2099			0.1			
2100			0.0			
2101			0.0			
2102			0.0			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 3 SCU

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2103			0.0			
2104			0.0			
2105			0.1			
2106			0.1			
2107			0.1			
2108			0.1			
2109			0.1			
2110			0.1			
2111			0.1			
2112			0.1			
2113			0.0			
2114			0.1			
2115			0.1			
2116			0.1			
2117			0.1			
2118			0.1			
2119			0.1			
2120			0.1			
2121			0.0			
2122			0.0			
2123			0.0			
2124			0.1			
2125			0.0			
2126			0.0			
2127			0.1			
2128			0.0			
2129			0.0			
2130			0.0			
2131			0.0			
2132			0.0			
2133			0.0			
2134			0.1			
2135			0.0			
2136			0.0			
2137			0.1			
2138			0.0			
2139			0.0			
2140			0.0			
2141			0.0			
2142			0.0			
2143			0.0			
2144			0.1			
2145			0.1			
2146			0.1			
2147			0.1			
2148			0.1			
2149			0.0			
2150			0.1			
2151			0.1			
2152			0.0			
2153			0.1			
2154			0.0			
2155			0.0			
2156			0.0			
2157			0.1			
2158			0.1			
2159			0.1			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 3 SCU

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2160			0.1			
2161			0.0			
2162			0.1			
2163			0.1			
2164			0.1			
2165			0.0			
2166			0.0			
2167			0.0			
2168			0.0			
2169			0.0			
2170			0.0			
2171			0.0			
2172			0.1			
2173			0.1			
2174			0.1			
2175			0.1			
2176			0.0			
2177			0.0			
2178			0.1			
2179			0.1			
2180			0.0			
2181			0.0			
2182			0.0			
2183			0.0			
2184			0.1			
2185			0.0			
2186			0.1			
2187			0.1			
2188			0.1			
2189			0.0			
2190			0.1			
2191			0.0			
2192			0.1			
2193			0.1			
2194			0.1			
2195			0.1			
2196			0.1			
2197			0.1			
2198			0.1			
2199			0.0			
2200			0.1			
2201			0.0			
2202			0.1			
2203			0.1			
2204			0.1			
2205			0.0			
2206			0.0			
2207			0.1			
2208			0.0			
2209			0.0			
2210			0.1			
2211			0.1			
2212			0.1			
2213			0.1			
2214			0.1			
2215			0.0			
2216			0.0			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 3 SCU

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2217			0.0			
2218			0.1			
2219			0.1			
2220			0.1			
2221			0.1			
2222			0.1			
2223			0.1			
2224			0.1			
2225			0.1			
2226			0.0			
2227			0.0			
2228			0.0			
2229			0.0			
2230			0.0			
2231			0.0			
2232			0.0			
2233			0.1			
2234			0.1			
2235			0.1			
2236			0.0			
2237			0.0			
2238			0.0			
2239			0.0			
2240			0.1			
2241			0.1			
2242			0.0			
2243			0.0			
2244			0.0			
2245			0.0			
2246			0.0			
2247			0.0			
2248			0.0			
2249			0.1			
2250			0.1			
2251			0.0			
2252			0.1			
2253			0.0			
2254			0.0			
2255			0.0			
2256			0.0			
2257			0.1			
2258			0.1			
2259			0.0			
2260			0.0			
2261			0.0			
2262			0.0			
2263			0.0			
2264			0.0			
2265			0.0			
2266			0.0			
2267			0.0			
2268			0.0			
2269			0.0			
2270			0.0			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 4 N

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1001			0.0			
1002			0.0			
1010			0.0			
1025			0.0			
1030			0.0			
1031			0.0			
1032			0.0			
1033			0.0			
1034			0.0			
1035			0.0			
1036			0.0			
1037			0.0			
1038			0.0			
1039			0.0			
1040			0.0			
1041			0.0			
1042			0.0			
1043			0.0			
1044			0.0			
1090			0.0			
1091			0.0			
1092			0.0			
1093			0.0			
1094			0.0			
1095			0.0			
1096			0.0			
1097			0.0			
1098			0.0			
1099			0.0			
1100			0.0			
1101			0.0			
1102			0.0			
1103			0.0			
1104			0.0			
1135			0.0			
1177			0.0			
1178			0.0			
1179			0.0			
1180			0.0			
1181			0.0			
1182			0.0			
1183			0.0			
1184			0.0			
1185			0.0			
1186			0.0			
1187			0.0			
1212			0.0			
1213			0.0			
1214			0.0			
1215			0.0			
1216			0.0			
1217			0.0			
1218			0.0			
1219			0.0			
1220			0.0			
1221			0.0			
1222			0.0			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 4 N

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1223			0.0			
1224			0.0			
1225			0.0			
1226			0.0			
1227			0.0			
1228			0.0			
2098			0.0			
2099			0.0			
2100			0.0			
2101			0.0			
2102			0.0			
2103			0.0			
2104			0.0			
2105			0.0			
2106			0.0			
2107			0.0			
2108			0.0			
2109			0.0			
2110			0.0			
2111			0.0			
2112			0.0			
2113			0.0			
2114			0.0			
2115			0.0			
2116			0.0			
2117			0.0			
2118			0.0			
2119			0.0			
2120			0.0			
2121			0.0			
2122			0.0			
2123			0.0			
2124			0.0			
2125			0.0			
2126			0.0			
2127			0.0			
2128			0.0			
2129			0.0			
2130			0.0			
2131			0.0			
2132			0.0			
2133			0.0			
2134			0.0			
2135			0.0			
2136			0.0			
2137			0.0			
2138			0.0			
2139			0.0			
2140			0.0			
2141			0.0			
2142			0.0			
2143			0.0			
2144			0.0			
2145			0.0			
2146			0.0			
2147			0.0			
2148			0.0			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 4 N

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2149			0.0			
2150			0.0			
2151			0.0			
2152			0.0			
2153			0.0			
2154			0.0			
2155			0.0			
2156			0.0			
2157			0.0			
2158			0.0			
2159			0.0			
2160			0.0			
2161			0.0			
2162			0.0			
2163			0.0			
2164			0.0			
2165			0.0			
2166			0.0			
2167			0.0			
2168			0.0			
2169			0.0			
2170			0.0			
2171			0.0			
2172			0.0			
2173			0.0			
2174			0.0			
2175			0.0			
2176			0.0			
2177			0.0			
2178			0.0			
2179			0.0			
2180			0.0			
2181			0.0			
2182			0.0			
2183			0.0			
2184			0.0			
2185			0.0			
2186			0.0			
2187			0.0			
2188			0.0			
2189			0.0			
2190			0.0			
2191			0.0			
2192			0.0			
2193			0.0			
2194			0.0			
2195			0.0			
2196			0.0			
2197			0.0			
2198			0.0			
2199			0.0			
2200			0.0			
2201			0.0			
2202			0.0			
2203			0.0			
2204			0.0			
2205			0.0			

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Calculation of forces and moments

Nodal Reactions Loadcase 4 N

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2206			0.0			
2207			0.0			
2208			0.0			
2209			0.0			
2210			0.0			
2211			0.0			
2212			0.0			
2213			0.0			
2214			0.0			
2215			0.0			
2216			0.0			
2217			0.0			
2218			0.0			
2219			0.0			
2220			0.0			
2221			0.0			
2222			0.0			
2223			0.0			
2224			0.0			
2225			0.0			
2226			0.0			
2227			0.0			
2228			0.0			
2229			0.0			
2230			0.0			
2231			0.0			
2232			0.0			
2233			0.0			
2234			0.0			
2235			0.0			
2236			0.0			
2237			0.0			
2238			0.0			
2239			0.0			
2240			0.0			
2241			0.0			
2242			0.0			
2243			0.0			
2244			0.0			
2245			0.0			
2246			0.0			
2247			0.0			
2248			0.0			
2249			0.0			
2250			0.0			
2251			0.0			
2252			0.0			
2253			0.0			
2254			0.0			
2255			0.0			
2256			0.0			
2257			0.0			
2258			0.0			
2259			0.0			
2260			0.0			
2261			0.0			
2262			0.0			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 4 N

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2263			0.0			
2264			0.0			
2265			0.0			
2266			0.0			
2267			0.0			
2268			0.0			
2269			0.0			
2270			0.0			

Nodal Reactions Loadcase 5 Wx

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1001	0.0		-0.0			
1002	0.0		-0.0			
1006			0.0			
1010	0.0		0.0			
1025			0.0			
1030	0.0		-0.1			
1031	0.0		-0.1			
1032	0.0		-0.1			
1033	0.0		-0.1			
1034	0.0		-0.2			
1035	0.1		-0.3			
1036	0.1		-0.4			
1037	0.1		-0.4			
1038	0.1		-0.3			
1039	0.1		-0.3			
1040	0.1		-0.3			
1041	0.0		-0.3			
1042	0.0		-0.2			
1043	0.0		-0.1			
1044	0.0		-0.1			
1090	0.0		-0.1			
1091	0.0		-0.1			
1092	0.0		-0.1			
1093	0.0		-0.1			
1094	0.0		-0.1			
1095	0.0		-0.1			
1096	0.0		-0.0			
1097	0.0		0.0			
1098	0.0		0.0			
1099	0.0		0.1			
1100	0.0		0.0			
1101	0.0		0.0			
1102	0.0		0.0			
1103	0.0		0.0			
1104	0.0		0.0			
1135			0.0			
1177	0.0		-0.1			
1178	0.0		-0.1			
1179	0.0		-0.1			
1180	0.0		-0.1			
1181	0.0		-0.1			
1182	0.0		0.0			
1183	0.0		0.0			
1184	0.0		0.1			
1185	0.0		0.1			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 5 Wx

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1186	0.0		0.1			
1187	0.0		0.1			
1212	0.0		0.1			
1213	0.0		0.1			
1214	0.0		0.1			
1215	0.0		0.1			
1216	0.0		0.2			
1217	0.1		0.3			
1218	0.1		0.3			
1219	0.0		0.3			
1220	0.0		0.3			
1221	0.1		0.3			
1222	0.0		0.1			
1223	0.0		0.1			
1224	0.0		0.1			
1225	0.0		0.1			
1226	0.0		0.0			
1227	0.0		0.1			
1228			0.0			
2098	0.1		-0.4			
2099	0.1		-0.1			
2100	0.1		-0.0			
2101	0.0		0.1			
2102	0.0		0.1			
2103	0.0		0.1			
2104	0.0		0.1			
2105	0.1		0.3			
2106	0.1		0.4			
2107	0.1		0.1			
2108	0.1		-0.1			
2109	0.1		-0.4			
2110	0.1		-0.4			
2111	0.1		-0.4			
2112	0.2		0.0			
2113	0.1		-0.2			
2114	0.1		-0.1			
2115	0.1		0.0			
2116	0.1		0.2			
2117	0.1		0.4			
2118	0.1		0.1			
2119	0.2		-0.1			
2120	0.1		-0.4			
2121	0.0		0.1			
2122	0.0		0.1			
2123	0.1		0.1			
2124	0.1		0.2			
2125	0.1		0.2			
2126	0.1		0.1			
2127	0.1		-0.0			
2128	0.0		0.2			
2129	0.0		0.2			
2130	0.0		0.1			
2131	0.0		0.1			
2132	0.0		0.0			
2133	0.0		0.1			
2134	0.1		0.2			
2135	0.1		0.2			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 5 Wx

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2136	0.1		0.3			
2137	0.1		0.3			
2138	0.1		-0.3			
2139	0.0		-0.2			
2140	0.0		-0.2			
2141	0.0		0.1			
2142	0.0		0.1			
2143	0.0		0.1			
2144	0.1		0.0			
2145	0.1		0.2			
2146	0.1		0.2			
2147	0.1		0.1			
2148	0.1		0.2			
2149	0.1		0.1			
2150	0.1		0.1			
2151	0.1		0.1			
2152	0.1		0.1			
2153	0.1		0.1			
2154	0.0		-0.2			
2155	0.0		-0.2			
2156	0.0		-0.2			
2157	0.1		-0.6			
2158	0.1		-0.4			
2159	0.1		-0.5			
2160	0.1		-0.5			
2161	0.1		-0.3			
2162	0.1		-0.3			
2163	0.1		-0.6			
2164	0.1		-0.4			
2165	0.0		0.2			
2166	0.0		0.2			
2167	0.0		0.1			
2168	0.0		0.1			
2169	0.0		0.1			
2170	0.0		0.1			
2171	0.0		0.1			
2172	0.1		-0.3			
2173	0.1		-0.1			
2174	0.1		-0.2			
2175	0.1		-0.3			
2176	0.0		0.2			
2177	0.1		0.3			
2178	0.1		0.5			
2179	0.1		0.4			
2180	0.0		0.1			
2181	0.0		0.1			
2182	0.0		0.1			
2183	0.0		0.1			
2184	0.1		0.2			
2185	0.1		0.2			
2186	0.1		0.3			
2187	0.1		0.3			
2188	0.1		0.2			
2189	0.0		-0.2			
2190	0.1		-0.1			
2191	0.1		-0.2			
2192	0.1		-0.2			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 5 Wx

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2193	0.1		-0.4			
2194	0.1		-0.6			
2195	0.1		-0.6			
2196	0.1		0.0			
2197	0.1		-0.1			
2198	0.1		0.0			
2199	0.1		0.0			
2200	0.1		-0.1			
2201	0.1		-0.1			
2202	0.1		0.4			
2203	0.1		0.5			
2204	0.1		0.5			
2205	0.0		0.2			
2206	0.1		0.3			
2207	0.1		0.4			
2208	0.1		0.2			
2209	0.1		0.2			
2210	0.1					
2211	0.1		0.1			
2212	0.1		-0.4			
2213	0.1		-0.3			
2214	0.1		-0.3			
2215	0.0		0.1			
2216	0.0		0.1			
2217	0.0		0.1			
2218	0.1		-0.0			
2219	0.1		-0.2			
2220	0.1		-0.2			
2221	0.1		-0.1			
2222	0.1		-0.2			
2223	0.1		-0.3			
2224	0.1		-0.1			
2225	0.1		-0.2			
2226	0.0		0.2			
2227	0.0		0.2			
2228	0.0		0.1			
2229	0.0		0.2			
2230	0.1		0.0			
2231	0.1		0.0			
2232	0.1		0.0			
2233	0.1		-0.2			
2234	0.1		-0.1			
2235	0.1		-0.1			
2236	0.0		0.1			
2237	0.0		0.1			
2238	0.1		-0.2			
2239	0.1		-0.2			
2240	0.1		-0.6			
2241	0.1		0.4			
2242	0.0		0.1			
2243	0.0		0.1			
2244	0.0		0.2			
2245	0.0		0.2			
2246	0.0		0.1			
2247	0.0		0.2			
2248	0.0		0.2			
2249	0.1		-0.2			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 5 Wx

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2250	0.1		-0.1			
2251	0.1		0.1			
2252	0.1		0.0			
2253	0.0		0.1			
2254	0.0		0.2			
2255	0.0		0.1			
2256	0.0		0.1			
2257	0.1		0.1			
2258	0.1		0.2			
2259	0.0		-0.1			
2260	0.0		-0.1			
2261	0.0		0.0			
2262	0.1		0.0			
2263	0.0		0.1			
2264	0.0		-0.1			
2265	0.0		0.1			
2266	0.0		-0.1			
2267	0.0		0.1			
2268	0.0		0.1			
2269	0.0		0.1			
2270	0.0		0.0			

Nodal Reactions Loadcase 6 Wy

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1001			0.0			
1002		0.0	-0.0			
1006			0.0			
1010		0.0	-0.0			
1025			0.0			
1030		0.0	0.0			
1031		0.0	0.0			
1032		0.0	0.0			
1033		-0.0	0.1			
1034		-0.0	0.1			
1035		-0.0	0.1			
1036		-0.1	0.1			
1037		-0.0	0.0			
1038		-0.0	-0.0			
1039		-0.0	-0.1			
1040		-0.0	-0.1			
1041		-0.0	-0.1			
1042		-0.0	-0.1			
1043		-0.0	-0.1			
1044		-0.0	-0.1			
1090		-0.0	0.0			
1091		-0.0	0.0			
1092		-0.0	0.0			
1093		-0.0	0.1			
1094		-0.0	0.1			
1095		-0.0	0.1			
1096		-0.0	0.1			
1097		-0.0	0.1			
1098		-0.0	0.1			
1099		-0.0	0.1			
1100		0.0	0.0			
1101		0.0	0.0			

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21226-Nuevo Depósito Formentera Caseta
Calculation of forces and moments

Nodal Reactions Loadcase 6 Wy

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1102		0.0	0.0			
1103		0.0	0.0			
1104			0.0			
1135			0.0			
1177		-0.0	-0.1			
1178		-0.0	-0.1			
1179		-0.0	-0.1			
1180		-0.0	-0.1			
1181		-0.0	-0.1			
1182		-0.0	-0.1			
1183		-0.0	-0.1			
1184		-0.0	-0.1			
1185		-0.0	-0.1			
1186		-0.0	-0.1			
1187		-0.0	-0.1			
1212		-0.0	-0.0			
1213		0.0	-0.0			
1214		0.0	-0.0			
1215		-0.0	-0.0			
1216		-0.0	-0.1			
1217		-0.0	-0.1			
1218		-0.0	-0.0			
1219		-0.0	-0.0			
1220		-0.0	0.0			
1221		-0.0	0.0			
1222		-0.0	0.0			
1223		-0.0	0.0			
1224		-0.0	0.0			
1225		0.0	0.0			
1226		0.0	0.0			
1227		0.0	0.0			
1228			0.0			
2098		-0.1	0.2			
2099		-0.0	0.2			
2100		-0.0	0.2			
2101		-0.0	0.1			
2102		-0.0	0.1			
2103		-0.0	0.1			
2104		0.0	0.0			
2105		-0.1	-0.2			
2106		-0.1	-0.2			
2107		-0.1	-0.1			
2108		-0.1	-0.1			
2109		-0.1	0.1			
2110		-0.1	-0.1			
2111		-0.1	-0.2			
2112		-0.1	-0.2			
2113		-0.0	-0.1			
2114		-0.1	-0.2			
2115		-0.1	-0.2			
2116		-0.1	-0.2			
2117		-0.1	-0.1			
2118		-0.1	0.0			
2119		-0.1	0.1			
2120		-0.1	0.2			
2121		-0.0	0.0			
2122		-0.0	0.1			

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Calculation of forces and moments

Nodal Reactions Loadcase 6 Wy

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2123		-0.0	0.1			
2124		-0.1	0.1			
2125		-0.0	0.0			
2126		-0.0	0.1			
2127		-0.1	0.1			
2128		-0.0	0.1			
2129		-0.0	0.1			
2130		-0.0	0.1			
2131		0.0	0.0			
2132		0.0	0.0			
2133		0.0	0.0			
2134		-0.1	-0.2			
2135		-0.0	-0.1			
2136		-0.0	-0.2			
2137		-0.1	-0.2			
2138		-0.0	-0.1			
2139		-0.0	-0.1			
2140		-0.0	-0.1			
2141		-0.0	0.0			
2142		-0.0	0.1			
2143		-0.0	0.1			
2144		-0.1	-0.2			
2145		-0.1	-0.2			
2146		-0.1	-0.1			
2147		-0.1	-0.2			
2148		-0.1	-0.2			
2149		-0.0	0.0			
2150		-0.1	0.0			
2151		-0.1	0.1			
2152		-0.0	0.1			
2153		-0.1	0.1			
2154		-0.0	0.1			
2155		-0.0	0.1			
2156		-0.0	0.1			
2157		-0.1	-0.1			
2158		-0.1	-0.2			
2159		-0.1	-0.2			
2160		-0.1	-0.2			
2161		-0.0	0.1			
2162		-0.1	0.2			
2163		-0.1	0.2			
2164		-0.1	0.2			
2165		-0.0	-0.1			
2166		-0.0	-0.1			
2167		-0.0	0.1			
2168		-0.0	0.1			
2169		-0.0	0.1			
2170		-0.0	0.1			
2171		-0.0	0.1			
2172		-0.1	-0.1			
2173		-0.1	-0.1			
2174		-0.1	-0.2			
2175		-0.1	-0.2			
2176		-0.0	-0.1			
2177		-0.0	-0.1			
2178		-0.1	-0.1			
2179		-0.1	-0.1			

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Calculation of forces and moments

Nodal Reactions Loadcase 6 Wy

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2180		-0.0	0.1			
2181		-0.0	0.1			
2182		-0.0	0.1			
2183		-0.0	0.1			
2184		-0.1	-0.0			
2185		-0.0	0.0			
2186		-0.1	-0.0			
2187		-0.1	-0.1			
2188		-0.1	-0.0			
2189		-0.0	0.1			
2190		-0.0	0.2			
2191		-0.0	0.2			
2192		-0.0	0.2			
2193		-0.1	0.1			
2194		-0.1	0.0			
2195		-0.1	0.1			
2196		-0.1	-0.1			
2197		-0.1	0.0			
2198		-0.1	0.0			
2199		-0.0	0.2			
2200		-0.0	0.2			
2201		-0.0	0.2			
2202		-0.1	-0.1			
2203		-0.1	-0.0			
2204		-0.1	-0.1			
2205		-0.0	0.0			
2206		-0.0	0.0			
2207		-0.1	0.0			
2208		-0.0	0.0			
2209		-0.0	0.0			
2210		-0.1	-0.2			
2211		-0.1	-0.2			
2212		-0.1	0.0			
2213		-0.1	0.1			
2214		-0.1	0.0			
2215		0.0	0.0			
2216		-0.0	0.1			
2217		-0.0	0.1			
2218		-0.1	0.1			
2219		-0.1	0.2			
2220		-0.1	0.1			
2221		-0.1	0.2			
2222		-0.0	-0.1			
2223		-0.1	-0.2			
2224		-0.1	0.1			
2225		-0.1	0.1			
2226		-0.0	0.1			
2227		-0.0	0.1			
2228		-0.0	0.1			
2229		-0.0	0.1			
2230		-0.0	0.1			
2231		-0.0	0.1			
2232		-0.0	0.1			
2233		-0.1	-0.2			
2234		-0.1	-0.2			
2235		-0.1	-0.2			
2236		-0.0	0.1			

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Calculation of forces and moments

Nodal Reactions Loadcase 6 Wy

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2237		-0.0	0.1			
2238		-0.0	-0.1			
2239		-0.0	-0.2			
2240		-0.1	-0.0			
2241		-0.1				
2242		-0.0	0.1			
2243		-0.0	0.1			
2244		-0.0	0.1			
2245		-0.0	0.1			
2246		-0.0	0.1			
2247		-0.0	0.1			
2248		-0.0	0.1			
2249		-0.1	-0.2			
2250		-0.1	-0.2			
2251		-0.0	0.1			
2252		-0.1	0.1			
2253		-0.0	0.1			
2254		-0.0	0.1			
2255		-0.0	0.1			
2256		-0.0	0.1			
2257		-0.1	-0.1			
2258		-0.1	-0.1			
2259		-0.0	0.0			
2260		-0.0	0.1			
2261		-0.0	0.0			
2262		-0.0	-0.1			
2263		-0.0	-0.1			
2264		-0.0	-0.1			
2265		-0.0	-0.0			
2266		-0.0	0.1			
2267		-0.0	0.0			
2268		-0.0	0.0			
2269		0.0	0.0			
2270			0.0			

Nodal Reactions Loadcase 7 Terreno

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
1036			0.0			
2107			0.0			
2108			0.0			
2109			0.0			
2112			0.0			
2118			0.0			
2119			0.0			
2145			0.0			
2149			0.0			
2150			0.0			
2151			0.0			
2153			0.0			
2172			0.0			
2173			0.0			
2174			0.0			
2175			0.0			
2184			0.0			
2185			0.0			
2187			0.0			

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Calculation of forces and moments

Nodal Reactions Loadcase 7 Terreno

Node No	P-X [kN]	P-Y [kN]	P-Z [kN]	M-X [kNm]	M-Y [kNm]	M-Z [kNm]
2188			0.0			
2193			0.0			
2196			0.0			
2197			0.0			
2198			0.0			
2212			0.0			
2213			0.0			
2214			0.0			
2224			0.0			
2225			0.0			
2252			0.0			
2257			0.0			
2258			0.0			
2262			0.0			

Sum of Reactions and Loadings

Loadcase	Σ(Reactions) X[kN]	Y[kN]	Z[kN]	Designation
	Σ(Loads)			
1	0.0	0.0	459.6	PP
	0.0	0.0	-459.6	
2	0.0	0.0	25.8	CM
	0.0	0.0	-25.8	
3	0.0	0.0	10.3	SCU
	0.0	0.0	-10.3	
4	0.0	0.0	2.1	N
	0.0	0.0	-2.1	
5	13.5	0.0	0.0	Wx
	-13.5	0.0	0.0	
6	0.0	-10.1	0.0	Wy
	0.0	10.1	0.0	
7	0.0	-0.0	0.0	Terreno
	0.0	0.0	0.0	

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Superposition according to EHE Instrucción de hormigòn estructural 2008

Combination rule Number 100

SLS characteristic combination

Superposition according to manual MAXIMA formula 2.4

$$E_{d,rare} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus Q_{k,1} \oplus \sum_{i>1} \psi_{0,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS characteristic combination

Load Case selection and Actions

		Superposition Factors								
Act	Part	γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2			Designation
	LC							Fact	Type	
G	G	1.00	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	2							1.00	PERM	CM
	7							1.00	PERM	Terreno
Q	Q	1.00	0.00	1.00	0.70	0.50	0.30			variable load
	3							1.00	COND	SCU
S	Q	1.00	0.00	1.00	0.50	0.20	0.00			snow loading
	4							1.00	COND	N
W	Q	1.00	0.00	1.00	0.60	0.50	0.00			wind loading
	5							1.00	A10	Wx
	6							1.00	A10	Wy

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

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Combination rule Number 101

SLS frequent combination

Superposition according to manual MAXIMA formula 2.5

$$E_{d,frequ} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus \psi_{1,1} \cdot Q_{k,1} \oplus \sum_{i>1} \psi_{2,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS frequent combination

Load Case selection and Actions

		Superposition Factors								
Act	Part	γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2			Designation
	LC							Fact	Type	
G	G	1.00	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	2							1.00	PERM	CM
	7							1.00	PERM	Terreno
Q	Q	1.00	0.00	1.00	0.70	0.50	0.30			variable load
	3							1.00	COND	SCU
S	Q	1.00	0.00	1.00	0.50	0.20	0.00			snow loading
	4							1.00	COND	N
W	Q	1.00	0.00	1.00	0.60	0.50	0.00			wind loading
	5							1.00	A10	Wx
	6							1.00	A10	Wy

Act	action

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Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

Combination rule Number 102

SLS quasi-permanent combinatio

Superposition according to manual MAXIMA formula 2.7

$$E_{d,perm} = E\left\{\sum_{j\geq 1} G_{k,j} \oplus P_k \oplus \sum_{i\geq 1} \psi_{2,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type SLS quasi-permanent combination

Load Case selection and Actions

		Superposition Factors								
Act	**Part**	**γ-u**	**γ-f**	**γ-a**	**ψ_0**	**ψ_1**	**ψ_2**			**Designation**
	LC							**Fact**	**Type**	
G	G	1.00	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	2							1.00	PERM	CM
	7							1.00	PERM	Terreno
Q	Q	1.00	0.00	1.00	0.70	0.50	0.30			variable load
	3							1.00	COND	SCU
S	Q	1.00	0.00	1.00	0.50	0.20	0.00			snow loading
	4							1.00	COND	N
W	Q	1.00	0.00	1.00	0.60	0.50	0.00			wind loading
	5							1.00	A10	Wx
	6							1.00	A10	Wy

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

Combination rule Number 103

ULS fundamental combination

Superposition according to manual MAXIMA formula 2.1

$$E_d = E\left\{\sum_{j\geq 1} \gamma_{G,j} \cdot G_{k,j} \oplus \gamma_P \cdot P_k \oplus \gamma_{Q,1} \cdot Q_{k,1} \oplus \sum_{i>1} \gamma_{Q,i} \cdot \psi_{0,i} \cdot Q_{k,i}\right\}$$

Resulting Load Cases type ULS fundamental combination

Load Case selection and Actions

		Superposition Factors								
Act	**Part**	**γ-u**	**γ-f**	**γ-a**	**ψ_0**	**ψ_1**	**ψ_2**			**Designation**
	LC							**Fact**	**Type**	
G	G	1.35	1.00	1.00	1.00	1.00	1.00			dead load
	1							1.00	PERM	PP
	2							1.00	PERM	CM
	7							1.00	PERM	Terreno
Q	Q	1.50	0.00	1.00	0.70	0.50	0.30			variable load
	3							1.00	COND	SCU
S	Q	1.50	0.00	1.00	0.50	0.20	0.00			snow loading

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Load Case selection and Actions

Act	Part	Superposition Factors γ-u	γ-f	γ-a	ψ_0	ψ_1	ψ_2	Fact	Type	Designation
	LC									
	4							1.00	COND	N
W	Q	1.50	0.00	1.00	0.60	0.50	0.00			wind loading
	5							1.00	A10	Wx
	6							1.00	A10	Wy

Act	action
Part	partition of the action
γ-u,γ-f,γ-a	partial safety factors for unfavourable/favourable/accidental
ψ_0,ψ_1,ψ_2	combination coefficients
LC	number of the load case
Fact	factor for load case
Type	type of the load case
PERM	permanent load grouped in actions
COND	conditional load
A	exclusive load

Generated Load Cases

Number	Combination	Designation
1171	100	MAXR-UX NODE Nodal Displacements
1172	100	MINR-UX NODE Nodal Displacements
1173	100	MAXR-UY NODE Nodal Displacements
1174	100	MINR-UY NODE Nodal Displacements
1175	100	MAXR-UZ NODE Nodal Displacements
1176	100	MINR-UZ NODE Nodal Displacements
1177	100	MAXR-URX NODE Nodal Displacements
1178	100	MINR-URX NODE Nodal Displacements
1179	100	MAXR-URY NODE Nodal Displacements
1180	100	MINR-URY NODE Nodal Displacements
1181	100	MAXR-URZ NODE Nodal Displacements
1182	100	MINR-URZ NODE Nodal Displacements
1183	100	MAXR-URB NODE Nodal Displacements
1184	100	MINR-URB NODE Nodal Displacements
1117	100	MAXR-P QUAD Bedding Stresses
1118	100	MINR-P QUAD Bedding Stresses
1191	100	MAXR-PT QUAD Bedding Stresses
1192	100	MINR-PT QUAD Bedding Stresses
1193	100	MAXR-PTX QUAD Bedding Stresses
1194	100	MINR-PTX QUAD Bedding Stresses
1195	100	MAXR-PTY QUAD Bedding Stresses
1196	100	MINR-PTY QUAD Bedding Stresses
1197	100	MAXR-PTZ QUAD Bedding Stresses
1198	100	MINR-PTZ QUAD Bedding Stresses
1101	100	MAXR-MXX QUAD Forces in Quadrilateral Elements
1102	100	MINR-MXX QUAD Forces in Quadrilateral Elements
1103	100	MAXR-MYY QUAD Forces in Quadrilateral Elements
1104	100	MINR-MYY QUAD Forces in Quadrilateral Elements
1105	100	MAXR-MXY QUAD Forces in Quadrilateral Elements
1106	100	MINR-MXY QUAD Forces in Quadrilateral Elements
1107	100	MAXR-VX QUAD Forces in Quadrilateral Elements
1108	100	MINR-VX QUAD Forces in Quadrilateral Elements
1109	100	MAXR-VY QUAD Forces in Quadrilateral Elements
1110	100	MINR-VY QUAD Forces in Quadrilateral Elements
1111	100	MAXR-NXX QUAD Forces in Quadrilateral Elements
1112	100	MINR-NXX QUAD Forces in Quadrilateral Elements
1113	100	MAXR-NYY QUAD Forces in Quadrilateral Elements
1114	100	MINR-NYY QUAD Forces in Quadrilateral Elements
1115	100	MAXR-NXY QUAD Forces in Quadrilateral Elements
1116	100	MINR-NXY QUAD Forces in Quadrilateral Elements
1271	101	MAXF-UX NODE Nodal Displacements
1272	101	MINF-UX NODE Nodal Displacements
1273	101	MAXF-UY NODE Nodal Displacements

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Generated Load Cases

Number	Combination	Designation
1274	101	MINF-UY NODE Nodal Displacements
1275	101	MAXF-UZ NODE Nodal Displacements
1276	101	MINF-UZ NODE Nodal Displacements
1277	101	MAXF-URX NODE Nodal Displacements
1278	101	MINF-URX NODE Nodal Displacements
1279	101	MAXF-URY NODE Nodal Displacements
1280	101	MINF-URY NODE Nodal Displacements
1281	101	MAXF-URZ NODE Nodal Displacements
1282	101	MINF-URZ NODE Nodal Displacements
1283	101	MAXF-URB NODE Nodal Displacements
1284	101	MINF-URB NODE Nodal Displacements
1371	102	MAXP-UX NODE Nodal Displacements
1372	102	MINP-UX NODE Nodal Displacements
1373	102	MAXP-UY NODE Nodal Displacements
1374	102	MINP-UY NODE Nodal Displacements
1375	102	MAXP-UZ NODE Nodal Displacements
1376	102	MINP-UZ NODE Nodal Displacements
1377	102	MAXP-URX NODE Nodal Displacements
1378	102	MINP-URX NODE Nodal Displacements
1379	102	MAXP-URY NODE Nodal Displacements
1380	102	MINP-URY NODE Nodal Displacements
1381	102	MAXP-URZ NODE Nodal Displacements
1382	102	MINP-URZ NODE Nodal Displacements
1383	102	MAXP-URB NODE Nodal Displacements
1384	102	MINP-URB NODE Nodal Displacements
1301	102	MAXP-MXX QUAD Forces in Quadrilateral Elements
1302	102	MINP-MXX QUAD Forces in Quadrilateral Elements
1303	102	MAXP-MYY QUAD Forces in Quadrilateral Elements
1304	102	MINP-MYY QUAD Forces in Quadrilateral Elements
1305	102	MAXP-MXY QUAD Forces in Quadrilateral Elements
1306	102	MINP-MXY QUAD Forces in Quadrilateral Elements
1307	102	MAXP-VX QUAD Forces in Quadrilateral Elements
1308	102	MINP-VX QUAD Forces in Quadrilateral Elements
1309	102	MAXP-VY QUAD Forces in Quadrilateral Elements
1310	102	MINP-VY QUAD Forces in Quadrilateral Elements
1311	102	MAXP-NXX QUAD Forces in Quadrilateral Elements
1312	102	MINP-NXX QUAD Forces in Quadrilateral Elements
1313	102	MAXP-NYY QUAD Forces in Quadrilateral Elements
1314	102	MINP-NYY QUAD Forces in Quadrilateral Elements
1315	102	MAXP-NXY QUAD Forces in Quadrilateral Elements
1316	102	MINP-NXY QUAD Forces in Quadrilateral Elements
2151	103	MAX-PX NODE Supporting Forces in Nodes
2152	103	MIN-PX NODE Supporting Forces in Nodes
2153	103	MAX-PY NODE Supporting Forces in Nodes
2154	103	MIN-PY NODE Supporting Forces in Nodes
2155	103	MAX-PZ NODE Supporting Forces in Nodes
2156	103	MIN-PZ NODE Supporting Forces in Nodes
2157	103	MAX-MX NODE Supporting Forces in Nodes
2158	103	MIN-MX NODE Supporting Forces in Nodes
2159	103	MAX-MY NODE Supporting Forces in Nodes
2160	103	MIN-MY NODE Supporting Forces in Nodes
2161	103	MAX-MZ NODE Supporting Forces in Nodes
2162	103	MIN-MZ NODE Supporting Forces in Nodes
2191	103	MAX-MB NODE Supporting Forces in Nodes
2192	103	MIN-MB NODE Supporting Forces in Nodes
2101	103	MAX-MXX QUAD Forces in Quadrilateral Elements
2102	103	MIN-MXX QUAD Forces in Quadrilateral Elements
2103	103	MAX-MYY QUAD Forces in Quadrilateral Elements
2104	103	MIN-MYY QUAD Forces in Quadrilateral Elements

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Generated Load Cases

Number	Combination	Designation
2105	103	MAX-MXY QUAD Forces in Quadrilateral Elements
2106	103	MIN-MXY QUAD Forces in Quadrilateral Elements
2107	103	MAX-VX QUAD Forces in Quadrilateral Elements
2108	103	MIN-VX QUAD Forces in Quadrilateral Elements
2109	103	MAX-VY QUAD Forces in Quadrilateral Elements
2110	103	MIN-VY QUAD Forces in Quadrilateral Elements
2111	103	MAX-NXX QUAD Forces in Quadrilateral Elements
2112	103	MIN-NXX QUAD Forces in Quadrilateral Elements
2113	103	MAX-NYY QUAD Forces in Quadrilateral Elements
2114	103	MIN-NYY QUAD Forces in Quadrilateral Elements
2115	103	MAX-NXY QUAD Forces in Quadrilateral Elements
2116	103	MIN-NXY QUAD Forces in Quadrilateral Elements
2101	103	MAX-MXX QUAK Forces in Nodes
2102	103	MIN-MXX QUAK Forces in Nodes
2103	103	MAX-MYY QUAK Forces in Nodes
2104	103	MIN-MYY QUAK Forces in Nodes
2105	103	MAX-MXY QUAK Forces in Nodes
2106	103	MIN-MXY QUAK Forces in Nodes
2107	103	MAX-VX QUAK Forces in Nodes
2108	103	MIN-VX QUAK Forces in Nodes
2109	103	MAX-VY QUAK Forces in Nodes
2110	103	MIN-VY QUAK Forces in Nodes
2111	103	MAX-NXX QUAK Forces in Nodes
2112	103	MIN-NXX QUAK Forces in Nodes
2113	103	MAX-NYY QUAK Forces in Nodes
2114	103	MIN-NYY QUAK Forces in Nodes
2115	103	MAX-NXY QUAK Forces in Nodes
2116	103	MIN-NXY QUAK Forces in Nodes

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design parameter list

Reinforcementparameter two layer reinforcement

Selection Grp no.	elem no.	distance d1-u d1-l [mm]	2.lay 2.lay [mm]	bar-diameter ds-u ds-l [mm]	2.lay 2.lay [mm]	crackwidth wk-u wk-l [mm]	2.lay 2.lay [mm]	steelstress sigsu sigsl [MPa]	2.lay 2.lay [MPa]	min.reinf. asu asl [cm2/m]	2.lay 2.lay [cm2/m]
default		-	-	-	-	-	-	-	-	-	-
3		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-
4		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-
5		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-
6		35.0	47.0	12	12	0.40	0.40	-	-	-	-
		50.0	62.0	12	12	0.30	0.30	-	-	-	-

distance	upper / lower distance center of bar to surface
bar-diameter	upper / lower bar diameter
crackwidth	upper / lower required crack width
steelstress	upper / lower maximum steel stress in SLS check
min.reinf.	upper / lower minimum reinforcement

The reinforcement directions relate to the local coordinate system of
the elements and have to be plotted graphically.
With the input of a steel stress sigsu... the 'crack design according tables'
uses this given stress sigsu for the corresponding layer. With this input, the check can
be done for bar distances instead of bar diameters, see legend SLS control parameters.

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ULS design

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018
Loadcases have been calculated in the Ultimate Limit State
In BEMESS no additional load safety factor is applied.
The design uses the Baumann method.

Load Cases for the Design

Loadcase	factor	Designation
2101	1.000	MAX-MXX QUAD Forces in Quadrilat
2102	1.000	MIN-MXX QUAD Forces in Quadrilat
2103	1.000	MAX-MYY QUAD Forces in Quadrilat
2104	1.000	MIN-MYY QUAD Forces in Quadrilat
2105	1.000	MAX-MXY QUAD Forces in Quadrilat
2106	1.000	MIN-MXY QUAD Forces in Quadrilat
2107	1.000	MAX-VX QUAD Forces in Quadrilate
2108	1.000	MIN-VX QUAD Forces in Quadrilate
2109	1.000	MAX-VY QUAD Forces in Quadrilate
2110	1.000	MIN-VY QUAD Forces in Quadrilate
2111	1.000	MAX-NXX QUAD Forces in Quadrilat
2112	1.000	MIN-NXX QUAD Forces in Quadrilat
2113	1.000	MAX-NYY QUAD Forces in Quadrilat
2114	1.000	MIN-NYY QUAD Forces in Quadrilat
2115	1.000	MAX-NXY QUAD Forces in Quadrilat
2116	1.000	MIN-NXY QUAD Forces in Quadrilat
2151	1.000	MAX-PX NODE Supporting F Nodal reaction punching design
2152	1.000	MIN-PX NODE Supporting F Nodal reaction punching design
2153	1.000	MAX-PY NODE Supporting F Nodal reaction punching design
2154	1.000	MIN-PY NODE Supporting F Nodal reaction punching design
2155	1.000	MAX-PZ NODE Supporting F Nodal reaction punching design
2156	1.000	MIN-PZ NODE Supporting F Nodal reaction punching design
2157	1.000	MAX-MX NODE Supporting F Nodal reaction punching design
2158	1.000	MIN-MX NODE Supporting F Nodal reaction punching design
2159	1.000	MAX-MY NODE Supporting F Nodal reaction punching design
2160	1.000	MIN-MY NODE Supporting F Nodal reaction punching design
2161	1.000	MAX-MZ NODE Supporting F Nodal reaction punching design
2162	1.000	MIN-MZ NODE Supporting F Nodal reaction punching design
2191	1.000	MAX-MB NODE Supporting F Nodal reaction punching design
2192	1.000	MIN-MB NODE Supporting F Nodal reaction punching design

Material (EHE spanish code)

MAT	fck [MPa]	fc [MPa]	fctm [MPa]	fy [MPa]	ft [MPa]	minT	Type
1	25.00	21.25	2.56			0.20	
2				500.00	510.00		
3	30.00	25.50	2.90			0.20	

MAT material number
fck nominal strength of the concrete
fc strength of the concrete
fctm tensile strength of the concrete
fy yield stress reinforcing steel
ft tensile stress reinforcing steel
minT minimum transverse reinforcement
Type character of the loading

Design according to EHE spanish code
Reduction of FC in case of transvers tension = 25.0 [o/o]

Material-safety-factors:

MAT	concr SC1	SC2	steel SS1	SS2
1	1.50	1.50		
2			1.15	1.15
3	1.50	1.50		

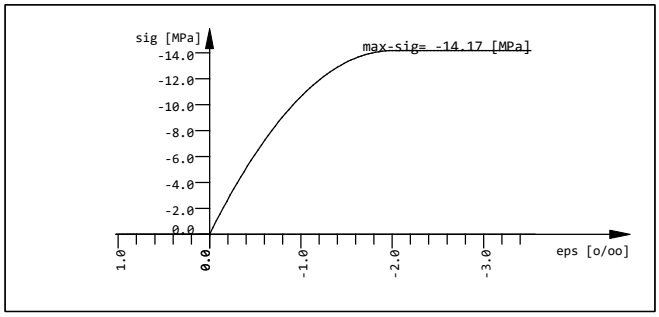
MAT material number
concr material safety SC1/SC2 = bending/compression
steel material safety steel bending/compression

At direct supports the shear force is linear reduced from 0.5*d up to the face of the support to 70%.

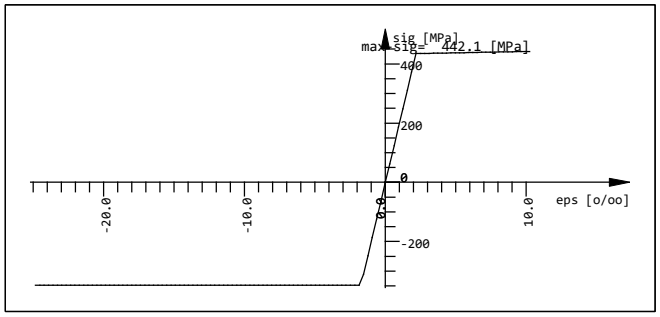
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ULS design

The maximum shear capacity is checked at the face of the support without reduction.
For punching design, the longitudinal reinforcement will be increased up to 1.50%
to avoid shear reinforcement [input PUNC...RO_V].
Outside the punching area, the normal slab shear design may increase the
longitudinal reinforcement up to 0.20% [input CTRL...RO_V].



Used work law Mno: 1 (first concrete)



Used work law Mno: 2 (first steel)

Reinforcementparameter two layer reinforcement

Selection Grp no.	elem no.	distance d1-u d1-l [mm]	2.lay 2.lay [mm]	bar-diameter ds-u ds-l [mm]	2.lay 2.lay [mm]	crackwidth wk-u wk-l [mm]	2.lay 2.lay [mm]	steelstress sigsu sigsl [MPa]	2.lay 2.lay [MPa]	min.reinf. asu asl [cm2/m]	2.lay 2.lay [cm2/m]
default		-	-	-	-	-	-	-	-	-	-
3		35.0	47.0	12	12	-	-	-	-	-	-
		35.0	47.0	12	12	-	-	-	-	-	-
4		35.0	47.0	12	12	-	-	-	-	-	-
		35.0	47.0	12	12	-	-	-	-	-	-
5		35.0	47.0	12	12	-	-	-	-	-	-
		35.0	47.0	12	12	-	-	-	-	-	-
6		35.0	47.0	12	12	-	-	-	-	-	-
		50.0	62.0	12	12	-	-	-	-	-	-

distance upper / lower distance center of bar to surface
bar-diameter upper / lower bar diameter
crackwidth upper / lower required crack width
steelstress upper / lower maximum steel stress in SLS check
min.reinf. upper / lower minimum reinforcement

The reinforcement directions relate to the local coordinate system of
the elements and have to be plotted graphically.
The reinforcement is saved in the data base as reinforcement distribution number 1

Required Reinforcements acc. to EHE spanish code

Grp	Element	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
6	60071	0.300	1.47	0.91						1	
	60108	0.300	1.37	0.93						1	
	60109	0.300				0.78	0.16		0.00	1	
	60137	0.300				0.17	0.85		0.00	1	

Grp primary group number
Element element number
t plate thickness
asu Principal reinforcements (1st layer) Top
asu2 Cross reinforcements (2nd layer) Top
asu3 Third reinforcements Top
asl Principal reinforcements (1st layer) Bottom
asl2 Cross reinforcements (2nd layer) Bottom
asl3 Third reinforcements Bottom
supp reduction factor for the shear force near supports, punc=point in punching zone -> punching shear design
shear shear zone: 1=Ok, 1s=asu/l increased for shear, 1d=for punching, 2=required ass, 2m=minimum shear reinforcement
ass Shear reinforcement
Elements with maximum values are printed

Required Reinforcements acc. to EHE spanish code at nodes

Grp	Node	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
3	1038	0.250	0.21	1.06					0.00	1	
6		0.300				1.40	0.28		0.00	1	
	1039	0.300				1.40	0.34		0.00	1	

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ULS design

Required Reinforcements acc. to EHE spanish code at nodes

Grp	Node	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
6	1097	0.300				0.27	1.36		0.00	1	
	2198	0.300	1.52	0.94						1	

Grp	primary group number	asu3	Third reinforcements Top
Node	Number	asl	Principal reinforcements (1st layer) Bottom
t	plate thickness	asl2	Cross reinforcements (2nd layer) Bottom
asu	Principal reinforcements (1st layer) Top	asl3	Third reinforcements Bottom
asu2	Cross reinforcements (2nd layer) Top		

supp reduction factor for the shear force near supports, punc=point in punching zone -> punching shear design
shear shear zone: 1=Ok, 1s=asu/l increased for shear, 1d=for punching, 2=required ass, 2m=minimum shear reinforcement
ass Shear reinforcement
Elements with maximum values are printed

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Maximum of reinforcement-distributions

The maximum reinforcement is build of the actual design and the previous distribution 1
and stored as new reinforcement-distribution 2 .
For the SLS stress results only the result of the actual desing is stored, not the maximum.
For a maximum of SLS stresses please use a pure superposition run without design.

Default design code is EHE Instrucción de hormigòn estructural 2008 (Espagna) V 2018
Loadcases have been calculated in the Serviceability State
In BEMESS no additional load safety factor is applied.
The design uses the Baumann method.

Load Cases for the Design

Loadcase	factor	Designation
1301	1.000	MAXP-MXX QUAD Forces in Quadrila
1302	1.000	MINP-MXX QUAD Forces in Quadrila
1303	1.000	MAXP-MYY QUAD Forces in Quadrila
1304	1.000	MINP-MYY QUAD Forces in Quadrila
1305	1.000	MAXP-MXY QUAD Forces in Quadrila
1306	1.000	MINP-MXY QUAD Forces in Quadrila
1307	1.000	MAXP-VX QUAD Forces in Quadrilat
1308	1.000	MINP-VX QUAD Forces in Quadrilat
1309	1.000	MAXP-VY QUAD Forces in Quadrilat
1310	1.000	MINP-VY QUAD Forces in Quadrilat
1311	1.000	MAXP-NXX QUAD Forces in Quadrila
1312	1.000	MINP-NXX QUAD Forces in Quadrila
1313	1.000	MAXP-NYY QUAD Forces in Quadrila
1314	1.000	MINP-NYY QUAD Forces in Quadrila
1315	1.000	MAXP-NXY QUAD Forces in Quadrila
1316	1.000	MINP-NXY QUAD Forces in Quadrila
1371	1.000	MAXP-UX NODE Nodal Displ Nodal reaction punching design
1372	1.000	MINP-UX NODE Nodal Displ Nodal reaction punching design
1373	1.000	MAXP-UY NODE Nodal Displ Nodal reaction punching design
1374	1.000	MINP-UY NODE Nodal Displ Nodal reaction punching design
1375	1.000	MAXP-UZ NODE Nodal Displ Nodal reaction punching design
1376	1.000	MINP-UZ NODE Nodal Displ Nodal reaction punching design
1377	1.000	MAXP-URX NODE Nodal Disp Nodal reaction punching design
1378	1.000	MINP-URX NODE Nodal Disp Nodal reaction punching design
1379	1.000	MAXP-URY NODE Nodal Disp Nodal reaction punching design
1380	1.000	MINP-URY NODE Nodal Disp Nodal reaction punching design
1381	1.000	MAXP-URZ NODE Nodal Disp Nodal reaction punching design
1382	1.000	MINP-URZ NODE Nodal Disp Nodal reaction punching design
1383	1.000	MAXP-URB NODE Nodal Disp Nodal reaction punching design
1384	1.000	MINP-URB NODE Nodal Disp Nodal reaction punching design

Material (EHE spanish code)

MAT	fck [MPa]	fc [MPa]	fctm [MPa]	fy [MPa]	ft [MPa]	minT	Type
1	25.00	21.25	2.56			0.20	
2				500.00	510.00		
3	30.00	25.50	2.90			0.20	

MAT	material number	fy	yield stress reinforcing steel
fck	nominal strength of the concrete	ft	tensile stress reinforcing steel
fc	strength of the concrete	minT	minimum transverse reinforcement
fctm	tensile strength of the concrete	Type	character of the loading

Design according to EHE spanish code

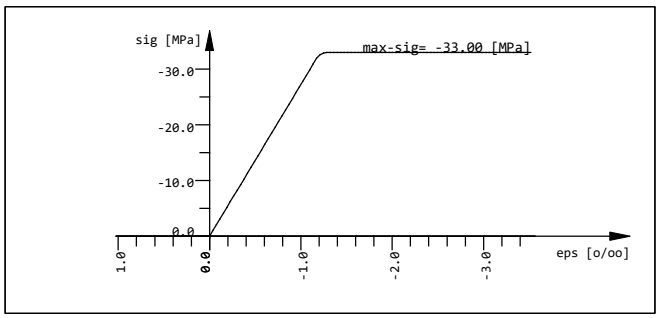
A robustness minimum reinforcement has not been requested [MREI] and
has to be checked separately.

A minimum reinforcement has not been requested [MREI] and

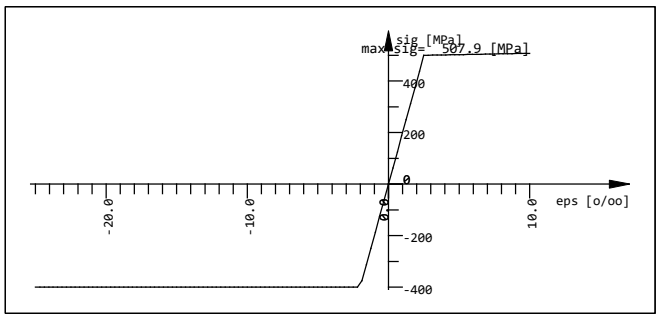
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SLS design

has to be checked separately.



Used work law Mno: 1 (first concrete)



Used work law Mno: 2 (first steel)

Reinforcementparameter two layer reinforcement

Selection Grp no.	elem no.	distance d1-u d1-l [mm]	2.lay 2.lay [mm]	bar-diameter ds-u ds-l [mm]	2.lay 2.lay [mm]	crackwidth wk-u wk-l [mm]	2.lay 2.lay [mm]	steelstress sigsu sigsl [MPa]	2.lay 2.lay [MPa]	min.reinf. asu asl [cm2/m]	2.lay 2.lay [cm2/m]
default		-	-	-	-	-	-	-	-	-	-
3		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-
4		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-
5		35.0	47.0	12	12	0.20	0.20	-	-	-	-
		35.0	47.0	12	12	0.40	0.40	-	-	-	-
6		35.0	47.0	12	12	0.40	0.40	-	-	-	-
		50.0	62.0	12	12	0.30	0.30	-	-	-	-

distance upper / lower distance center of bar to surface
bar-diameter upper / lower bar diameter
crackwidth upper / lower required crack width
steelstress upper / lower maximum steel stress in SLS check
min.reinf. upper / lower minimum reinforcement

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The reinforcement directions relate to the local coordinate system of
the elements and have to be plotted graphically.
With the input of a steel stress sigsu... the 'crack design according tables'
uses this given stress sigsu for the corresponding layer. With this input, the check can
be done for bar distances instead of bar diameters, see legend SLS control parameters.

Serviceability limit state control parameters

No	Code	dNW [mm]	
1	EN-1992	->para	steel stress limitation acc. tables

Reinforcement has been increased by SLS design -> WINGRAF: Decisive design check✓

dNW Check diameter in crack width design: ->para = values from design parameter definition
1217 elements/nodes were designed with the bar diameter in the crack check (table EN 1992-1-1 7.2N)

Design via bar spacing/steel stress for elements with defined steel stress!
(In this case the maximum bar distance has to keep the condition of
table bar diameter according to the choosen steel stress).
Crack design via bar diameter for elements without defined steel stress!

Required Reinforcements acc. to EHE spanish code

Grp	Element	t [m]	asu [cm2/m]	asu2 [cm2/m]	asu3 [cm2/m]	asl [cm2/m]	asl2 [cm2/m]	asl3 [cm2/m]	supp [-]	shear [-]	ass [cm2/m2]
0	60071	0.300	1.47	0.91							
	60108	0.300	1.37	0.93							
	60109	0.300				0.78	0.16				
	60137	0.300				0.17	0.85				

Grp primary group number
Element element number
t plate thickness
asu Principal reinforcements (1st layer) Top
asu2 Cross reinforcements (2nd layer) Top
asu3 Third reinforcements Top
asl Principal reinforcements (1st layer) Bottom
asl2 Cross reinforcements (2nd layer) Bottom
asl3 Third reinforcements Bottom

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SLS design

supp	reduction factor for the shear force near supports, punc=point in punching zone -> punching shear design
shear	shear zone: 1=Ok, 1s=asu/l increased for shear, 1d=for punching, 2=required ass, 2m=minimum shear reinforcement
ass	in a SLS design no shear design is done
	Elements with maximum values are printed

Serviceability load results

ELEM No	LC No	x [m]	wk [mm]	as1	as2	as3	d1 [mm]	d2 [mm]	d3 [mm]	wk+ [mm]	as1+	as2+	as3+
30494	1301 U		>0.20	1.15	0.23		12	12		0.20	1.75	0.35	
	1302 U		>0.20	1.15	0.23		12	12		0.20	1.77	0.35	
60005	1301 L		>0.30	0.17	0.83		12	12		0.30	0.29	1.47	
	1302 L		>0.30	0.17	0.83		12	12		0.30	0.30	1.48	
60021	1301 U		>0.40	1.22	0.83		12	12		0.40	1.37	1.15	
60022	U		>0.40	1.36	0.85		12	12		0.40	1.55	1.19	
60023	U		>0.40	1.39	0.90		12	12		0.40	1.61	1.23	
60046	U		>0.40	1.37	0.90		12	12		0.40	1.60	1.26	
60063	1302 L		>0.30	0.16	0.80		12	12		0.30	0.30	1.49	
60069	1301 U		>0.40	1.44	0.90		12	12		0.40	1.67	1.26	
60070	U		>0.40	1.47	0.90		12	12		0.40	1.71	1.25	
60071	U		>0.40	1.47	0.91		12	12		0.40	1.72	1.27	
60108	U		>0.40	1.37	0.93		12	12		0.40	1.60	1.28	
60137	1302 L		>0.30	0.17	0.85		12	12		0.30	0.30	1.49	

x	height of compression zone
wk	crack width before increase of reinforcement
as1	reinforcement 1. layer before increase of reinforcement
as2	reinforcement 2. layer before increase of reinforcement
as3	reinforcement 3. layer before increase of reinforcement
d1	reinforcement diameter layer 1-3
wk+	crack width after increase of reinforcement
as1+	reinforcement after increase of reinforcement layer 1-3
	Elements with maximum values are printed

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ANEJO 5 – CÁLCULOS HIDRÁULICOS

ANEJO 5. CÁLCULOS HIDRÁULICOS

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ANEJO 5. CÁLCULOS HIDRÁULICOS

1. OBJETO

El presente **Anejo Nº5 "Cálculos Hidráulicos"** tiene por objeto realizar el dimensionamiento de todos los elementos hidráulicos que forman parte del Depósito Prefabricado.

Dentro de estos elementos hidráulicos, destacamos:

- Dimensionamiento del Grupo de Bombeo
- Dimensionamiento y comprobación de las tuberías de Impulsión y de Aspiración del grupo de bombeo.
- Dimensionamiento y comprobación de la **tubería de rebose** entre el depósito prefabricado y el depósito existente.

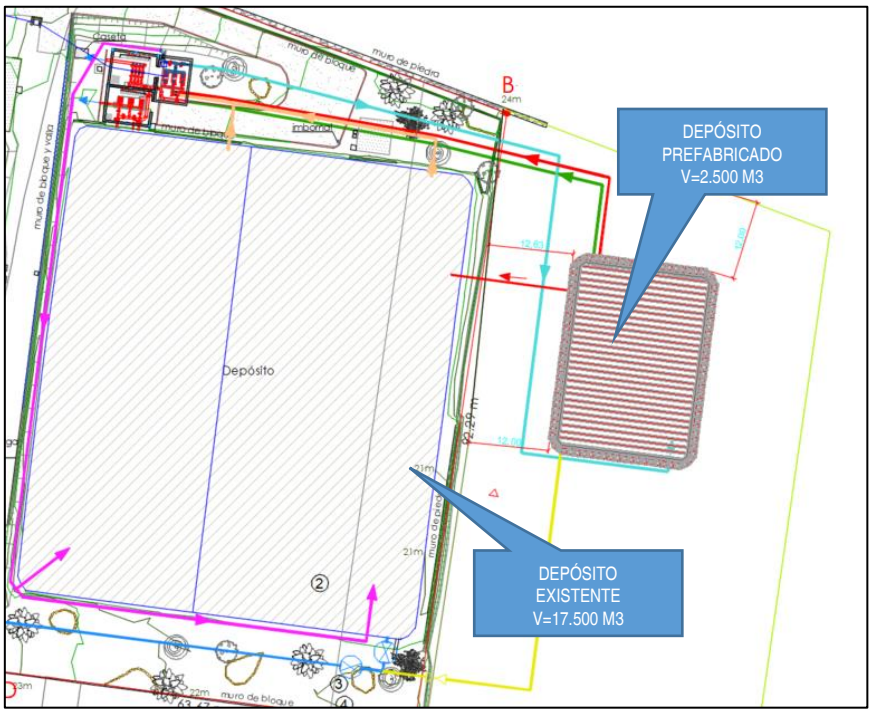
2. DATOS INICIALES

La instalación de recirculación se diseña para un caudal de 350 m³/h y dará servicio tanto al depósito existente de la IDAM como al nuevo depósito prefabricado.

Las capacidades de los depósitos son las siguientes:

- Depósito Existente IDAM: Volumen Teórico 17.500 m³
- Nuevo depósito Prefabricado: Volumen Teórico 2.500 m³

Rango de velocidades de la instalación: 0,5 a 2,5 m/s.



3. RESUMEN DE LA INSTALACIÓN

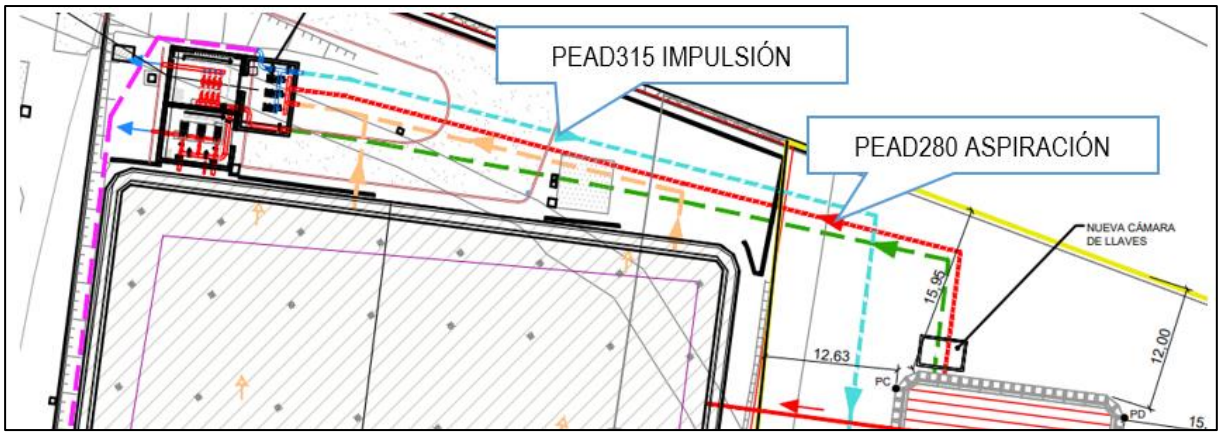
La configuración de la instalación completa será la siguiente:

- **Bombeo de superficie:**
  - Grupo de bombeo sobre bancada instalado en el interior del cuarto de bombas existente. Configuración 2 bombas en paralelo + 1 bomba de reserva
- **Tramos de impulsión:**
  - Impulsión a Depósito Existente mediante tubo PEAD100 PN10 DN315 que verterá el agua al interior del depósito en dos puntos situados en los extremos suroeste y sureste aproximadamente. La longitud aproximada asciende a 155 m.
  - Impulsión a Depósito Prefabricado mediante tubo PEAD100 PN10 DN315 que verterá el agua al interior del depósito en un punto, situado en el extremo sureste del mismo. La longitud aproximada asciende a 135 m.
- **Tramos de aspiración:**
  - Aspiración desde depósito existente se realiza desde dos acometidas, conectando a tramo común aproximadamente a la entrada de la nueva cámara de bombas de recirculación. Está prevista la instalación de un tubo de PEAD100 PN10 DN 225 y DN280, con las siguientes longitudes:

  - Tramo más alejado de la cámara de bombeo hasta entronque con la aspiración más cercana al bombeo, de longitud igual a 42 m.
  - Tramo más cercano a la cámara de bombeo hasta entronque de longitud igual a 12 m.
  - Tamo de común de 8,50 m que unifica las dos aspiraciones en DN280.
  - Longitud total prevista: 62,50 m
- Aspiración desde depósito prefabricado a ejecutar mediante tubo PEAD100 PN10 DN280 de longitud igual a 80 m.

- <u>Tubería para Trasiego de caudal entre depósitos:</u>
  - Según se ha comprobado en los cálculos realizados en los siguientes epígrafes para el trasiego de caudal entre los dos depósitos se propone la instalación de un tubo de PEAD DN225 PN10 con una longitud de 30 m aproximadamente.
- Válvulas de corte antes y después del equipo de bombeo que permitan aislar la conducción para trabajos de mantenimiento.

El nuevo bombeo se ubicará en un nuevo recinto que se ejecutará para tal fin, adosado a la caseta de bombas existente y que permita aunar en una sola ubicación todos los equipos de bombeo de agua desalada de la IDAM, tanto en abastecimiento como en recirculación.



4. METODOLOGÍA DE CÁLCULO

4.1 DIMENSIONAMIENTO DE IMPULSIONES

Para determinar los caudales y velocidades del fluido en el sistema, se utilizará la ecuación de continuidad para conducciones a presión a sección llena:

$$\boldsymbol{Q = VxS}$$

Siendo:

- Q = Caudal en m³/h
- V = Velocidad en m/s
- S = Sección Interior de la tubería en m²

Los cálculos hidráulicos en régimen permanente se realizan mediante la ecuación de Bernouilli:

$$\boldsymbol{Z1 + \frac{P1}{\gamma} + \frac{V_1^2}{2g} + Hb = Z2 + \frac{P2}{\gamma} + \frac{V_2^2}{2g} + \Delta H_{1\rightarrow 2}}$$

Donde:

- Zi = Altura del punto i respecto al plano de referencia (m)
- Pi = Presión del agua en el punto i (m.c.a.)
- Vi = Velocidad del agua en el punto i (m/s)
- Hb = Altura de bombeo necesaria (m)
- ΔH1-2 = Perdida de carga entre 1 y 2 (m)

4.2 PÉRDIDAS DE CARGA: LONGITUDINALES

Las pérdidas de carga se pueden calcular mediante el uso de diversas formulaciones y expresiones, de las cuales la más recomendable es la de Darcy – Weisbach (Guía Técnica sobre tuberías para el transporte de agua a presión CEDEX, 2003):

$$J = \frac{\Delta H_c}{L} = \frac{f \times V^2}{Di \times 2g}$$

Donde:

- J = pérdida de carga continua, por unidad de longitud, en m/m
- ΔHc = pérdida de carga continua, en m
- L = longitud del tramo, en m
- v = velocidad del agua, en m/s
- g = aceleración de la gravedad, en m/s2
- f = coeficiente de pérdida de carga por unidad de longitud (o coeficiente de fricción), adimensional
- Di = Diámetro interior de la tubería en m

Para el cálculo del coeficiente de carga por unidad de longitud (factor de fricción) f, se ha utilizado la siguiente formulación dependiendo de los valores obtenidos de Número de Reynolds y, por lo tanto, del tipo de flujo existente en la conducción.

- Para **Flujo Laminar** con **Re < 2.000** se emplea la fórmula de Hagen – Poiseuille:

$$f = \frac{64}{Re}$$

- Para **Flujo Turbulento** con **Re > 4.000** se emplea la aproximación explícita de Swamee y Jain a la fórmula de Colebrook – White:

$$f = \frac{0{,}25}{\left[log\left(\frac{k}{3{,}7ID} + \frac{2{,}51}{Re\sqrt{f}}\right)\right]^2}$$

  - k = rugosidad absoluta de la tubería en m
  - Re = número de Reynolds

- Para el Flujo de Transición 2.000 < Re < 4.000 se aplica una interpolación cúbica al Diagrama de Moody

El número de Reynolds para determinar el tipo de flujo se ha calculado con la siguiente expresión:

$$Re = \frac{D \times V}{\vartheta_c}$$

Donde:

- D = diámetro interior de la tubería en m
- V = velocidad del fluido en m/s
- ϑ_c = viscosidad cinemática del fluido

4.3 PÉRDIDAS DE CARGA: LOCALIZADAS

Salvo casos excepcionales, las pérdidas de carga localizadas sólo se pueden determinar mediante ensayos experimentales ya que el comportamiento del flujo en los puntos singulares es muy difícil de estudiar analíticamente. Como estas pérdidas son motivadas por una disipación turbulenta de la energía cinética, mediante un coeficiente de pérdida de carga K (coeficiente de resistencia en la singularidad) cuyo valor se determina experimentalmente:

$$h_l = K\frac{V^2}{2g} = \frac{8KQ^2}{\pi^2 g D^4}$$

Se presentan, a continuación, los valores más representativos del Coeficiente de Resistencia en la Singularidad, utilizados para el cálculo de las pérdidas de carga localizadas:

- Cambios de Dirección (codos):

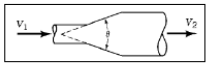
Θ	Coef K
11,25	0,045
15	0,06
22,5	0,15
30	0,16
45	0,32
60	0,7
90	1,26

- El coeficiente de K utilizado para la consideración de entradas de caudal a los tramos de impulsión ha sido el más desfavorable con valor de 0,80.
- Todas las salidas de los tramos de Impulsión se han considerado con un Coeficiente K de valor 1,00 (el más desfavorable).
- En las entradas a las bombas se ha considerado un valor del coeficiente K igual a 1,00 (el más desfavorable).
- Cambios dirección Te. Existen diversos casos, para nuestro proyecto se ha considerado el caso más desfavorable correspondiente al siguiente esquema, donde consideraremos un coeficiente K de valor igual a 3.

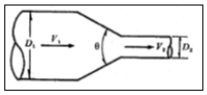
- Válvulas de Corte (tipo compuerta) y Válvulas de Retención (antirretorno). Se presenta, a continuación, un cuadro resumen con los diferentes valores del Coeficiente K dependiendo del grado de abertura:

TIPO DE VÁLVULA	Coef K
Válvula retención	2
Válvula compuerta abierta 100%	0,2
Válvula compuerta abierta 75%	1,15
Válvula compuerta abierta 50%	5,6
Válvula compuerta abierta 25%	24

- Cambios de Sección. Los cambios de sección vienen dados en la entrada y en la salida de la bomba, en el tramo de aspiración en conexiones a tuberías existentes y en el tramo de impulsión dependiendo del Diámetro Nominal del tubo de impulsión y de la salida de la bomba. Se resumen, a continuación, los valores del coeficeinte K de los casos más comunes:



VALORES DE REFERENCIA DE K PARA UNA EXPANSIÓN											
Θ	6	10	20	30	45	60	75	90	120	150	180
Coef K	0,27	0,4	0,8	1	1,1	1,2	1,23	1,21	1,13	1,05	1,03



VALORES DE REFERENCIA DE K PARA UNA CONTRACCIÓN														
Θ	5	6	7	10	15	20	25	30	35	40	45	60	75	80
Coef K	0,06	0,11	0,16	0,16	0,18	0,2	0,22	0,24	0,26	0,28	0,3	0,32	0,34	0,35

4.4 ALTURA MANOMÉTRICA DE LA INSTALACIÓN

Resumimos, a continuación, algunos conceptos básicos para el cálculo de bombas:

- **Altura total de Aspiración:** Representa la presión a la entrada de la bomba. Es la suma algebraica de la altura estática de aspiración (distancia de la superficie libre del líquido al eje de la bomba), presión existente sobre el líquido y pérdidas de carga por rozamiento de la tubería de aspiración. Los dos primeros sumandos pueden ser positivos o negativos, pero el tercero es siempre negativo.
- **Altura geométrica de la Impulsión (Hg):** diferencia de altura entre los niveles del líquido en aspiración e impulsión. Si la tubería de impulsión vierte por encima del nivel del líquido. Si la tubería de impulsión vierte por encima del nivel del líquido, esta altura geométrica estará referida al eje horizontal de la salida.
- **Altura Manométrica (Hm):** Es la suma algebraica de la altura estática de impulsión, pérdida de carga en la impulsión (lineal + perdidas localizadas) y presión sobre el líquido en el punto de recepción.

  La diferencia entre las alturas totales de impulsión y de aspiración es la carga de la bomba, es decir, la energía que ha de ser conferida al fluido.
- **ΔH:** suma de todas las pérdidas de carga del sistema (resistencias en la tubería, válvulas, piezas especiales, etc…), tanto de la aspiración como de la impulsión.

Teniendo en cuenta los conceptos expuestos, el cálculo de la **Altura Manométrica** se realizará aplicando la siguiente formulación:

$$H_m = H_g + \Delta H = H_g + \left(JL + \sum K \frac{V^2}{2g} \right)$$

5. CÁLCULOS HIDRÁULICOS

5.1 PARÁMETROS GENERALES

Como punto de partida para los cálculos se parte de las siguientes consideraciones y parámetros, obtenidos a partir de las Recomendaciones de la Guía CEDEX.

DATOS GENERALES	
Gravedad (m/s²)	9,8
Viscosidad dinámica agua vertida (Kg/m*s^2)	0,001005
Densidad del Agua (kg/m³)	9.789,00
Velocidad del Agua	0,5 m/s – 2,5 m/s
DATOS INSTALACIÓN: RECIRCULACIÓN DEPÓSITO IDAM FORMENTERA	
Tipo de Agua Bombeada	Agua Desalada
Cota Aproximada Cuarto Bombas	19,67
Cota vertido interior depósito	26,31
Cota aspiración interior depósito (aspiración en carga)	23,80
Altura geométrica entre bombeo y punto de vertido	6,64
Longitud de la Impulsión PEAD DN315 (m)	155,00
Longitud de la Aspiración PEAD DN225 (m)	62,50
Caudal Previsto Recirculación (m³/h – l/s)	350 / 97,22
Diámetro Nominal/Exterior Impulsión PN10 (mm)	315 / 277,6
La aspiración se compone de dos tramos de DN225 cada uno que se unen en un tramo común DN280 que da acceso a la Caseta de bombas. Una vez dentro de la caseta de bomba se unen al colector de aspiración ejecutado. Se unen en una conducción única que accede al cuarto de bombas, esta conducción es de DN355.	
DATOS INSTALACIÓN: RECIRCULACIÓN DEPÓSITO PREFABRICADO IDAM FORMENTERA	
Tipo de Agua Bombeada	Agua Desalada
Cota Aproximada Cuarto Bombas	19,67
Cota vertido interior depósito	28,40
Cota aspiración interior depósito (aspiración en carga)	25,70
Altura geométrica entre bombeo y punto de vertido	8,73
Longitud de la Impulsión PEAD DN315 (m)	174,00
Longitud de la Aspiración PEAD DN280 (m)	77,00
Caudal Previsto Recirculación (m³/h – l/s)	350 / 97,22
Diámetro Nominal/Exterior Impulsión PN10 (mm)	315 / 277,6
La aspiración se compone de un único tramo de PEAD DN280. Se unen en una conducción única que accede al cuarto de bombas, esta conducción es de DN355.	

5.2 CARACTERÍSTICAS DE LAS CONDUCCIONES Y PIEZAS ESPECIALES

Las conducciones y piezas especiales utilizadas para el diseño hidráulico de la instalación son de PEAD P100 PN10 con las siguientes características:

- Tuberías de PEAD P100 PN10 de diámetro nominales de 125, 150, 225, 280 y 315 mm.
- Accesorios, Válvulas y Piezas Especiales de Fundición Dúctil PN10
- Rugosidad Absoluta (mm) considerada igual a 0,0015.

5.3 PÉRDIDAS DE CARGA

Las pérdidas de carga se han calculado siguiendo la metodología recogida en los apartados 4.2 y 4.3.

TRAMOS IMPULSIÓN Y ASPIRACIÓN DEPÓSITO EXISTENTE

IMPULSIÓN TRAMO SALIDA BOMBAS

Las bombas propuestas tienen un DN de impulsión de 125 mm. Las dos conducciones salen en paralelo y conectan con un colector de DN 315 para unificar la impulsión.

IMPULSIÓN (salida bomba)				
DATOS			**RESULTADOS**	
LONGITUD (m)	2,15		**CAUDAL (l/s)**	**97,22**
DIÁMETRO (m)	0,1102	DN	VELOCIDAD (m/s)	10,19
RUGOSIDAD (mm)	0,0015		Nº REYNOLDS	1123293
Σ K PÉRDIDAS LOC.	6,28		FACTOR FRICCIÓN f	0,0117
ALTURA GEOM. (m)	1			
Viscosidad (kg/m.s)	0,001		PÉRDIDA CARGA FRICCIÓN (m)	1,21
Densidad (kg/m3)	1000		PÉRDIDAS LOCALIZADAS (m)	8,13
			ALTURA GEOMÉTRICA (m)	1
Caudal (m3/h)	350,00			
Caudal (l/s)	97,22		**Σ PÉRDIDAS CARGA T.P. (m)**	**10,34**
			Potencia 11idráulica bomba	**9,85**
			Estimación potencia bomba	**14,08**

IMPULSIÓN

Se proyecta con una tubería de DN 315 que discurre perimetralmente al depósito hasta los puntos previstos de entrada al mismo.

IMPULSIÓN				
DATOS			**RESULTADOS**	
LONGITUD (m)	155		**CAUDAL (l/s)**	**97,22**
DIÁMETRO (m)	0,2776	315	VELOCIDAD (m/s)	1,61
RUGOSIDAD (mm)	0,0015		Nº REYNOLDS	445918
Σ K PÉRDIDAS LOC.	15,93		FACTOR FRICCIÓN f	0,0134
ALTURA GEOM. (m)	7			
Viscosidad (kg/m.s)	0,001		PÉRDIDA CARGA FRICCIÓN (m)	0,99
Densidad (kg/m3)	1000		PÉRDIDAS LOCALIZADAS (m)	2,25
			ALTURA GEOMÉTRICA (m)	7
Caudal (m3/h)	350,00			
Caudal (l/s)	97,22		**Σ PÉRDIDAS CARGA T.P. (m)**	**10,24**
			Potencia hidraulica bomba	**9,75**
			Estimación potencia bomba	**13,93**

ASPIRACIÓN CONEXIÓN ESTE

ASPIRACIÓN conexión Este

DATOS			RESULTADOS	
LONGITUD (m)	46		**CAUDAL (l/s)**	**48,61**
DIÁMETRO (m)	0,1982	225	VELOCIDAD (m/s)	1,58
RUGOSIDAD (mm)	0,0015		Nº REYNOLDS	312278
Σ K PÉRDIDAS LOC.	7,28		FACTOR FRICCIÓN f	0,0144
ALTURA GEOM. (m)	-3,05			
Viscosidad (kg/m.s)	0,001		PÉRDIDA CARGA FRICCIÓN (m)	0,42
Densidad (kg/m3)	1000		PÉRDIDAS LOCALIZADAS (m)	0,92
			ALTURA GEOMÉTRICA (m)	0
Caudal (m3/h)	175,00			
Caudal (l/s)	48,61		**Σ PÉRDIDAS CARGA T.P. (m)**	**1,34**
			Potencia Hidráulica bomba	
			Estimación potencia bomba	**-**

ASPIRACIÓN CONEXIÓN OESTE

ASPIRACIÓN conexión Oeste

DATOS			RESULTADOS	
LONGITUD (m)	22,5		**CAUDAL (l/s)**	**48,61**
DIÁMETRO (m)	0,1982	225	VELOCIDAD (m/s)	1,58
RUGOSIDAD (mm)	0,0015		Nº REYNOLDS	312278
Σ K PÉRDIDAS LOC.	5,86		FACTOR FRICCIÓN f	0,0144
ALTURA GEOM. (m)	-3,05			
Viscosidad (kg/m.s)	0,001		PÉRDIDA CARGA FRICCIÓN (m)	0,21
Densidad (kg/m3)	1000		PÉRDIDAS LOCALIZADAS (m)	0,74
			ALTURA GEOMÉTRICA (m)	0
Caudal (m3/h)	175,00			
Caudal (l/s)	48,61		**Σ PÉRDIDAS CARGA T.P. (m)**	**0,95**
			Potencia 12idráulica bomba	
			Estimación potencia bomba	**-**

ASPIRACIÓN TRAMO COMÚN

ASPIRACIÓN tramo común

DATOS			RESULTADOS	
LONGITUD (m)	3		**CAUDAL (l/s)**	**97,22**
DIÁMETRO (m)	0,3128	355	VELOCIDAD (m/s)	1,27
RUGOSIDAD (mm)	0,0015		Nº REYNOLDS	395738
Σ K PÉRDIDAS LOC.	9,9		FACTOR FRICCIÓN f	0,0137
ALTURA GEOM. (m)	0			
Viscosidad (kg/m.s)	0,001		PÉRDIDA CARGA FRICCIÓN (m)	0,01
Densidad (kg/m3)	1000		PÉRDIDAS LOCALIZADAS (m)	1,34
			ALTURA GEOMÉTRICA (m)	0
Caudal (m3/h)	350,00			
Caudal (l/s)	97,22		**Σ PÉRDIDAS CARGA T.P. (m)**	**1,35**
			Potencia 12idráulica bomba	
			Estimación potencia bomba	**-**

Conforme se ha establecido en el apartado 2, la velocidad del agua se considera correcta siempre que se encuentre dentro del rango de funcionamiento entre 0,5 a 2,5 m/s. Se propone una configuración de diámetros que mantengan en la medida de los posible valores de velocidad similares.

Las pérdidas localizadas se han calculado siguiendo lo recogido en el apartado 4.3. del presente anejo y teniendo en cuenta la velocidad del fluido de cada uno de los bombeos diseñados. Se adjunta en el Apéndice 1 del presente Anejo el desglose de valores obtenidos.

TRAMOS IMPULSIÓN Y ASPIRACIÓN DEPÓSITO PREFABRICADO

Dadas las características de las instalación y teniendo en cuenta el rango de velocidades fijado en el presente anejo, velocidades entre 0,5 a 2,5 m/s y, que además, las longitudes tanto en el tramo de aspiración como en el tramo de impulsión son similares, se propone la comprobación del sistema manteniendo la misma configuración que la planteada en el cálculo del sistema de recirculación del depósito existente.

Tramo de Impulsión

El tramo de impulsión desde el bombeo hasta el depósito prefabricado tiene una longitud aproximada de 135 m. Se propone la instalación de una tubería de PEAD PN10 DN315. Esta tubería considerando el caudal máximo de 350 m3/h, tiene el siguiente comportamiento hidráulico:

- Perdidas lineales: 0,90 – 0,98 mca
- Velocidad de circulación: 1,61 m/s

DATOS DE LA INSTALACIÓN		
Caudal (Q)	97,22	l/s
Diámetro interior (D)	0,2776	m
Rugosidad (ε)	0,0015	mm
C de H-W	145	
Longitud tubería	135	m

DATOS DEL FLUÍDO		
Densidad (ρ)	1000	kg/m^3
Viscosidad dinámica (μ)	0,001519	Pa·S

RESULTADOS HIDRÁULICOS		
Velocidad (v)	1,606	m/s
Número Reynolds (Re)	293554	
Régimen	TURBULENTO	

PÉRDIDAS DE CARGA LINEALES POR COLEBROOK-WHITE	
Coeficiente de fricción (f)	0,01457891
Pendiente hidráulica i (m/m)	**0,006647**
Pérdidas de carga lineales instalación (m)	**0,90**

PÉRDIDAS DE CARGA LINEALES POR HAZEN-WILLIAMS	
Pendiente hidráulica i (m/m)	**0,007276**
Pérdidas de carga lineales instalación (m)	**0,98**

Diferencia resultado de i según método	9,5%

PEAD DN315 PN10

Este primer cálculo arroja resultados de pérdidas lineales muy parecidas al calculo del tubo de impulsión anterior, con una diferencia 0,09 mca debida a que el tubo es de menor longitud.

En el trazado de la tubería las perdidas de carga localizadas también son muy similares, con valores ligeramente superiores a los 2,00 mca. Se han calculado las perdidas localizadas en el tramo de impulsión, obteniendo un valor de 2,08 m, 0,13 mca menor al valor obtenido el tramo de impulsión al depósito existente.

Por lo tanto, el sumatorio de pérdidas localizadas + lineales en el tramo de impulsión asciende a un valor aproximado de 3,00 mca, valor que se considera parecido al obtenido en el cálculo de la impulsión anterior con valor de 3,19 mca.

El tramo de la impulsión donde más pérdidas se generan es en la salida de la bomba. En este sentido es destacable nombrar que la configuración, caudal y dimensiones, son las mismas en ambos casos con lo que las pérdidas generadas tienen un valor de 9,33 mca.

IMPULSIÓN (salida bomba)				
DATOS			**RESULTADOS**	
LONGITUD (m)	2,15		**CAUDAL (l/s)**	**97,22**
DIÁMETRO (m)	0,1102	DN	VELOCIDAD (m/s)	10,19
RUGOSIDAD (mm)	0,0015		Nº REYNOLDS	1123293
Σ K PÉRDIDAS LOC.	6,28		FACTOR FRICCIÓN f	0,0117
ALTURA GEOM. (m)	1			
Viscosidad (kg/m.s)	0,001		PÉRDIDA CARGA FRICCIÓN (m)	1,21
Densidad (kg/m3)	1000		PÉRDIDAS LOCALIZADAS (m)	8,13
			ALTURA GEOMÉTRICA (m)	1
Caudal (m3/h)	350,00			
Caudal (l/s)	97,22		**Σ PÉRDIDAS CARGA T.P. (m)**	**10,34**
			Potencia 14idráulica bomba	**9,85**
			Estimación potencia bomba	**14,08**

Tramo de Aspiración

A diferencia del tramo anterior, este se compone de una sola aspiración, alojada en la nueva cámara de llaves, donde comparte localización con la tubería de conexión del depósito prefabricado con el bombeo existente.

Este tramo de aspiración en carga tiene una longitud de 89,28 m que nos da una pérdida lineal, considerando un tubo de PEAD DN280 PN10, de 1,85 mca y una velocidad de circulación de 2,17 m/s.

DATOS DE LA INSTALACIÓN		
Caudal (Q)	97,22	l/s
Diámetro interior (D)	0,2388	m
Rugosidad (ε)	0,0015	mm
C de H-W	145	
Longitud tubería	135	m

DATOS DEL FLUÍDO		
Densidad (ρ)	1000	kg/m^3
Viscosidad dinámica (μ)	0,001519	Pa·S

RESULTADOS HIDRÁULICOS		
Velocidad (v)	2,171	m/s
Número Reynolds (Re)	341251	
Régimen	TURBULENTO	

PÉRDIDAS DE CARGA LINEALES POR COLEBROOK-WHITE	
Coeficiente de fricción (f)	0,014188669
Pendiente hidráulica i (m/m)	**0,013732**
Pérdidas de carga lineales instalación (m)	**1,85**

PÉRDIDAS DE CARGA LINEALES POR HAZEN-WILLIAMS	
Pendiente hidráulica i (m/m)	**0,015149**
Pérdidas de carga lineales instalación (m)	**2,05**

Diferencia resultado de i según método	10,3%

PEAD DN280 PN10

En comparación con el tramo anterior, donde teniamos una perdida de carga de 1,17 mca, ahora tenemos cerca de 0,70 mca más de pérdidas de carga lineales.

Con la comprobación del caso más desfavorable, correspondiente al tramo de impulsión y aspiración proveniente del depósito existente, aseguramos que en el segundo caso, la correcta recirculación en el depósito prefabricado, está asegurada. Aún asi, teniendo en cuenta que la altura de carga disponible en el caso del depósito prefabricado, es mayor, obtendremos caudales mayores.

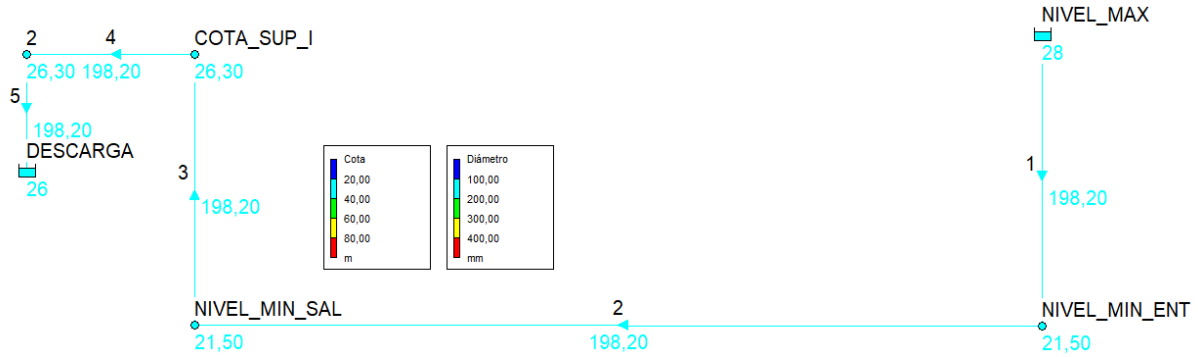
TUBERÍA DE REBOSE ENTRE DEPÓSITO PREFABRICADO Y DEPÓSITO EXISTENTE

La tubería de Rebose para el trasiego de caudales entre los depósitos se ha calculado utilizando el programa de diseño y comprobación de tuberías a presión EPANET.

Para ello se ha modelizado la instalación y se ha ido iterando con la introducción de diversos diámetros nominales de tubo de PEAD PN10 con el fin de alcanzar el caudal necesario. En todo caso se ha establecido un caudal mínimo de trasiego de 217 m3/h (60,27 l/s) correspondiente al caudal aportado por la IDAM.

En la siguiente imagen se puede observar el modelo realizado. Se representan las cotas de trabajo consideradas y los diámetros considerados en todos los tramos de tubería. En nuestro caso hemos optado por la ejecución de:

- TUBERÍA DE PEAD100 PN10 DN225 – DIÁMETRO INTERIOR: 198,20 mm
- COTA LÁMINA DE AGUA EN DEPÓSITO PREFABRICADO: 28,00 m
- COTA APROXIMADA DE VERTIDO: 26,00 m



El modelo de cálculo se basa en la consideración del agotamiento de la energía disponible en el sistema, generada por la columna de agua en el fondo del depósito prefabricado y que se fija en aproximadamente en 6,80 m (diferencia de cotas entre la lámina superior del agua en el depósito y el inicio del tramo horizontal de rebose).

Para ello se introducen dos depósitos que aportan o reciben caudal, permitiendo analizar el comportamiento del sistema en función de la cota de la lámina de agua. La altura neta de carga máxima que dispone el sistema es de 2,00 m. Esta altura disponible debe ser capaz de suministrar un caudal fijado, siempre superior a los 62 l/s aportados por la IDAM.

Las pérdidas de carga continuas las calcula directamente el programa en función de las características de la instalación. Las pérdidas de carga menores se introducen como sumatorio en el programa, considerando en cada tramo el sumatorio de los coeficientes de pérdidas menores que se prevé existan en la instalación. En nuestro caso se han considerado las siguientes piezas especiales:

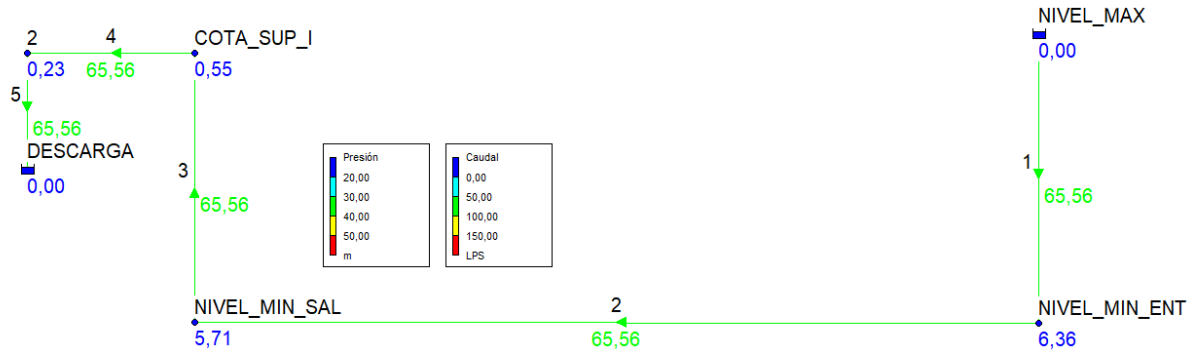
- Tramo 1: entrada tubo de trasiego desde depósito prefabricado
  - Entrada recta al tubo: entrada tipo arista viva k = 0,50 (1 ud)
  - **Sumatorio de k = 0,50**
- Tramo 2: tramo horizontal hasta cota del terreno en depósito existente
  - Codo de 90º: se adopta un valor de k de 1,26 (1 ud)
  - Válvula de Compuerta totalmente abierta con valor de k de 0,2 (1 ud)
  - **Sumatorio de k = 1,46**
- Tramo 3: elevación del caudal hacia tramos de descarga
  - Codo de 90º: se adopta un valor de k de 1,26 (1 ud)
  - **Sumatorio de k = 1,26**
- Tramo 4: acceso horizontal a depósito existente
  - Codo de 90º: se adopta un valor de k de 1,26 (1 ud)
  - **Sumatorio de k = 1,26**

- Tramo 5: descarga:
  - Codo de 90º: se adopta un valor de k de 1,26 (1 ud)
  - Salida arista viva, se adopta valor más desfavorable de 1.
  - **Sumatorio de K = 2,26**

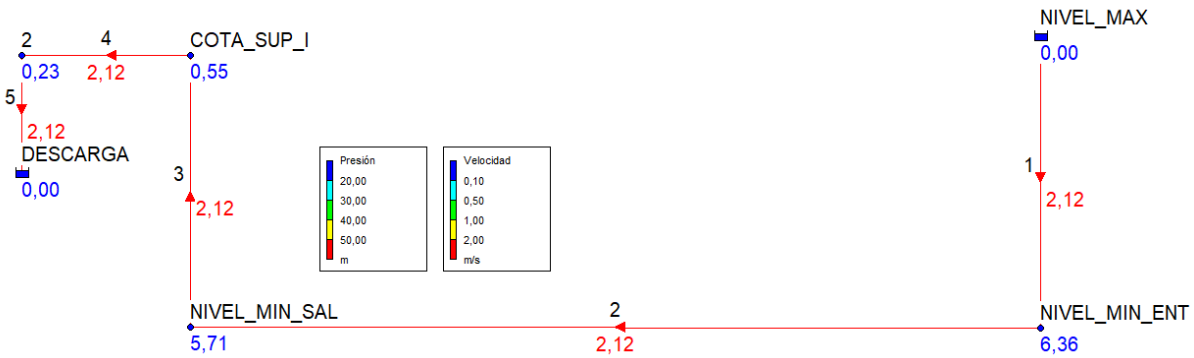
Con estos datos de partida, introducidos en el programa EPANET y, teniendo en cuenta, que se adopta un valor de 0,0015 como rugosidad absoluta de la tubería de PEAD, obtenemos los siguientes resultados:

<u>Evacuación de Caudal a Nivel Máximo del Depósito Prefabricado:</u>

- **Caudal de Trasiego Máximo: 65,56 l/s (236 m³/h)**

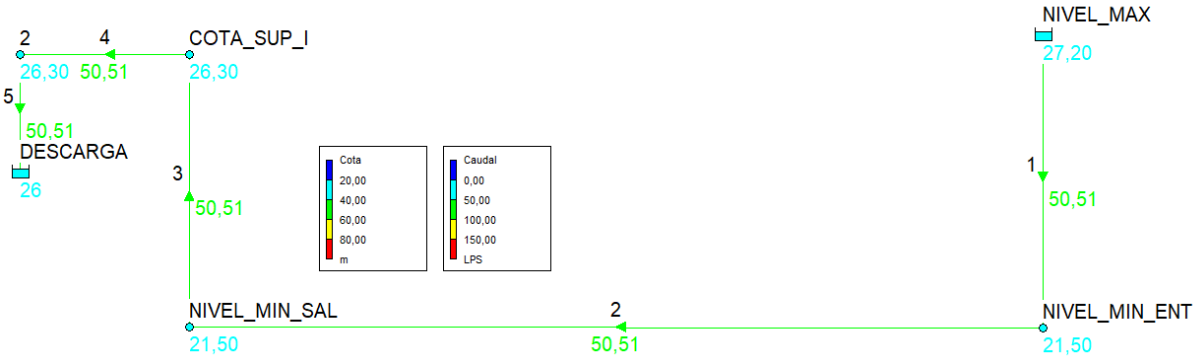


- **Velocidad de Circulación: 2,12 m/s**

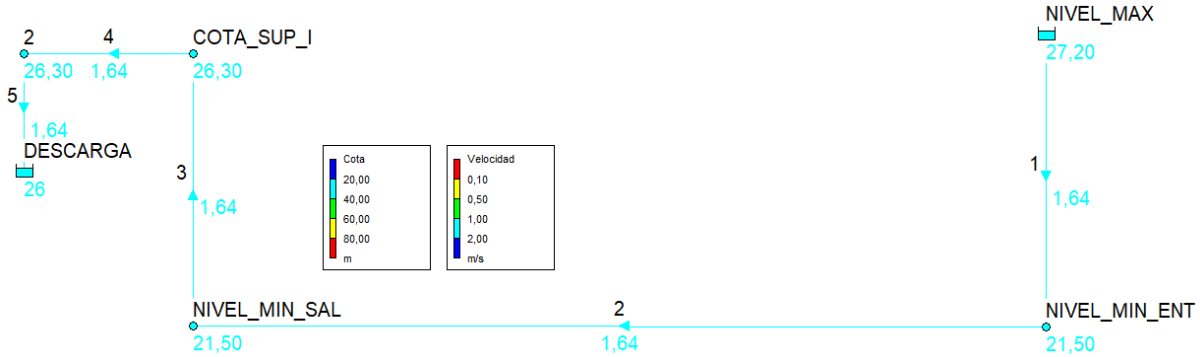


<u>Determinación del nivel del depósito en que el tubo de rebose podría iniciar el funcionamiento considerando en toda la instalación presiones positivas:</u>

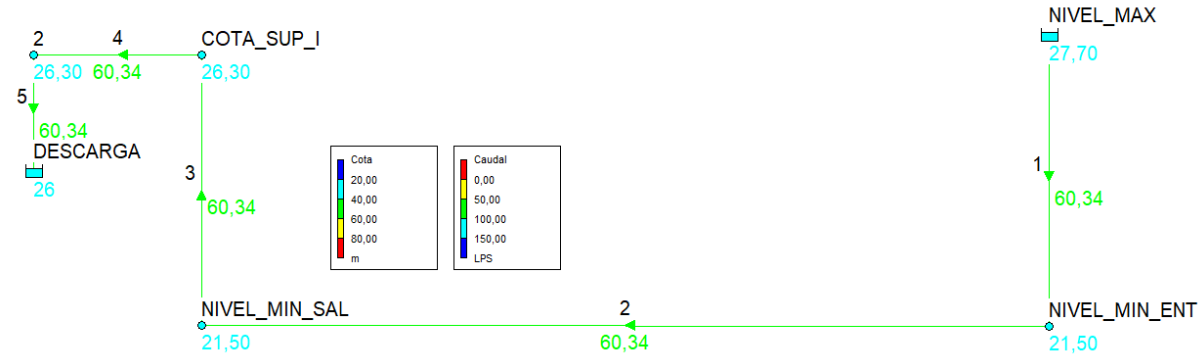
- **Nivel mínimo de inicio de trasiego de caudal: +27,20 m**
- **Fijado este nivel como inicio del rebose se estarían trasvasando 50,51 l/s (181,84 m³/h)**

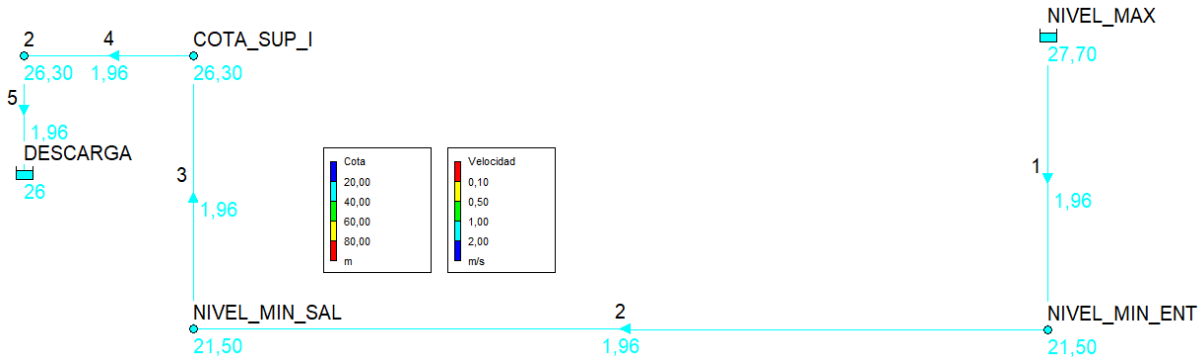


- La velocidad de circulación se encuentra dentro de un rango correcto con valor de 1,64 m/s



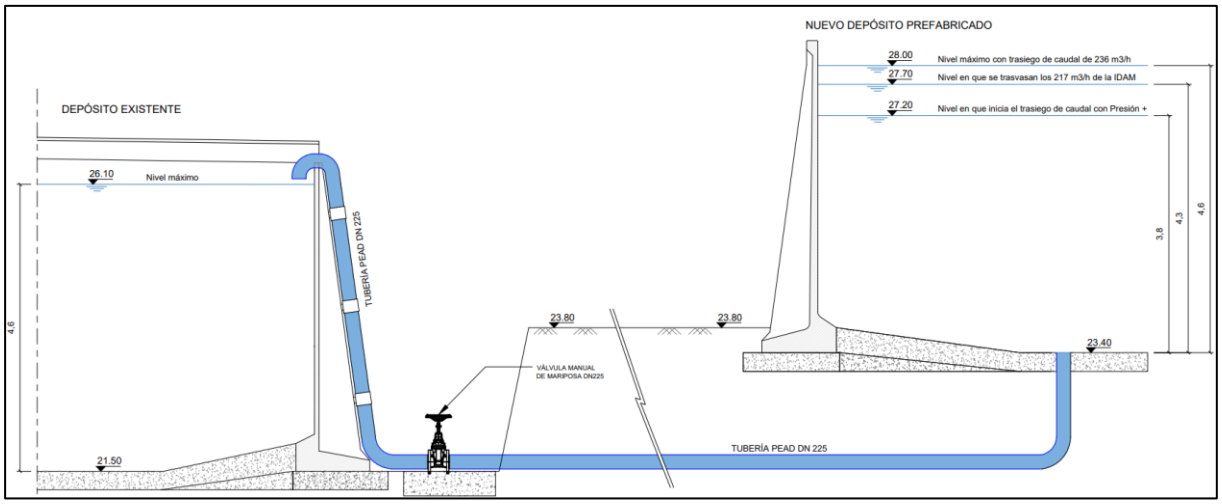
Por último, se comprueba el funcionamiento del sistema para el caudal aportado por la IDAM. Visto el rango de trabajo entre un nivel de la lámina de agua en el depósito de +28 m y +27,20 m, el valor de nivel de la lámina de agua que permita evacuar los 217 m³/h (60,27 l/s) provenientes de la IDAM se encontrará entre estos dos valores., adoptando un valor calculado de +27,70 m con una velocidad de circulación de 1,96 m/s.





En el apéndice 3 se recogen los resultados obtenidos en el modelo de EPANET, considerando que tanto los caudales considerados como las velocidades son correctas, por lo tanto, se adopta la instalación de un tubo de PEAD DN225 PN10.

El detalle de la instalación es el siguiente:



5.4 ALTURA DISPONIBLE ASPIRACIÓN

La altura disponible de aspiración estará comprendida entre los valores 5,35 y 3.05 m, que corresponden a los valores de altura máxima y mínima de llenado respectivamente del depósito. Para el caso más desfavorable comparamos la altura disponible con la pérdida de carga que se generará:

Hg disponible = 3.05 m

Σ Pérdida de Carga aspiración= 1.34+1.35 = 2,69 m

Para asegurar que el sistema de recirculación funcione por debajo de esta altura disponible, se dispondrá de un sistema de boyas en ambos depósitos que envíe una señal al cuadro de bombeo que dispondrá la nueva instalación de recirculación.

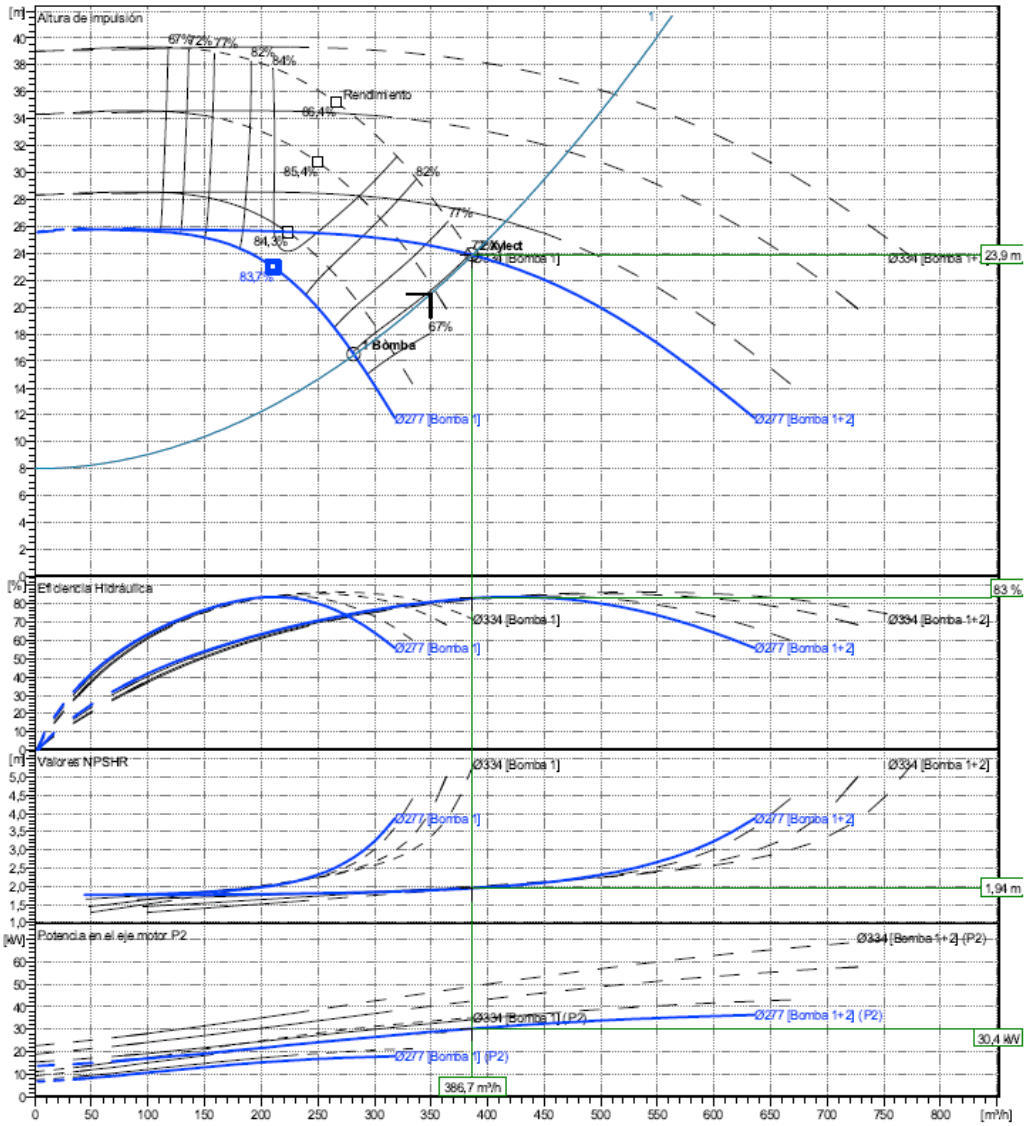
5.5 DIMENSIONAMIENTO DEL BOMBEO

El bombeo se dimensiona según los siguientes parámetros de diseño:

TABLA RESUMEN DIMENSIONADO BOMBEO RECIRCULACIÓN IDAM FORMENTERA								
CAUDAL (m3/h)	DIÁMETRO	VELOCIDAD (m/s)	PÉRDIDA CARGA (m)			ALTURA MANOMÉTRICA Hm (mca)	COEFICIENTE DE FRICCIÓN (f)	Nº DE REYNOLDS (Re)
			Continua	Localizada	Hg (m)			
350	DN-315	1,61	2,32	10,38	8	20,70	0,0134	445.918

Se propone una instalación formada por 2 bombas trabajando en paralelo. La tipología de bombas propuestas es de superficie de eje horizontal. El modelo propuesto es el siguiente:

MODELO	CONFIGURACIÓN	P. NOMINAL (Kw)	P. Absorbida Pto. Trabajo (Kw)	C.Nominal (A)	Frecuencia (Hz)	Velocidad Nominal (rpm)	NPSH (m)	Rendimiento (%)
NSCF 125-315/185/W45 VCC4	2 simultáneas	18,5x2	30,4	400	50	1470	1,9	83



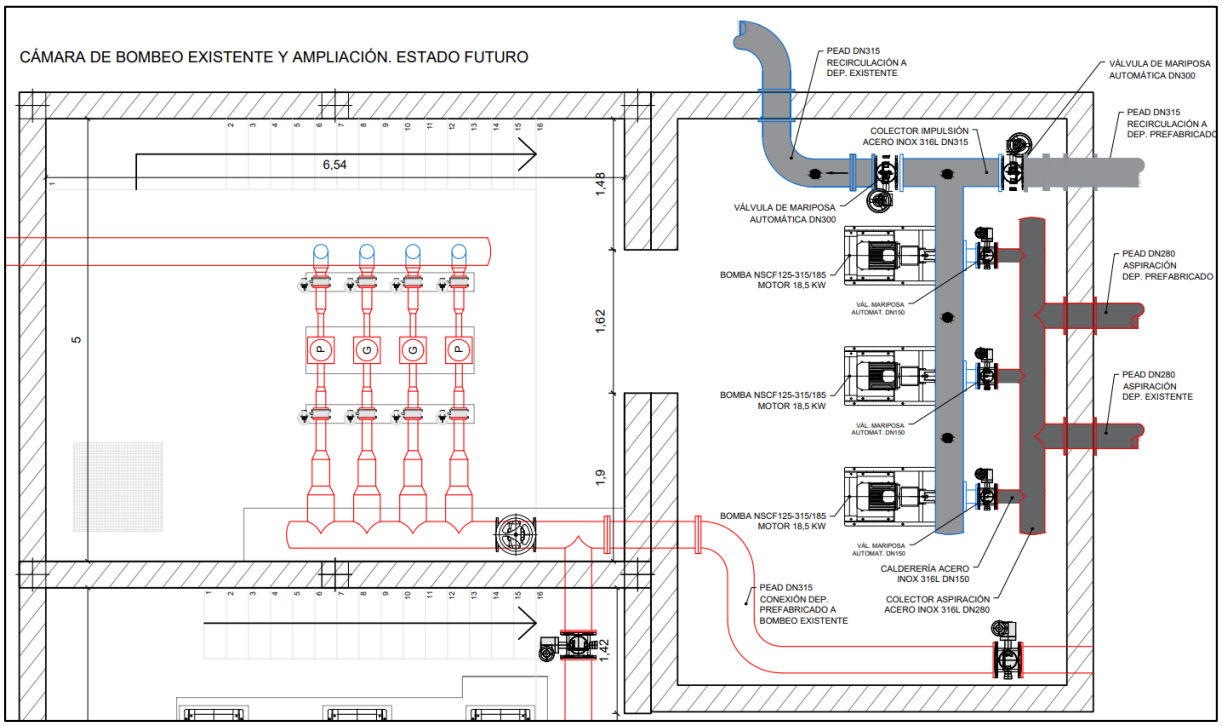
Se adjuntan en el Apéndice 2 del presente Anejo la ficha técnica del equipo de bombeo propuesto.

El contratista podrá proponer equipos de bombeo alternativos siempre que cumplan los parámetros de diseño propuestos en el proyecto y se obtenga la aprobación por parte de la Dirección de Obra y de la Propiedad.

6. CÁMARA DE BOMBEO

El equipo de bombeo se ubicará en el interior de una cámara de bombeo de nueva ejecución.

Se propone ejecutar un arquetón formado por solera, muros y losa superior de hormigón armado. Se elevará respecto a la cota del terreno natural 1.20 metros para evitar la entrada de agua.



En su interior se albergará el equipo de bombeo, cuadro eléctrico y de control y Valvulería.

El acceso al interior se realizará a través del cuarto de bombas existente, generando un hueco que permita la conexión entre ambas casetas.

Dispondrá de ventilación natural formada por huecos en fachada de dimensiones 1m x 0.5m sobre los que se instalarán fijos de aluminio con lamas.

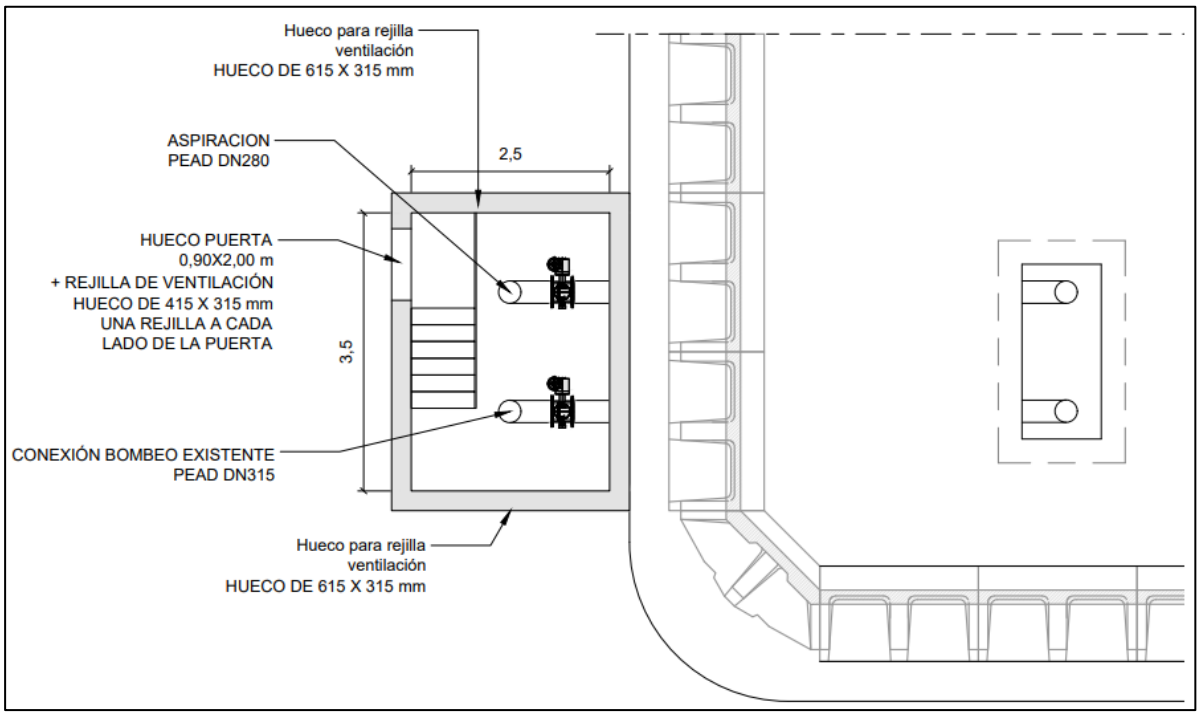
Dispondrá de sistema de iluminación convencional y de emergencia.

Se ejecutará una poceta que permita la instalación de una pequeña bomba de achique de aguas.

7. CÁMARA DE LLAVES

Se diseña una nueva cámara de llaves adosada al nuevo depósito prefabricado, donde se alojarán las tuberías de aspiración del bombeo de recirculación y la nueva tubería de conexión con el bombeo existente.

En la siguiente imagen pueden consultarse las dimensiones de la cámara de llaves:



8. ACCESORIOS

8.1 VÁLVULAS DE CORTE

8.1.1 INDEPENDIZACIÓN EQUIPO BOMBEO

Las válvulas de corte se instalarán antes y después de cada equipo de bombeo, de modo que en caso de existir algún problema con estas últimas se pudieran limpiar o en última instancia cambiar sin tener que vaciar toda la tubería de impulsión. Serán de tipo compuerta, por tener la mayor sección de paso libre.

Cuando se desee cortar el flujo, la válvula se cierra herméticamente mediante un anillo de goma encastrado en el cuerpo.

Serán de fundición dúctil PN10. Las válvulas que se instalarán en el tramo de aspiración serán de DN 150 y las instaladas sobre el tramo de impulsión de DN 125.

El contratista podrá proponer accesorios alternativos a los propuestos siempre que cumplan los parámetros de diseño propuestos en el proyecto y se obtenga la aprobación por parte de la Dirección de Obra y de la Propiedad.

8.1.2 CIERRE RAMALES ASPIRACIÓN

Previo al colector unitario de aspiración se colocará en cada uno de los ramales una válvula de mariposa doble excéntrica de DN 225 en la aspiración del depósito existente y DN 300 en el depósito prefabricado.

9. CALDERERÍA

Los tramos únicos de aspiración y el colector de recogida de la impulsión se realizarán con acero inoxidable AISI 316L capaz de soportar presiones nominales de 10 atm.

También serán de inox AISI 316L el pasamuros estanco que se empleará para la conexión de los tramos de aspiración al depósito. La geometría de dicho pasamuros queda definida en planos.

TRAMO ASPIRACIÓN:

- Conexión a 90º de los tramos de aspiración en ACERO AISI 316L DN280 con un desarrollo de 0,40 m (total 0,80 m).
- Colector Común a 90º que recibe las dos aspiraciones en ACERO AISI 316L DN280 de 3,60 m, del que salen tres conexiones en horizontal en inox DN150 con una longitud cada una de 0,4 m (total 1,20 m)

TRAMO IMPULSIÓN:

- Colector común en vertical elevado sobre la impulsión de las bombas con un desarrollo horizontal de 3,95 m realizado en ACERO AISI 316L DN315, con tres entradas a 90º para la conexión de la impulsión de las bombas en AISI 316L DN125 con una desarrollo cada una de 0,40 m (total 1,20 m).
- Salidas a conexión con tubos de impulsión a depósitos ejecutada mediante T en ACERO AISI 316L DN315 con un desarrollo de 1,10 m
- Tres tramos rectos verticales DN125 (uno por cada bomba) con una longitud total de 0,40 m para conexión de las tres bombas con los accesorios.

Resumen de longitudes totales ACERO INOX AISI316L:

- DN 315 5,05 m (492,17 kg)
- DN 280 4,40 m (358,82 kg)
- DN 150 1,20 m (51,80 kg)
- DN 125 2,40 m (54,30 kg)

9.1 CARRETES DE DESMONTAJE

Los carretes de desmontaje serán para uniones brida-brida y sus partes metálicas serán en acero inoxidable, bridas y aros intermedios de acero al carbono y junta de EPDM.

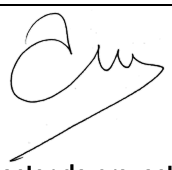
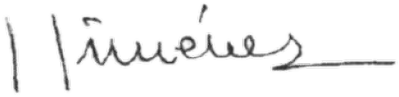
10. CUMPLIMIENTO CON EL REAL DECRETO 3/2023

Todos los materiales que compongan los accesorios que se instalen deberán ser aptos para su uso con agua potable de consumo humano.

Cada fabricante deberá aportar previo al suministro de cualquier accesorio un certificado de cumplimiento de dicho Real Decreto que deberá estar escrito en cualquier lengua reconocida como oficial del territorio Balear.

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

 **Redactor de proyecto:** Juan Carlos Arroyo Portero ICCP	 **Redactor adjunto:** Jesús Jiménez Cañas ICCP

APÉNDICE 1. PÉRDIDAS DE CARGA LOCALIZADAS

ASPIRACIÓN PEAD ESTE	
Caudal	48,61 l/s
Diámetro int.	198,2 mm
VELOCIDAD DE FLUIDO	
1,58	m/s
TÉRMINO CINÉTICO	
0,13	m
Elementos	**h_l (m)**
Entrada	0,06325981
Salida	0
Codos	0,47824416
Radios	0
Tes	0,37955886
Válvulas	0
Cambio suave secc.	0
Cambio brusco secc.	0
h_l TOTAL (m)	**0,92106283**
Elementos	**Coef K**
Entrada	0,5
Salida	0
Codos	3,78
Radios	0
Tes	3
Válvulas	0
Cambio suave secc.	0
Cambio brusco secc.	0
Coef K TOTAL	**7,28**

IMPULSIÓN PEAD (salida bomba)	
Caudal	48,61 l/s
Diámetro int.	110,2 mm
VELOCIDAD DE FLUIDO	
5,10	m/s
TÉRMINO CINÉTICO	
1,32	m
Elementos	**h_l (m)**
Entrada	0
Salida	0
Codos	3,33615822
Radios	0
Tes	3,97161693
Válvulas	0,26477446
Cambio suave secc.	0,52954892
Cambio brusco secc.	0,03382332
h_l TOTAL (m)	**8,13592185**
Elementos	**Coef K**
Entrada	0
Salida	0
Codos	2,52
Radios	0
Tes	3
Válvulas	0,2
Cambio suave secc.	0,4
Cambio brusco secc.	0,16698112
Coef K TOTAL	**6,28698112**

8,87732682

ASPIRACIÓN PEAD OESTE	
Caudal	48,61 l/s
Diámetro int.	198,2 mm
VELOCIDAD DE FLUIDO	
1,58	m/s
TÉRMINO CINÉTICO	
0,13	m
Elementos	**h_l (m)**
Entrada	0,06325981
Salida	0
Codos	0,67814516
Radios	0
Tes	0
Válvulas	0
Cambio suave secc.	0
Cambio brusco secc.	0
h_l TOTAL (m)	**0,74140497**
Elementos	**Coef K**
Entrada	0,5
Salida	0
Codos	5,36
Radios	0
Tes	0
Válvulas	0
Cambio suave secc.	0
Cambio brusco secc.	0
Coef K TOTAL	**5,86**

ASPIRACIÓN COMÚN	
Caudal	97,22 l/s
Diámetro int.	312,8 mm
VELOCIDAD DE FLUIDO	
1,27	m/s
TÉRMINO CINÉTICO	
0,08	m
Elementos	**h_l (m)**
Entrada	0,08157658
Salida	0
Codos	0,20557298
Radios	0
Tes	0,12236487
Válvulas	0,35893695
Cambio suave secc.	0,57462059
Cambio brusco secc.	0
h_l TOTAL (m)	**1,34307196**
Elementos	**Coef K**
Entrada	1
Salida	0
Codos	2,52
Radios	0
Tes	1,5
Válvulas	4,4
Cambio suave secc.	0,48
Cambio brusco secc.	0
Coef K TOTAL	**9,9**

IMPULSIÓN PEAD	
Caudal	97,22 l/s
Diámetro int.	277,6 mm
VELOCIDAD DE FLUIDO	
1,61	m/s
TÉRMINO CINÉTICO	
0,13	m
Elementos	**h_l (m)**
Entrada	0
Salida	0,263017482
Codos	0,625981608
Radios	0
Tes	0,789052447
Válvulas	0,394526223
Cambio suave secc.	0
Cambio brusco secc.	0,135293281
h_l TOTAL (m)	**2,207871041**
Elementos	**Coef K**
Entrada	0
Salida	2
Codos	4,76
Radios	0
Tes	6
Válvulas	3
Cambio suave secc.	0
Cambio brusco secc.	0,166981123
Coef K TOTAL	**15,92698112**

APÉNDICE 2. FICHA EQUIPO DE BOMBEO

LOWARA
a xylem brand

NSCF 125-315/185/W45VCC4

Technical data

Company name
Contacto
Phone number
e-mail address

Características de funcionamiento

1	Tipo inst.	Bombas de un solo rodete en paralelo		Fluido	Agua potable		
2	N° de bombas	2		Temperatura de funcionamiento t A°C		18	
3	Flujo nominal	m³/h	350	Max/Min Operating Temperature	°C	120 / -10	
4	Cabezal nominal	m	21	Valor pH a t A		7	
5	Altura estática	m	8	Densidad a t A	kg/m³	999	
6	V	kPa	0	Viscosidad cinematica a t A	mm²/s	1,052	
7	Temperatura ambiente	°C	20	Presión de vapor en t A	kPa	100	
8	NPSH disponible	m	0	Altura		0	

Datos bomba

9	Lubrication	Standard, Grease lubrication					
10	Execution	Standard coupling		Ø Rodete	Máx.	mm	334
11	Diseño	Horizontal			Diseñado	mm	277
12	Velocidad de funcionamiento	1470 rpm	Etapas 1		Min.	mm	277
13	Boquilla de aspiración	DN150 / PN10/16 / EN1092-2 (NSC)		Caudal	Nominal	m³/h	386,7
14	Boquilla de descarga	DN125 / PN10/16 / EN1092-2 (NSC)			Max-	m³/h	317,8
15	Maxima presion en la carcasa	kPa			Min-	m³/h	43,9
16	Max. Presion de trabajo	kPa	250,5	Altura de impulsión	Nominal	m	23,9
17	Tipo de rodete	Radial impeller			en Qmax	m	11,8
18	Altura H(Q=0)	m	26		en Qmin	m	25,8
19	Potencia del eje motor máxima	kW	13,9	Potencia en el eje		kW	30,4
20	Pump weight	kg	152	Rendimiento		%	83
21	Total weight	kg	434,9	NPSH 3%		m	1,9

Materiales

	Bomba		Cierre mecánico	
22				
23	Volute Casing	Cast Iron, EN 1561 - GJL-250, ASTM Class 35	Single mechanical seal, without shaft sleeve	
24	Impulsor	Cast Iron, EN 1561 - GJL-200, ASTM Class 30	eMG12 - Ø48mm	BQ7EGG-WA
25	Casing Cover	Cast Iron, EN 1561 - GJL-250, ASTM Class 35	Mechanical seal diameter	48 mm
26	Eje	Stainless steel, 1.4057, AISI 431	1. Rotating ring	Carbon graphite resin impregnated
27	anillo de desgaste	Stainless steel, 1.4301, AISI 304	2. Stationary ring	SiC, silicon carbide, sintered press.less
28	Impeller lock nut and washer	A4 (1.4401)	3. Secondary seal	Ethylene propylene rubber (EPDM)
29	Impeller key	Stainless steel, 1.4571, AISI 316Ti	4. Springs	CrNiMo - Steel
30	Fill and drain plugs	Stainless steel, 1.4571, AISI 316Ti	5. Others	EPDM - WRAS
31	Bearing bracket	Cast Iron, EN 1561 - GJL-250, ASTM Class 35	Gaskets of the pump	Ethylene propylene rubber (EPDM)
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				

Datos del motor

42	Fabricante	WEG			
43	Ejecución	IE3 motors - Cast Iron Frame - Premium Efficiency			
44	Tipo	W22 - 180 M - 18,5kW			
45	Pot. Nominal.	18,5 kW	Corriente nominal	35,1 A	
46	Velocidad nominal	1470 rpm	Tensión nominal	400 V	
47	Tamaño de construcción	180M	Factor de servicio	1	
48	Weight kg	172,0	Grado de protección	IP55	

Acoplamiento

Fabricante		Flender			
Serie		Standard Coupling - Type B			
Diámetro del eje		Bomba 42 mm	Motor 48 mm		
Tamaño de construcción		110			
Longitud de desmontaje	mm	4			
Weight	kg	3,3			
Protección del acoplamiento		GBmCOUPLGUARD ES42-230-16 A4			1,7 kg

Placa base

49	Nombre	BASEFRAME_NSC80-4_C00	
50	Weight kg	105,9	

Remarks

LOWARA
a xylem brand

NSCF 125-315/185/W45VCC4

Performance curve

Company name
Contacto
Phone number
e-mail address

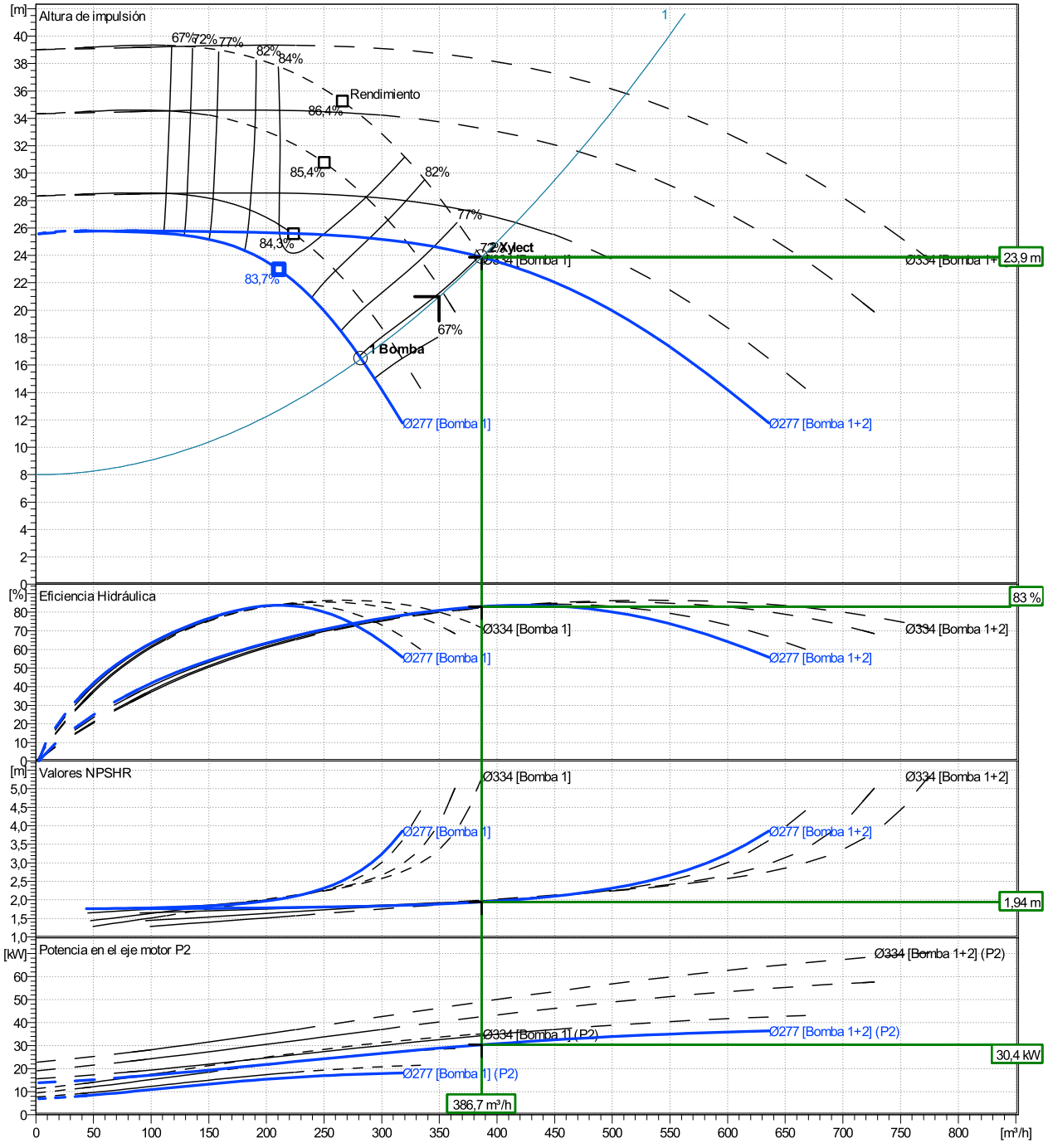
	Ø	Capacidad de la bomba Gama de funcionamiento		η	Cabezal de la bomba		η	Potencia al eje P2		η	Frecuencia	Hz	50
		Min.	Máx.	Máx.	H(Q=0)		Máx.	P2(Q=0)		Máx.	Velocidad de funcionamiento	rpm	1470
	mm	m³/h	m³/h	m³/h	m		m	kW		kW	Flujo nominal	m³/h	350
Actual	277	43,9	318	211	25,6		22,9		13,9	15,8	Cabezal nominal	m	21
Min.	0	/	/	211	25,6		22,9		/	15,8	V	kPa	0
Máx.	334	/	/	267	39		35,2		/	29,4	Altura estática	m	8

Potencia referida a:

hydr. Performance acceptance acc. To EN ISO 9906 Class Grade 3B

Agua potable [100%] ; 18°C; 999kg/m³; 1,05mm²/s

MEI: >=0,70 - according to Ecodesign Directive 2009/125/EC and Regulation (EU) No.547/2012



Proyecto		**Creado por**	Roger Torregrosa Llorens **Última actualización** 2/6/2021
Bloque	NSCF 125-315/185/W45VCC4	**Creado el**	2/6/2021

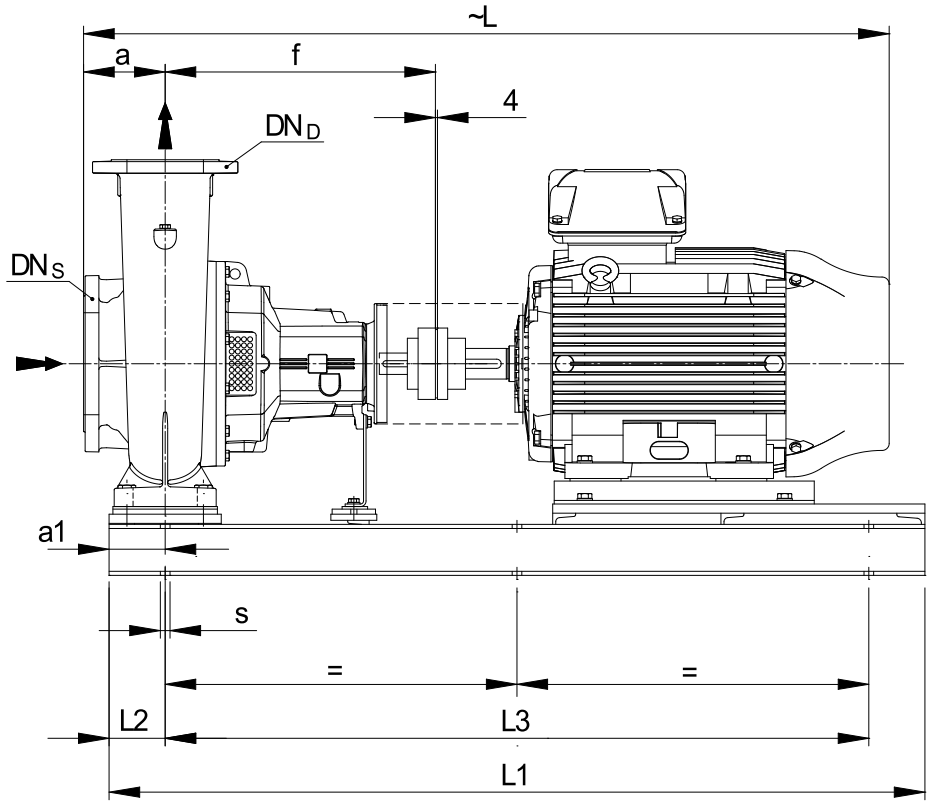
LOWARA
a xylem brand

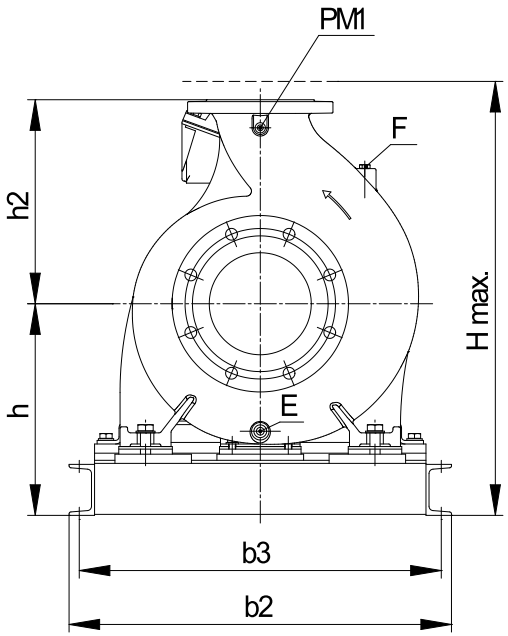
NSCF 125-315/185/W45VCC4

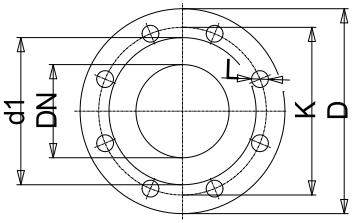
Medidas

Company name
Contacto
Phone number
e-mail address

Frame mounted
Standard coupling
W22 - 180 M - 18,5kW







Value C, D may vary from Standard

Medidas			[mm]
a	140	L2	110
a1	110	L3	1210
b2	670	PM1	1/4"
b3	630	s	6xØ19
CTO	0	Trim	0
DNd	125	Volumen	0,67683
DNs	150		
E	3/8"		
F	3/8"		
f	530		
Guard	224		
h	400		
h2	355		
Hmax	755		
L	1338		
L1	1430		

Peso	(+/- 5%)
Bomba	152 kg
Acoplamiento	3,3
Placa base	106
Motor	172
Total weight	434,9 kg

Connections			
Boquilla de aspiración		Boquilla de descarga	
DN150		DN125	
PN10/16		PN10/16	
EN1092-2 (NSC)		EN1092-2 (NSC)	
C	26	C	26
D	285	D	255
d1	211	d1	184
K	240	K	210
L	23	L	19
z	8	z	8

Dimensions and weight without obligation

Proyecto		Creado por	Roger Torregrosa Llorens	Ultima actualización 2/6/2021
Bloque	NSCF 125-315/185/W45VCC4	Creado el	2/6/2021	

APÉNDICE 3. RESULTADOS DE CALCULO EPANET

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*************************************************************
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  *                             E P A N E T
*
  *                  Análisis Hidráulico y de Calidad
*
  *                  para Redes de Distribución de Agua
*
  *                           Version 2.0
*
  *
*
  * Traducción: Grupo REDHISP,UPV      Financ: Grupo Aguas de
Valencia *
*************************************************************
********
```

Fichero Input: TUBO REBOSE_V01.net

Tabla de Líneas y Nudos:

ID Línea	Nudo Inicial	Nudo Final	Longitud m	Diámetro mm
1	NIVEL_MAX	NIVEL_MIN_ENT	1,5	198,20
2	NIVEL_MIN_ENT	NIVEL_MIN_SAL	19,65	198,20
3	NIVEL_MIN_SAL	COTA_SUP_I	4,80	198,20
4	COTA_SUP_I	2	1,92	198,20
5	2	DESCARGA	0,5	198,20

Resultados en los Nudos:

ID Nudo	Demanda LPS	Altura m	Presión m	Calidad
NIVEL_MIN_ENT	0,00	27,86	6,36	0,00
NIVEL_MIN_SAL	0,00	27,21	5,71	0,00
COTA_SUP_I	0,00	26,85	0,55	0,00
2	0,00	26,53	0,23	0,00
NIVEL_MAX	-65,56	28,00	0,00	0,00

Embalse				
DESCARGA	65,56	26,00	0,00	0,00
Embalse				

Resultados en las Líneas:

ID Línea	Caudal LPS	Velocidad m/s	Pérdida Unit. m/km	Estado
1	65,56	2,12	92,52	Abierta
2	65,56	2,12	32,94	Abierta
3	65,56	2,12	76,23	Abierta
4	65,56	2,12	166,79	Abierta
5	65,56	2,12	1055,43	Abierta

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**************************************************************
********
  *                             E P A N E T
*
  *                  Análisis Hidráulico y de Calidad
*
  *                  para Redes de Distribución de Agua
*
  *                           Version 2.0
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  *
*
  * Traducción: Grupo REDHISP,UPV      Financ: Grupo Aguas de
Valencia *
**************************************************************
********
```

Fichero Input: TUBO REBOSE_V01.net

Tabla de Líneas y Nudos:

ID Línea	Nudo Inicial	Nudo Final	Longitud m	Diámetro mm
1	NIVEL_MAX	NIVEL_MIN_ENT	1,5	198,20
2	NIVEL_MIN_ENT	NIVEL_MIN_SAL	19,65	198,20
3	NIVEL_MIN_SAL	COTA_SUP_I	4,80	198,20
4	COTA_SUP_I	2	1,92	198,20
5	2	DESCARGA	0,5	198,20

Resultados en los Nudos:

ID Nudo	Demanda LPS	Altura m	Presión m	Calidad
NIVEL_MIN_ENT	0,00	27,58	6,08	0,00
NIVEL_MIN_SAL	0,00	27,03	5,53	0,00
COTA_SUP_I	0,00	26,72	0,42	0,00
2	0,00	26,45	0,15	0,00
NIVEL_MAX	-60,34	27,70	0,00	0,00

Embalse				
DESCARGA	60,34	26,00	0,00	0,00
Embalse				

Resultados en las Líneas:

ID Línea	Caudal LPS	Velocidad m/s	Pérdida Unit. m/km	Estado
1	60,34	1,96	78,58	Abierta
2	60,34	1,96	28,11	Abierta
3	60,34	1,96	64,78	Abierta
4	60,34	1,96	141,50	Abierta
5	60,34	1,96	894,34	Abierta

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*************************************************************
********
  *                              E P A N E T
*
  *                  Análisis Hidráulico y de Calidad
*
  *                  para Redes de Distribución de Agua
*
  *                           Version 2.0
*
  *
*
  * Traducción: Grupo REDHISP,UPV      Financ: Grupo Aguas de
Valencia *
*************************************************************
********
```

Fichero Input: TUBO REBOSE_V01.net

Tabla de Líneas y Nudos:

ID Línea	Nudo Inicial	Nudo Final	Longitud m	Diámetro mm
1	NIVEL_MAX	NIVEL_MIN_ENT	1,5	198,20
2	NIVEL_MIN_ENT	NIVEL_MIN_SAL	19,65	198,20
3	NIVEL_MIN_SAL	COTA_SUP_I	4,80	198,20
4	COTA_SUP_I	2	1,92	198,20
5	2	DESCARGA	0,5	198,20

Resultados en los Nudos:

ID Nudo	Demanda LPS	Altura m	Presión m	Calidad
NIVEL_MIN_ENT	0,00	27,12	5,62	0,00
NIVEL_MIN_SAL	0,00	26,72	5,22	0,00
COTA_SUP_I	0,00	26,50	0,20	0,00
2	0,00	26,31	0,01	0,00
NIVEL_MAX	-50,51	27,20	0,00	0,00

Embalse				
DESCARGA	50,51	26,00	0,00	0,00
Embalse				

Resultados en las Líneas:

ID Línea	Caudal LPS	Velocidad m/s	Pérdida Unit. m/km	Estado
1	50,51	1,64	55,37	Abierta
2	50,51	1,64	20,01	Abierta
3	50,51	1,64	45,70	Abierta
4	50,51	1,64	99,46	Abierta
5	50,51	1,64	626,98	Abierta

ANEJO 6 – CÁLCULOS ELÉCTRICOS Y TELECONTROL

ANEJO 6. CALCULOS ELÉCTRICOS Y TELECONTROL

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ANEJO 6. CÁLCULOS ELÉCTRICOS Y TELECONTROL

1. INSTALACIÓN ELÉCTRICA

1.1 INTRODUCCIÓN

En este anejo se define la instalación eléctrica:

- Estimación de Potencias, intensidades; definición y dimensionamiento de las protecciones y cables.

La instalación eléctrica se ajustará al Reglamento Electrotécnico de Baja Tensión, sus Instrucciones Técnicas Complementarias y demás normas de obligado cumplimiento que le afectan, así como a las Normas Particulares de enlace de la empresa distribuidora, aprobadas por la Administración.

1.1.1 LEGISLACIÓN APLICABLE

En la realización del proyecto se han tenido en cuenta las siguientes normas y reglamentos:

- REBT-2002: Reglamento electrotécnico para baja tensión e instrucciones técnicas complementarias.

- UNE-HD 60364-5-52: Instalaciones eléctricas de baja tensión. Selección e instalación de equipos eléctricos. Canalizaciones.

- UNE 20434: Sistema de designación de cables.

- UNE-EN 60898-1: Interruptores automáticos para instalaciones domésticas y análogas para la protección contra sobreintensidades.

- UNE-EN 60947-2: Aparamenta de baja tensión. Interruptores automáticos.

- UNE-EN 60269-1: Fusibles de baja tensión.

- UNE-HD 60364-4-43: Protección para garantizar la seguridad. Protección contra las sobreintensidades.

- UNE-EN 60909-0: Corrientes de cortocircuito en sistemas trifásicos de corriente alterna. Cálculo de corrientes.

- UNE-IEC/TR 60909-2: Corrientes de cortocircuito en sistemas trifásicos de corriente alterna. Datos de equipos eléctricos para el cálculo de corrientes de cortocircuito.

1.1.2 DESCRIPCIÓN DE LA INSTALACIÓN

El origen de la instalación estará en el cuadro CCM2, donde se añadirá un magnetotérmico con las especificaciones indicadas en el esquema unifilar. Además, se añadirán el resto de los elementos que acompañan al magnetotérmico: toroidal y relé diferencial y se integrará en el mando de cuadro. Los elementos añadidos en el cuadro serán de la misma marca, características y poder de corte que los preexistentes en el cuadro CCM2.

El interruptor automático añadido será en caja moldeada, tetrapolar (4P), intensidad nominal 125 A, poder de corte 36 kA a 400 V, FD80S 432973 "GENERAL ELECTRIC", con unidad de protección magnetotérmica selectiva LTMD, ajuste de la intensidad de disparo térmico entre 0,8 y 1 x In, de 108x130x85 mm, según UNE-EN 60947-2.:

La instalación es trifásica 400V entre fases y 50Hz, con esquema TT y trasformador propio

La instalación ampliada consta de una protección general añadida al cuadro general, una nueva línea hasta el subcuadro que se añadirá a la cámara donde se encuentran las bombas de recirculación. De este subcuadro se alimentará otro pequeño subcuadro en la cámara de vávulas del nuevo depósito. Estos cuadros con protecciones en todos los circuitos derivados.

Su composición queda reflejada en el esquema unifilar correspondiente, en el documento de planos contando, al menos, con los siguientes dispositivos de protección:

- Un interruptor automático magnetotérmico general para la protección contra sobreintensidades.
- Interruptores diferenciales para la protección contra contactos indirectos.
- Interruptores automáticos magnetotérmicos para la protección de los circuitos derivados.

1.1.3 NECESIDADES ELÉCTRICAS.

Los equipos que hay que alimentar en la cámara de válvulas son:

- Bombas.
- Equipos de automatización y control bombas.
- Alumbrado de servicio y emergencias.
- Alumbrado exterior.
- Tomas de corriente de uso indefinido.

Se ha previsto también una reserva por si se quiere incorporar otro circuito en el futuro.

El consumo principal es el de las bombas que serán en todos los casos trifásicas de 400V, considerándose que el resto tendrá un consumo genérico bajo de no más de 1kw por fase (sin contar las tomas).

El cuadro dispondrá de protección contra sobretensiones transitorias, permanentes y cambios rotación de fases, y se rearmará automáticamente cuando desparezca el fallo.

Los cuadros dispondrán de un 30% de espacio libre. Los borneros dispondrán de un 30% de espacio libre.

La protección de sobretensiones estará conectada con cables que no superen los 0,5 m de longitud.

La tabla resumen de las características eléctrica de las bombas es la siguiente:

	Especificaciones bombas				
BOMBA	Configuración de bombas	Potencia Nominal (kW)	Corriente nominal (A)	Corriente arranque (A)	Factor de Potencia
NSCF 125-315/185/W45VCC4	2+1	18,5	35,1	Estimado x 6	Estimado 0,77

El funcionamiento de las bombas será de dos bombas en simultaneo; primer número de la configuración de las bombas corresponde con las bombas máximas en servicio de servicio y el segundo número con las bombas de reserva.

El arranque de las bombas deberá ser secuencial y cada una deberá disponer de su correspondiente arrancador.

Las potencias calculadas para la nueva línea serán:

P Instalada (kW)	P Calculada (kW)	P Demandada (kW)
96.36	76.28	**70,84**

La potencia demandada se ha considerado a la potencia nominal de la bomba y los coeficientes de simultaneidad considerados. Se deberán realizar mediciones con los equipos realmente instalados para para comprobar la potencia demandada real.

Se tiene la siguiente relación de receptores de fuerza, alumbrado y otros usos con indicación de su potencia eléctrica:

Circuito	P Instalada (kW)	P Demandada (kW)
Iluminación	1.00	1.00
Tomas de uso general	29.56	29.56
Motor	56.50	66.47
Otros	9.30	9.30

Repartidas según la tabla:

Subcuadro bombeo:

Descripción	Simult.	Pot.Calc. (W)	Pot.Inst. (W)	Pot.Dem. (W)	Long. (m)	Sección (mm)	I_B (A)	I_Z (A)	ΔU (%)	ΔU_{ac} (%)	Canaliz. (mm)
Instalación interior	-	76287.96	96360.33	70846.79	90.00	RV-K Eca 5G50	111.22	146.27	1.84	-	Tubo 110 mm
Cámara de válvulas	1.00	9078.10	15130.17	9078.10	80.00	RV-K Eca 5G6	13.10	45.61	1.45	3.28	Tubo 63 mm
Alumbrado Exterior	1.00	300.00	300.00	300.00	280.00	RV-K Eca 4x6 + TTx16	0.43	45.61	0.16	2.00	Tubo 63 mm
Alumbrado	0.60	350.00	350.00	350.00	8.00	RV-K Eca 3G2.5	1.52	28.21	0.08	1.92	Tubo 16 mm

Descripción	Simult.	Pot.Calc. (W)	Pot.Inst. (W)	Pot.Dem. (W)	Long. (m)	Sección (mm)	I_B (A)	I_Z (A)	ΔU (%)	ΔU_{ac} (%)	Canaliz. (mm)
Toma monofásica	0.60	3695.04	3695.04	3695.04	4.00	RV-K Eca 3G2.5	16.00	28.21	0.46	2.30	Tubo 16 mm
Toma trifásica	0.60	11085.13	11085.13	11085.13	4.00	RV-K Eca 5G2.5	16.00	20.38	0.24	2.08	Tubo 20 mm
Bomba-A	1.00	27205.88	18500.00	21764.71	6.00	RV-K Eca 5G16	51.00	80.08	0.14	1.97	Tubo 32 mm
Bomba-B	1.00	27205.88	18500.00	21764.71	6.00	RV-K Eca 5G16	51.00	80.08	0.14	1.97	Tubo 32 mm
Bomba-C	-	27205.88	18500.00	21764.71	6.00	RV-K Eca 5G16	51.00	80.08	0.14	1.97	Tubo 32 mm
Maniobra	1.00	200.00	200.00	200.00	3.00	H07V-K Eca 3(1x1.5)	0.87	15.23	0.03	1.87	Tubo 16 mm
Fuente 24VDC	1.00	600.00	600.00	600.00	3.00	H07V-K Eca 3(1x1.5)	2.60	15.23	0.09	1.93	Tubo 16 mm
Cuadro	1.00	600.00	600.00	600.00	10.00	H07V-K Eca 3(1x1.5)	2.60	15.23	0.30	2.14	Tubo 16 mm
Cloración	1.00	1000.00	1000.00	1000.00	6.00	RV-K Eca 3G2.5	4.33	27.30	0.18	2.02	Tubo 16 mm
Achique	0.80	1470.59	1000.00	1176.47	6.00	RV-K Eca 3G2.5	6.37	28.21	0.26	2.10	Tubo 20 mm
Reserva	0.80	6900.00	6900.00	6900.00	6.00	RV-K Eca 5G2.5	9.96	25.48	0.21	2.05	Tubo 20 mm
Compensación reactiva	-	-	-	-	5.00	RV-K Eca 5G10	37.49	60.06	0.17	2.01	Tubo 32 mm

Subcuadro cámara de válvulas

Descripción	Simult.	Pot.Calc. (W)	Pot.Inst. (W)	Pot.Dem. (W)	Long. (m)	Sección (mm)	I_B (A)	I_Z (A)	ΔU (%)	ΔU_{ac} (%)	Canaliz. (mm)
Alumbrado	0.60	350.00	350.00	350.00	8.00	RV-K Eca 3G2.5	1.52	28.21	0.08	3.37	Tubo 16 mm
Toma monofásica	0.60	3695.04	3695.04	3695.04	4.00	RV-K Eca 3G2.5	16.00	28.21	0.46	3.75	Tubo 16 mm
Toma trifásica	0.60	11085.13	11085.13	11085.13	4.00	RV-K Eca 5G2.5	16.00	20.38	0.24	3.53	Tubo 20 mm

Se dispondrá de instalación de tierra en cada Subcuadro.

Los cuadros dispondrán de ventilación forzada y resistencia activadas con sendos termostatos; también dispondrán de iluminación (Servicios Interno del Cuadro).

Se dispondrán de batería de condensadores para compensar la reactiva de los motores que se consultara al fabricante de las bombas. A modo de referencia, si se considera un factor de potencia de 0.77 en las bombas, se necesitaría una potencia reactiva capacitiva Qc de 27 kVA

1.1.4 SUBCUADRO BOMEO DE RECIRCULACIÓN Y CÁMARA DE VÁVULAS

Para detalles de la polaridad, potencia demandada, protecciones y cables de las líneas de los subcuadros mirar el esquema unifilar en los planos.

El cuadro funcionará de manera autónoma y automática con los controles y alarmas remotas que indique la dirección facultativa.

El esquema unifilar detallado con todos los elementos será entregado por el constructor a la dirección facultativa para su revisión y aprobación.

El cuadro funcionará de manera autónoma y automática con los controles y alarmas remotas que indique la dirección facultativa.

El esquema unifilar detallado con todos los elementos será entregado por el constructor a la dirección facultativa para su revisión y aprobación.

1.1.5 INSTALACIÓN DE PUESTA A TIERRA

La instalación de puesta a tierra de la obra se efectuará de acuerdo con la reglamentación vigente, concretamente lo especificado en el Reglamento Electrotécnico para Baja Tensión en su Instrucción 18, quedando sujeta a la misma las tomas de tierra y los conductores de protección.

La resistencia de un electrodo depende de sus dimensiones, de su forma y de la resistividad del terreno.

El tipo y profundidad de enterramiento de las tomas de tierra deben ser tales que la posible pérdida de humedad del suelo, la presencia de hielo u otros efectos climáticos, no aumenten la resistencia de la toma de tierra por encima del valor previsto. La profundidad nunca será inferior a 0.5 m. Además, en los lugares en los que exista riesgo continuado de heladas, se recomienda una profundidad mínima de enterramiento de la parte superior del electrodo de 0.8 m.

ESQUEMA DE CONEXIÓN A TIERRA

La instalación está alimentada por una red de distribución según el esquema de conexión a tierra TT (neutro a tierra).

RESISTENCIA DE LA PUESTA A TIERRA DE LAS MASAS

Las características del terreno son las que se especifican a continuación:

Se considera una resistencia máxima de 30 Ω.

RESISTENCIA DE LA PUESTA A TIERRA DEL NEUTRO

Se considera una resistencia máxima de 30 Ω.

TOMA DE TIERRA

Se considera una resistividad del terreno de: 500.00 Ωm (terraplenes cultivables poco fértiles).

Los electrodos de la instalación de puesta a tierra considerados son:

Tipo de electrodo	Dimensión	Longitud / perímetro (m)	Ne	D (m)	L_T (m)	D/L_T (m)	K	Resistencia (Ω)
Conductor enterrado	Conductor desnudo de 35 mm²	12.00	-	-	-	-	-	83.33
Dos picas en línea	Barra $\phi \geq 14.2$ mm (acero-cobre 250 μ) Barra $\phi \geq 20$ mm (acero galvanizado 78	2.00	2	4.00	4.00	1.00	1.19	46.58
							Resistencia total del conjunto (Ω)	**29.88**

Notas:

Ne: número de electrodos iguales

D: separación entre picas

L_T: longitud total de las picas

K: coeficiente de mejora

Para el alumbrado exterior deberá disponer mínimo de un electrodo de puesta a tierra cada 5 soportes de luminarias y siempre Enel primero y en el último.

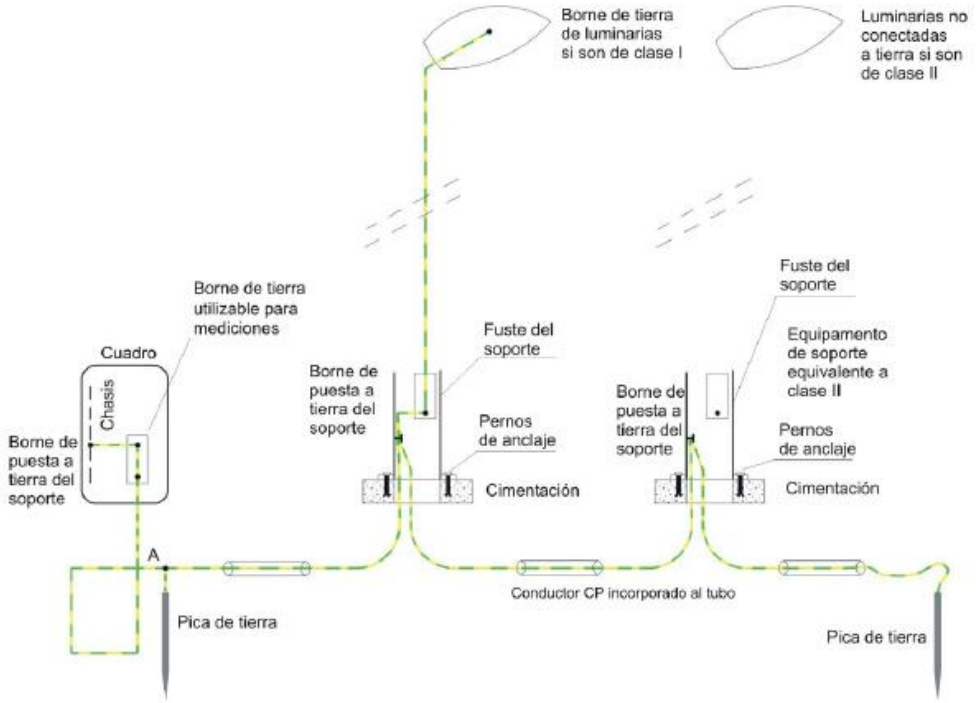
CONDUCTORES DE PROTECCIÓN

Los conductores de protección discurrirán por la misma canalización sus correspondientes circuitos y presentarán las secciones exigidas por la Instrucción ITC-BT 18 del REBT.

Para el alumbrado exterior la sección del cable será de 16 mm2, unipolar aislado de tensión asignada 450/750V con recubrimiento de color verde amarillo del tipo H07V-K, que discurrirá por dentro de la canalización según el esquema siguiente:

Puesta a tierra mediante un conductor de protección CP

El conductor de protección CP está incorporado en el mismo tubo que los conductores activos del circuito correspondiente



1.2 CRITERIOS APLICADOS Y BASES DE CÁLCULO

1.2.1 INTENSIDAD MÁXIMA ADMISIBLE

En el cálculo de las instalaciones se comprobará que las intensidades máximas de las líneas son inferiores a las admitidas por el Reglamento de Baja Tensión, teniendo en cuenta los factores de corrección según el tipo de instalación y sus condiciones particulares.

1. Intensidad nominal en servicio monofásico:

$$I_n = \frac{P}{U_f \cdot \cos\varphi}$$

1. Intensidad nominal en servicio trifásico:

$$I_n = \frac{P}{\sqrt{3} \cdot U_f \cdot \cos\varphi}$$

1.2.2 CAÍDA DE TENSIÓN

En circuitos interiores de la instalación, la caída de tensión no superará un porcentaje del 3% de la tensión nominal para circuitos de alumbrado y del 5% para el resto de circuitos, siendo admisible la compensación de caída de tensión junto con las correspondientes derivaciones individuales, de manera que conjuntamente no se supere un porcentaje del 4,5% de la tensión nominal para los circuitos de alumbrado y del 6,5% para el resto de circuitos.

Las fórmulas empleadas serán las siguientes:

$$\Delta U = R \cdot I \cdot \cos\varphi + X \cdot I \cdot \operatorname{sen}\varphi$$

Caída de tensión en monofásico: $\Delta U_I = 2 \cdot \Delta U$

Caída de tensión en trifásico: $\Delta U_{III} = \sqrt{3} \cdot \Delta U$

Con:

- I Intensidad calculada *(A)*
- R Resistencia de la línea (Ω), ver apartado (A)
- X Reactancia de la línea (Ω), ver apartado (C)
- φ Ángulo correspondiente al factor de potencia de la carga;

A) RESISTENCIA DEL CONDUCTOR EN CORRIENTE ALTERNA

Si tenemos en cuenta que el valor de la resistencia de un cable se calcula como:

$$R = R_{tca} = R_{tcc}\left(1 + Ys + Yp\right) = c\ R_{tcc}$$

$$R_{tcc} = R_{20cc}\left[1 + \alpha\left(\theta - 20\right)\right]$$

$$R_{20cc} = \rho_{20}\, L / S$$

Con:

- R_{tcc} Resistencia del conductor en corriente continua a la temperatura θ *(Ω)*
- R_{20cc} Resistencia del conductor en corriente continua a la temperatura de 20°C *(Ω)*

Ys Incremento de la resistencia debido al efecto piel;

Yp Incremento de la resistencia debido al efecto proximidad;

α Coeficiente de variación de resistencia específica por temperatura del conductor en $°C^{-1}$

θ Temperatura máxima en servicio prevista en el cable (°C), ver apartado (B)

ρ_{20} Resistividad del conductor a 20°C *($\Omega\, mm^2/m$)*

S Sección del conductor *(mm^2)*

L Longitud de la línea *(m)*

El efecto piel y el efecto proximidad son mucho más pronunciados en los conductores de gran sección. Su cálculo riguroso se detalla en la norma UNE 21144. No obstante y de forma aproximada para instalaciones de enlace e instalaciones interiores en baja tensión es factible suponer un incremento de resistencia inferior al 2% en alterna respecto del valor en continua.

$$c = (1 + Ys + Yp) \cong 1,02$$

B) TEMPERATURA ESTIMADA EN EL CONDUCTOR

Para calcular la temperatura máxima prevista en servicio de un cable se puede utilizar el siguiente razonamiento: su incremento de temperatura respecto de la temperatura ambiente T_0 (25°C para cables enterrados y 40°C para cables al aire), es proporcional al cuadrado del valor eficaz de la intensidad. Por tanto:

$$T = T_0 + (T_{máx} - T_0) * (I / I_{máx})^2 \qquad [17]$$

Con:

T Temperatura real estimada en el conductor *(°C)*

$T_{máx}$ Temperatura máxima admisible para el conductor según su tipo de aislamiento *(°C)*

T_0 Temperatura ambiente del conductor *(°C)*

I Intensidad prevista para el conductor *(A)*

$I_{máx}$ Intensidad máxima admisible para el conductor según el tipo de instalación *(A)*

C) REACTANCIA DEL CABLE (Según el criterio de la Guía-BT-Anexo 2)

La reactancia de los conductores varía con el diámetro y la separación entre conductores. En ausencia de datos se puede estimar la reactancia como un incremento adicional de la resistencia de acuerdo a la siguiente tabla:

Sección	Reactancia inductiva (X)
S ≤ 120 mm²	X ≈ 0
S = 150 mm²	X ≈ 0.15 R
S = 185 mm²	X ≈ 0.20 R
S = 240 mm²	X ≈ 0.25 R

Para secciones menores de o iguales a 120 mm², la contribución a la caída de tensión por efecto de la inductancia es despreciable frente al efecto de la resistencia.

1.2.3 CORRIENTES DE CORTOCIRCUITO

El método utilizado para el cálculo de las corrientes de cortocircuito, según el apartado 2.3 de la norma UNE-EN 60909-0, está basado en la introducción de una fuente de tensión equivalente en el punto de cortocircuito. La fuente de tensión equivalente es la única tensión activa del sistema. Todas las redes de alimentación y máquinas síncronas y asíncronas son reemplazadas por sus impedancias internas.

En sistemas trifásicos de corriente alterna, el cálculo de los valores de las corrientes resultantes en cortocircuitos equilibrados y desequilibrados se simplifica por la utilización de las componentes simétricas.

Utilizando este método, las corrientes en cada conductor de fase se determinan por la superposición de las corrientes de los tres sistemas de componentes simétricas:

- Corriente de secuencia directa I(1)
- Corriente de secuencia inversa I(2)
- Corriente homopolar I(0)

Se evaluarán las corrientes de cortocircuito, tanto máximas como mínimas, en los puntos de la instalación donde se ubican las protecciones eléctricas.

Para el cálculo de las corrientes de cortocircuito, el sistema puede ser convertido por reducción de redes en una impedancia de cortocircuito equivalente Z_k en el punto de defecto.

Se tratan los siguientes tipos de cortocircuito:

- Cortocircuito trifásico;
- Cortocircuito bifásico;
- Cortocircuito bifásico a tierra;
- Cortocircuito monofásico a tierra.

La corriente de cortocircuito simétrica inicial $I''_k = I''_{k3}$ teniendo en cuenta la fuente de tensión equivalente en el punto de defecto, se calcula mediante la siguiente ecuación:

$$I''_k = \frac{cU_n}{\sqrt{3} \cdot Z_k}$$

Con:

- c Factor c de la tabla 1 de la norma UNE-EN 60909-0
- U_n Tensión nominal fase-fase V
- Z_k Impedancia de cortocircuito equivalente mΩ

CORTOCIRCUITO BIFÁSICO (UNE-EN 60909-0, APARTADO 4.2.2)

En el caso de un cortocircuito bifásico, la corriente de cortocircuito simétrica inicial es:

$$I''_{k2} = \frac{cU_n}{|Z_{(1)} + Z_{(2)}|} = \frac{cU_n}{2 \cdot |Z_{(1)}|} = \frac{\sqrt{3}}{2} \cdot I''_{k3}$$

Durante la fase inicial del cortocircuito, la impedancia de secuencia inversa es aproximadamente igual a la impedancia de secuencia directa, independientemente de si el cortocircuito se produce en un punto próximo o alejado de un alternador. Por lo tanto, en la ecuación anterior es posible introducir $Z_{(2)} = Z_{(1)}$.

CORTOCIRCUITO BIFÁSICO A TIERRA (UNE-EN 60909-0, APARTADO 4.2.3)

La ecuación que conduce al cálculo de la corriente de cortocircuito simétrica inicial en el caso de un cortocircuito bifásico a tierra es:

$$I''_{kE2E} = \frac{\sqrt{3} \cdot cU_n}{|Z_{(1)} + 2Z_{(0)}|}$$

CORTOCIRCUITO MONOFÁSICO A TIERRA (UNE-EN 60909-0, APARTADO 4.2.4)

La corriente inicial del cortocircuito monofásico a tierra I''_{k1}, para un cortocircuito alejado de un alternador con $Z_{(2)} = Z_{(1)}$, se calcula mediante la expresión:

$$I''_{k1} = \frac{\sqrt{3} \cdot cU_n}{|2Z_{(1)} + Z_{(0)}|}$$

1.2.4 PROTECCIÓN CONTRA SOBRETENSIONES

DISPOSITIVOS DE PROTECCIÓN CONTRA SOBREINTENSIDADES TRANSITORIAS

Según ITC-BT-23, las instalaciones interiores se deben proteger contra sobretensiones transitorias siempre que la instalación no esté alimentada por una red de distribución subterránea en su totalidad, es decir, toda instalación que sea alimentada por algún tramo de línea de distribución aérea sin pantalla metálica unida a tierra en sus extremos deberá protegerse contra sobretensiones.

Los limitadores de sobretensión serán de clase C (tipo II) en los cuadros y, en el caso de que el edificio disponga de pararrayos, se añadirán limitadores de sobretensión de clase B (tipo I) en la centralización de contadores.

1.2.5 ARRANCADORES

Según la ITC-BT-47 del REBT, en general los motores de potencia superior a 0,75 kW deben estar provistos de dispositivos de arranque que impidan que la relación de corriente entre el periodo de arranque y el de marcha normal correspondiente a su plena carga sea superior a lo permitido por dicha norma.

La intensidad de arranque del motor se calcula multiplicando la intensidad nominal del mismo por el factor de arranque, que normalmente está definido en la placa de características del propio motor. En caso de superar el valor establecido por normativa, será necesario instalar un arrancador que aportará una reducción en forma de factor multiplicador. El resultado de multiplicar la intensidad de arranque por el factor de arranque dará como resultado el valor de la corriente de arranque regulada por el arrancador.

1.3 PLIEGO DE CONDICIONES

1.3.1 CALIDAD DE LOS MATERIALES

1.3.1.1 .- Generalidades

Todos los materiales empleados en la ejecución de la instalación tendrán, como mínimo, las características especificadas en este Pliego de Condiciones, empleándose siempre materiales homologados según las normas UNE citadas en la instrucción ITC-BT-02 que les sean de aplicación.

1.3.1.2 - Conductores eléctricos

Las líneas de alimentación a cuadros de distribución estarán constituidas por conductores unipolares de cobre aislados de 0,6/1 kV.

Las líneas de alimentación a puntos de luz y tomas de corriente de otros usos estarán constituidas por conductores de cobre unipolares aislados del tipo H07V-R.

Las líneas de alumbrado de urbanización estarán constituidas por conductores de cobre aislados de 0,6/1 kV.

1.3.1.3 .- Conductores de neutro

La sección mínima del conductor de neutro para distribuciones monofásicas, trifásicas y de corriente continua, será la que a continuación se especifica:

Según la Instrucción ITC BT 19 en su apartado 2.2.2, en instalaciones interiores, para tener en cuenta las corrientes armónicas debidas a cargas no lineales y posibles desequilibrios, la sección del conductor del neutro será como mínimo igual a la de las fases.

Para el caso de redes aéreas o subterráneas de distribución en baja tensión, las secciones a considerar serán las siguientes:

- Con dos o tres conductores: igual a la de los conductores de fase.
- Con cuatro conductores: mitad de la sección de los conductores de fase, con un mínimo de 10 mm² para cobre y de 16 mm² para aluminio.

1.3.1.4 .- Conductores de protección

Los conductores de protección desnudos no estarán en contacto con elementos combustibles. En los pasos a través de paredes o techos estarán protegidos por un tubo de adecuada resistencia, que será, además, no conductor y difícilmente combustible cuando atraviese partes combustibles del edificio.

Los conductores de protección estarán convenientemente protegidos contra el deterioro mecánico y químico, especialmente en los pasos a través de elementos de la construcción.

Las conexiones en estos conductores se realizarán por medio de empalmes soldados sin empleo de ácido, o por piezas de conexión de apriete por rosca. Estas piezas serán de material inoxidable, y los tornillos de apriete estarán provistos de un dispositivo que evite su desapriete.

Se tomarán las precauciones necesarias para evitar el deterioro causado por efectos electroquímicos cuando las conexiones sean entre metales diferentes.

1.3.1.5 .- Identificación de los conductores

Los conductores de la instalación se identificarán por los colores de su aislamiento:

- Negro, gris, marrón para los conductores de fase o polares.
- Azul claro para el conductor neutro.
- Amarillo - verde para el conductor de protección.
- Rojo para el conductor de los circuitos de mando y control.

1.3.1.6 .- Tubos protectores

Clases de tubos a emplear

Los tubos deberán soportar, como mínimo, sin deformación alguna, las siguientes temperaturas:

- 60 °C para los tubos aislantes constituidos por policloruro de vinilo o polietileno.
- 70 °C para los tubos metálicos con forros aislantes de papel impregnado.

Diámetro de los tubos y número de conductores por cada uno de ellos

Los diámetros exteriores mínimos y las características mínimas para los tubos en función del tipo de instalación y del número y sección de los cables a conducir, se indican en la Instrucción ITC BT 21, en su apartado 1.2. El diámetro interior mínimo de los tubos deberá ser declarado por el fabricante.

1.3.2 NORMAS DE EJECUCIÓN DE LAS INSTALACIONES

1.3.2.1 .- Especificaciones particulares empresa suministradora

Se tendrán en cuenta las prescripciones particulares indicadas por endesa distribución:

NRZ101 Especificaciones Particulares: Instalaciones Privadas. Generalidades sep-18

NRZ103 Especificaciones Particulares: Instalaciones Privadas. Consumidores en Baja tensión. sep-18

NRZ105 Especificaciones Particulares: Instalaciones Privadas. Generadores en Baja tensión. sep-18

1.3.2.2 .- Colocación de tubos

Se tendrán en cuenta las prescripciones generales siguientes, tal y como indica la ITC BT 21.

Prescripciones generales

El trazado de las canalizaciones se hará siguiendo preferentemente líneas paralelas a las verticales y horizontales que limitan el local dónde se efectúa la instalación.

Los tubos se unirán entre sí mediante accesorios adecuados a su clase que aseguren la continuidad que proporcionan a los conductores.

Los tubos aislantes rígidos curvables en caliente podrán ser ensamblados entre sí en caliente, recubriendo el empalme con una cola especial cuando se desee una unión estanca.

Las curvas practicadas en los tubos serán continuas y no originarán reducciones de sección inadmisibles.

Los radios mínimos de curvatura para cada clase de tubo serán los indicados en la norma UNE EN 5086 -2-2.

Será posible la fácil introducción y retirada de los conductores en los tubos después de colocados y fijados éstos y sus accesorios, disponiendo para ello los registros que se consideren convenientes, y que en tramos rectos no estarán separados entre sí más de 15 m. El número de curvas en ángulo recto situadas entre dos registros consecutivos no será superior a tres. Los conductores se alojarán en los tubos después de colocados éstos.

Los registros podrán estar destinados únicamente a facilitar la introducción y retirada de los conductores en los tubos, o servir al mismo tiempo como cajas de empalme o derivación.

Cuando los tubos estén constituidos por materias susceptibles de oxidación, y cuando hayan recibido durante el curso de su montaje algún trabajo de mecanización, se aplicará a las partes mecanizadas pintura antioxidante.

Igualmente, en el caso de utilizar tubos metálicos sin aislamiento interior, se tendrá en cuenta la posibilidad de que se produzcan condensaciones de agua en el interior de los mismos, para lo cual se elegirá convenientemente el trazado de su instalación, previendo la evacuación de agua en los puntos más bajos de ella y, si fuera necesario, estableciendo una ventilación apropiada en el interior de los tubos mediante el sistema adecuado, como puede ser, por ejemplo, el empleo de una "te" dejando uno de los brazos sin utilizar.

Cuando los tubos metálicos deban ponerse a tierra, su continuidad eléctrica quedará convenientemente asegurada. En el caso de utilizar tubos metálicos flexibles, es necesario que la distancia entre dos puestas a tierra consecutivas de los tubos no exceda de 10 m.

No podrán utilizarse los tubos metálicos como conductores de protección o de neutro.

Tubos en montaje superficial

Cuando los tubos se coloquen en montaje superficial se tendrán en cuenta además las siguientes prescripciones:

Los tubos se fijarán a las paredes o techos por medio de bridas o abrazaderas protegidas contra la corrosión y sólidamente sujetas. La distancia entre éstas será, como máximo, 0.50 metros. Se dispondrán fijaciones de una y otra parte en los cambios de dirección, en los empalmes y en la proximidad inmediata de las entradas en cajas o aparatos.

Los tubos se colocarán adaptándolos a la superficie sobre la que se instalan, curvándolos o usando los accesorios necesarios.

En alineaciones rectas, las desviaciones del eje del tubo con respecto a la línea que une los puntos extremos no serán superior al 2%.

Es conveniente disponer los tubos normales, siempre que sea posible, a una altura mínima de 2.5 m sobre el suelo, con objeto de protegerlos de eventuales daños mecánicos.

En los cruces de tubos rígidos con juntas de dilatación de un edificio deberán interrumpirse los tubos, quedando los extremos del mismo separados entre sí 5 cm aproximadamente, y empalmándose posteriormente mediante manguitos deslizantes que tengan una longitud mínima de 20 cm.

Tubos empotrados

Cuando los tubos se coloquen empotrados se tendrán en cuenta, además, las siguientes prescripciones:

La instalación de tubos empotrados será admisible cuando su puesta en obra se efectúe después de terminados los trabajos de construcción y de enfoscado de paredes y techos, pudiendo el enlucido de los mismos aplicarse posteriormente.

Las dimensiones de las rozas serán suficientes para que los tubos queden recubiertos por una capa de 1 cm de espesor, como mínimo, del revestimiento de las paredes o techos. En los ángulos el espesor puede reducirse a 0.5 cm.

En los cambios de dirección, los tubos estarán convenientemente curvados, o bien provistos de codos o "tes" apropiados, pero en este último caso sólo se admitirán los provistos de tapas de registro.

Las tapas de los registros y de las cajas de conexión quedarán accesibles y desmontables una vez finalizada la obra. Los registros y cajas quedarán enrasados con la superficie exterior del revestimiento de la pared o techo cuando no se instalen en el interior de un alojamiento cerrado y practicable. Igualmente, en el caso de utilizar tubos normales empotrados en paredes, es conveniente disponer los recorridos horizontales a 50 cm, como máximo, del suelo o techo, y los verticales a una distancia de los ángulos o esquinas no superior a 20 cm.

Tubos en montaje al aire

Solamente está permitido su uso para la alimentación de máquinas o elementos de movilidad restringida desde canalizaciones prefabricadas y cajas de derivación fijadas al techo. Se tendrán e cuenta las siguientes prescripciones:

La longitud total de la conducción en el aire no será superior a 4 metros y no empezará a una altura inferior a 2 metros.

Se prestará especial atención para que se conserven en todo el sistema, especialmente en las conexiones, las características mínimas para canalizaciones de tubos al aire, establecidas en la tabla 6 de la instrucción ITC BT 21.

1.3.2.3 .- Cajas de empalme y derivación

Las conexiones entre conductores se realizarán en el interior de cajas apropiadas de material aislante o, si son metálicas, protegidas contra la corrosión.

Sus dimensiones serán tales que permitan alojar holgadamente todos los conductores que deban contener, y su profundidad equivaldrá, cuanto menos, al diámetro del tubo mayor más un 50 % del mismo, con un mínimo de 40 mm para su profundidad y 80 mm para el diámetro o lado interior.

Cuando se quieran hacer estancas las entradas de los tubos en las cajas de conexión, deberán emplearse prensaestopas adecuados.

En ningún caso se permitirá la unión de conductores por simple retorcimiento o arrollamiento entre sí de los mismos, sino que deberá realizarse siempre utilizando bornes de conexión montados individualmente o constituyendo bloques o regletas de conexión. Puede permitirse, asimismo, la utilización de bridas de conexión. Las uniones deberán realizarse siempre en el interior de cajas de empalme o de derivación.

Si se trata de cables deberá cuidarse al hacer las conexiones que la corriente se reparta por todos los alambres componentes, y si el sistema adoptado es de tornillo de apriete entre una arandela metálica bajo su cabeza y una superficie metálica, los conductores de sección superior a 6 mm2 deberán conectarse por medio de terminales adecuados, comprobando siempre que las conexiones, de cualquier sistema que sean, no queden sometidas a esfuerzos mecánicos.

Para que no pueda ser destruido el aislamiento de los conductores por su roce con los bordes libres de los tubos, los extremos de éstos, cuando sean metálicos y penetren en una caja de conexión o aparato, estarán provistos de boquillas con bordes redondeados o dispositivos equivalentes, o bien convenientemente mecanizados, y si se trata de tubos metálicos con aislamiento interior, este último sobresaldrá unos milímetros de su cubierta metálica.

1.3.2.4 .- Aparatos de mando y maniobra

Los aparatos de mando y maniobra (interruptores y conmutadores) serán de tipo cerrado y material aislante, cortarán la corriente máxima del circuito en que están colocados sin dar lugar a la formación de arcos permanentes, y no podrán tomar una posición intermedia.

Las piezas de contacto tendrán unas dimensiones tales que la temperatura no pueda exceder de 65°C en ninguna de ellas.

Deben poder realizarse del orden de 10.000 maniobras de apertura y cierre a la intensidad y tensión nominales, que estarán marcadas en lugar visible.

1.3.2.5 .- Aparatos de protección

Protección contra sobreintensidades

Los conductores activos deben estar protegidos por uno o varios dispositivos de corte automático contra las sobrecargas y contra los cortocircuitos.

Aplicación

Excepto los conductores de protección, todos los conductores que forman parte de un circuito, incluido el conductor neutro, estarán protegidos contra las sobreintensidades (sobrecargas y cortocircuitos).

Protección contra sobrecargas

Los dispositivos de protección deben estar previstos para interrumpir toda corriente de sobrecarga en los conductores del circuito antes de que pueda provocar un calentamiento perjudicial al aislamiento, a las conexiones, a las extremidades o al medio ambiente en las canalizaciones.

El límite de intensidad de corriente admisible en un conductor ha de quedar en todo caso garantizado por el dispositivo de protección utilizado.

Como dispositivos de protección contra sobrecargas serán utilizados los fusibles calibrados de características de funcionamiento adecuadas o los interruptores automáticos con curva térmica de corte.

Protección contra cortocircuitos

Deben preverse dispositivos de protección para interrumpir toda corriente de cortocircuito antes de que esta pueda resultar peligrosa debido a los efectos térmicos y mecánicos producidos en los conductores y en las conexiones.

En el origen de todo circuito se establecerá un dispositivo de protección contra cortocircuitos cuya capacidad de corte estará de acuerdo con la intensidad de cortocircuito que pueda presentarse en el punto de su instalación.

Se admiten como dispositivos de protección contra cortocircuitos los fusibles de características de funcionamiento adecuadas y los interruptores automáticos con sistema de corte electromagnético.

Situación y composición

En general, los dispositivos destinados a la protección de los circuitos se instalarán en el origen de éstos, así como en los puntos en que la intensidad admisible disminuya por cambios debidos a sección, condiciones de instalación, sistema de ejecución, o tipo de conductores utilizados.

Normas aplicables

Pequeños interruptores automáticos (PIA)

Los interruptores automáticos para instalaciones domésticas y análogas para la protección contra sobreintensidades se ajustarán a la norma %s. Esta norma se aplica a los interruptores automáticos con corte al aire, de tensión asignada hasta 440 V (entre fases), intensidad asignada hasta 125 A y poder de corte nominal no superior a 25000 A.

Los valores normalizados de las tensiones asignadas son:

- 230 V Para los interruptores automáticos unipolares y bipolares.
- 230/400 V Para los interruptores automáticos unipolares.
- 400 V Para los interruptores automáticos bipolares, tripolares y tetrapolares.

Los valores 240 V, 240/415 V y 415 V respectivamente, son también valores normalizados.

Los valores preferenciales de las intensidades asignadas son: 6, 10, 13, 16, 20, 25, 32, 40, 50, 63, 80, 100 y 125 A.

El poder de corte asignado será: 1500, 3000, 4500, 6000, 10000 y por encima 15000, 20000 y 25000 A.

La característica de disparo instantáneo de los interruptores automáticos vendrá determinada por su curva: B, C o D.

Cada interruptor debe llevar visible, de forma indeleble, las siguientes indicaciones:

- La corriente asignada sin el símbolo A precedido del símbolo de la característica de disparo instantáneo (B,C o D) por ejemplo B16.
- Poder de corte asignado en amperios, dentro de un rectángulo, sin indicación del símbolo de las unidades.
- Clase de limitación de energía, si es aplicable.

Los bornes destinados exclusivamente al neutro deben estar marcados con la letra "N".

Interruptores automáticos de baja tensión

Los interruptores automáticos de baja tensión se ajustarán a la norma UNE-EN 60-947-2.

Esta norma se aplica a los interruptores automáticos cuyos contactos principales están destinados a ser conectados a circuitos cuya tensión asignada no sobrepasa 1000 V en corriente alterna o 1500 V en corriente continua. Se aplica cualesquiera que sean las intensidades asignadas, los métodos de fabricación y el empleo previsto de los interruptores automáticos.

Cada interruptor automático debe estar marcado de forma indeleble en lugar visible con las siguientes indicaciones:

- Intensidad asignada (In).
- Capacidad para el seccionamiento, si ha lugar.
- Indicaciones de las posiciones de apertura y de cierre respectivamente por O y | si se emplean símbolos.

También llevarán marcado aunque no sea visible en su posición de montaje, el símbolo de la naturaleza de corriente en que hayan de emplearse, y el símbolo que indique las características de desconexión, o en su defecto, irán acompañados de las curvas de desconexión.

Fusibles

Los fusibles de baja tensión se ajustarán a la norma UNE-EN 60-269-1

Esta norma se aplica a los fusibles con cartuchos fusibles limitadores de corriente, de fusión encerrada y que tengan un poder de corte igual o superior a 6 kA. Destinados a asegurar la protección de circuitos, de corriente alterna y frecuencia industrial, en los que la tensión asignada no sobrepase 1000 V, o los circuitos de corriente continua cuya tensión asignada no sobrepase los 1500 V.

Los valores de intensidad para los fusibles expresados en amperios deben ser: 2, 4, 6, 8, 10, 12, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1000, 1250.

Deberán llevar marcada la intensidad y tensión nominales de trabajo para las que han sido construidos.

Interruptores con protección incorporada por intensidad diferencial residual

Los interruptores automáticos de baja tensión con dispositivos reaccionantes bajo el efecto de intensidades residuales se ajustarán al anexo B de la norma UNE-EN 60-947-2.

Esta norma se aplica a los interruptores automáticos cuyos contactos principales están destinados a ser conectados a circuitos cuya tensión asignada no sobrepasa 1000 V en corriente alterna o 1500 V en corriente continua. Se aplica cualesquiera que sean las intensidades asignadas.

Los valores preferentes de intensidad diferencial residual de funcionamiento asignada son: 0.006A, 0.01A, 0.03A, 0.1A, 0.3A, 0.5A, 1A, 3A, 10A, 30A.

Características principales de los dispositivos de protección

Los dispositivos de protección cumplirán las condiciones generales siguientes:

- Deberán poder soportar la influencia de los agentes exteriores a que estén sometidos, presentando el grado de protección que les corresponda de acuerdo con sus condiciones de instalación.

- Los fusibles irán colocados sobre material aislante incombustible y estarán construidos de forma que no puedan proyectar metal al fundirse. Permitirán su recambio de la instalación bajo tensión sin peligro alguno.

- Los interruptores automáticos serán los apropiados a los circuitos a proteger, respondiendo en su funcionamiento a las curvas intensidad - tiempo adecuadas. Deberán cortar la corriente máxima del circuito en que estén colocadas, sin dar lugar a la formación de arco permanente, abriendo o cerrando los circuitos, sin posibilidad de tomar una posición intermedia entre las correspondientes a las de apertura y cierre. Cuando se utilicen para la protección contra cortocircuitos, su capacidad de corte estará de acuerdo con la intensidad de cortocircuito que pueda presentarse en el punto de su instalación, salvo que vayan asociados con fusibles adecuados que cumplan este requisito, y que sean de características coordinadas con las del interruptor automático.

- Los interruptores diferenciales deberán resistir las corrientes de cortocircuito que puedan presentarse en el punto de su instalación, y de lo contrario deberán estar protegidos por fusibles de características adecuadas.

Protección contra sobretensiones de origen atmosférico

Según lo indicado en la Instrucción ITC BT 23 en su apartado 3.2:

Cuando una instalación se alimenta por, o incluye, una línea aérea con conductores desnudos o aislados, se considera necesaria una protección contra sobretensiones de origen atmosférico en el origen de la instalación.

El nivel de sobretensiones puede controlarse mediante dispositivos de protección contra las sobretensiones colocados en las líneas aéreas (siempre que estén suficientemente próximos al origen de la instalación) o en la instalación eléctrica del edificio.

Los dispositivos de protección contra sobretensiones de origen atmosférico deben seleccionarse de forma que su nivel de protección sea inferior a la tensión soportada a impulso de la categoría de los equipos y materiales que se prevé que se vayan a instalar.

En redes TT, los descargadores se conectarán entre cada uno de los conductores, incluyendo el neutro o compensador y la tierra de la instalación.

Protección contra contactos directos e indirectos

Los medios de protección contra contactos directos e indirectos en instalación se ejecutarán siguiendo las indicaciones detalladas en la Instrucción ITC BT 24, y en la Norma UNE 20.460 -4-41.

La protección contra contactos directos consiste en tomar las medidas destinadas a proteger las personas contra los peligros que pueden derivarse de un contacto con las partes activas de los materiales eléctricos. Los medios a utilizar son los siguientes:

- Protección por aislamiento de las partes activas.
- Protección por medio de barreras o envolventes.
- Protección por medio de obstáculos.
- Protección por puesta fuera de alcance por alejamiento.
- Protección complementaria por dispositivos de corriente diferencial residual.

Se utilizará el método de protección contra contactos indirectos por corte de la alimentación en caso de fallo, mediante el uso de interruptores diferenciales.

La corriente a tierra producida por un solo defecto franco debe hacer actuar el dispositivo de corte en un tiempo no superior a 5 s.

Una masa cualquiera no puede permanecer en relación a una toma de tierra eléctricamente distinta, a un potencial superior, en valor eficaz, a:

- 24 V en los locales o emplazamientos húmedos o mojados.
- 50 V en los demás casos.

Todas las masas de una misma instalación deben estar unidas a la misma toma de tierra.

Como dispositivos de corte por intensidad de defecto se emplearán los interruptores diferenciales.

Debe cumplirse la siguiente condición:

$$R \leq \frac{V_c}{I_s}$$

Donde:

- R: Resistencia de puesta a tierra (Ohm).
- Vc: Tensión de contacto máxima (24 V en locales húmedos y 50 V en los demás casos).

- Is: Sensibilidad del interruptor diferencial (valor mínimo de la corriente de defecto, en A, a partir del cual el interruptor diferencial debe abrir automáticamente, en un tiempo conveniente, la instalación a proteger).

1.3.2.6 .- Instalaciones en cuartos de baño o aseo

La instalación se ejecutará según lo especificado en la Instrucción ITC BT 27.

Para las instalaciones en cuartos de baño o aseo se tendrán en cuenta los siguientes volúmenes y prescripciones:

- VOLUMEN 0: Comprende el interior de la bañera o ducha. En un lugar que contenga una ducha sin plato, el volumen 0 está delimitado por el suelo y por un plano horizontal a 0.05 m por encima el suelo.

- VOLUMEN 1: Está limitado por el plano horizontal superior al volumen 0, es decir, por encima de la bañera, y el plano horizontal situado a 2,25 metros por encima del suelo. El plano vertical que limita al volumen 1 es el plano vertical alrededor de la bañera o ducha.

- VOLUMEN 2: Está limitado por el plano vertical tangente a los bordes exteriores de la bañera y el plano vertical paralelo situado a una distancia de 0,6 m; y entre el suelo y plano horizontal situado a 2,25 m por encima del suelo.

- VOLUMEN 3: Esta limitado por el plano vertical límite exterior del volumen 2 y el plano vertical paralelo situado a una distancia de éste de 2,4 metros. El volumen 3 está comprendido entre el suelo y una altura de 2,25 m.

Para el volumen 0 el grado de protección necesario será el IPX7, y no está permitida la instalación de mecanismos.

En el volumen 1, el grado de protección habitual será IPX4, se utilizará el grado IPX2 por encima del nivel más alto de un difusor fijo, y el IPX5 en los equipos de bañeras de hidromasaje y en baños comunes en los que se puedan producir chorros de agua durante su limpieza. Podrán ser instalados aparatos fijos como calentadores de agua, bombas de ducha y equipo eléctrico para bañeras de hidromasaje que cumplan con su norma aplicable, si su alimentación está protegida adicionalmente con un dispositivo de corriente diferencial de valor no superior a 30 mA.

En el volumen 2, el grado de protección habitual será IPX4, se utilizará el grado IPX2 por encima del nivel más alto de un difusor fijo, y el IPX5 en los baños comunes en los que se puedan producir chorros durante su limpieza. Se permite la instalación de bloques de alimentación de afeitadoras que cumplan con la UNE EN 60.742 o UNE EN 61558-2-5. Se podrán instalar también todos los aparatos permitidos en el volumen 1, luminarias, ventiladores, calefactores, y unidades móviles de hidromasaje que cumplan con su normativa aplicable, y que además estén protegidos con un diferencial de valor no superior a 30 mA.

En el volumen 3 el grado de protección necesario será el IPX5, en los baños comunes cuando se puedan producir chorros de agua durante su limpieza. Se podrán instalar bases y aparatos protegidos por dispositivo de corriente diferencial de valor no superior a 30 mA.

1.3.2.7 .- Red equipotencial

Se realizará una conexión equipotencial entre las canalizaciones metálicas existentes (agua fría, caliente, desagüe, calefacción, gas, etc.) y las masas de los aparatos sanitarios metálicos y todos los demás elementos conductores accesibles, tales como marcos metálicos de puertas, radiadores, etc. El conductor que asegure esta protección deberá estar preferentemente soldado a las canalizaciones o a los otros elementos conductores, o si no, fijado solidariamente a los mismos por collares u otro tipo de sujeción apropiado a base de metales no férreos, estableciendo los contactos sobre partes metálicas sin pintura. Los conductores de protección de puesta a tierra, cuando existan, y de conexión equipotencial deben estar conectados entre sí. La sección mínima de este último estará de acuerdo con lo dispuesto en la Instrucción MI-BT 017 para los conductores de protección.

1.3.2.8 .- Instalación de puesta a tierra

Estará compuesta de toma de tierra, conductores de tierra, borne principal de tierra y conductores de protección. Se llevarán a cabo según lo especificado en la Instrucción ITC-BT-18.

Naturaleza y secciones mínimas

Los materiales que aseguren la puesta a tierra serán tales que:

El valor de la resistencia de puesta a tierra esté conforme con las normas de protección y de funcionamiento de la instalación, teniendo en cuenta los requisitos generales indicados en la ITC-BT-24 y los requisitos particulares de las Instrucciones Técnicas aplicables a cada instalación.

Las corrientes de defecto a tierra y las corrientes de fuga puedan circular sin peligro, particularmente desde el punto de vista de solicitaciones térmicas, mecánicas y eléctricas.

En todos los casos los conductores de protección que no formen parte de la canalización de alimentación serán de cobre con una sección al menos de: 2,5 mm² si disponen de protección mecánica y de 4 mm² si no disponen de ella.

Las secciones de los conductores de protección, y de los conductores de tierra están definidas en la Instrucción ITC-BT-18.

Tendido de los conductores

Los conductores de tierra enterrados tendidos en el suelo se considera que forman parte del electrodo.

El recorrido de los conductores de la línea principal de tierra, sus derivaciones y los conductores de protección, será lo más corto posible y sin cambios bruscos de dirección. No estarán sometidos a esfuerzos mecánicos y estarán protegidos contra la corrosión y el desgaste mecánico.

Conexiones de los conductores de los circuitos de tierra con las partes metálicas y masas y con los electrodos

Los conductores de los circuitos de tierra tendrán un buen contacto eléctrico tanto con las partes metálicas y masas que se desea poner a tierra como con el electrodo. A estos efectos, las conexiones deberán efectuarse por medio de piezas de empalme adecuadas, asegurando las superficies de contacto de forma que la conexión sea efectiva por medio de tornillos, elementos de compresión, remaches o soldadura de alto punto de fusión. Se prohibe el empleo de soldaduras de bajo punto de fusión tales como estaño, plata, etc.

Los circuitos de puesta a tierra formarán una línea eléctricamente continua en la que no podrán incluirse en serie ni masas ni elementos metálicos cualquiera que sean éstos. La conexión de las masas y los elementos metálicos al circuito de puesta a tierra se efectuará siempre por derivaciones desde éste. Los contactos deben disponerse limpios, sin humedad y en forma tal que no sea fácil que la acción del tiempo destruya por efectos electroquímicos las conexiones efectuadas.

Deberá preverse la instalación de un borne principal de tierra, al que irán unidos los conductores de tierra, de protección, de unión equipotencial principal y en caso de que fuesen necesarios, también los de puesta a tierra funcional.

Prohibición de interrumpir los circuitos de tierra

Se prohibe intercalar en circuitos de tierra seccionadores, fusibles o interruptores. Sólo se permite disponer un dispositivo de corte en los puntos de puesta a tierra, de forma que permita medir la resistencia de la toma de tierra.

1.3.2.9 .- Alumbrado

Alumbrados especiales

Los puntos de luz del alumbrado especial deberán repartirse entre, al menos, dos líneas diferentes, con un número máximo de 12 puntos de luz por línea, estando protegidos dichos circuitos por interruptores automáticos de 10 A de intensidad nominal como máximo.

Las canalizaciones que alimenten los alumbrados especiales se dispondrán a 5 cm como mínimo de otras canalizaciones eléctricas cuando se instalen sobre paredes o empotradas en ellas, y cuando se instalen en huecos de la construcción estarán separadas de ésta por tabiques incombustibles no metálicos.

Deberán ser provistos de alumbrados especiales los siguientes locales:

- Con alumbrado de emergencia: Los locales de reunión que puedan albergar a 100 personas o más, los locales de espectáculos y los establecimientos sanitarios, los establecimientos cerrados y cubiertos para más de 5 vehículos, incluidos los pasillos y escaleras que conduzcan al exterior o hasta las zonas generales del edificio.

- Con alumbrado de señalización: Los estacionamientos subterráneos de vehículos, teatros y cines en sala oscura, grandes establecimientos comerciales, casinos, hoteles, establecimientos sanitarios y cualquier otro local donde puedan producirse aglomeraciones de público en horas o lugares en que la iluminación natural de luz solar no sea suficiente para proporcionar en el eje de los pasos principales una iluminación mínima de 1 lux.

- Con alumbrado de reemplazamiento: En quirófanos, salas de cura y unidades de vigilancia intensiva de establecimientos sanitarios.

Alumbrado general

Las redes de alimentación para puntos de luz con lámparas o tubos de descarga deberán estar previstas para transportar una carga en voltamperios al menos igual a 1.8 veces la potencia en vatios de las lámparas o tubos de descarga que alimenta. El conductor neutro tendrá la misma sección que los de fase.

Si se alimentan con una misma instalación lámparas de descarga y de incandescencia, la potencia a considerar en voltamperios será la de las lámparas de incandescencia más 1.8 veces la de las lámparas de descarga.

Deberá corregirse el factor de potencia de cada punto de luz hasta un valor mayor o igual a 0.90, y la caída máxima de tensión entre el origen de la instalación y cualquier otro punto de la instalación de alumbrado, será menor o igual que 3%.

Los receptores consistentes en lámparas de descarga serán accionados por interruptores previstos para cargas inductivas, o en su defecto, tendrán una capacidad de corte no inferior al doble de la intensidad del receptor. Si el interruptor acciona a la vez lámparas de incandescencia, su capacidad de corte será, como mínimo, la correspondiente a la intensidad de éstas más el doble de la intensidad de las lámparas de descarga.

En instalaciones para alumbrado de locales donde se reuna público, el número de líneas deberá ser tal que el corte de corriente en una cualquiera de ellas no afecte a más de la tercera parte del total de lámparas instaladas en dicho local.

1.3.3 PRUEBAS REGLAMENTARIAS

1.3.3.1 - Comprobación de la puesta a tierra

La instalación de toma de tierra será comprobada por los servicios oficiales en el momento de dar de alta la instalación. Se dispondrá de al menos un punto de puesta a tierra accesible para poder realizar la medición de la puesta a tierra.

1.3.3.2 .- Resistencia de aislamiento

Las instalaciones eléctricas deberán presentar una resistencia de aislamiento, expresada en ohmios, por lo menos igual a 1000xU, siendo U la tensión máxima de servicio expresada en voltios, con un mínimo de 250.000 ohmios.

El aislamiento de la instalación eléctrica se medirá con relación a tierra y entre conductores, mediante la aplicación de una tensión continua suministrada por un generador que proporcione en vacío una tensión comprendida entre 500 y 1000 V y, como mínimo, 250 V con una carga externa de 100.000 ohmios.

1.3.4 CONDICIONES DE USO, MANTENIMIENTO Y SEGURIDAD

La propiedad recibirá a la entrega de la instalación, planos definitivos del montaje de la instalación, valores de la resistencia a tierra obtenidos en las mediciones, y referencia del domicilio social de la empresa instaladora.

No se podrá modificar la instalación sin la intervención de un Instalador Autorizado o Técnico Competente, según corresponda.

Cada cinco años se comprobarán los dispositivos de protección contra cortocircuitos, contactos directos e indirectos, así como sus intensidades nominales en relación con la sección de los conductores que protegen.

Las instalaciones del garaje serán revisadas anualmente por instaladores autorizados libremente elegidos por los propietarios o usuarios de la instalación. El instalador extenderá un boletín de reconocimiento de la indicada revisión, que será entregado al propietario de la instalación, así como a la delegación correspondiente del Ministerio de Industria y Energía.

Personal técnicamente competente comprobará la instalación de toma de tierra en la época en que el terreno esté más seco, reparando inmediatamente los defectos que pudieran encontrarse.

1.3.5 CERTIFICADOS Y DOCUMENTACIÓN

Al finalizar la ejecución, se entregará en la Delegación del Ministerio de Industria correspondiente el Certificado de Fin de Obra firmado por un técnico competente y visado por el Colegio profesional correspondiente, acompañado del boletín o boletines de instalación firmados por un Instalador Autorizado.

1.3.6 LIBRO DE ÓRDENES

La dirección de la ejecución de los trabajos de instalación será llevada a cabo por un técnico competente, que deberá cumplimentar el Libro de Órdenes y Asistencia, en el que reseñará las incidencias, órdenes y asistencias que se produzcan en el desarrollo de la obra.

1.4 CUADRO RESUMEN DE RESULTADOS

1.4.1 CUADRO BOMBEO DE RECIRCULACIÓN

Descripción	Simult.	Pot.Calc. (W)	Pot.Inst. (W)	Pot.Dem. (W)	Long. (m)	Sección (mm)	I_B (A)	I_Z (A)	ΔU (%)	$ΔU_{ac}$ (%)	Canaliz. (mm)
Instalación interior	-	76287.96	96360.33	70846.79	90.00	RV-K Eca 5G50	111.22	146.27	1.84	-	Tubo 110 mm
Cámara de vávulas	1.00	9078.10	15130.17	9078.10	80.00	RV-K Eca 5G6	13.10	45.61	1.45	3.28	Tubo 63 mm
Alumbrado Exterior	1.00	300.00	300.00	300.00	280.00	RV-K Eca 4x6 + TTx16	0.43	45.61	0.16	2.00	Tubo 63 mm
Alumbrado	1.00	350.00	350.00	350.00	8.00	RV-K Eca 3G2.5	1.52	28.21	0.08	1.92	Tubo 16 mm
Toma monofásica	1.00	3695.04	3695.04	3695.04	4.00	RV-K Eca 3G2.5	16.00	28.21	0.46	2.30	Tubo 16 mm
Toma trifásica	1.00	11085.13	11085.13	11085.13	4.00	RV-K Eca 5G2.5	16.00	20.38	0.24	2.08	Tubo 20 mm
Bomba-A	1.00	27205.88	18500.00	21764.71	6.00	RV-K Eca 5G16	51.00	80.08	0.14	1.97	Tubo 32 mm
Bomba-B	1.00	27205.88	18500.00	21764.71	6.00	RV-K Eca 5G16	51.00	80.08	0.14	1.97	Tubo 32 mm
Bomba-C	-	27205.88	18500.00	21764.71	6.00	RV-K Eca 5G16	51.00	80.08	0.14	1.97	Tubo 32 mm
Maniobra	1.00	200.00	200.00	200.00	3.00	H07V-K Eca 3(1x1.5)	0.87	15.23	0.03	1.87	Tubo 16 mm
Fuente 24VDC	1.00	600.00	600.00	600.00	3.00	H07V-K Eca 3(1x1.5)	2.60	15.23	0.09	1.93	Tubo 16 mm
Cuadro	1.00	600.00	600.00	600.00	10.00	H07V-K Eca 3(1x1.5)	2.60	15.23	0.30	2.14	Tubo 16 mm
Cloración	1.00	1000.00	1000.00	1000.00	6.00	RV-K Eca 3G2.5	4.33	27.30	0.18	2.02	Tubo 16 mm
Achique	0.80	1470.59	1000.00	1176.47	6.00	RV-K Eca 3G2.5	6.37	28.21	0.26	2.10	Tubo 20 mm
Reserva	0.80	6900.00	6900.00	6900.00	6.00	RV-K Eca 5G2.5	9.96	25.48	0.21	2.05	Tubo 20 mm
Compensación reactiva	-	-	-	-	5.00	RV-K Eca 5G10	37.49	60.06	0.17	2.01	Tubo 32 mm

Descripción	I_B (A)	I_n (A)	I_Z (A)
Instalación interior	111.22	112.50	146.27
Cámara de vávulas	13.10	25.00	45.61
Alumbrado Exterior	0.43	10.00	45.61
Alumbrado	1.52	10.00	28.21

Descripción	I_B (A)	I_n (A)	I_Z (A)
Toma monofásica	16.00	16.00	28.21
Toma trifásica	16.00	16.00	20.38
Bomba-A	51.00	63.00	80.08
Bomba-B	51.00	63.00	80.08
Bomba-C	51.00	63.00	80.08
Maniobra	0.87	10.00	15.23
Fuente 24VDC	2.60	6.00	15.23
Cuadro	2.60	6.00	15.23
Cloración	4.33	16.00	27.30
Achique	6.37	16.00	28.21
Reserva	9.96	16.00	25.48
Compensación reactiva	37.49	50.00	60.06

Descripción	Simult.	Pot.Calc. (W)	Pot.Inst. (W)	Pot.Dem. (W)	Long. (m)	Sección (mm)	I_B (A)	I_Z (A)	ΔU (%)	ΔU_{ac} (%)	Canaliz. (mm)
Alumbrado	1.00	350.00	350.00	350.00	8.00	RV-K Eca 3G2.5	1.52	28.21	0.08	3.37	Tubo 16 mm
Toma monofásica	1.00	3695.04	3695.04	3695.04	4.00	RV-K Eca 3G2.5	16.00	28.21	0.46	3.75	Tubo 16 mm
Toma trifásica	1.00	11085.13	11085.13	11085.13	4.00	RV-K Eca 5G2.5	16.00	20.38	0.24	3.53	Tubo 20 mm

Descripción	I_B (A)	I_n (A)	I_Z (A)
Alumbrado	1.52	10.00	28.21
Toma monofásica	16.00	16.00	28.21
Toma trifásica	16.00	16.00	20.38

1.5 FICHAS COMPROBACIONES DE RESULTADOS

FICHA DE COMPROBACIONES	Aguas arriba	Instalación	Consumo	111.22 A	Aguas arriba	Instalación	Consumo	13.10 A	Aguas arriba	Instalación	Consumo	0.43 A
	Referencia	Instalación	Longitud	90.00 m	Referencia	Cámara de	Longitud	80.00 m	Referencia	Alumbrado	Longitud	280.00 m
CONDICIONES	NC*	Resultados			NC*	Resultados			NC*	Resultados		
SOBRECARGAS												
$I_Z >= I_n$	Sí	146.27 >= 112.50 A			Sí	45.61 >= 25.00 A			Sí	45.61 >= 10.00 A		
$1.45 I_Z >= I_2$	Sí	212.09 >= 163.13 A			Sí	66.13 >= 36.25 A			Sí	66.13 >= 14.50 A		
$I_n >= I_B$	Sí	112.50 >= 111.22 A			Sí	25.00 >= 13.10 A			Sí	10.00 >= 0.43 A		
CAÍDA DE TENSIÓN												
dU admis >= dU acum	Sí	5.00 >= 0.00 % *			Sí	5.00 >= 3.28 % *			Sí	3.00 >= 2.00 % *		
CONTACTOS INDIRECTOS												
I_n(DDR) >= I_n (DPCS)	Sí	160.00 >= 112.50 A							Sí	25.00 >= 10.00 A		
$I_f < I\Delta n/2$									Sí	0.0067 < 0.1500 A		
tcable >= tcc	Sí	0.04 >= 0.01 s			No	0.02 >= 0.10 s			No	0.02 >= 0.10 s		
RA. $I\Delta n > UL$									No	0.30 >= 24.00 A		
DISPOSITIVOS DE PROTECCIÓN												
$I_{cu} >= I_{cc}$ máx	Sí	36.00 >= 35.90 kA			Sí	10.00 >= 6.61 kA			Sí	10.00 >= 6.61 kA		
I_{cu} con filiación >= I_{cc} máx												
Sel. mag. cabeza (IGA)	Sel. term. cabeza (IGA)											
Sel. mag. cabeza (Arriba)	Sel. term. cabeza (Arriba)											
Sel. mag. pie (IGA)	Sel. term. pie (IGA)											
Sel. mag. pie (Arriba)	Sel. term. pie (Arriba)											
Sel. diferencial	Sel. cronométrico	Sí	500 > 300 mA	Sí								
Ik CORTOCIRCUITO CONDUCTOR FASE												
Iccmin >= In	Sí	1.65 >= 1.25 kA			Sí	0.37 >= 0.25 kA			Sí	0.11 >= 0.10 kA		
$K^2S^2 >= I^2t$ límite	Sí	51122500.00 >= 18792.71 A²s			Sí	736164.00 >= 2277.69 A²s			Sí	736164.00 >= 1318.51 A²s		
Ik CORTOCIRCUITO CONDUCTOR NEUTRO												
Iccmin >= In	Sí	1.65 >= 1.25 kA			Sí	0.37 >= 0.25 kA			Sí	0.11 >= 0.10 kA		
$K^2S^2 >= I^2t$ límite	Sí	51122500.00 >= 18792.71 A²s			Sí	736164.00 >= 2277.69 A²s			Sí	736164.00 >= 1318.51 A²s		
Ik CORTOCIRCUITO CONDUCTOR PROTECCIÓN												
Iccmin >= In	Sí	1.65 >= 1.25 kA			Sí	0.37 >= 0.25 kA			Sí	0.11 >= 0.10 kA		
$K^2S^2 >= I^2t$ límite	Sí	51122500.00 >= 18792.71 A²s			Sí	736164.00 >= 2277.69 A²s			Sí	5234944.00 >= 1318.51 A²s		
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FICHA DE COMPROBACIONES	Aguas arriba	Instalación	Consumo	1.52 A	Aguas arriba	Instalación	Consumo	16.00 A	Aguas arriba	Instalación	Consumo	16.00 A
	Referencia	Alumbrado	Longitud	8.00 m	Referencia	Toma	Longitud	4.00 m	Referencia	Toma trifásica	Longitud	4.00 m
CONDICIONES	NC*	Resultados			NC*	Resultados			NC*	Resultados		
SOBRECARGAS												
$I_Z >= I_n$	Sí	28.21 >= 10.00 A			Sí	28.21 >= 16.00 A			Sí	20.38 >= 16.00 A		
$1.45 I_Z >= I_2$	Sí	40.90 >= 14.50 A			Sí	40.90 >= 23.20 A			Sí	29.56 >= 23.20 A		
$I_n >= I_B$	Sí	10.00 >= 1.52 A			Sí	16.00 >= 16.00 A			Sí	16.00 >= 16.00 A		
CAÍDA DE TENSIÓN												
dU admis >= dU acum	Sí	3.00 >= 1.92 % *			Sí	5.00 >= 2.30 % *			Sí	5.00 >= 2.08 % *		
CONTACTOS INDIRECTOS												
I_n(DDR) >= I_n (DPCS)												
$I_f < I\Delta n/2$												
tcable >= tcc	No	0.01 >= 0.10 s			No	0.01 >= 0.10 s			No	0.00 >= 0.10 s		
RA. $I\Delta n$ > UL	No	0.03 >= 24.00 A			No	0.03 >= 24.00 A			No	0.03 >= 24.00 A		
DISPOSITIVOS DE PROTECCIÓN												
Icu >= Icc máx	Sí	10.00 >= 3.82 kA			Sí	10.00 >= 3.82 kA			Sí	10.00 >= 6.61 kA		
Icu con filiación >= Icc máx												
Sel. mag. cabeza (IGA)	Sel. term. cabeza (IGA)											
Sel. mag. cabeza (Arriba)	Sel. term. cabeza (Arriba)											
Sel. mag. pie (IGA)	Sel. term. pie (IGA)											
Sel. mag. pie (Arriba)	Sel. term. pie (Arriba)											
Sel. diferencial	Sel. cronométrico											
Ik CORTOCIRCUITO CONDUCTOR FASE												
Iccmin >= Im	Sí	1.09 >= 0.10 kA			Sí	1.48 >= 0.16 kA			Sí	1.21 >= 0.16 kA		
$K^2S^2 >= I^2t$ límite	Sí	127806.25 >= 4966.74 A^2s			Sí	127806.25 >= 6367.54 A^2s			Sí	127806.25 >= 5385.60 A^2s		
Ik CORTOCIRCUITO CONDUCTOR NEUTRO												
Iccmin >= Im	Sí	1.09 >= 0.10 kA			Sí	1.48 >= 0.16 kA			Sí	1.21 >= 0.16 kA		
$K^2S^2 >= I^2t$ límite	Sí	127806.25 >= 4966.74 A^2s			Sí	127806.25 >= 6367.54 A^2s			Sí	127806.25 >= 5385.60 A^2s		
Ik CORTOCIRCUITO CONDUCTOR PROTECCIÓN												
Iccmin >= Im	Sí	1.09 >= 0.10 kA			Sí	1.48 >= 0.16 kA			Sí	1.21 >= 0.16 kA		
$K^2S^2 >= I^2t$ límite	Sí	127806.25 >= 4966.74 A^2s			Sí	127806.25 >= 6367.54 A^2s			Sí	127806.25 >= 5385.60 A^2s		

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FICHA DE COMPROBACIONES	Aguas arriba	Instalación	Consumo	51.00 A	Aguas arriba	Instalación	Consumo	51.00 A	Aguas arriba	Instalación	Consumo	51.00 A
	Referencia	Bomba-A	Longitud	6.00 m	Referencia	Bomba-B	Longitud	6.00 m	Referencia	Bomba-C	Longitud	6.00 m
CONDICIONES	NC*	Resultados			NC*	Resultados			NC*	Resultados		
SOBRECARGAS												
$I_Z >= I_n$	Sí	80.08 >= 63.00 A			Sí	80.08 >= 63.00 A			Sí	80.08 >= 63.00 A		
$1.45\ I_Z >= I_2$	Sí	116.12 >= 91.35 A			Sí	116.12 >= 91.35 A			Sí	116.12 >= 91.35 A		
$I_n >= I_B$	Sí	63.00 >= 51.00 A			Sí	63.00 >= 51.00 A			Sí	63.00 >= 51.00 A		
CAÍDA DE TENSIÓN												
dU admis >= dU acum	Sí	5.00 >= 1.97 % *			Sí	5.00 >= 1.97 % *			Sí	5.00 >= 1.97 % *		
CONTACTOS INDIRECTOS												
I_n(DDR) >= I_n (DPCS)												
$I_f < I\Delta n/2$	Sí	0.0001 < 0.0150 A			Sí	0.0001 < 0.0150 A			Sí	0.0001 < 0.0150 A		
tcable >= tcc	Sí	0.12 >= 0.10 s			Sí	0.12 >= 0.10 s			Sí	0.12 >= 0.10 s		
RA. $I\Delta n > UL$	No	0.03 >= 24.00 A			No	0.03 >= 24.00 A			No	0.03 >= 24.00 A		
DISPOSITIVOS DE PROTECCIÓN												
$I_{cu} >= I_{cc}$ máx	Sí	10.00 >= 6.61 kA			Sí	10.00 >= 6.61 kA			Sí	10.00 >= 6.61 kA		
I_{cu} con filiación >= I_{cc} máx												
Sel. mag. cabeza (IGA)	Sel. term. cabeza (IGA)											
Sel. mag. cabeza (Arriba)	Sel. term. cabeza (Arriba)											
Sel. mag. pie (IGA)	Sel. term. pie (IGA)											
Sel. mag. pie (Arriba)	Sel. term. pie (Arriba)											
Sel. diferencial	Sel. cronométrico											
Ik CORTOCIRCUITO CONDUCTOR FASE												
Iccmin >= Im	Sí	1.49 >= 0.63 kA			Sí	1.49 >= 0.63 kA			Sí	1.49 >= 0.63 kA		
$K^2S^2 >= I^2t$ límite	Sí	5234944.00 >= 13373.34 A^2s			Sí	5234944.00 >= 13373.34 A^2s			Sí	5234944.00 >= 13373.34 A^2s		
Ik CORTOCIRCUITO CONDUCTOR NEUTRO												
Iccmin >= Im	Sí	1.49 >= 0.63 kA			Sí	1.49 >= 0.63 kA			Sí	1.49 >= 0.63 kA		
$K^2S^2 >= I^2t$ límite	Sí	5234944.00 >= 13373.34 A^2s			Sí	5234944.00 >= 13373.34 A^2s			Sí	5234944.00 >= 13373.34 A^2s		
Ik CORTOCIRCUITO CONDUCTOR PROTECCIÓN												
Iccmin >= Im	Sí	1.49 >= 0.63 kA			Sí	1.49 >= 0.63 kA			Sí	1.49 >= 0.63 kA		
$K^2S^2 >= I^2t$ límite	Sí	5234944.00 >= 13373.34 A^2s			Sí	5234944.00 >= 13373.34 A^2s			Sí	5234944.00 >= 13373.34 A^2s		

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FICHA DE COMPROBACIONES	Aguas arriba	Instalación	Consumo	0.87 A	Aguas arriba	Instalación	Consumo	2.60 A	Aguas arriba	Instalación	Consumo	2.60 A
	Referencia	Maniobra	Longitud	3.00 m	Referencia	Fuente	Longitud	3.00 m	Referencia	Cuadro	Longitud	10.00 m
CONDICIONES	NC*	Resultados			NC*	Resultados			NC*	Resultados		
SOBRECARGAS												
$I_Z >= I_n$	Sí	15.23 >= 10.00 A			Sí	15.23 >= 6.00 A			Sí	15.23 >= 6.00 A		
$1.45\ I_Z >= I_2$	Sí	22.08 >= 14.50 A			Sí	22.08 >= 8.70 A			Sí	22.08 >= 8.70 A		
$I_n >= I_B$	Sí	10.00 >= 0.87 A			Sí	6.00 >= 2.60 A			Sí	6.00 >= 2.60 A		
CAÍDA DE TENSIÓN												
dU admis >= dU acum	Sí	5.00 >= 1.87 % *			Sí	5.00 >= 1.93 % *			Sí	5.00 >= 2.14 % *		
CONTACTOS INDIRECTOS												
I_n(DDR) >= I_n (DPCS)									Sí	25.00 >= 6.00 A		
$I_f < I\Delta n/2$									Sí	0.0005 < 0.0150 A		
tcable >= tcc	No	0.00 >= 0.10 s			No	0.00 >= 0.10 s			No	0.00 >= 0.10 s		
RA. $I\Delta n > UL$	No	0.03 >= 24.00 A			No	0.03 >= 24.00 A			No	0.03 >= 24.00 A		
DISPOSITIVOS DE PROTECCIÓN												
$I_{cu} >= I_{cc}$ máx	Sí	10.00 >= 3.82 kA			Sí	10.00 >= 3.82 kA			Sí	10.00 >= 3.82 kA		
I_{cu} con filiación >= I_{cc} máx												
Sel. mag. cabeza (IGA)	Sel. term. cabeza (IGA)											
Sel. mag. cabeza (Arriba)	Sel. term. cabeza (Arriba)											
Sel. mag. pie (IGA)	Sel. term. pie (IGA)											
Sel. mag. pie (Arriba)	Sel. term. pie (Arriba)											
Sel. diferencial	Sel. cronométrico											
Ik CORTOCIRCUITO CONDUCTOR FASE												
Iccmin >= Im	Sí	1.48 >= 0.10 kA			Sí	1.48 >= 0.06 kA			Sí	0.80 >= 0.06 kA		
$K^2S^2 >= I^2t$ límite	Sí	29756.25 >= 6341.53 A²s			Sí	29756.25 >= 6341.53 A²s			Sí	29756.25 >= 3886.53 A²s		
Ik CORTOCIRCUITO CONDUCTOR NEUTRO												
Iccmin >= Im	Sí	1.48 >= 0.10 kA			Sí	1.48 >= 0.06 kA			Sí	0.80 >= 0.06 kA		
$K^2S^2 >= I^2t$ límite	Sí	29756.25 >= 6341.53 A²s			Sí	29756.25 >= 6341.53 A²s			Sí	29756.25 >= 3886.53 A²s		
Ik CORTOCIRCUITO CONDUCTOR PROTECCIÓN												
Iccmin >= Im	Sí	1.48 >= 0.10 kA			Sí	1.48 >= 0.06 kA			Sí	0.80 >= 0.06 kA		
$K^2S^2 >= I^2t$ límite	Sí	29756.25 >= 6341.53 A²s			Sí	29756.25 >= 6341.53 A²s			Sí	29756.25 >= 3886.53 A²s		

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FICHA DE COMPROBACIONES	Aguas arriba	Instalación	Consumo	4.33 A	Aguas arriba	Instalación	Consumo	6.37 A	Aguas arriba	Instalación	Consumo	9.96 A
	Referencia	Cloración	Longitud	6.00 m	Referencia	Achique	Longitud	6.00 m	Referencia	Reserva	Longitud	6.00 m
CONDICIONES	NC*	Resultados			NC*	Resultados			NC*	Resultados		
SOBRECARGAS												
$I_Z >= I_n$	Sí	27.30 >= 16.00 A			Sí	28.21 >= 16.00 A			Sí	25.48 >= 16.00 A		
$1.45 I_Z >= I_2$	Sí	39.59 >= 23.20 A			Sí	40.90 >= 23.20 A			Sí	36.95 >= 23.20 A		
$I_n >= I_B$	Sí	16.00 >= 4.33 A			Sí	16.00 >= 6.37 A			Sí	16.00 >= 9.96 A		
CAÍDA DE TENSIÓN												
dU admis >= dU acum	Sí	5.00 >= 2.02 % *			Sí	5.00 >= 2.10 % *			Sí	5.00 >= 2.05 % *		
CONTACTOS INDIRECTOS												
I_n(DDR) >= I_n (DPCS)	Sí	25.00 >= 16.00 A			Sí	25.00 >= 16.00 A			Sí	25.00 >= 16.00 A		
$I_f < I\Delta n/2$	Sí	0.0001 < 0.0150 A			Sí	0.0001 < 0.0150 A			Sí	0.0001 < 0.0150 A		
tcable >= tcc	No	0.01 >= 0.10 s			No	0.01 >= 0.10 s			No	0.00 >= 0.10 s		
RA. $I\Delta n$ > UL	No	0.03 >= 24.00 A			No	0.03 >= 24.00 A			No	0.03 >= 24.00 A		
DISPOSITIVOS DE PROTECCIÓN												
I_{cu} >= Icc máx	Sí	10.00 >= 3.82 kA			Sí	10.00 >= 3.82 kA			Sí	10.00 >= 6.61 kA		
I_{cu} con filiación >= Icc máx												
Sel. mag. cabeza (IGA)	Sel. term. cabeza (IGA)											
Sel. mag. cabeza (Arriba)	Sel. term. cabeza (Arriba)											
Sel. mag. pie (IGA)	Sel. term. pie (IGA)											
Sel. mag. pie (Arriba)	Sel. term. pie (Arriba)											
Sel. diferencial	Sel. cronométrico											
Ik CORTOCIRCUITO CONDUCTOR FASE												
Iccmin >= Im	Sí	1.26 >= 0.16 kA			Sí	1.26 >= 0.16 kA			Sí	1.06 >= 0.16 kA		
$K^2S^2 >= I^2t$ límite	Sí	127806.25 >= 5568.53 A^2s			Sí	127806.25 >= 5568.53 A^2s			Sí	127806.25 >= 4847.53 A^2s		
Ik CORTOCIRCUITO CONDUCTOR NEUTRO												
Iccmin >= Im	Sí	1.26 >= 0.16 kA			Sí	1.26 >= 0.16 kA			Sí	1.06 >= 0.16 kA		
$K^2S^2 >= I^2t$ límite	Sí	127806.25 >= 5568.53 A^2s			Sí	127806.25 >= 5568.53 A^2s			Sí	127806.25 >= 4847.53 A^2s		
Ik CORTOCIRCUITO CONDUCTOR PROTECCIÓN												
Iccmin >= Im	Sí	1.26 >= 0.16 kA			Sí	1.26 >= 0.16 kA			Sí	1.06 >= 0.16 kA		
$K^2S^2 >= I^2t$ límite	Sí	127806.25 >= 5568.53 A^2s			Sí	127806.25 >= 5568.53 A^2s			Sí	127806.25 >= 4847.53 A^2s		

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FICHA DE COMPROBACIONES	Aguas arriba	Instalación	Consumo	37.49 A	Aguas arriba	Cámara de	Consumo	1.52 A	Aguas arriba	Cámara de	Consumo	16.00 A
	Referencia	Compensació	Longitud	5.00 m	Referencia	Alumbrado	Longitud	8.00 m	Referencia	Tomas	Longitud	4.00 m
CONDICIONES	NC*	Resultados			NC*	Resultados			NC*	Resultados		
SOBRECARGAS												
$I_Z >= I_n$	Sí	60.06 >= 50.00 A			Sí	28.21 >= 10.00 A			Sí	28.21 >= 16.00 A		
$1.45 I_Z >= I_2$	Sí	87.09 >= 72.50 A			Sí	40.90 >= 14.50 A			Sí	40.90 >= 23.20 A		
$I_n >= I_B$	Sí	50.00 >= 37.49 A			Sí	10.00 >= 1.52 A			Sí	16.00 >= 16.00 A		
CAÍDA DE TENSIÓN												
dU admis >= dU acum	Sí	5.00 >= 2.01 % *			No	3.00 >= 3.37 % *			Sí	5.00 >= 3.75 % *		
CONTACTOS INDIRECTOS												
I_n(DDR) >= I_n (DPCS)	Sí	80.00 >= 50.00 A										
$I_f < I\Delta n/2$	Sí	0.0001 < 0.0150 A										
tcable >= tcc	No	0.05 >= 0.10 s			Sí	0.21 >= 0.10 s			Sí	0.21 >= 0.10 s		
RA. $I\Delta n > UL$	No	0.03 >= 24.00 A			No	0.03 >= 24.00 A			No	0.03 >= 24.00 A		
DISPOSITIVOS DE PROTECCIÓN												
Icu >= Icc máx	Sí	10.00 >= 6.61 kA			Sí	10.00 >= 0.77 kA			Sí	10.00 >= 0.77 kA		
Icu con filiación >= Icc máx												
Sel. mag. cabeza (IGA)	Sel. term. cabeza (IGA)											
Sel. mag. cabeza (Arriba)	Sel. term. cabeza (Arriba)											
Sel. mag. pie (IGA)	Sel. term. pie (IGA)											
Sel. mag. pie (Arriba)	Sel. term. pie (Arriba)											
Sel. diferencial	Sel. cronométrico											
Ik CORTOCIRCUITO CONDUCTOR FASE												
Iccmin >= Im	Sí	1.46 >= 0.50 kA			Sí	0.33 >= 0.10 kA			Sí	0.36 >= 0.16 kA		
$K^2S^2 >= I^2t$ límite	Sí	2044900.00 >= 13218.45 A^2s			Sí	127806.25 >= 2145.30 A^2s			Sí	127806.25 >= 2257.48 A^2s		
Ik CORTOCIRCUITO CONDUCTOR NEUTRO												
Iccmin >= Im	Sí	1.46 >= 0.50 kA			Sí	0.33 >= 0.10 kA			Sí	0.36 >= 0.16 kA		
$K^2S^2 >= I^2t$ límite	Sí	2044900.00 >= 13218.45 A^2s			Sí	127806.25 >= 2145.30 A^2s			Sí	127806.25 >= 2257.48 A^2s		
Ik CORTOCIRCUITO CONDUCTOR PROTECCIÓN												
Iccmin >= Im	Sí	1.46 >= 0.50 kA			Sí	0.33 >= 0.10 kA			Sí	0.36 >= 0.16 kA		
$K^2S^2 >= I^2t$ límite	Sí	2044900.00 >= 13218.45 A^2s			Sí	127806.25 >= 2145.30 A^2s			Sí	127806.25 >= 2257.48 A^2s		

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FICHA DE COMPROBACIONES	Aguas arriba	Cámara de	Consumo	16.00 A	Aguas arriba		Consumo		Aguas arriba		Consumo	
	Referencia	Toma trifásica	Longitud	4.00 m	Referencia		Longitud		Referencia		Longitud	
CONDICIONES	NC*	Resultados			NC*	Resultados			NC*	Resultados		
SOBRECARGAS												
$I_Z >= I_n$	Sí	20.38 >= 16.00 A										
$1.45\ I_Z >= I_2$	Sí	29.56 >= 23.20 A										
$I_n >= I_B$	Sí	16.00 >= 16.00 A										
CAÍDA DE TENSIÓN												
dU admis >= dU acum	Sí	5.00 >= 3.53 % *										
CONTACTOS INDIRECTOS												
I_n(DDR) >= I_n (DPCS)												
$I_f < I\Delta n/2$												
tcable >= tcc	Sí	0.16 >= 0.10 s										
RA. $I\Delta n$ > UL	No	0.03 >= 24.00 A										
DISPOSITIVOS DE PROTECCIÓN												
Icu >= Icc máx	Sí	10.00 >= 0.88 kA										
Icu con filiación >= Icc máx												
Sel. mag. cabeza (IGA)	Sel. term. cabeza (IGA)											
Sel. mag. cabeza (Arriba)	Sel. term. cabeza (Arriba)											
Sel. mag. pie (IGA)	Sel. term. pie (IGA)											
Sel. mag. pie (Arriba)	Sel. term. pie (Arriba)											
Sel. diferencial	Sel. cronométrico											
Ik CORTOCIRCUITO CONDUCTOR FASE												
Iccmin >= Im	Sí	0.33 >= 0.16 kA										
$K^2S^2 >= I^2t$ límite	Sí	127806.25 >= 2145.62 A^2s										
Ik CORTOCIRCUITO CONDUCTOR NEUTRO												
Iccmin >= Im	Sí	0.33 >= 0.16 kA										
$K^2S^2 >= I^2t$ límite	Sí	127806.25 >= 2145.62 A^2s										
Ik CORTOCIRCUITO CONDUCTOR PROTECCIÓN												
Iccmin >= Im	Sí	0.33 >= 0.16 kA										
$K^2S^2 >= I^2t$ límite	Sí	127806.25 >= 2145.62 A^2s										

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1.6 LISTADO DE MATERIALES

Sistemas de puesta a tierra			
Código	Ud	Descripción	Cantidad
001.001	Ud	Red de toma de tierra de las masas de la instalación compuesta por conductor de cobre desnudo de 35 mm² de sección y 12.00 m de longitud, 2 dos picas en línea con 2.00 m de longitud	1.00
001.002	Ud	Red de toma de tierra del neutro compuesta por conductor de cobre desnudo de 35 mm² de sección y 12.00 m de longitud, 2 dos picas en línea con 2.00 m de longitud	1.00

Magnetotérmicos			
Código	Ud	Descripción	Cantidad
003.001	Ud	Interruptor automático en caja moldeada, tetrapolar (4P), intensidad nominal 125 A, poder de corte 36 kA a 400 V, FD80S 432973 "GENERAL ELECTRIC", con unidad de protección magnetotérmica selectiva LTMD, ajuste de la intensidad de disparo térmico entre 0,8 y 1 x In, de 108x130x85 mm, según UNE-EN 60947-2.	1.00
003.002	Ud	Terciario (IEC 60947-2); In: 125 A; Icu: 10 kA; Curva: C. 3P+N	1.00
003.003	Ud	Terciario (IEC 60947-2); In: 25 A; Icu: 10 kA; Curva: C. 3P+N	1.00
003.004	Ud	Terciario (IEC 60947-2); In: 10 A; Icu: 10 kA; Curva: C. 1P+N	3.00
003.005	Ud	Terciario (IEC 60947-2); In: 16 A; Icu: 10 kA; Curva: C. 1P+N	4.00
003.006	Ud	Terciario (IEC 60947-2); In: 16 A; Icu: 10 kA; Curva: C. 3P+N	3.00
003.007	Ud	Terciario (IEC 60947-2); In: 10 A; Icu: 10 kA; Curva: C. 3P+N	1.00
003.008	Ud	Terciario (IEC 60947-2); In: 63 A; Icu: 10 kA; Curva: C. 3P+N	3.00
003.009	Ud	Terciario (IEC 60947-2); In: 6 A; Icu: 10 kA; Curva: C. 1P+N	2.00
003.010	Ud	Terciario (IEC 60947-2); In: 50 A; Icu: 10 kA; Curva: C. 3P+N	1.00

Diferenciales			
Código	Ud	Descripción	Cantidad
006.001	Ud	Selectivo; In: 160.00 A; Sensibilidad: 500 mA. 4P	1.00
006.002	Ud	Instantáneo; In: 25.00 A; Sensibilidad: 30 mA; Clase: AC. 4P	3.00
006.003	Ud	Instantáneo; In: 25.00 A; Sensibilidad: 300 mA; Clase: AC. 4P	1.00
006.004	Ud	Instantáneo; In: 25.00 A; Sensibilidad: 30 mA; Clase: AC. 2P	4.00
006.005	Ud	Instantáneo; In: 80.00 A; Sensibilidad: 30 mA; Clase: AC. 4P	1.00

Limitadores de sobretensiones transitorias			
Código	Ud	Descripción	Cantidad
007.001	Ud	Tipo 2; I_{imp}: 40 kA; U_p: 2.5 kV. 3P+N	1.00

Arrancadores			
Código	Ud	Descripción	Cantidad
009.001	Ud	Variador de frecuencia; motor trifásica	3.00

Cables			
Código	Ud	Descripción	Cantidad
010.001	m	RV-K Eca 0,6/1 kV Cobre, Policloruro de vinilo (PVC), 5G50. Multiconductor	90.00
010.002	m	RV-K Eca 0,6/1 kV Cobre, Policloruro de vinilo (PVC), 5G6. Multiconductor	80.00
010.003	m	RV-K Eca 0,6/1 kV Cobre, Policloruro de vinilo (PVC), 3G2.5. Multiconductor	36.00
010.004	m	RV-K Eca 0,6/1 kV Cobre, Policloruro de vinilo (PVC), 5G2.5. Multiconductor	14.00
010.005	m	RV-K Eca 0,6/1 kV Cobre, Policloruro de vinilo (PVC), 4x6. Multiconductor	280.00
010.006	m	RV-K Eca 0,6/1 kV Cobre, Policloruro de vinilo (PVC), 16 mm². Unipolar	280.00
010.007	m	RV-K Eca 0,6/1 kV Cobre, Policloruro de vinilo (PVC), 5G16. Multiconductor	18.00
010.008	m	H07V-K Eca 450/750 V Cobre, 1.5 mm². Unipolar	48.00
010.009	m	RV-K Eca 0,6/1 kV Cobre, Policloruro de vinilo (PVC), 5G10. Multiconductor	5.00

Canalizaciones			
Código	Ud	Descripción	Cantidad
011.001	m	Tubo 110 mm	90.00
011.002	m	Tubo 63 mm	360.00
011.003	m	Tubo 16 mm	46.00
011.004	m	Tubo 20 mm	20.00
011.005	m	Tubo 32 mm	23.00

Otros			
Código	Ud	Descripción	Cantidad
017.001	Ud	Analizador de redes. 3P+N	1.00
017.002	Ud	Seccionador. 3P+N	2.00
017.003	Ud	Batería de condensadores	1.00

2. AUTOMATIZACIÓN Y CONTROL

2.1 INTRODUCCIÓN

En este anejo se hace una descripción del sistema de automatización y control que se proyecta para la recirculación que dará servicio a dos depósitos de manera no simultánea. La elección del depósito se realiza mediante la actuación en válvulas de corte para conectar los colectores de las bombas a un depósito dejando asilado hidráulicamente el otro depósito del bombeo de recirculación.

El constructor enviará propuesta detallada con todos los elementos acompañada de documentación técnica que deberá ser revisada y aprobada por la dirección facultativa.

2.2 AUTOMATIZACIÓN Y CONTROL.

El sistema será de protocolo abierto, con las marcas que dispongan de servicio de mantenimiento en la planta desaladora de Formentera y preferiblemente con las marcas y modelos preexistentes para facilitar las labores de mantenimiento. Todos los equipos serán fácilmente sustituibles.

Se mantendrán las mismas señales de control y alarma que existan en los otros depósitos, y se integrarán en el mismo sistema

Dispondrá de los enclavamientos electromecánicos necesarios para garantizar la seguridad de los equipos incluso en modo manual.

En el control de la instalación dispondrá de tres niveles:

- Un primer nivel que garantice la seguridad de los equipos, su marcha y buen funcionamiento automático. Esto lo proporcionan los elementos de medida, captación, actuación y protección situados en los cuadros de control distribuidos en las instalaciones.
- Un segundo nivel que aporte una completa automatización del sistema, de forma que facilite la explotación del bombeo al evitar, por ejemplo, acciones periódicas manuales. Este nivel lo gestionará parcialmente y lo supervisará el autómata programable.
- Un tercer nivel que consiste en la monitorización global del proceso, con un registro tanto de las medidas principales del sistema como de sus parámetros de funcionamiento y el envió remoto de alarmas mediante SMS. Este nivel se gestionará remotamente permitiendo tanto el análisis y gestión de la información almacenada (pantallas gráficas, curvas, informes, etc.) así como acciones manuales, automáticas y cambio de consignas.

La pérdida de un nivel superior de control (segundo o tercero) por avería, sustitución etc., no implicara que el nivel inferior deje de funcionar para aumentar la fiabilidad del sistema.

Los circuitos de mando y maniobra así como los equipos de medida dispondrán de transformadores separadores de circuitos, y serán de 230V alterna 50 Hz y 24V continua. con sus correspondientes protecciones magnetotérmica y diferencial. Las boyas de nivel dispondrán de transformador de aislamiento.

Las boyas de nivel dispondrán de certificado de agua de consumo humano.

Para el nivel analógico del depósito se ha considerado emplear boyas de ultrasonidos, que podrán ser cambiadas por otra tipología a criterio de la dirección facultativa.

El control y maniobra se realizará mediante relés de control. Las señales analógicas dispondrán de aislamiento galvánico.

Mediante selectores se permitirá un funcionamiento manual, y un funcionamiento semiautomático autónomo independiente del PLC, es decir, podrá establecerse un funcionamiento semiautomático ante una avería completa del PLC que solo dependa de los equipos electromecánicos (boyas, interruptores de presión, relés horarios, etc). Se existe algún equipo electrónico, electromecánico o sonda analógica que deba de pasar por el PLC, se dispondrá de un sistema redundante independiente del PLC o duplicado de las señal para el funcionamiento semiautomático. En funcionamiento aromático desde PLC, el funcionamiento será completamente local sin depender de la comunicación con la monitorización o gestión remota. Remotamente se podrán variar consignas del funcionamiento automático.

El PLC y los sistemas de comunicación continuarán recogiendo los datos en funcionamiento manual y semiautomático. El PLC se comunicará con el GE mediante MODBUS.

El cuadro dispondrá de indicación de todos los parámetros de funcionamiento y alarma. El panel de visualización y control del grupo estará duplicado, en el grupo y en el cuadro automático de conmutación.

Para el PLC y los sistemas de comunicación estarán alimentados desde SAI con AVR con una autonomía de 10 minutos.

Los sistemas electrónicos y las bornas serán resistentes a la corrosión, especialmente ambiente sulfuroso.

El sistema de control dispondrá de enclavamientos o controles independientes del PLC para evitar:

- Fallos derivados de la caída transitoria de tensión en el momento de arranque de una bomba o secuencias de arranque.
- Conexión simultánea de más bombas de las calculadas.
- Funcionamiento de las bombas incoherente con la posición de las boyas.
- Fallos en la alimentación o cambios de fase.

El sistema de control mantendrá su funcionamiento correcto incluso con la presencia de microcortes en el suministro.

Señales del sistema de automatización y control:

El sistema de automatización y control se basará en la obtención de señales de la EBAR. Esta información se agrupa en:

- Datos para la protección de los equipos, para protegerlos de consignas erróneas funcionamientos peligrosos
- Datos para el control de los equipos, de manera que en cada momento se pueda conocer su estado en el proceso.
- Datos para la automatización de los equipos, en base a los cuales el proceso deberá entrar en funcionamiento o cesar su actividad.
- Datos de alarma que provoquen el envío de SMS a los teléfonos programados con información del tipo de alarma: boya rebose, fallo bomba, fallo equipo dosificación de cloro, fallo de alimentación, inundación etc.

Señales por dar servicio a dos depósitos:

A automatización y el control debe funcionar para dar servicio a dos depósitos, por lo que deberá recibir señales de los dos depósitos y señales que le indiquen en que depósito se está realizando la recirculación.

El sistema tendrá en cuenta únicamente los parámetros y las señales del depósito donde se esté realizando la recirculación e ignorará el otro depósito.

Las señales mínimas para discriminar el depósito serán la posición abierta o cerrada de las 4 válvulas y un detector de flujo en la tubería de aspiración de cada depósito. El detector de flujo debe estar en la tubería de aspiración del depósito, es importante el nivel del depósito de donde se aspira en el caso de un eventual funcionamiento cruzado.

Debido a que un deposita ya estaba existente, se deberán de duplicar las señales existentes para que lleguen al cuadro de las bombas de recirculación.

Tabla resumen de señales:

La tabla resumen de las señales que deberán considerarse en el bombeo serán:

Elemento	Señal	ED	SD	EA	SA
Bombas (por cada bomba) **X3**	No fallo (protección térmica int. bomba, agua)	1			
	No fallo variador	1			
	Funcionando	1			
	Parada emergencia	1			

Elemento	Señal	ED	SD	EA	SA
	Marcha manual	1			
	Marcha semiautomático	1			
	Orden marcha		1		
Colector Bombas	Presión colector	1			
	Válvula abierta	4			
	Válvula cerrada	4			
	Detector de flujo	2			
Boyas (por cada depósito) **X2**	Mínimo	1			
	Mínimo recirculación (si es diferente)	1			
	Máximo	1			
	Nivel radar			1	
	Rebose	1			
	Rebose seguridad	1			
Alimentación	Tensión red OK	1			
Cámara de bombeo	Tem. Ambiente			1	
	Inundación	1			
	Funcionamiento bomba achique	1			
	intrusión cuadros	1			
Cloración	Orden cloración		1		
	Fallo cloración	1			
	Lectura Cloro			1	
	Cloro bajo depósito	1			
Reserva		4	2	2	2

Se han indicado las señales que deben de estar presentes en la cámara de válvulas para permitir la escalabilidad futura, sin ser necesario que todas ellas deban de estar gestionadas por el PLC. El PLC podrá ser de los denominados relés programables, pero deberá tener implementada la consulta y gestión remota; y siempre permitir el envío de las alarmas críticas por GSM o el sistema implementando en la planta.

Toda la nueva instalación se deberá integra en el SCADA existente con las ampliaciones necesarias y programación, incluyendo el entorno grafico actualizado de las pantallas exitentes.

Debido a las distancias entre las boyas y niveles de los depósitos se deberán instalar los amplificadores o transceptores necesarios elementos para que lleguen las señales con la calidad adecuada.

Con las señales de las bombas se llevará un control gráfico horario y de arranques de los equipos de manera local y remota.

2.3 FUNCIONAMIENTO DE LAS BOMBAS.

El sistema permitirá el funcionamiento automático del bombeo:

- Marcha paro de las bombas comandada con las señales de alarma (nival bajo depósito).
- Arranque secuencial de las bombas, incluso después de cortes o micorcortes de tensión.
- Parada de las bombas ante un cambio de rotación de las fases.

Las bombas dispondrán de arrancador cuyo pico de corriente de arranque será siempre inferior al arranque estrella-triangulo y e inferior al soportado por la instalación, en concreto el GE; deberá cumplir con las condiciones de instalación de receptores de la ITC BT 47. El arrancador podrá incluir las funciones de guardamotor y contactor.

2.4 FUNCIONAMIENTO DE LA CLORACIÓN

Al emplearse las mismas bombas de recirculación para el funcionamiento del analizador de cloro, se asegura que ante una parada de las bombas fallaría automáticamente el detector de flujo del analizador de cloro, parándose automáticamente la cloración y enviando una señal de fallo.

Para que el sistema funcione adecuadamente el picaje de la toma del clorímetro debe disponer de la suficiente altura manométrica para mantener el caudal adecuado y compensar las pérdidas de carga del analizador de cloro, las tuberías de conexión y la altura del punto de descarga.

ANEJO 7 – ESTUDIO DE MATERIALES A EMPLEAR

ANEJO 7. ESTUDIO MATERIALES A EMPLEAR

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ANEJO 7. ESTUDIO MATERIALES A EMPLEAR

1. MATERIALES A UTILIZAR EN CIMENTACIONES

- Para el hormigonado de las losas de cimentación se utilizará:
  - **HORMIGÓN HA-25/B/20/IIa**
- Para el hormigonado de la losa de los muros del depósito prefabricado:
  - **HORMIGÓN HA-30/B/20/IV**
- Para el hormigonado de las zapatas de cimentación de pilares
  - **HORMIGÓN HA-25/B/20/IIa**
- Mortero de reparación estructural: se distinguirá si se aplican a mano o mediante vertido (en caso de ser necesario):
  - Mortero de reparación de aplicación manual con paleta: se utilizará un mortero de reparación de Clase R4 según la UNE-EN 1504-9 mejorado con fibras, tipo SikaTop-122, Sika MonoTop-412 S o similar. Si la superficie de aplicación no tuviera la rugosidad adecuada (por ejemplo, sobre cortes con disco del hormigón), se aplicará primero un puente de adherencia tipo SikaTop Armatec-110 EpoCem o similar.
  - Mortero de reparación aplicado mediante vertido o relleno (grandes secciones o contra encofrados): se utilizará un mortero de reparación de Clase R4 según la UNE-EN 1504-9, como puede ser el Sika MonoTop-412 S o, si se requiere que tenga gran fluidez para rellenar los huecos, el Sika MonoTop-432 S o similar.
- Acero corrugado: para los elementos estructurales en general, acero **B-500-SD**.
- Acero corrugado de acero inoxidable austenítico **AISI 316**: para los casos en los que la barra pueda quedar sin el debido recubrimiento mínimo de protección de hormigón, como son las armaduras colocadas en perforaciones sin rellenar o refuerzos de espesor insuficiente por necesidades de terceros. Como opción se pueden utilizar barras corrugadas de acero B-500-SD previamente cortadas y galvanizadas con el espesor requerido para el ambiente expuesto.
- Laminados de fibra de carbono: se utilizarán laminados tipo Sika CarboDur o similar, de sección de acuerdo a la documentación gráfica del proyecto.
- Adhesivo para pegado de refuerzos: para el pegado de los laminados de fibra de carbono se empleará un adhesivo estructural de resinas epoxi tipo Sikadur-30 o similar.

2. MATERIALES A UTILIZAR EN LAS ESTRUCTURAS

Se utilizarán los siguientes materiales:

- Para la capa de compresión: HA-25/B/10/IIa
- Los elementos prefabricados se ejecutarán según las prescripciones técnicas recogidas en el proyecto y manteniendo un control de calidad exhaustivo durante su producción.
- Las casetas de bombas y cámara de llaves se ejecutarán con los siguientes hormigones:
    - HA-30/B/20/IIIa para la ejecución de muros
    - Solera sobre encachado de piedra con hormigón HA-25/B/20/IIa
    - Para las losas de cubierta se utilizarán hormigones HA-30/B/20/IIIa

3. MATERIALES A UTILIZAR EN LA IMPERMEABILIZACIÓN DE LA ESTRUCTURA

Para la impermeabilización de la estructura, tanto de la cubierta, como de los elementos interiores (muros, solera y pilares), se recomienda la utilización de los siguientes materiales:

IMPERMEABILIZACIÓN DE LA CUBIERTA

- Se propone la utilización de un impermeabilizante líquido elástico monocomponente de la marca MAPEI. El producto recomendado es “Aquaflex Roof Premium” (o similar), de color gris, que es una membrana líquida impermeabilizante, lista para su uso, totalmente exenta de disolventes y de sustancias orgánicas volátiles (VOC).
    - Una vez aplicado, Aquaflex Roof Premium crea en pocas horas una membrana continua, con una capacidad de elongación del 400%, resistente a los agentes atmosféricos, a los rayos ultravioleta y al agua estancada.
    - Las excelentes características mecánicas de Aquaflex Roof Premium se mantienen inalterables en el tiempo, lo que hace de él un producto duradero. Aquaflex Roof Premium es fácil de usar, ya que se aplica a brocha, a rodillo o por pulverización, sobre superficies horizontales, verticales, inclinadas o con geometrías complejas. El producto es de secado muy rápido y pueden aplicarse varias capas en plazos breves, reduciendo al mínimo los tiempos de espera en obra.
- El producto recomendado se rige bajo la normativa EN 1504-9 “Productos y sistemas para la protección y reparación de las estructuras de hormigón: definiciones, requisitos, control de calidad y evaluación de la conformidad. Principios generales para el uso de productos y sistemas” y los requisitos mínimos de la norma EN 1504-2 como revestimiento (C) según los principios PI, MC e IR “Sistema de protección de las superficies de hormigón”.

- Los soportes, tanto nuevos como ya existentes, deberán ser sólidos y estar secos, limpios y exentos de aceites, grasa, pinturas viejas, óxido, moho o de todo aquello que pudiera afectar a la adherencia. Los soportes cementosos o minerales en general deben estar limpios y secos y no tener humedad ascendente. Eliminar las partes sueltas de los soportes de hormigón y minerales en general.
- Una vez limpia la superficie de soporte se procederá a la imprimación usando el productor "Mapercoat I 600W":

TIPO DE SOPORTE	IMPRIMADOR
Hormigón y cementosos en general	**Mapecoat I 600 W** (diluido en agua 1:1)
Cerámica	
Metálico	
Lámina bituminosa autoprotegida mineral	
Lámina bituminosa sin protección	**Primer per Aquaflex**

IMPERMEABILIZACIÓN INTERIOR DEL DEPÓSITO

- Se propone la utilización del producto Sika MonoTop-107 o similar. El impermeabilizante propuesto es un mortero impermeabilizante semiflexible de un componente, a base de cemento y polímeros modificados. cumple con los requerimientos de la UNE-EN 1504-2 como revestimiento de protección.
- Este producto es idóneo para la protección contra la penetración, control de humedad y aumento de resistividad para estructuras de hormigón según UNE-EN 1504- 2:2004.
- El producto es apto para estar en contacto con agua potable, que cumple con los requisitos exigibles:
    - Migraciones específicas dentro de los límites indicados en el Real Decreto 866/2008 y en la Directiva 2002/72/CE y sus posteriores modificaciones, según ensayo realizado en el laboratorio del Instituto Tecnológico del Plástico AIMPLAS.
    - Fabricado con materias primas incluidas en las listas de sustancias permitidas para la fabricación de materiales y objetos plásticos destinados a entrar en contacto con agua potable.
- Puesto que las fisuras existentes serán reparadas con mediante saneo y sellado, se requerirán dos capas de producto. Teniendo en cuenta lo expuesto en la ficha técnica del fabricante y, puesto que, la altura de columna de agua sobre los paramentos del depósito será superior a 1 m se recomienda la impermeabilización con dos capas y una dotación por capa de 2 kg/m², sin exceder en ningún caso los 4 kg/m² (2mm de espesor).
- El soporte deberá estar sano, limpio, exento de grasas, aceites y partes mal adheridas, lechadas superficiales y lo más uniforme posible. En caso necesario el soporte debe prepararse por medios mecánicos. Los soportes absorbentes se humedecerán previamente hasta la saturación, evitándose el

encharcamiento y comenzándose a aplicar el Sika MonoTop®-107 Seal cuando las superficies adquieran aspecto mate.

- En cualquier caso y, dado que, el depósito ya dispone de impermeabilización existente se deberá prestar especial atención a la preparación del soporte asegurando su correcta aplicación.

4. MATERIALES PARA INSTALACIONES HIDRÁULICAS

Las tuberías recomendadas para su utilización para el transporte de agua potable serán de Polietileno de Alta Densidad (PEAD según siglas en inglés). Este tipo de tuberías presentan numerosas ventajas y son idóneas para su uso en aducciones y distribución de agua potable.

Dadas las características de las instalaciones existentes se utilizarán tuberías de Presión Nominal 10 MPa (PN10) con una Relación de Dimensión Estándar (SDR) de 17 (SDR17), de diámetros nominales DN225 y DN315.

En comparación con otras tuberías del mercado, como pueden ser trabajos hidráulicos ejecutados en calderería de acero o tubos de fundición dúctil, el HDPE es idóneo para este tipo de trabajos, debido sobre todo a su economía y facilidad de manipulación. Dentro de sus ventajas podemos destacar:

- Elevada durabilidad, que asegura una vida útil mínima de 50 años, evitando durante su funcionamiento la corrosión y/o oxidación.
- No afectan el sabor, color ni olor del agua potable.
- Su ligereza, unida a la facilidad para elaborar piezas especiales complejas mediante soldadura a tope, dotan a las instalaciones de una flexibilidad muy elevada, que, con tuberías de mayor peso, no sería posible obtener.
- Coeficiente de rugosidad muy bajo, que evita la presencia de sedimentos, incrustaciones y reduce las pérdidas de carga lineales.

Por otro lado, las piezas especiales a instalar en las instalaciones hidráulicas, se recomienda que sean de fabricantes reconocidos del sector, quedando recomendadas en el presupuesto marcas como AVK, HAWLE o similar. En todo caso, los materiales de cada una de las piezas especiales serán los recogidos en el presupuesto y en el pliego de prescripciones técnicas particulares.

ANEJO 8 – CUMPLIMIENTO DE LA NORMATIVA SANITARIA

ANEJO 8. CUMPLIMIENTO NORMATIVA SANITARIA

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ANEJO 8. CUMPLIMIENTO NORMATIVA SANITARIA

1. DESCRIPCIÓN DE LA ACTUACIÓN

El presente proyecto abarca los siguientes trabajos en la parcela colindante a la IDAM de Formentera:

- Construcción de un nuevo depósito prefabricado de 2.500 m3
- Construcción de la ampliación de la caseta de bombas existente para instalación del grupo de bombeo de recirculación.
- Construcción de la nueva cámara de llaves de salida del depósito prefabricado
- Instalación de tuberías de PEAD para aspiración, impulsión y trasvase de caudales, así como el suministro desde la IDAM al nuevo depósito

2. NORMATIVA APLICABLE. REQUISITOS EXIGIBLES.

Las nuevas infraestructuras contenidas en el presente Proyecto, deben cumplir con lo dispuesto en la siguiente normativa:

- *"Real Decreto 3/2023, de 10 de enero, por el que se establecen los criterios técnico-sanitarios de la calidad del agua de consumo, su control y suministro".*
- *"Decreto 53/2012 de 6 de julio, sobre vigilancia sanitaria de las aguas de consumo humano de las Illes Balears".*

2.1 TRAMITACIÓN ADMINISTRATIVA

Conforme establece el *Artículo 33. Conducciones*, perteneciente a *Real Decreto 3/2023:*

> *"1. La construcción de una conducción o la remodelación de una conducción existente de una longitud proyectada mayor a un kilómetro, requerirá el informe favorable de la autoridad sanitaria. Para ello, la entidad pública o privada responsable del proyecto deberá presentar a la autoridad sanitaria, antes del comienzo de las obras".*

Se proyecta un total de 409 m de nuevas conducciones, por lo que no sería de aplicación.

Conforme establece el *Artículo 36. Tratamiento de potabilización*, perteneciente a *Real Decreto 3/2023:*

> *"1. La construcción o remodelación de una ETAP o del tratamiento para la potabilización del agua, requerirá el informe favorable de la autoridad sanitaria (...)".*

Por otra parte, en el *Artículo 2. Definiciones* se define:

> *j) Estación de tratamiento de agua potable (ETAP): conjunto de procesos unitarios de tratamiento de potabilización, situados antes de la red de distribución y/o depósito de cabecera, que contenga más procesos*

unitarios de tratamiento que la filtración y desinfección. Incluidas las desalinizadoras (IDAM) y las plantas de tratamiento de abastecimientos propios no conectados a la red de distribución pública.

Se trata en este caso de la intervención sobre una IDAM existente, por lo que sería de aplicación.

Conforme establece el *Artículo 37. Depósitos*, perteneciente a *Real Decreto 3/2023:*

"1. La construcción de un depósito o la remodelación de uno existente, requerirá el informe favorable de la autoridad sanitaria (...)".

La solicitud de este informe se presentará según el modelo que figura en el *Anexo III. Solicitud de informe sanitario sobre el proyecto de nueva infraestructura* del *Decreto 53/2012*, y que también se muestra en el *Apéndice 1.- Formatos normalizados de solicitud* del presente anejo, en cualquiera de los registros previstos en el artículo 38.4 de la Ley 30/1992, de 26 de noviembre.

Por otro lado, conforme establece el *Artículo 39. Actuaciones ante la puesta en marcha de una infraestructura* del *Real Decreto 3/2023:*

"1. El titular de la nuevas instalaciones e infraestructura o remodelación de las existentes, solicitará un informe sanitario favorable a la autoridad sanitaria correspondiente, según donde se sitúe la zona de abastecimiento, antes de la puesta en funcionamiento de las mismas".

Por lo tanto, una vez terminadas las obras proyectadas y antes de la puesta en funcionamiento de las nuevas instalaciones, el gestor debe solicitar a la Dirección General de Salud Pública y Consumo un informe de puesta en funcionamiento según el modelo que figura en el *Anexo IV. Solicitud de informe sanitario para la puesta en funcionamiento de nuevas instalaciones* del *Decreto 53/2012*, y que también se muestra en el *Apéndice 1.- Formatos normalizados de solicitud* del presente anejo. Este informe debe ser emitido basándose en la inspección y seguimiento de los resultados analíticos.

Una vez recibido el informe favorable de la puesta en funcionamiento por parte de Sanidad, se emitirá un tercer trámite a realizar en la Dirección General de Salud Pública y Consumo, conforme al *Anexo II. Declaración responsable para la inscripción en el Registro de Entidades Gestoras de los Abastecimientos de Agua de Consumo Humano o de cualquier otra actividad ligada a dichos abastecimientos de las Illes Balears* del *Decreto 53/2012*, y que también se muestra en el *Apéndice 1.- Formatos normalizados de solicitud* del presente anejo.

2.2 CRITERIOS DE CALIDAD DEL AGUA DE CONSUMO HUMANO

Se considera que el agua es potable cuando, además de tener determinadas características organolépticas (incolora, transparente, inodora, relativamente insípida), contiene una proporción adecuada de elementos y de sales minerales y no contiene sustancias que puedan causar perjuicio a la fisiología normal del organismo humano. Por lo tanto, el agua destinada al consumo humano debe ser salubre y limpia, estar libre de microorganismo, parásito o sustancia, en una cantidad o concentración que pueda suponer un riesgo para la salud humana cumpliendo al menos con los requisitos especificados en el *Anexo I* del *Real Decreto 3/2023, de 10 de enero, por el que se establecen los criterios técnico-sanitarios de la calidad del agua de consumo, su control y suministro*.

Esto se consigue sólo en sistemas de abastecimiento con infraestructuras que preserven la calidad del agua y eviten la contaminación y que, además, dispongan de una vigilancia continua que permita detectar alteraciones en la calidad del agua distribuida.

En el *Apéndice 3. Tablas de parámetros de calidad anexo I RD 3/2023* se adjuntan las tablas en las que se reflejan los parámetros exigidos y que deberá cumplir la nueva entrada de agua proyectada al depósito.

2.3 INFRAESTRUCTURAS

El *Decreto 53/2012 de 6 de julio, sobre vigilancia sanitaria de las aguas de consumo humano de las Illes Balears* establece los siguientes condicionantes:

2.3.1 Conducción

"Ni el material de construcción, de revestimiento y de soldaduras ni los accesorios deben transmitir al agua sustancias o propiedades que la contaminen o que empeoren su calidad. Además, todas las conducciones deben ser cerradas a fin de evitar cualquier riesgo para la salud de la población.

En el caso de nuevas instalaciones, antes de su puesta en funcionamiento se debe realizar una limpieza y desinfección de la nueva conducción.

En el caso de que se realice cualquier actividad de mantenimiento o reparación, de la puesta en funcionamiento se tiene que realizar una limpieza del tramo afectado, y cuando haya riesgo de contaminación del agua se realizará también una desinfección".

En el *Capítulo 3. Limpieza y desinfección* del presente documento se establece el procedimiento de limpieza y desinfección previsto.

Será responsabilidad del contratista la obtención de la puesta en marcha sanitaria de la instalación.

2.3.2 Depósitos de instalaciones interiores

Son los que forman parte de la instalación interior (...). Reciben agua tratada de una red de distribución general o abastecimiento propio.

Se recomienda que sólo haya depósitos cuando sea estrictamente necesario para garantizar la demanda o como depósito auxiliar de alimentación a un equipo de bombeo. En este caso, es preferible que no estén enterrados, y si no hay otra ubicación posible, deberá situarse por encima del nivel del alcantarillado, estando siempre tapado y dotado de un desagüe que permita su vaciado total, limpieza y desinfección.

En cuanto al *Real Decreto 3/2023*, se deberá cumplir lo siguiente:

2. En el caso de nuevos depósitos de regulación y distribución, éstos deberán contar con al menos, dos vasos o compartimentos en paralelo, en el caso que las redes de distribución aguas abajo solo cuenten con ese depósito o que no cuenten con un bypass entre depósitos aguas arriba y la red de distribución. En el caso de remodelaciones, se deberá contar, al menos, con dos vasos siempre que se pueda.

3. La entidad pública o privada responsable de la construcción del depósito deberá instalar cubierta, respiraderos, rebosaderos y desagüe que permita su vaciado total, limpieza y desinfección, así como las medidas de protección y señalizar de forma visible, para su identificación como punto de almacenamiento de agua para el abastecimiento, con el fin de que no se contamine o empeore la calidad del agua almacenada. Antes de la puesta en funcionamiento, se realizará un lavado y desinfección del depósito.

4. El operador mantendrá las medidas de protección y deberá vigilar de forma regular la situación de la estructura, elementos de cierre, valvulería, canalizaciones e instalación en general.

5. El operador valorará de acuerdo con los criterios de la autoridad sanitaria, en cada caso la frecuencia de limpieza y desinfección del depósito, cuando tenga una capacidad mayor de 10.000 m3, que se adecuará a la calidad del agua, y sus dimensiones, entre otros aspectos.

6. Para depósitos menores de 10.000 m3 de capacidad, la limpieza y desinfección se realizará al menos cada 3 años o cuando la autoridad sanitaria así lo requiera.

7. La limpieza deberá incluir una desincrustación, si es necesaria, y una desinfección, y posterior aclarado con agua de consumo, cumpliendo lo señalado en el Real Decreto 830/2010, de 25 de junio, por el que se establece la normativa reguladora de la capacitación para realizar tratamientos con biocidas.

8. El operador del depósito deberá designar al menos, un punto de muestreo para la toma de muestras.

2.3.3 Red de distribución

La red de distribución (o red de abastecimiento) comprende todo el conjunto de tuberías que distribuyen el agua tratada desde la ETAP o desde los depósitos hasta la acometida de los usuarios.

El diseño de la red debe ser de malla, en la medida de lo posible, y se han de eliminar los puntos y las situaciones que puedan facilitar la contaminación o deterioro del agua.

Además, debe disponer de mecanismos que permitan el cierre y purgado de la red por sectores. No se puede conectar la red de agua interior directamente con otra red de agua diferente (aguas grises, lluvia, etc.), ni siquiera interponiendo válvulas de retención entre las redes, para evitar riesgos sanitarios.

Por otro parte, las conexiones de servicios deben tener sistemas antirretornos, para evitar el retroceso de agua de los usuarios a la red de distribución.

En caso de ser necesaria la instalación de un bypass, se tienen que instalar los dispositivos necesarios para que sea imposible un retroceso del agua desde el depósito de la instalación interior a la red de distribución pública.

En cuanto a la distancia entre tuberías se deben seguir las recomendaciones de actuación ante incidencias en los abastecimientos de agua elaboradas por el Ministerio de Sanidad, Política Social e Igualdad y la Asociación Española de Abastecimientos de Agua y Saneamiento (AEAS) de forma que la red de agua potable se separe del alcantarillado, y se exigirá que las primeras circulen distantes y a niveles superiores de las del alcantarillado, 50 cm. en la vertical y 60 cm. en horizontal.

En caso de no poder mantener las separaciones especificadas se permitirán separaciones menores siempre que se dispongan protecciones especiales.

En los cruces de las conducciones de abastecimiento de agua con el alcantarillado, las primeras tienen que pasar siempre por encima de las segundas.

A lo largo de toda la red, el agua debe contener desinfectante residual. Si se utilizan cloro o derivados de éste, se recomienda mantener los niveles del cloro libre residual alrededor de 0,6 ppm; la concentración ha de ser de 0,2 ppm como mínimo y de 1 ppm como máximo. Además, después de cualquier modificación de la red (reparación, mantenimiento, ampliación, etc.) y antes de volver a ponerla en funcionamiento hay que lavar o desinfectar el tramo afectado.

Por su parte, el gestor tiene que disponer en todo momento de planos actualizados de la red de distribución.

En cuanto al *Real Decreto 3/2023*, se deberá cumplir lo siguiente:

2. Las redes de distribución de agua para consumo estarán siempre a una cota superior respecto a las tuberías de saneamiento con una separación mínima de 1 metro entre planos tangentes, horizontales y verticales a cada tubería más próxima entre sí. En caso de no poder mantener estas separaciones mínimas, o fueran precisos cruces con otras canalizaciones se aceptarán distancias menores siempre y cuando se adopten precauciones especiales.

3. Las redes de distribución serán, en la medida de lo posible, de diseño mallado, eliminando puntos y situaciones que faciliten la contaminación o el deterioro del agua distribuida. Dispondrán de mecanismos adecuados que permitan su cierre por sectores, con objeto de poder aislar áreas ante situaciones anómalas, y de sistemas que permitan las purgas por sectores para proteger a la población de posibles riesgos para la salud.

4. En las nuevas redes y antes de su puesta en funcionamiento y después de cualquier actividad de mantenimiento o reparación que pueda suponer un riesgo de contaminación del agua de consumo, se realizará un lavado y desinfección del tramo afectado de tuberías; en las redes ya existentes, se procederá al tratamiento cuando se puedan aislar los tramos de red, por disponer de desagües y puntos de acceso, en caso contrario, se realizará a una desinfección apropiada, con mediciones de desinfectante y observando su presencia en valores adecuados.

5. En el caso que existan recloraciones en la red de distribución, el operador deberá garantizar, siempre que sea posible, un contacto, entre el desinfectante y el agua, suficiente para mantener la desinfección del agua y su poder desinfectante, según dispone el punto 7 del artículo anterior.

6. El operador deberá vigilar de forma regular la situación de la estructura, elementos de cierre, valvulería, canalizaciones e instalación en general.

7. El operador de la red deberá designar los puntos de muestreo mínimos necesarios que sean representativos de la red, de acuerdo con la autoridad sanitaria, sin perjuicio de lo dispuesto en el artículo 8.

8. Toda acometida deberá disponer de válvula antirretorno y de una llave de corte en el exterior de la propiedad, delimitando así las competencias entre el operador de la red de distribución y el titular del edificio o local al que se suministra dicho servicio, salvo que la normativa local o supramunicipal aplicable en cada sistema de abastecimiento disponga otra cosa.

2.4 MATERIALES EMPLEADOS

El *Real Decreto 3/2023, de 10 de enero, por el que se establecen los criterios técnico-sanitarios de la calidad del agua de consumo, su control y suministro*, establece en su A*rtículo 44. Materiales que entren en contacto con el agua de consumo* lo siguiente:

1. Los materiales destinados a su utilización en instalaciones nuevas o, en caso de obras de reparación o reconstrucción, en instalaciones existentes para la captación, el tratamiento, el almacenamiento o la distribución de aguas de consumo y que entren en contacto con esas aguas, no deberán empeorar la calidad del agua ni transmitir al agua sustancias, gérmenes o propiedades perjudiciales para la salud, o que puedan perjudicar que el agua cumpla con los parámetros del anexo I. Para ello, deberán cumplir los siguientes requisitos higiénicos básicos:

a) No pondrán en peligro, directa ni indirectamente, la protección de la salud humana;

b) No afectarán negativamente al color, el olor o el sabor del agua;

c) No favorecerán la proliferación microbiana;

d) No migrarán contaminantes al agua de consumo en niveles superiores a lo necesario para el fin previsto de dicho material o que empeoren la calidad del agua y en ningún caso superarán los valores paramétricos del anexo I.

2. Las instalaciones a las que hace referencia el apartado 1 incluyen a las infraestructuras que estén situadas desde la toma de captación hasta el grifo del usuario, así como cualquier otra infraestructura equivalente a estas.

3. Los materiales a los que hace referencia el apartado 1 incluyen a los presentes en los productos utilizados en la construcción y en aquellos otros productos instalados en las citadas infraestructuras, y que entren en contacto con las aguas de consumo.

4. Para dar cumplimiento a los requisitos del apartado 1, se atenderá a lo dispuesto por la Comisión Europea en los actos de ejecución aplicables a estos materiales y productos, en los que se establezcan:

a) Los requisitos mínimos específicos de higiene por medio de listas positivas europeas de sustancias de partida, composiciones o componentes, cuya utilización esté autorizada en la fabricación de materiales o productos en contacto con agua, incluyendo, cuando proceda, las condiciones de utilización y los límites de migración;

b) Las metodologías para ensayar y aceptar sustancias de partida, composiciones y componentes que vayan a incluirse en las listas positivas europeas, así como los procedimientos y métodos para ensayar

y aceptar los materiales finales utilizados. Los principios para establecer estas metodologías y listas positivas se recogen en el anexo IX;

c) Los procedimientos de evaluación de la conformidad de los productos y su marcado.

5. A efectos de la inclusión o la retirada de las listas positivas europeas de sustancias de partida, composiciones o componentes, los fabricantes de materiales y productos en contacto con el agua de consumo, podrán presentar las solicitudes a la Agencia Europea de Sustancias y Mezclas Químicas, según dispone el artículo 11.5 de la Directiva (UE) 2020/2184 del Parlamento Europeo y del Consejo, de 16 de diciembre de 2020, relativa a la calidad de las aguas destinadas al consumo humano.

6. Los operadores y empresas constructoras solo podrán utilizar para las instalaciones referidas aquellos materiales y productos que cumplan con lo dispuesto en el presente artículo, para lo cual deberán verificar previamente a su uso o instalación que dichos materiales o productos cumplen con los requisitos aplicables.

7. Para el control de la comercialización de los materiales y productos recogidos en este artículo, de conformidad con el artículo 14 de la Ley 21/1992, de 16 de julio, de Industria, la autoridad competente en la vigilancia del mercado interior de cada comunidad autónoma y ciudades Ceuta y Melilla podrá llevar a cabo, por sí misma o a través de las entidades que designe, comprobaciones de tipo técnico, realizando los muestreos y ensayos que estime necesarios, a fin de verificar la adecuación de los materiales y productos a los requisitos establecidos.

Cuando se compruebe que la utilización de un producto resulta manifiestamente peligrosa, la autoridad competente instará sin demora al agente económico pertinente a que adopte todas las medidas correctoras adecuadas para adaptar el material o producto a los requisitos establecidos, retirarlo del mercado o recuperarlo en un plazo de tiempo razonable, proporcional a la naturaleza del riesgo, que ellas prescriban.

8. Si, como consecuencia de los controles en el mercado, se comprobase el incumplimiento de los requisitos establecidos de un producto, el fabricante, importador o distribuidor, cuyos incumplimientos se hayan puesto de manifiesto, será sancionado de acuerdo con las responsabilidades que se deriven, de conformidad con lo dispuesto en el título V de la Ley 21/1992, de 16 de julio.

9. Sin perjuicio de lo dispuesto anteriormente, la autoridad sanitaria, cuando la calidad del agua de consumo a nivel local así lo requiera, podrá adoptar medidas de protección más estrictas para el uso de materiales en circunstancias hidrogeológicas específicas o por razones debidamente justificadas. Dichas medidas se notificarán al Ministerio de Sanidad.

Por tanto, todos los materiales de construcción utilizados en la ejecución de este proyecto tienen que cumplir con lo especificado en el A*rtículo 44* del *Real Decreto 3/2023*, de forma que el contratista deberá aportar certificación de aptitud de los materiales empleados para estar en contacto con agua de consumo humano.

En el apéndice 4 del presente documento se adjunta el *Anexo IX. Materiales en contacto con el agua* del *Real Decreto 3/2023* en el que se exponen las características que deben cumplir los materiales en contacto con agua de consumo humano.

3. LIMPIEZA Y DESINFECCIÓN

3.1 GENERALIDADES

Tras la ejecución de las instalaciones proyectadas, la extensión de una parte de la red de distribución de agua o la sustitución de conducciones o de una parte de la red de distribución de agua, las conducciones y acometidas afectadas deben desinfectarse mediante lavado/enjuagado y/o utilizando desinfectantes.

El agua destinada a este propósito debe ser agua potable. Deben cumplirse todas las condiciones para que el agua utilizada en el lavado y en la desinfección pueda ser suministrada convenientemente y respetando el medio ambiente.

3.2 PREPARACIÓN PARA LA DESINFECCIÓN

Especificaciones generales

Si es necesario, dividir la red en varios tramos. Separar el tramo a desinfectar de las otras partes de la red de agua potable en servicio. En casos especiales se admite no aislar las partes afectadas de la red en servicio, particularmente allí donde se instalen tramos cortos de conducción y para las acometidas de DN $\leq$ 80 y longitudes que no exceden 100 m, a menos que el proyectista decida lo contrario. En estos casos, se debe prestar atención a que no pueda existir migración de agua del tramo en proceso de desinfección hacia la red en servicio.

Equipo para las operaciones de desinfección

Todo equipo utilizado en las operaciones de desinfección debe ser adecuado con los objetivos del tratamiento de agua.

3.3 ELECCIÓN DEL DESINFECTANTE

La utilización de desinfectantes debe efectuarse respetando, donde sean aplicables, las directivas de la UE y reglamentos AELC, asimismo deben observarse las reglamentaciones nacionales y locales.

La elección del desinfectante debe considerar factores como la vida útil del producto y facilidad de utilización (probabilidad de accidentes al personal y al medio ambiente). Además, la elección debe hacerse en función del

tiempo de contacto necesario y de ciertos aspectos cualitativos del agua, como, por ejemplo: el pH y, en el caso de utilizar hipoclorito de calcio, la dureza del agua.

Todo producto químico utilizado para la desinfección de las redes de agua debe ser conforme a los requisitos para productos químicos utilizados en el tratamiento del agua, en aplicación de las normas nacionales, trasponiendo normas europeas cuando estén disponibles.

La tabla que se muestra más adelante ofrece recomendaciones relativas a la elección de desinfectantes apropiados, concentraciones máximas, restricciones de utilización y a los agentes neutralizantes.

3.4 PROCEDIMIENTOS DE DESINFECCIÓN

Especificaciones generales

Están permitidos los métodos de desinfección siguientes:

- Método por lavado (enjuagado) con agua potable sin adición de desinfectante, con o sin inyección de aire;
- Método estático utilizando agua potable, con adición de desinfectante;
- Método dinámico utilizando agua potable con adición de desinfectante.

La duración mínima de contacto debe especificarla el proyectista tomando en consideración el diámetro, la longitud, el material de la conducción, así como las condiciones de instalación del tramo a desinfectar.

En todo caso, debe asegurarse de que la solución de agua potable y desinfectante no puede filtrarse en la red de abastecimiento de agua potable en servicio.

Procedimiento por lavado (enjuagado)

Efectuar el lavado con agua potable. El proyectista debe especificar la velocidad, la duración mínima de la operación y la utilización o no de inyección de aire.

Procedimiento estático

Efectuar la desinfección permitiendo a la solución desinfectante permanecer en el tramo de conducción totalmente llena. El proyectista debe especificar la concentración de desinfectante a utilizar y la duración mínima de contacto.

Si se especifica por el proyectista, la desinfección por el método estático debe efectuarse en combinación con la prueba principal de presión. En ese caso, el tramo en proceso de desinfección debe estar físicamente aislado de la red de agua potable en servicio. Realizando esta opción, el proyectista debe evitar el riesgo de daños al medioambiente que podrían ocurrir si por accidente se liberase solución desinfectante.

Procedimiento dinámico

Efectuar la desinfección haciendo pasar un volumen de la solución desinfectante a través del tramo de conducción completamente lleno. El proyectista debe especificar el volumen, su velocidad de avance, así como la concentración de la solución desinfectante.

3.5 OBTENCIÓN DE LA CONFORMIDAD MICROBILÓGICA E INFORME

Tras la operación de desinfección, lavar el tramo de conducción tantas veces como sea necesario para garantizar que la concentración residual de desinfectante del agua en la conducción no sobrepase las especificaciones de las directivas de la UE o de los reglamentos AELC donde sean aplicables. Retirar la solución desinfectante sin dañar para el medioambiente.

Donde sea necesario, utilizar un producto neutralizador (véase tabla).

Desinfectante (en solución)	Concentración máxima recomendada (mg/l)	Agentes neutralizantes
Cloro gas (Cl_2)	50 (como Cl)	Dióxido de azufre (SO_2) Tiosulfato de sodio ($Na_2S_2O_3$)
Hipoclorito de sodio NaClO	50 (como Cl)	Dióxido de azufre (SO_2) Tiosulfato de sodio ($Na_2S_2O_3$)
Hipoclorito de calcio $Ca(ClO)_2$	50 (como Cl)	Dióxido de azufre (SO_2) Tiosulfato de sodio ($Na_2S_2O_3$)
Permanganato potásico $KMnO_4$	50 (como $KMnO_4$)	Dióxido de azufre (SO_2) Tiosulfato de sodio ($Na_2S_2O_2$) Sulfato de hierro ($FeSO_4$)
Peróxido de hidrogeno H_2O_2	150 (comoH_2O_2)	Tiosulfato de sodio ($Na_2S_2O_2$) Sulfito de sodio ($Na_2S_2O_3$) Sulfito de calcio ($CaSO_3$)
Dióxido de cloro ClO_2	50 (como Cl)	Tiosulfato de sodio ($Na_2S_2O_2$)

Cuando el tramo de conducción se llene con agua potable de la red, tomar muestra en puntos del tramo y en intervalos de tiempo especificados por el proyectista, en conformidad con las reglamentaciones sanitarias si son deaplicación.

Analizar las muestras para comprobar que se respeten los criterios de conformidad microbiológica prescritos. A menos que se especifique otra cosa, el procedimiento de toma de muestras y su análisis, no necesita aplicarse a tramos cortos de conducción principal, a trabajos de reparación cualquiera que sea el diámetro de la sección, y a las acometidas de DN $\leq$ 80 mm.

Si los resultados de las pruebas son satisfactorios, conectar el tramo de la conducción tan pronto como sea posible a la red de distribución de agua para evitar todo riesgo de nueva contaminación. Si los resultados de las pruebas no son satisfactorios, efectuar un nuevo procedimiento de desinfección hasta obtener la conformidad microbiológica antes de la puesta en servicio.

Crear y archivar un registro completo de los detalles de todo el procedimiento y de los resultados de ensayo. Se aporta en el *Apéndice 2. Acta de limpieza y desinfección de redes* modelo a tal efecto.

4. CUMPLIMIENTO NORMATIVA SANITARIA

Los materiales que se van a utilizar y que estarán en contacto directo con el agua son los siguientes:

- MORTERO IMPERMEABILIZANTE MONOCOMPONENTE SIKA TOP® SEAL-107 O SIMILAR

Este material es apto para su uso como impermeabilizante en contacto con agua potable, dispone de marcado CE y certificado de cumplimiento del *Real Decreto 3/2023, de 10 de enero, por el que se establecen los criterios técnico-sanitarios de la calidad del agua de consumo, su control y suministro.*

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

Redactor de proyecto: Juan Carlos Arroyo Portero ICCP	**Redactor adjunto:** Jesús Jiménez Cañas ICCP

APÉNDICE 1. FORMATOS NORMALIZADOS DE SOLICITUD

ANNEX II. DECLARACIÓ RESPONSABLE PER A LA INSCRIPCIÓ EN EL REGISTRE D'ENTITATS GESTORES DELS ABASTAMENTS D'AIGUA DE CONSUM HUMÀ O DE QUALSEVOL ALTRA ACTIVITAT LLIGADA A AQUESTS ABASTAMENTS DE LES ILLES BALEARS

DADES DE L'ENTITAT GESTORA I DEL REPRESENTANT LEGAL

LLINATGES I NOM O RAÓ SOCIAL:
DNI O CIF:

DOMICILI SOCIAL

Tipus i nom de la via:						
Localitat:	Núm	Bloc	Escala	Pis	Porta	CP
Municipi / Província	Telèfon	E-mail		Fax		
LLINATGES I NOM DEL REPRESENTANT LEGAL: (parentesc amb la persona difunta o empresa autoritzada)						
DNI:	Telèfon:					
Títol de representació:						
Denominació industrial:						

DOMICILI INDUSTRIAL:

Tipus i nom de la via:					Núm:
Localitat:	CP:	Municipi:	Província o Illa	Telèfon:	Fax:

DOMICILI A EFECTES DE NOTIFICACIÓ:

Tipus i nom de la via:				Núm:
Localitat:	Bloc:	Escalera:	Piso:	Puerta:
CP:	Municipi:	Província o illa:	E-mail:	

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Tel. 971 17 73 83
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DADES DE LA ZONA D'ABASTAMENT

Tipus de zona d'abastament [senyaleu-lo amb una x]

- ☐ Subministrament mitjançant xarxes publiques o privades
- ☐ Subministrament mitjançant cisternes o dipòsits mòbils
- ☐ Subministrament mitjançant pou propi

Denominació de la zona d'abastament:

Municipi on s'ubica:

Instal·lacions de la zona d'abastament:

- Captacions:
- Dipòsits:
- Tractaments:
- Xarxes:
- Cisternes o dipòsits mòbils:
- Laboratori que fa els controls analítics:

ALTRES DADES (TAN SOLS ENTITATS GESTORES DE CISTERNES O DIPÒSITS MÒBILS)

Matrícula dels camions cisterna:

Número d'identificació dels dipòsits mòbils:

Capacitat de les cisternes o dipòsits mòbils (en m^3):

Dates de fabricació:

Denominació de la zona d'abastament on carrega l'aigua:

Nom de l'entitat gestora de la zona d'abastament on carrega l'aigua:

OBJECTE DE LA DECLARACIÓ RESPONSABLE [SENYALEU-LO AMB UNA X]

☐ Inici de l'activitat

☐ Canvi de titular

Nom o raó social del titular anterior:

Núm. En el REGISTRE D'ENTITATS GESTORES:

Cif del titular anterior:

☐ Canvi de denominació de la instal·lació

Denominació anterior de la instal·lació:

☐ Canvi de denominació social

Denominació social anterior:

☐ Canvi de domicili

Domicili industrial anterior:

Domicili social anterior:

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Tel. 971 17 73 83
salutambiental.caib.es

☐ Ampliació de l'activitat

Núm. de registre:

Nova activitat:

☐ Ampliació/baixa de les instal·lacions

Instal·lació:

☐ Cessament de les activitats
☐ Cancel·lació de la inscripció en el REGISTRE D'ENTITATS GESTORES

DOCUMENTACIÓ ADJUNTA [SENYALEU-LA AMB UNA X]

☐ Informe descriptiu de l'activitat

☐ Esquema de les instal·lacions que integren la zona d'abastament, amb la denominació de totes les infraestructures (captacions, dipòsits, tractaments, xarxes, cisternes o dipòsits mòbils)
☐ Anàlisi completa de les captacions i de l'aigua distribuïda si hi ha un ETAP, amb una antiguitat màxima de tres mesos. Si es tracta de gestors de cisternes o dipòsits mòbils, l'analítica ha de correspondre a la zona d'abastament on carrega l'aigua.
☐ Document que acredita que s'ha abonat la taxa corresponent

Les entitats gestores de cisternes o dipòsits mòbils han d'adjuntar també els documents següents:

☐ Documentació del material de construcció de la cisterna o del dipòsit mòbil
☐ Còpia de la targeta de transport emesa per l'organisme competent
☐ Document que acredita que s'ha abonat la taxa per a l'emissió d'un informe per cada mòbil.

REQUISITS GENERALS [SENYALEU-LO AMB UNA X]

☐ Dispòs de les escriptures de constitució i dels estatuts socials —si en té— de l'entitat, degudament inscrits en el Registre Mercantil
☐ Dispòs del títol que acredita l'explotació de la infraestructura
☐ Dispòs del CIF de l'entitat
☐ Dispòs del document que acredita la representació legal de l'entitat
☐ Dispòs de l'autorització de la Direcció General de Recursos Hídrics per a l'ús de la captació com a aigua per al consum humà.
☐ No dispòs de l'autorització de la Direcció General de Recursos Hídrics sobre l'ús de la captació com a aigua per al consum humà, atès que no cal per a aquesta activitat.
☐ Dispòs de plànols actualitzats de tota la xarxa de distribució d'aigua.
☐ Dispòs del programa d'autocontrol i de gestió de l'abastament.

En el cas d'entitats gestores distribuïdores d'aigua amb camions cisterna o dipòsits mòbils:

☐ Dispòs del document que acredita la inscripció de la zona d'abastament en el REGISTRE D'ENTITATS GESTORES.

☐ Dispòs de la resta de la documentació que acredita les dades que consten en aquesta declaració.
☐ Declar que les instal·lacions, els equipaments, les eines i la qualitat de l'aigua compleixen allò que disposa la normativa específica aplicable.
☐ Dispòs del programa d'autocontrol i de gestió de l'abastament.

En cas que apliqui un tractament, dispòs de la documentació següent per a cada substància:

☐ Fitxa completa de les dades de seguretat.
☐ Manual d'ús, en el qual consten almenys la manera d'ús, la dosi recomanada, la finalitat del producte i les incompatibilitats amb altres productes o materials.
☐ Certificat que acredita que els resultats de l'anàlisi d'una mostra de la substància, de les impureses i dels subproductes principals compleixen les normes UNE-EN, o bé certificat del producte expedit per una entitat certificadora acreditada per l'agència espanyola d'acreditació competent.

En cas de canvi de titularitat:

☐ Dispòs del document de cessió del núm. REGISTRE D'ENTITATS GESTORES del titular anterior al nou titular, signat per ambdues parts.

DECLAR sota la meva responsabilitat que les dades consignades són exactes i que les activitats que declar compleixen els requisits exigits per la normativa específica aplicable. A més, manifest que sé que l'incompliment del que disposa aquesta declaració pot donar lloc a les responsabilitats previstes per la Llei 14/1986, de 25 d'abril, general de sanitat; per la Llei 5/2003, de 4 d'abril, de salut de les Illes Balears, i per la resta de la normativa sectorial aplicable.

Informació sobre protecció de dades personals

De conformitat amb el Reglament (UE) 2016/679 (RGPD) i la legislació vigent en matèria de protecció de dades, s'informa del tractament de les dades personals que conté aquest formulari

Finalitat del tractament i base jurídica: tramitació del procediment administratiu *Aigües de Consum Humà: Inscripció en el Registre d'Entitats Gestores dels Abastaments d'Aigues de Consum Humà o de qualsevol altre activitat lligada a aquests abastaments de les Illes Balears,* d'acord la Directiva 98/83/CE del Consell de 3 de novembre de 1998, relativa a la qualitat de les aigües destinades al consum humà, Ordre SCO/1591/2005, de 30 de maig, sobre el Sistema d'Informació Nacional d'Aigua de Consum (SINAC), Ordre SAS/1915/2009, de 8 de juliol sobre substàncies per al tractament de l'aigua destinada a la producció d'aigua de consum humà i el Reial Decret 140/2003, de 7 de febrer, pel qual s'estableixen els criteris sanitaris de la qualitat de l'aigua de consum humà.

Responsable del tractament: Direcció General de Salut Pública.

Destinataris de les dades personals: no se cediran les dades personals a tercers, tret que hi hagi obligació legal o interès legítim d'acord amb el RGPD.

Termini de conservació de les dades personals: Serà d'aplicació el previst a la normativa d'arxius i documentació.

Existència de decisions automatitzades: no n'hi ha

Transferències de dades a tercers països: les dades no es transferiran a tercers països

Exercici de drets i reclamacions: la persona afectada pel tractament de dades personals pot exercir els seus drets d'informació, d'accés, de rectificació, de supressió, de limitació, de portabilitat, d'oposició i de no inclusió en tractaments automatitzats (i,

fins i tot, de retirar el consentiment, si és el cas, en els termes que estableix el RGPD) davant el responsable del tractament esmentat abans, mitjançant el procediment «Sol·licitud d'exercici de drets en matèria de protecció de dades personals», previst en la seu electrònica de la CAIB (seu electrònica).

Amb posterioritat a la resposta del responsable o al fet que no hi hagi resposta en el termini d'un mes, pot presentar la «Reclamació de tutela de drets» davant l'Agència Espanyola de Protecció de Dades (AEPD).

Delegació de Protecció de Dades: la Delegació de Protecció de Dades de l'Administració de la CAIB té la seu a la Conselleria de Presidència, Cultura i Igualtat (passeig de Sagrera, 2, 07012 Palma).

Adreça electrònica de contacte: protecciodades@dpd.caib.es.

, de de 20

[Signatura i segell]

G CONSELLERIA
O SALUT
I DIRECCIÓ GENERAL
B SALUT PÚBLICA
/ I PARTICIPACIÓ

Annex IV. Sol·licitud informe sanitari per a posar en funcionament noves instal·lacions

DADES DE L'ENTITAT GESTORA I DEL REPRESENTANT LEGAL

Llinatges i nom o Raó social: DNI o CIF:

DOMICILI SOCIAL

Tipus i nom de la via:

Número: Bloc: Escala: Porta: Localitat:

CP: Municipi: Província o illa: Telèfon: Fax:

Llinatges i nom del representant legal:

DNI: Telèfon:

Títol de representació:

Denominació industrial:

DOMICILIO INDUSTRIAL

Tipus i nombre de la via:

Número: Bloc: Escala: Puerta: Localitat:

CP: Municipi: Província o illa: Telèfon: Fax:

Domicili a efectes de notificació

Número: Bloc: Escala: Porta: Localitat:

CP: Municipi: Província o illa: Telèfon: Fax:

Direcció electrònica

TIPUS D'INFRAESTRUCTURA (MARCAR CON UNA X)

Captació ☐ Dipòsit ☐ Estació de tractament d'aigües potables (ETAP) ☐

Xarxa de distribució ☐ Canalització ☐

Protecció de dades

D'acord amb l'article 5 de la Llei orgànica 15/1999, de 13 de desembre, de protecció de dades de caràcter personal, consentiu expressament que les dades facilitades siguin recollides i tractades en un fitxer del qual és titular el centre gestor d'aquest procediment, al qual està destinat aquest escrit. Podeu exercir els drets d'accés, rectificació, cancel·lació i oposició davant aquest centre gestor.

, de de 20

[Firma i segell]

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ANNEX III. SOL·LICITUD D' INFORME SANITARI SOBRE EL PROJECTE DE NOVA INFRAESTRUCTURA

DADES DE L' ENTITAT GESTORA I DEL REPRESENTANT LEGAL

LLINATGES I NOM O RAÓ SOCIAL:					
DNI O CIF**:**					
Domicili social					
TIPUS I NOM DE LA VIA:	NÚMERO:	Bloc:	Escala:	Pis:	Porta:
LOCALITAT:	CP:	MUNICIPI:	PROVÍNCIA O ILLA:	TELÈFON:	FAX:
LLINATGES I NOM DEL REPRESENTANT LEGAL:		DNI:		TELÈFON:	
TÍTOL DE REPRESENTACIÓ:					
DENOMINACIÓ INDUSTRIAL:					
Domicili industrial					
TIPUS I NOM DE LA VIA:	NÚMERO	LOCALITAT:			
CODI POSTAL:	MUNICIPI:	PROVÍNCIA O ILLA:			
TELÈFON:	FAX**:**				
Domicili a efectes de notificació					
TIPUS I NOM DE LA VIA:	NÚMERO:	BLOC:	ESCALA:	PIS:	
PORTA:	LOCALITAT:				
CODI POSTAL:	MUNICIPI:	PROVÍNCIA O ILLA:	DIRECCIÓ ELECTRÒNICA:		

TIPUS D' INFRAESTRUCTURA (MARCAR AMB UNA X)

- ☐ Captació
- ☐ Depòsit
- ☐ Estació de tractaments d'aigües potables (ETAP)
- ☐ Xarxa de distribució
- ☐ Canonada

Protecció de dades

D'acord amb l'article 5 de la Llei orgànica 15/1999, de 13 de desembre, de protecció de dades de caràcter personal, consentiu expressament que les dades facilitades siguin recollides i tractades en un fitxer del qual és titular el centre gestor d'aquest procediment, al qual està destinat aquest escrit. Podeu exercir els drets d'accés, rectificació, cancel·lació i oposició davant aquest centre gestor.

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Tel. 971 17 73 83
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DOCUMENTACIÓ

Documentació que es pot obtenir per mitjans telemàtics

Autoritz l'obtenció dels documents o dades necessàries per a la tramitació d'aquest procediment que puguin ser consultats a través de xarxes corporatives o sistemes electrònics habilitats a l'efecte (art. 28.2 de la Llei 39/2015, d'1 d'octubre, del procediment administratiu comú de les administracions públiques).

☐ No ho autoritz (*En aquest cas, heu d'aportar la documentació que es requereix en el procediment que correspon*)

- *Dades d'identitat (DNI).*

Documentació que aporta

DOCUMENTACIÓ ADJUNTA (SENYALAU AMB UNA X)

PROJECTE SIGNAT PER UN TÈCNIC COMPETENT.

☐ PLÀNOLS DE LA UBICACIÓ DE TOTES LES INFRAESTRUCTURES A ESCALA 1:5.000.

☐ PLÀNOLS COMPLETS I DETALLATS DE TOTES LES INFRAESTRUCTURES.

☐ ESQUEMA DETALLAT DEL FUNCIONAMENT DE TOTA LA INSTAL·LACIÓ.

☐ INFORME EXPLICATIU DETALLAT DE TOT EL PROCÉS (DES DE LA CAPTACIÓ FINS A LA XARXA DE DISTRIBUCIÓ).

☐ DOSSIER DE TOTS ELS MATERIALS DE CONSTRUCCIÓ, QUE HAN DE COMPLIR EL QUE DISPOSA L'ARTICLE 14 DEL REIAL DECRET 140/2003.

☐ JUSTIFICACIÓ QUE L'AIGUA DISTRIBUÏDA COMPLEIX ELS CRITERIS DE QUALITAT ESTABLERTS EN L'ANNEX I DEL REIAL DECRET 140/2003.

☐ AUTORITZACIÓ D'ABOCAMENT, SI CAL.

☐ DOCUMENT QUE ACREDITA QUE S'HA ABONAT LA TAXA CORRESPONENT.

DECLAR sota la meva responsabilitat que les dades consignades són exactes..

, d de 20

Signatura

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APÉNDICE 2. ACTA DE LIMPIEZA Y DESINFECCIÓN DE REDES

ZONA DE ABASTECIMIENTO:
GESTOR:

ACTA DE LIMPIEZA Y DESINFECCIÓN-CONDUCCIONES

DATOS GENERALES DE LA CONDUCCIÓN		
FUNCIÓN:	MATERIAL:	DIÁMETRO NOMINAL:
LONGITUD DEL TRAMO :	CAPACIDAD (m^3):	

LIMPIEZA PREVIA		
FECHA:		
PUNTO DE ALIMENTACIÓN:	PUNTO DE VACIADO:	
PROCEDENCIA DEL AGUA:		
HORA DE INICIO:	TIEMPO DE LLENADO:	HORA DE VACIADO:

HIPOCLORITO SÓDICO (CLORO SANITARIO)

MARCA:
CONCENTRACIÓN CLORO ACTIVO:
PROPORCIÓN NECESARIA PARA CONCENTRACIÓN FINAL DE 25 mg/l: ml/m^3 agua
CANTIDAD TOTAL NECESARIA:
ADJUNTAR A ESTE ACTA :

- Ficha completa de datos de seguridad.
- Manual de Uso.
- Analítica con Certificado por empresa acreditada con cumplimiento de la normativa (<2 años).

DESINFECCIÓN DÍA 1	
FECHA:	
PUNTO DE ADICCIÓN DE CLORO:	PUNTO DE LLENADO DE LA TUBERÍA:
HORA INICIO DE LLENADO:	HORA FINAL DE LLENADO:
PROCEDENCIA DEL AGUA:	
TIEMPO DE PERMANENCIA DE LA MEZCLA EN LA CONDUCCIÓN (Mín. 24 h.):	

ACLARADO DÍA 2	
FECHA:	
PUNTO DE VACIADO:	HORA DE VACIADO:
TIEMPO DE ACLARADO (Mín. 1 h.):	
PUNTO DE LLENADO DE LA TUBERÍA:	
HORA INICIO DE LLENADO:	HORA FINAL DE LLENADO:
PROCEDENCIA DEL AGUA:	
TIEMPO DE PERMANENCIA HASTA RESULTADO DE ANÁLISIS.	

INFORMACIÓN LABORATORIO	
LABORATORIO:	RESULTADO ANALÍTICAS:
ADJUNTAR ANALÍTICAS Y ACREDITACIONES DEL LABORATORIO.	

LIMPIEZA FINAL		
FECHA (Máx. 2-3 días antes a la Puesta en Servicio)		
PUNTO DE ALIMENTACIÓN:	PUNTO DE VACIADO:	
PROCEDENCIA DEL AGUA:		
HORA DE INICIO:	TIEMPO DE LLENADO:	HORA DE VACIADO:

Fecha y lugar:

Fdo. Gestor del Abastecimiento

APÉNDICE 3. TABLAS PARÁMETROS DE CALIDAD

ANEXO I RD 3/2023

ANEXO I

Parámetros y valores paramétricos

Parte A. Parámetros microbiológicos

Tabla 1. Valores paramétricos de los parámetros microbiológicos.

	Parámetro	Valor Paramétrico	Unidad	Nota
1	*Escherichia coli.*	0	UFC o NMP en 100 ml	
2	*Enterococo intestinal.*	0	UFC o NMP en 100 ml	
3	*Clostridium perfringens* (incluidas las esporas).	0	UFC en 100 ml	1
4	*Legionella* spp.	100	UFC en 1 L	2 y 3

Notas:

1	Cuando la determinación sea positiva y exista una turbidez mayor 4 UNF se determinarán, en la salida de ETAP o depósito de cabecera, «*Cryptosporidium*» u otros microorganismos o parásitos que señale la autoridad sanitaria.
2	Cuando supere el valor paramétrico se deberá identificar si es *Legionella pneumophila* y su serogrupo. Se seguirá lo dispuesto en el Real Decreto 487/2022, de 21 de junio, por el que se establecen los requisitos sanitarios para la prevención y el control de la legionelosis.
3	En el caso de las unidades de cuidados aumentados de hospitales, en los grifos asistenciales el valor paramétrico de *Legionella* spp deberá ser: «no detectable /L» y además se deberá controlar la *Pseudomonas aeruginosa* con valor de referencia menor a 1 UFC /100ml.

Parte B. Parámetros químicos

Tabla 2. Valores paramétricos de los parámetros químicos.

	Parámetro	Valor Paramétrico	Unidad	Nota
5	Acrilamida (CAS 79-06-01).	0,10	µg/L	1
6	Antimonio.	10	µg/L	
7	Arsénico.	10	µg/L	
8	Benceno (CAS 71-43-2).	1,0	µg/L	
9	Benzo(a)pireno (CAS 50-32-8).	0,010	µg/L	
10	Bisfenol a (CAS 80-05-7).	2,5	µg/L	
11	Boro.	1,5	mg/L	2
12	Bromato.	10	µg/L	
13	Cadmio.	5,0	µg/L	
14	Cianuro total.	50	µg/L	
15	Clorato.	0,25	mg/L	3
16	Clorito.	0,25	mg/L	3
17	Cloruro de Vinilo (CAS 75-01-4).	0,50	µg/L	1
18	Cobre.	2,0	mg/L	
19	Cromo total.	25	µg/L	4
20	1,2-Dicloroetano (CAS 107-06-2).	3,0	µg/L	
21	Epiclorhidrina (CAS 106-89-8).	0,10	µg/L	1

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	Parámetro	Valor Paramétrico	Unidad	Nota
22	Fluoruro.	1,5	mg/L	
23	Mercurio.	1,0	µg/L	
24	Microcistina – LR.	1,0	µg/L	5
25	Níquel.	20	µg/L	
26	Nitrato.	50	mg/L	6
27	Nitritos.	0,50	mg/L	6 y 7
28	Plaguicida individual.	0,10	µg/L	8 y 9
29	Plomo.	5,0	µg/L	10
30	Selenio.	20	µg/L	11
31	Uranio.	30	µg/L	
	Parámetros sumatorios (Nota 19):			
32	∑5 Ácidos Haloacéticos (HAH).	60	µg/L	12
33	∑4 Hidrocarburos Policíclicos Aromáticos (HPA).	0,10	µg/L	13
34	∑20 PFAS.	0,10	µg/L	14 y 15
35	∑n Plaguicidas totales.	0,50	µg/L	16
36	∑2 Tricloroeteno + Tetracloroeteno.	10	µg/L	17
37	∑4 Trihalometanos (THM).	100	µg/L	18

Notas:

1	El valor paramétrico se refiere a la concentración de monómero residual en el agua, calculada de acuerdo con las especificaciones de la liberación máxima del polímero correspondiente en contacto con el agua.
2	Se aplicará un valor paramétrico de 2,4 mg/L cuando en el origen total del agua sea de transición o costera y el tratamiento de potabilización sea de desalación o bien en zona de abastecimiento que tengan captaciones en aguas subterráneas cuyas condiciones geológicas puedan provocar niveles elevados de boro.
3	Se aplicará un valor paramétrico de 0,7 mg/L cuando se empleen los métodos de desinfección que generen clorato o clorito, en particular, dióxido de cloro e hipoclorito, para la desinfección de aguas de consumo. En caso de superar el valor paramétrico de 0,25 mg/L como valor medio anual, los operadores deberán garantizar y adaptar sus instalaciones en el uso de las mejores técnicas disponibles para la reducción del valor por debajo del valor paramétrico sin comprometer la eficacia de la desinfección.
4	Hasta el 2 de enero de 2030, el valor paramétrico será 50 µg/L. El valor será de Cromo III + Cromo VI.
5	Cuando el origen del agua sea total o parcialmente de embalse o lago o laguna.
6	Tras la potabilización, se debe cumplir al menos la condición [nitrato] / 50 + [nitrito] / 3 ≤ 1, donde los corchetes significan las concentraciones en mg/L para nitrato (NO_3) y nitrito (NO_2), y que el valor de 0,10 mg/L para nitritos se cumple a la salida de la ETAP.
7	Este valor paramétrico es para red de distribución y depósito de distribución o regulación. En el caso de salida de ETAP o salida de depósito de cabecera el valor paramétrico será de 0,10 mg/L

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8	Se considera Plaguicida a todo Insecticida orgánico; herbicida orgánico; fungicida orgánico; nematocida orgánico; acaricida orgánico; algicida orgánico; rodenticida orgánico; slimicida orgánico; productos relacionados (entre otros, reguladores del crecimiento) y sus metabolitos, tal como se definen en el artículo 3.32 del Reglamento (CE) no 1107/2009, que se consideran relevantes para el agua de consumo. Un metabolito se considera relevante para el agua de consumo si hay razones para considerar que tiene propiedades intrínsecas comparables a las de la sustancia original en términos de su actividad objetivo o que genera (por sí mismo o sus productos de transformación) un riesgo para la salud del usuario. Al menos, se controlarán aquellos plaguicidas que se sospeche que puedan estar presentes en el agua de consumo de la zona de abastecimiento. Las consejerías o departamentos autonómicos competentes en agricultura comunicarán a las Consejerías de Sanidad, a la administración hidráulica y operadores, antes del 1 de noviembre de cada año, el listado de plaguicidas autorizados y utilizados en su territorio; las autoridades sanitarias con dichos listados, establecerán anualmente un listado de plaguicidas y metabolitos relevantes, teniendo en cuenta su posible presencia en el agua de consumo.
9	El valor de 0,1 µg/L se aplicará a los plaguicidas controlados que hubieran estado autorizados en el año anterior. Si el plaguicida controlado está prohibido o no autorizado u otra situación distinta a la autorización, su valor paramétrico deberá estar por debajo de 0,03 µg/L. En el caso de detectarlo se avisará inmediatamente a la autoridad sanitaria y a la Confederación Hidrográfica. El límite de detección, será siempre inferior a 0,03 µg/L.
10	En red de distribución, salida de depósitos y cisternas y salida de ETAP, hasta el 2 de enero de 2030, el valor paramétrico será 10 µg/L; En grifo de las instalaciones interiores, hasta el 2 de enero de 2035, el valor paramétrico será 10 µg/L.
11	Se aplicará un valor paramétrico de 30 µg/L en zonas de abastecimiento cuyas condiciones geológicas de las masas de agua subterráneas puedan tener altos niveles de selenio, tras la autorización de la autoridad sanitaria en base a un estudio geológico del terreno.
12	Se controlará cuando el método de desinfección sea con productos en los que se libere o genere cloro activo. Parámetro sumatorio tras la determinación de 5 sustancias: – Ácido monocloroacético CAS 79-11-8 – Ácido dicloroacético CAS 79-43-6 – Ácido tricloroacético CAS 76-03-9 – Ácido monobromoacético CAS 79-08-3 – Ácido dibromoacético CAS 631-64-1 El operador se esforzará en obtener un valor lo más bajo posible, sin comprometer en ningún momento la desinfección.
13	Parámetro sumatorio tras la determinación de 4 sustancias: – Benzo(b)fluoranteno CAS 205-99-2 – Benzo(ghi)perileno CAS 191-24-2 – Benzo(k)fluoranteno CAS 207-08-9 – Indeno(1,2,3-cd)pireno CAS 193-39-5
14	Parámetro sumatorio tras la determinación de sustancias perfluoroalquiladas y polifluoroalquiladas consideradas como contaminantes de preocupación emergente en agua de consumo: – Ácido perfluorooctanoico (PFOA) CAS: 335-67-1 – Ácido perfluorooctanosulfónico (PFOS) CAS: 1763-23-1 – Ácido perfluorononanoico (PFNA) CAS: 375-95-1 – Ácido perfluorohexanosulfónico (PFHxS) CAS: 355-46-4 – Ácido perfluorobutanosulfónico (PFBS) CAS: 375-73-5 – Ácido perfluorobutanoico (PFBA) CAS: 375-22-4 – Ácido perfluorodecano sulfónico (PFDS) CAS: 335-77-3 – Ácido perfluorodecanoico (PFDA) CAS: 335-76-2 – Ácido perfluorododecano sulfónico (PFDoS) CAS: 79780-39-5 – Ácido perfluorododecanoico (PFDoDA) CAS: 307-55-1 – Ácido perfluoroheptano sulfónico (PFHpS) CAS: 375-92-8 – Ácido perfluoroheptanoico (PFHpA) CAS: 375-85-9 – Ácido perfluorohexanoico (PFHxA) CAS: 307-24-4 – Ácido perfluorononanosulfónico (PFNS) CAS: 68259-12-1 – Ácido perfluoropentanosulfónico (PFPeS) CAS: 2706-91-4 – Ácido perfluoropentanoico (PFPeA) CAS: 2706-90-3 – Ácido perfluorotridecano sulfónico (PFTris) CAS: - – Ácido perfluorotridecanoico (PFTrDA) CAS: 72629-94-8 – Ácido perfluoroundecano sulfónico (PFUnS) CAS: 749786-16-1 – Ácido perfluoroundecanoico (PFUnDA) CAS: 2058-94-8 La característica de este grupo de PFAS es que contienen un resto perfluoroalquilo con tres o más carbonos (es decir, –CnF2n–, n ≥ 3) o un resto de perfluoroalquiléter con dos o más carbonos (es decir, –CnF2nOCmF2m−, n y m ≥ 1).

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15	Antes del 2 de enero de 2024, se controlarán estos 4 PFAS con los siguientes valores paramétricos (VP) – Ácido perfluorooctanoico PFOA CAS 335-67-1 VP= 0,07 µg/L – Ácido perfluorooctanosulfónico PFOS CAS 1763-23-1 VP= 0,07 µg/L – Ácido perfluorononanoico PFNA CAS 375-95-1 VP= 0,07 µg/L – Ácido perfluorohexanosulfónico (PFHxS) CAS: 355-46-4 VP= 0,07 µg/L El límite de detección, será siempre inferior a 0,07 µg/L. Estos valores paramétricos solo serán válidos hasta el 2 de enero de 2026.
16	Los valores de los parámetros sumatorios serán el resultado de la suma de los valores cuantificados de los plaguicidas individualizados que puedan estar presentes en el agua de consumo.
17	Parámetro sumatorio tras la determinación de 2 sustancias: – Tricloroeteno CAS 79-01-6 – Tetracloroeteno CAS 127-18-4
18	Parámetro sumatorio tras la determinación de 4 sustancias: – Bromodiclorometano CAS 75-27-4 – Bromoformo CAS 75-25-2 – Cloroformo CAS 67-66-3 – Dibromoclorometano CAS 124-48-1 El operador se esforzará en obtener un valor lo más bajo posible, sin comprometer en ningún momento la desinfección
19	Los valores de los parámetros sumatorios serán el resultado de la suma de los valores cuantificados de los parámetros individualizados en cada uno de los casos.

Parte C. Parámetros indicadores de calidad

Tabla 3. Valores paramétricos de los indicadores de calidad.

	Parámetro	Valor Paramétrico	Unidad	Nota
38	Bacterias coliformes.	0	UFC o NMP / 100 ml	1
39	Recuento de colonias a 22 ºC.	100	UFC / 1 ml	2
40	Colífagos somáticos.	0	UFP / 100 ml	3
41	Aluminio.	200	µg/L	4
42	Amonio.	0,50	mg/L	5
43	Carbono Orgánico total.	5,0	mg/L	6
44	Cloro combinado residual.	2,0	mg/L	7
45	Cloro libre residual.	1,0	mg/L	8
46	Cloruro.	250	mg/L	9
47	Conductividad.	2500	µS/cm a 20 ºC	10
48	Hierro.	200	µg/L	11
49	Manganeso.	50	µg/L	12
50	Oxidabilidad.	5,0	mg/L	13
51	pH.	6,5 a 9,5	Unidades pH	14
52	Sodio.	200	mg/L	15
53	Sulfato.	250	mg/L	16
54	Turbidez.	4,0	UNF	17
55	Índice de Langelier.	+/- 0,5	Unidades de pH	18

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Notas:

1	Si supera este valor, significará que no ha habido una buena desinfección o que ha existido una recontaminación, por lo que se deberán poner medidas correctoras. El valor de no aptitud será 100 UFC/100 ml
2	A la salida del tratamiento el valor de no aptitud será 1.000 UFC/1 ml
3	En caso de aparición en el agua tratada, sin perjuicio de la adopción inmediata de las medidas correctoras adecuadas, si es factible, los operadores deberán realizar una evaluación cuantitativa de riesgo microbiológico viral conforme a los criterios de la OMS.
4	Se recomienda que a partir de 300 µg/L a salida de tratamiento, las medidas correctoras sean de rápida aplicación, ya que significa que ha habido una mala gestión de la ETAP. El valor de no aptitud será 600 µg/L
5	En el caso de emplear productos en los que se libere o genere cloro activo libre, una elevada concentración de amonio reduce la eficacia de la desinfección, por lo que en ningún momento debe sobrepasar 1,00 mg/L. En el caso de emplear monocloraminas se medirá el amonio, como indicador de contaminación, antes de añadir el amoniaco necesario para generar la monocloramina. En el caso de presencia de valores superiores a 0,7 mg/L, se recomienda que las medidas correctoras sean de rápida aplicación El valor de no aptitud será 1,00 mg/L
6	En cuanto se supere el valor de 6 mg/L, las medidas correctoras serán de rápida aplicación. El valor de no aptitud será 7,0 mg/L
7	El valor paramétrico es para red de distribución, cisterna, depósito de distribución o de regulación y grifo. Si por causas diferentes al uso de la cloraminación, la presencia de cloro combinado residual a la salida de tratamiento, sea superior a 1 mg/L, se recomienda que las medidas correctoras sean de rápida aplicación y se realice una revisión de los niveles del cloro libre residual. En el caso de uso de la cloraminación, si se supera el valor paramétrico de cloro combinado residual en la red de distribución, se recomienda que las medidas correctoras sean de rápida aplicación. Además, cuando la autoridad lo considere necesario ante un nivel por encima de 2 mg/L el operador deberá determinar: NDMA CAS: 62-75-9. El valor de no aptitud será 3,0 mg/L
8	Se recomienda que, de forma general, existan al menos niveles de 0,2 mg/L en todos los puntos de la red de distribución. Para garantizar la eficacia de la desinfección se recomienda que durante 30 minutos se mantengan unos niveles de cloro libre residual de al menos 0,5 mg/L con un pH inferior a 8,0 y como máximo, una turbidez de 1 UNF. El valor paramétrico es para red de distribución, cisterna, depósito de distribución o de regulación y grifo El valor de no aptitud será 5,0 mg/L En caso de utilizar dióxido de cloro, el residual a medir será este y se aplicará un límite de 0,8 mg/L.
9	Ante niveles de cloruro superiores al Valor Paramétrico, se recomienda la valoración del potencial corrosivo del agua (Índice de Langelier o el índice de Larson etc.). En función de los resultados, se adoptarán las medidas correctoras oportunas. Las altas concentraciones de cloruro confieren un sabor salado al agua.
10	El agua en ningún momento podrá ser ni agresiva ni incrustante. El resultado de calcular el Índice de Langelier debería estar comprendido entre +0,5 y – 0,5. Se sugiere, también, la utilización del Índice de Ryznar. El valor de no aptitud será 4.000. µS/cm a 20 ºC
11	Cuando existan niveles de hierro superiores a 300 µg/L, se recomienda que las medidas correctoras sean de rápida aplicación. Con la superación del valor paramétrico el agua podría tener color y turbidez. El valor de no aptitud será 600 µg/l
12	Con la superación del valor paramétrico podría dar color y turbidez al agua y dejar manchas en la ropa y sanitarios. El valor de no aptitud será 80 µg/l.
13	En cuanto se supere el VP hay que tomar medidas correctoras de forma inmediata. El valor de no aptitud será 7,0 mg/L
14	El agua en ningún momento podrá ser ni agresiva ni incrustante. El resultado de calcular el Índice de Langelier debería estar comprendido entre +0,5 y –0,5. Se sugiere, también, la utilización del Índice de Ryznar. Los valores de pH deberán estar siempre en concordancia con el sistema de desinfección utilizado para que sea eficaz. Los valores de no aptitud serán los menores de 4,5 y los mayores de 10,0.
15	Ante niveles de sodio superiores al valor paramétrico, se recomienda la valoración del potencial corrosivo del agua (Índice de Langelier o el índice de Larson). En función de los resultados, se adoptarán las medidas correctoras oportunas. El valor de no aptitud será 600 mg/L

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16	Cuando existan niveles de sulfatos superiores a 500 mg/L, se recomienda que las medidas correctoras sean de rápida aplicación. El agua no debe ser agresiva; se debe determinar el Índice de Langelier. El valor de no aptitud será 750 mg/L.
17	Este valor paramétrico es para agua de consumo en depósitos de distribución o regulación y en redes de distribución e instalaciones interiores. A la salida de ETAP o depósito de cabecera, el valor de referencia deberá ser 0,8 UNF. En el control operacional, el valor de referencia en el 95% de las muestras anuales deberán ser igual o menor de 0,3 UNF en la salida del proceso de filtración en la ETAP; en salida del depósito donde se realice el tratamiento; y, a la salida del proceso de tratamiento con tecnología de membranas en una desalinizadora; El valor de no aptitud a la salida de la ETAP o depósito de cabecera será 2 UNF y de 6 UNF en red.
18	El valor del este parámetro estará en relación al pH, cloruros, sulfatos y conductividad.

Parte D. Características organolépticas

Tabla 4. Valores de referencia de las características organolépticas (Nota 1).

	Parámetro	Valor de referencia	Unidad	Nota
56	Color	15	mg/L Pt/Co	
57	Olor	3	Índice dilución	
58	Sabor	3	Índice dilución	

Nota:

1	El valor paramétrico de estos parámetros es: «aceptable para el consumidor y sin cambios anormales». Se considerarán «cambios anormales», a los valores superiores al doble del valor medio de al menos los tres últimos años en red de distribución.

Parte E. Sustancias Radiactivas

Tabla 5. Valores paramétricos de las sustancias radiactivas.

	Parámetro	Valor Paramétrico	Unidad	Nota
59	Actividad alfa total.	0,1	Bq/L	1
60	Actividad beta resto.	1,0	Bq/L	1
61	Radón.	500	Bq/L	2, 3
62	Tritio.	100	Bq/L	4
63	Dosis Indicativa (Σ radionucleidos) DI.	0,10	MSv	5 y 6

Notas:

1	El valor de alfa total y beta resto se considerarán como valores de cribado para el control de la DI y se seguirá lo dispuesto en el anexo V.
2	Siempre que sea posible y sin perjuicio del suministro del agua, las actuaciones de los operadores estarán encaminadas a optimizar la protección de la población cuando los niveles de radón estén por debajo de 500 Bq/L
3	Se consideran justificadas las medidas correctoras por motivos de protección radiológica, sin otra consideración, cuando las concentraciones de radón superen los 1 000 Bq/L
4	Unos niveles de tritio elevados pueden ser indicio de la presencia de otros radionucleidos artificiales. En caso de que la concentración de tritio sea superior a su valor paramétrico, se requerirá un análisis de la presencia de otros radionucleidos artificiales
5	«Dosis indicativa (DI)»:es la dosis efectiva comprometida por un año de ingesta debida a todos los radionúclidos cuya presencia se haya detectado en agua de consumo, ya sean de origen natural o artificial, excluidos el tritio, el potasio-40, el radón y los productos de desintegración del radón de vida corta

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6	Parámetro sumatorio de todos los radionucleidos siguientes:		
	– Am 241 – C 14 – Co 60 – Cs 134 – Cs 137	– I 131 – Pb 210 – Po 210 – Pu 239 – Pu 240	– Ra 226 – Ra 228 – Sr 90 – U 234 – U 238

1. Valores para los radionucleidos naturales y artificiales más comunes;

Se trata de valores precisos, calculados para una dosis de 0,1 mSv y una ingestión anual de 730 litros, utilizándose los coeficientes de dosis recogidos en la tabla A del anexo III del Real Decreto 783/2001, de 6 de julio. Las concentraciones derivadas para otros radionucleidos pueden calcularse sobre la misma base, pudiéndose asimismo actualizar los valores sobre la base de la información más reciente reconocida por el Ministerio de Sanidad. Esta tabla tiene en cuenta solo las propiedades radiológicas del uranio, no su toxicidad química.

Tabla 6. Valores de las concentraciones derivadas de los radionucleidos.

	Parámetro	Concentración derivada	Unidad
Natural	U 238	3,0	Bq/L
	U 234	2,8	Bq/L
	Ra 226	0,5	Bq/L
	Ra 228	0,2	Bq/L
	Pb 210	0,2	Bq/L
	Po 210	0,1	Bq/L
Artificial	C 14	240	Bq/L
	Sr 90	4,9	Bq/L
	Pu 239	0,6	Bq/L
	Pu 240	0,6	Bq/L
	Am 241	0,7	Bq/L
	Co 60	40	Bq/L
	Cs 134	7,2	Bq/L
	Cs 137	11	Bq/L
	I 131	6,2	Bq/L

2. Cálculo de la Dosis Indicativa (D.I.)

La DI se calculará a partir de las concentraciones de radionucleidos medidos y de los coeficientes de las dosis recogidos en la tabla A del anexo III del Real Decreto 783/2001, de 6 de julio, por el que se aprueba el reglamento sobre protección sanitaria contra radiaciones ionizantes, o de información más reciente reconocida por la autoridad sanitaria, basándose en la ingesta anual de agua (730 L para los adultos).

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Si se satisface la fórmula que se indica a continuación, se podrá considerar que la DI es inferior al valor paramétrico de 0,1 mSv, y no se deberá realizar ninguna investigación adicional:

$$\sum_{i=1}^{n} \frac{Ci\ (med)}{Ci(der)} \leq 1$$

dónde:Ci (med) = concentración medida del radionucleido i.
Ci (der) = concentración derivada del radionucleido i.
n = número de radionucleidos detectados.

Parte F. Caracterización de las aguas

Tabla 7. Valores de referencia de los parámetros que caracterizan el agua.

	Parámetro	Valor de referencia	Unidad	Nota
64	Calcio.	100	mg/L	
65	Dureza total.	500	mg/L $CaCO_3$	1
66	Magnesio.	30	mg/L	
67	Potasio.	10	mg/L	

Notas:

1. Para las aguas desalinizadas o ablandadas el valor paramétrico mínimo será al menos 55 mg/L $CaCO_3$.

ANEXO II

Tipos de análisis y frecuencia de muestreo

Parte A. Aspectos generales

1. El control del agua de consumo deberá:

a) Verificar que las medidas establecidas para controlar los riesgos para la salud humana a lo largo de la cadena de suministro de agua desde la zona de captación de la zona protegida, toma de captación, el tratamiento y el almacenamiento hasta la distribución, estén funcionando de manera efectiva y que el agua en el punto de cumplimiento sea salubre y limpia;
b) Proporcionar información sobre la calidad del agua suministrada para consumo para demostrar que se cumplen las obligaciones establecidas en esta normativa y los valores paramétricos establecidos en el anexo I;
c) Identificar las medidas correctoras más adecuadas para mitigar el riesgo para la salud humana.

2. Se realizarán los siguientes análisis y se llevarán a cabo de acuerdo a lo establecido en este anexo:

a) «Control de rutina», tiene por objeto la valoración de las características organolépticas del agua de consumo y el control de la desinfección;
b) «Análisis de control», tiene por objeto facilitar al operador y a la autoridad sanitaria la información sobre la calidad organoléptica y microbiológica del agua de consumo, así como información sobre la eficacia del tratamiento de potabilización;

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APÉNDICE 4. MATERIALES EN CONTACTO CON EL AGUA

ANEXO IX RD 3/2023

7. Inversión y plazos.

a) Plan de inversión desglosado.
b) Cronograma de trabajo.

8. Plan de muestreo propuesto.

Frecuencia de muestreo por punto crítico y punto de control y parámetro.

9. Trámites administrativos realizados.

a) Con la administración local.
b) Con la administración autonómica.

10. Fecha de aprobación.
11. Fecha prevista para la revisión.

Parte D. Seguimiento de la calidad del agua de consumo

Se hará un seguimiento con la frecuencia establecida en esta normativa de:

a) Los parámetros microbiológicos siguientes:

Legionella spp.

b) Los parámetros químicos relacionados con los materiales:

1.º Metálicos: plomo, hierro, cobre, cromo y otros que indique la autoridad sanitaria;
2.º Orgánicos: bisfenol a, cloruro de vinilo, benzo(a)pireno o hidrocarburos policíclicos aromáticos;

c) Los parámetros indicadores:

1.º Olor y sabor (in situ).
2.º Color.
3.º Turbidez.
4.º Cloro libre residual.
5.º Recuento de colonias a 22.ºC.

ANEXO IX

Materiales en contacto con el agua

1. Materiales orgánicos.

Los materiales orgánicos solo estarán hechos de:

a) Sustancias de partida enumeradas en la Lista Europea Positiva de sustancias; y
b) Sustancias para las que puede descartarse que la sustancia y sus subproductos de reacción estén presentes en niveles superiores a 0.1 µg / l en agua de consumo a menos que, para sustancias específicas, se necesite un valor más estricto teniendo en cuenta su toxicidad.

Los materiales orgánicos se someterán a ensayo de acuerdo con la Tabla 24 de acuerdo con los métodos de ensayo especificados en las normas europeas pertinentes o, en su defecto, un método reconocido internacional o nacionalmente y deberán cumplir los requisitos estipulados en el mismo. Para este propósito, los resultados de la prueba en términos de migración de sustancias se convertirán en los niveles esperados en el grifo.

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2. Materiales metálicos.

Solo se utilizarán materiales metálicos incluidos en la Lista Positiva Europea de composición establecida a nivel europeo. Deben cumplirse las limitaciones estipuladas en la Lista Positiva Europea con respecto a la composición de estos materiales, su uso para ciertos productos y el uso de estos productos.

La composición se someterá a ensayo de acuerdo con la Tabla 24 de acuerdo con los métodos de ensayo especificados en las normas europeas pertinentes o, en su defecto, con un método reconocido internacional o nacionalmente y deberán cumplir los requisitos estipulados en el mismo.

3. *Material*es cementosos.

Los materiales cementosos solo estarán hechos de uno o más de los siguientes elementos:

a) Los componentes orgánicos que figuran en la Lista Positiva Europea de componentes establecida a nivel europeo;

b) Los componentes orgánicos para los que puede descartarse que las sustancias y sus productos de reacción estén presentes en niveles superiores a 0.1 µg / l en agua para consumo; o

c) Los constituyentes inorgánicos.

Los materiales cementosos se someterán a ensayo de acuerdo con la Tabla 24 de acuerdo con los métodos de ensayo especificados en las normas europeas pertinentes o, en su defecto, un método reconocido internacional o nacionalmente y deberán cumplir los requisitos estipulados en el mismo. Para este propósito, los resultados de la prueba en términos de migración de sustancias se convertirán en los niveles esperados en el grifo.

4. Esmaltes y materiales cerámicos.

Los esmaltes y materiales cerámicos solo se fabricarán con los tipos de sustancias iniciales que figuran en la Lista Positiva Europea de composiciones establecida a nivel europeo, después de realizar una evaluación de los elementos utilizados en composición de estos materiales.

Los esmaltes y materiales cerámicos se someterán a ensayo de acuerdo con la Tabla 24 de acuerdo con los métodos de ensayo especificados en las normas europeas pertinentes o, en su defecto, un método reconocido internacional o nacionalmente y deberán cumplir los requisitos estipulados en el mismo. Para este propósito, los resultados de la prueba en términos de migración de sustancias se convertirán en los niveles esperados en el grifo.

5. Excepciones para la evaluación de materiales utilizados en componentes menores y ensamblados.

Para productos ensamblados: componentes menores, piezas y materiales se describirán en detalle y los ensayos se reducirán en consecuencia. Para este propósito, 'menor' se refiere a un nivel de influencia en la calidad del agua de consumo que no requiere el ensayo completo.

Tabla 24. Pruebas relacionadas con los tipos de materiales.

Criterios	Orgánico (1)	Metálico (2)	Cementoso	Esmalte y material cerámico
Lista Positiva Europea. LPE.				
Sustancias iniciales para material orgánico.	SI	NO*	SI	NO*

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Criterios	Orgánico (1)	Metálico (2)	Cementoso	Esmalte y material cerámico
Composición metálica aceptada.	NO*	SI	NO*	NO*
Componentes para materiales cementosos.	NO*	NO*	SI	NO*
Composición para esmalte y material cerámico.	NO*	NO*	NO*	SI
Pruebas Organolépticas.				
Olor y sabor.	SI	NO*	SI	NO*
Color y turbidez.	SI	NO*	SI	NO*
Evaluación higiénica.				
Lixiviación de carbono orgánico total.	SI	NO*	SI	NO*
Residuos superficiales (metales).	NO*	SI	NO*	NO*
Pruebas de migración.				
Parámetros de la norma relevantes.	SI	SI	SI	SI
MTCtap de sustancias de la Lista positiva.	SI	NO*	SI (3)	NO*
Sustancias no esperadas (GC-MS).	SI	NO*	SI (3)	NO*
Cumplimiento del a lista de componentes.	NO*	SI	NO*	SI
Crecimiento microbiano.	SI	NO*	SI (3)	NO*

NO*:	No es necesario
MTCtap	Concentración máxima tolerable en el grifo ((derivada del dictamen de la ECHA a efectos de la inclusión de la sustancia en la lista positiva europea o basada en el límite de migración específico establecido en el Reglamento (UE) n.º 10/2011 de la Comisión y teniendo en cuenta un factor de asignación del 10% y un consumo de agua de 2 litros diarios)
GC-MS	Cromatografía de gases - espectrometría de masas (método de detección)

Notas:

1	Excepciones específicas que se determinarán de acuerdo con el apartado 5 de este ANEXO
2	Los metales no estarán sujetos a pruebas organolépticas porque generalmente se acepta que si se cumplen los valores paramétricos establecidos en el ANEXO I, es poco probable que surjan problemas organolépticos
3	Dependiendo de la existencia de sustancias orgánicas en la composición

ANEXO X

Evaluación de las fugas estructurales

Parte A. Obligaciones

1. Las administraciones públicas responsables del suministro urbano de agua de consumo llevarán a cabo una evaluación de fugas detallada, si se encuentran en alguna de las siguientes circunstancias:

a) Atienden singular o mancomunadamente, a una población censada igual o superior a 10.000 habitantes

b) Suministran agua procedente de masas de agua declaradas de riesgo de no alcanzar el buen estado cuantitativo que proporcionen más de 100 metros cúbicos día o abastezcan a más de 500 habitantes

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ANEJO 9 – PROGRAMA DE TRABAJOS

ANEJO 9. PROGRAMA DE TRABAJOS

ÍNDICE

1. PROGRAMA DE TRABAJOS 2

APÉNDICE 1.- DIAGRAMA DE GANTT Y PLANIFICACIÓN ECONÓMICA DE LA OBRA

ANEJO 9. PROGRAMA DE TRABAJOS

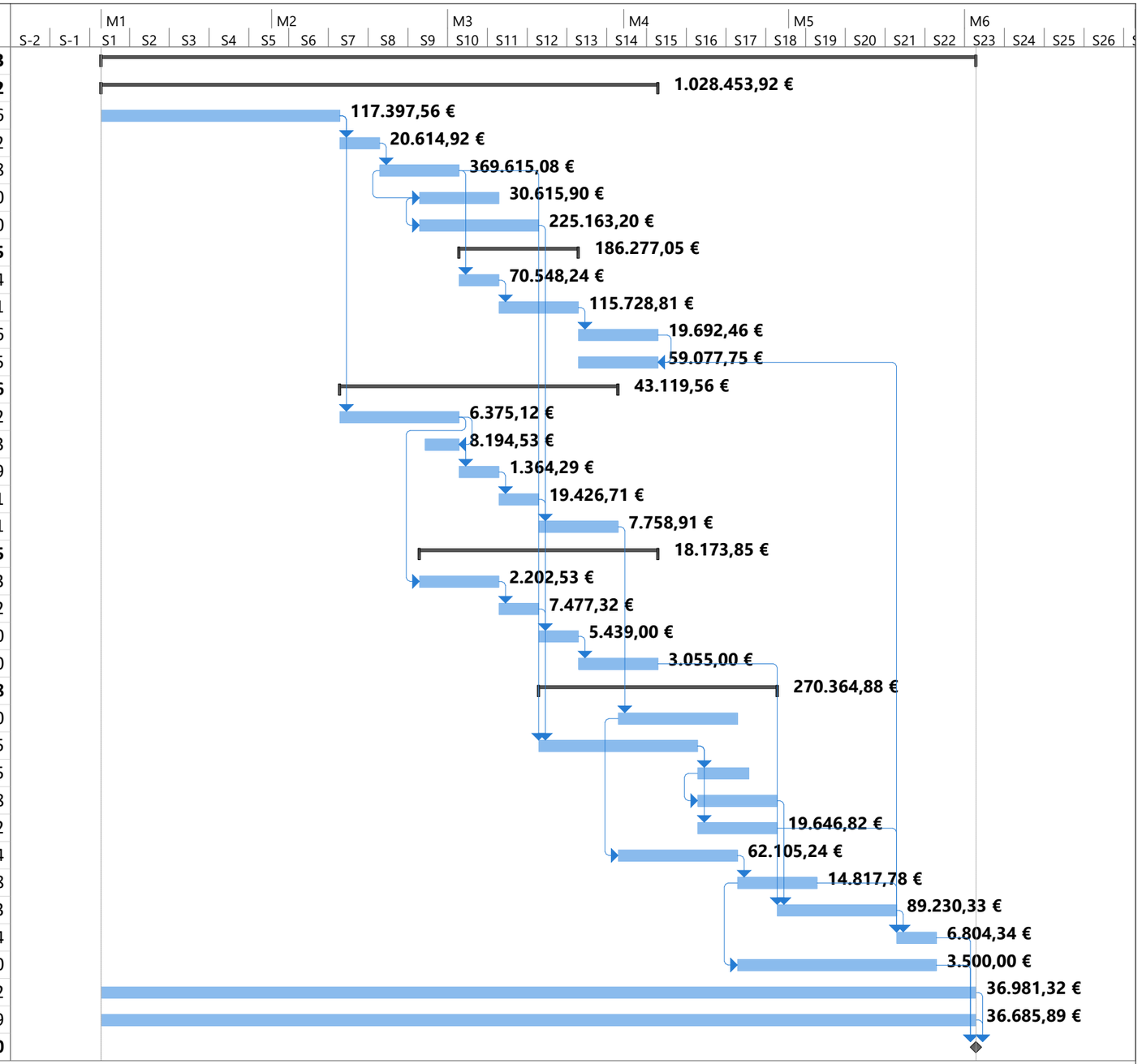
1. PROGRAMA DE TRABAJOS

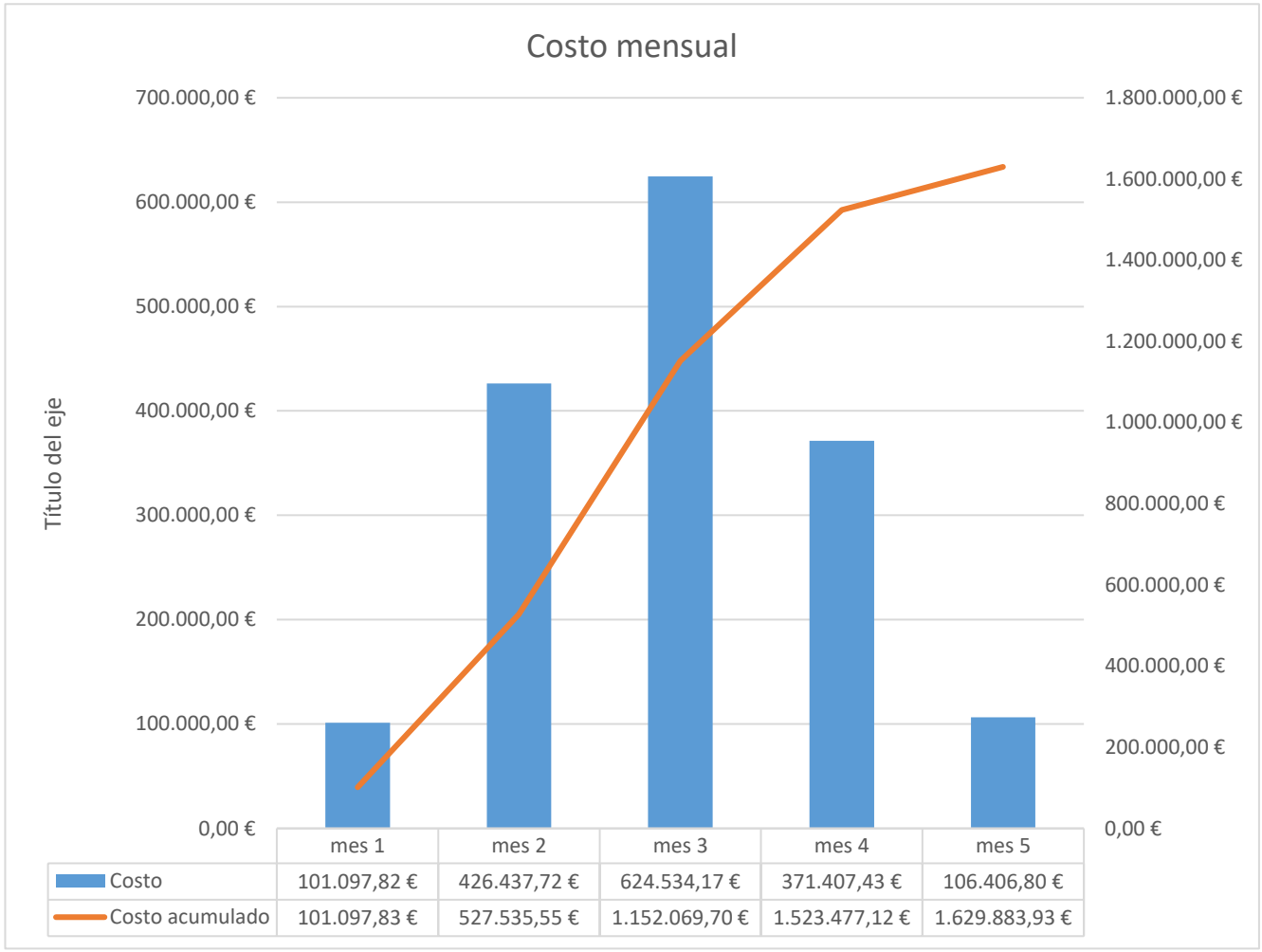
Se presenta a continuación, en el Apéndice Nº 1, el programa de trabajos realizado para la ejecución de las obras, para la duración prevista de 5 meses.

Para dotar al programa de trabajos de un espacio temporal, se han programado con una fecha ficticia con inicio en noviembre de 2023.

APÉNDICE 1. DIAGRAMA DE GANTT Y PLANIFICACIÓN ECONÓMICA DE LA OBRA

Id	Nombre de tarea	Costo total
1	PROYECTO NUEVO DEPÓSITO PREFABRICADO IDAM	**€1.629.883,93**
2	1. DEPÓSITO PREFABRICADO	**€1.028.453,92**
3	1.1 Movimiento de tierras	€117.397,56
4	1.2 Hormigón de limpieza	€20.614,92
5	1.3 Ejecución cimentación (zapatas y losas)	€369.615,08
6	1.4 Montaje de los pilares prefabricados	€30.615,90
7	1.5 Montaje de los muros prefabricados	€225.163,20
8	1.6 Montaje del forjado de cubierta	**€186.277,05**
9	- Montaje vigas prefabricadas	€70.548,24
10	- Montaje placas alveolares	€115.728,81
11	1.7 Impermeabilizaciones y terminaciones	€19.692,46
12	1.8. Ejecución de cubierta y ventilación	€59.077,75
13	2. AMPLIACIÓN CASETA DE BOMBEO	**€43.119,56**
14	2.1 Movimiento de tierras	€6.375,12
15	2.2 Demolición y apeo de muro	€8.194,53
16	2.3 Ejecución de la cimentación	€1.364,29
17	2.4 Ejecución de muros	€19.426,71
18	2.5 Ejecución de cubierta	€7.758,91
19	3. CÁMARA DE LLAVES	**€18.173,85**
20	3.1 Movimiento de tierras	€2.202,53
21	3.2 Ejecución de la cimentación	€7.477,32
22	3.3 Ejecución de muros	€5.439,00
23	3.4 Ejecución de cubierta y ventilación	€3.055,00
24	4. INSTALACION HIDRAULICA	**€270.364,88**
25	4.1 Ejecución grupo de bombeo	€88.611,00
26	4.2 Instalación de tuberías recirculación	€72.701,55
27	4.3 Instalación de tuberías trasvase	€72.701,55
28	4.4 Tuberías de conexión a tramos existentes	€36.350,78
29	5. ACCESOS A CUBIERTA Y CARPINTERÍA	€19.646,82
30	6. INSTALACIÓN ELÉCTRICA Y TELECONTROL	€62.105,24
31	7. INSTALACIÓN CLORACIÓN	€14.817,78
32	8. URBANIZACIÓN DE LA PARCELA	€89.230,33
33	9. REPOSICIONES	€6.804,34
34	10. PUESTA EN SERVICIO DE LAS INSTALACIONES	€3.500,00
35	11. GESTIÓN DE RESIDUOS	€36.981,32
36	12. SEGURIDAD Y SALUD Y LÍNEA DE VIDA	€36.685,89
37	**FIN DE OBRA**	**€0,00**





	mes 1	mes 2	mes 3	mes 4	mes 5
Costo	101.097,82 €	426.437,72 €	624.534,17 €	371.407,43 €	106.406,80 €
Costo acumulado	101.097,83 €	527.535,55 €	1.152.069,70 €	1.523.477,12 €	1.629.883,93 €

ANEJO 10 – ESTUDIO DE SEGURIDAD Y SALUD

DOCUMENTO I. MEMORIA Y ANEJOS

ANEJO 10. ESTUDIO DE SEGURIDAD Y SALUD

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DOCUMENTO Nº 2: PLANOS

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DOCUMENTO Nº 1: MEMORIA

1.OBJETO Y ÁMBITO DE APLICACIÓN

El presente Estudio de Seguridad y Salud en el trabajo pretende analizar, estudiar y desarrollar las previsiones respecto a prevención de riesgos de accidentes, enfermedades profesionales y daños a terceros que durante la ejecución y pruebas de funcionamiento de la obra objeto del presente proyecto.

Servirá para dar unas directrices para llevar a cabo las obligaciones en el campo de la prevención de riesgos profesionales, facilitando su desarrollo, bajo el control de la Dirección Facultativa y del Coordinador de seguridad y salud, de acuerdo con el Real Decreto 1.627/1997, por el que se establecen disposiciones mínimas de seguridad y salud en las obras de construcción (B.O.E. de 24 de octubre de 1997).

El marco jurídico en el que se enmarca el estudio queda recogido en el pliego de condiciones particulares del presente estudio.

Este estudio debe ser complementado, antes del comienzo de la obra, por el Plan de Seguridad y Salud elaborado por el contratista. Dicho Plan desarrollará las medidas preventivas previstas en el estudio, adaptando éstas a las técnicas y soluciones que han de ponerse finalmente en obra. Eventualmente el Plan de Seguridad y Salud podrá proponer alternativas preventivas a las medidas planificadas aquí, en las condiciones establecidas en el artículo 7 del ya citado Real Decreto 1627/1997. En su conjunto el Plan de Seguridad y Salud constituirá el conjunto de medidas y actuaciones preventivas derivadas de este estudio, que el contratista se compromete a disponer en las distintas actividades y fases de la obra, sin perjuicio de las modificaciones y actualizaciones a que pueda haber lugar, en las condiciones reglamentariamente establecidas.

2.DESCRIPCIÓN DE LA OBRA PROYECTADA

Las actuaciones proyectadas, tanto en la construcción del nuevo depósito como en las casetas de bombeo y cámara de llaves, asi como en la instalación hidráulica, se resumen a continuación:

- Excavación del terreno existente en la parcela hasta una profundidad de 1,80 m para posterior relleno de hormigón ciclópeo para mejora de la capacidad portante del terreno.
- Cimentación de losas, zapatas y muros prefabricados sobre la mejora del terreno natural

- Instalación de Muros Prefabricados, ejecución de pilares e instalación de viga semiprefabricada.

Sobre la cubierta se llevarán a cabo las siguientes actuaciones:

- Montaje de Placas Alveolares
- Formación de capa de compresión
- Formación de pendientes
- Impermeabilización de cubierta
- Formación de superficie de acabado
- Remate perimetral
- Montaje rejas ventilación

Como trabajos hidráulicos, destacar las siguientes actuaciones:

- Ejecución de tubería de impulsión desde bombeo a deposito prefabricado
- Ejecución de tubería de aspiración desde depósito prefabricado a bombeo
- Instalación hidráulica y eléctrica del grupo de bombeo de recirculación
- Ejecución de la tubería de trasvase de caudales entre el nuevo depósito y el existente
- Conexión del suministro de la IDAM al nuevo depósito
- Instalación del equipo de cloración

2.1.EMPLAZAMIENTO

Las obras proyectadas se llevarán a cabo en la parcela colindante a la IDAM de Formentera, situada en colindancia con la Avenida del Ca Marí y en las cercanías de la Central Térmica de Endesa.

2.2.PLAZO DE EJECUCIÓN Y MANO DE OBRA ESTIMADA

Plazo de ejecución

El plazo de ejecución previsto es de **CINCO MESES (5)**.

Personal previsto

Se prevé una concurrencia máxima de **DOCE (12) trabajadores**.

2.3.INSTALACIONES Y EQUIPAMIENTO DE SEGURIDAD Y SALUD

La zona de trabajo en la que se ubicarán los equipos, zona de aparcamiento, zona de acopio de materiales, aseos, comedor, etc. será, según lo indicado en los planos del presente anejo, en el aparcamiento Camp de mar anexo a la Avinguda de sa Platja.

2.4.PRESUPUESTO

El presupuesto de ejecución material del presente Estudio de Seguridad y Salud asciende a la cantidad de **VEINTICUATRO MIL CUATROCIENTOS VEINTINUEVE EUROS CON TREINTA Y DOS CÉNTIMOS (24.429,32 €).**

3.MEDIDAS PREVENTIVAS A DISPONER EN OBRA

3.1.MEDIDAS GENERALES

Con el objeto de asegurar el adecuado nivel de seguridad laboral en el ámbito de la obra, son necesarias una serie de medidas generales a disponer en la misma, no siendo éstas susceptibles de asociarse inequívocamente a ninguna actividad o maquinaria concreta, sino al conjunto de la obra. Estas medidas generales serán definidas concretamente y con el detalle suficiente en el plan de seguridad y salud de la obra.

3.2.MEDIDAS DE CARÁCTER ORGANIZATIVO

3.2.1.Formación e información

En cumplimiento del deber de protección, el empresario deberá garantizar que cada trabajador reciba una formación teórica y práctica, suficiente y adecuada, en materia preventiva, centrada específicamente en el puesto de trabajo o función de cada trabajador. En su aplicación, todos los operarios recibirán, al ingresar en la obra o con anterioridad, una exposición detallada de los métodos de trabajo y los riesgos que pudieran entrañar, juntamente con las medidas de prevención y protección que deberán emplear. Los trabajadores serán ampliamente informados de las medidas de seguridad personales y colectivas que deben establecerse en el tajo al que están adscritos, repitiéndose esta información cada vez que se cambie de tajo.

En general siempre se debe intentar utilizar, antes que equipos de protección personal, algún tipo de protección colectiva capaz de evitar la incidencia de los riesgos, ya que éstos no han podido evitarse. No obstante, en muchos casos resultará imprescindible el uso de estas protecciones personales.

Incluso el personal de supervisión debe utilizar, cuando se encuentre en los distintos tajos de estructuras, ropa y calzado adecuados y, por supuesto, el casco de seguridad. Pero, además, en algunos casos concretos, deberá utilizar chaleco reflectante. El equipo básico de los trabajadores estará formado por casco de seguridad, mono y botas. Además, deberá ser complementado en función de los trabajos a realizar por guantes, gafas, mascarillas, protectores auditivos, arneses de seguridad y otros.

El contratista facilitará una copia del plan de seguridad y salud a todas las subcontratas y trabajadores autónomos integrantes de la obra, así como a los representantes de los trabajadores.

El plan de seguridad y salud establecerá todas las protecciones colectivas e individuales para cada uno de los tajos, en función de sus características concretas y de los riesgos identificados en cada caso.

3.2.2.Servicios de prevención y organización de la seguridad y salud en la obra

La empresa constructora viene obligada a disponer de una organización especializada de prevención de riesgos laborales, de acuerdo con lo establecido en el Real Decreto 39/1997, citado: cuando posea una plantilla superior a los 250 trabajadores, con Servicio de Prevención propio, mancomunado o ajeno contratado a tales efectos, en cualquier caso debidamente acreditado ante la Autoridad laboral competente o, en supuestos de menores plantillas, mediante la designación de uno o varios trabajadores, adecuadamente formados y acreditados a nivel básico, según se establece en el mencionado Real Decreto 39/1997.

La empresa contratista encomendará a su organización de prevención la vigilancia de cumplimiento de las obligaciones preventivas de la misma, plasmadas en el plan de seguridad y salud de la obra, así como la asistencia y asesoramiento al Jefe de obra en cuantas cuestiones de seguridad se planteen a lo largo de la duración de la obra.

3.2.3.Asistencia sanitaria y por accidentes

Al menos uno de los trabajadores poseerá formación y adiestramiento específico en primeros auxilios a accidentados, con la obligación de atender a dicha función en todos aquellos casos en que se produzca un accidente con efectos personales o daños o lesiones, por pequeños que éstos sean.

Todos los trabajadores destinados en la obra poseerán justificantes de haber pasado reconocimientos médicos preventivos y de capacidad para el trabajo a desarrollar, durante los últimos doce meses, realizados en el departamento de Medicina del Trabajo de un Servicio de Prevención acreditado.

El plan de seguridad y salud establecerá las condiciones en que se realizará la información a los trabajadores, relativa a los riesgos previsibles en la obra, así como las acciones formativas pertinentes.

Asimismo, se deberá tener previsto en todo momento la posibilidad de asistencia médica, incluso de urgencia, en centros asistenciales de la isla de Formentera, próximos al lugar de las obras, para lo cual todos los trabajadores deberán estar debidamente asegurados.

Los centros asistenciales más próximos son:

HOSPITAL DE FORMENTERA (a 4,1 km)

- Dirección: Calle Venda des Brolls, S/N, 07860 Sant Francesc Xavier-Formentera, Illes Balears
- Horario: Abierto 24 horas
- Servicio de emergencias: Abierto 24 horas
- Teléfono: 971 32 12 12

CENTRO MÉDICO FORMENTERA (privado) (a 7,1 km)

- Dirección: Plaça Illes Pitiüses 13, 07870 La Savina-Formentera, Illes Balears
- Horario: Lunes a viernes 9:30 h a 13:30 h y de 16:00 h a 20:00 h.
  Sábados de 9:30 h a 13:30 h
- Teléfono: 971 32 16 80

3.2.4.Modelo de la organización de la seguridad en la obra

Al objeto de lograr que todas las empresas concurrentes en la obra posean la información necesaria acerca de su organización en materia de seguridad en esta obra, así como el procedimiento para asegurar el cumplimiento del plan de seguridad y salud de la obra por parte de todos sus trabajadores, dicho plan de seguridad y salud contemplará la obligación de que cada subcontrata designe antes de comenzar a trabajar en la obra, al menos:

- Técnicos de prevención designados por su empresa para la obra, que deberán planificar las medidas preventivas, formar e informar a sus trabajadores, investigar los accidentes e incidentes, etc.
- Trabajadores responsables de mantener actualizado y completo el archivo de seguridad y salud de su empresa en obra.
- Vigilantes de seguridad y salud, con la función de vigilar el cumplimiento del plan de seguridad y salud por parte de sus trabajadores y de los de sus subcontratistas, así como de aquéllos que, aun no siendo de sus empresas, puedan generar riesgo para sus trabajadores.

3.2.5.Medidas de carácter rotacional

Servicio médico

La empresa contratista dispondrá de un Servicio de vigilancia de la salud de los trabajadores según lo dispuesto en la Ley de Prevención de Riesgos Laborales.

Todos los operarios que empiecen trabajar en la obra deberán haber pasado un reconocimiento médico general previo en un plazo inferior a un año. Los trabajadores que han de estar ocupados en trabajos que exijan cualidades fisiológicas o psicológicas determinadas deberán pasar reconocimientos médicos específicos para la comprobación y certificación de idoneidad para tales trabajos, entre los que se encuentran los de gruistas, conductores, operadores de máquinas pesadas, trabajos en altura, etc.

Botiquín de obra

La obra dispondrá de material de primeros auxilios en lugar debidamente señalizado y de adecuado acceso y estado de conservación, cuyo contenido será revisado semanalmente, reponiéndose los elementos necesarios.

Instalación de higiene y bienestar

De acuerdo con el apartado 15 del Anexo 4 del Real Decreto 1627/97, la obra dispondrá de las instalaciones necesarias de higiene y bienestar.

Cuando los trabajadores tengan que llevar ropa especial de trabajo deberán tener a su disposición vestuarios adecuados.

Se asegurará, en todo caso el suministro de agua potable al personal perteneciente a la obra.

Medidas generales de carácter técnico

El plan de seguridad y salud de la obra establecerá con el detalle preciso los accesos y las vías de circulación y aparcamiento de vehículos y máquinas en la obra, así como sus condiciones de trazado, drenaje y afirmado, señalización, protección y balizamiento. Las vallas autónomas de protección y delimitación de espacios estarán construidas a base de tubos metálicos soldados, tendrán una altura mínima de 90 cm y estarán pintadas en blanco o en colores amarillo o naranja luminoso, manteniéndose su pintura en correcto estado de conservación y no debiendo presentar indicios de óxido ni elementos doblados o rotos.

En relación con las instalaciones eléctricas de obra, la resistencia de las tomas de tierra no será superior a aquélla que garantice una tensión máxima de 24 V, de acuerdo con la sensibilidad del interruptor diferencial que, como mínimo, será de 30 mA para alumbrado y de 300 mA para fuerza. Se comprobará periódicamente que se produce la desconexión al accionar el botón de prueba del diferencial, siendo absolutamente obligatorio proceder a una revisión de éste por personal especializado, o sustituirlo cuando la desconexión no se produce. Todos los elementos eléctricos, como fusibles, cortacircuitos e interruptores, serán de equipo cerrado, capaces de imposibilitar el contacto eléctrico fortuito de personas o cosas, al igual que los bornes de conexiones, que estarán provistas de protectores adecuados.

Se dispondrán interruptores, uno por enchufe, en el cuadro eléctrico general, al objeto de permitir dejar sin corriente los enchufes en los que se vaya a conectar maquinaria de 10 o más amperios, de manera que sea posible enchufar y desenchufar la máquina en ausencia de corriente. Los tableros portantes de bases de enchufe de los cuadros eléctricos auxiliares se fijarán eficazmente a elementos rígidos, de forma que se impida el desenganche fortuito de los conductores de alimentación, así como contactos con elementos metálicos que puedan ocasionar descargas eléctricas a personas u objetos.

Las lámparas eléctricas portátiles tendrán mango aislante y dispositivo protector de la lámpara, teniendo alimentación de 24 voltios o, en su defecto, estar alimentadas por medio de un transformador de separación de circuitos.

Todas las máquinas eléctricas dispondrán de conexión a tierra, con resistencia máxima permitida de los electrodos o placas de 5 a 10 ohmios, disponiendo de cables con doble aislamiento impermeable y de cubierta

suficientemente resistente. Las mangueras de conexión a las tomas de tierra llevarán un hilo adicional para conexión al polo de tierra del enchufe.

Los extintores de obra serán de polvo polivalente y cumplirán la Norma UNE 23010, colocándose en los lugares de mayor riesgo de incendio, a una altura de 1,50 m sobre el suelo y adecuadamente señalizados.

El plan de seguridad y salud desarrollará detalladamente estas medidas generales a adoptar en el curso de la obra, así como cuantas otras se consideren precisas, proponiendo las alternativas que el contratista estime convenientes, en su caso.

Actuaciones en la obra de los servicios técnicos

Todas las obras son objeto de inspecciones y controles periódicos o esporádicos por parte de los servicios técnicos (directores de obra, inspectores, proyectistas, coordinador en materia de seguridad y salud, equipos de control de calidad, etc.). Estas visitas han de hacerse bajo las condiciones adecuadas de seguridad, por lo que han de adoptarse ciertas normas preventivas al respecto.

El plan de seguridad y salud de la obra deberá prever específicamente la forma, condiciones y medios a utilizar para asegurar que las visitas de obra se lleven a cabo bajo las adecuadas condiciones de seguridad. Para ello, cabe dar unas normas generales, las cuales serán concretadas y complementadas en el plan de seguridad y salud:

Antes de que un técnico o profesional de dirección y control se desplace al lugar de visita, deberá velarse por que esté perfectamente informado de los riesgos a que va a estar expuesto en obra. Sobre todo, deberá ser informado de todas aquellas condiciones específicas que se den en la obra y sin cuyo conocimiento previo podrían ser causa de riesgos importantes. Aun así, el visitante será acompañado en todo momento alguna persona que conozca las peculiaridades del entorno.

Todos los visitantes a la obra deberán llevar las protecciones individuales adecuadas que sean necesarias para protegerles adecuadamente.

Las protecciones colectivas suelen ser eliminadas, lógicamente, de aquellos lugares donde cesa el trabajo, pero si dichas zonas han de ser visitadas por los servicios técnicos, las citadas protecciones deben ser repuestas, pudiendo, en caso contrario, negarse el visitante a acceder a dichos lugares o adoptar las decisiones que estime oportunas.

3.3.NORMAS SOBRE EL MANEJO MANUAL DE MATERIALES

Proporcionar a los trabajadores una formación e información adecuada sobre la forma correcta de manipular las cargas y sobre los riesgos que corren de no hacerlo de dicha forma.

Como norma general no se deben transportar o manipular cargas por una sola persona, de más de 25 kg; o cuando su volumen sea tal que dificulte su sujeción o transporte. Dicha carga se debe reducir cuando el agarre no es bueno.

Cuando se superen estos valores de peso, se deberán tomar medidas preventivas de forma que, el trabajador no manipule las cargas, o que consigan que el peso manipulado sea menor, recomendándose las siguientes:

- Uso de ayudas mecánicas
- Levantamiento de la carga entre varias personas
- Reducción de los pesos

Cuando se tengan que almacenar cargas en altura, es conveniente que las pesadas se apilen en la parte más favorable para su manejo, que son las intermedias, entre la altura de las caderas y la de los hombros, dejando las zonas superiores e inferiores para los objetos menos pesados.

En tareas continuadas de manipulación y transporte de cargas, uso de cinturones antilumbago, siendo conveniente que se realicen pausas o periodos de recuperación.

Como norma general es preferible manipular las cargas cerca del cuerpo, a la altura comprendida entre la altura de los codos y los nudillos, para disminuir la tensión en la zona lumbar.

Para levantar cargas, se deben seguir las siguientes recomendaciones:

- Se flexionarán las piernas, manteniendo la columna vertebral recta.
- Separar los pies para mantener una postura estable y equilibrada para el levantamiento, colocando un pie más adelantado que otro.
- No girar el tronco ni adoptar posturas forzadas.
- Sujetar firmemente la carga empleando ambas manos y pegarla al cuerpo.
- Levantarse suavemente por extensión de las piernas, manteniendo la espalda derecha. No dar tirones a la carga ni moverla de forma rápida o brusca.

En postura sentada la manipulación de cargas debe quedar reducidas a pesos inferiores a 5 kg.

3.4.INSTALACIÓN ELÉCTRICA PROVISIONAL EN OBRA

Riesgos más comunes

- Electrocución
- Cortes por manejo de herramientas

- Contactos directos e indirectos
- Golpes
- Los derivados de caídas de tensión en la instalación por sobrecarga (abuso o incorrecto cálculo de la instalación)
- Mal funcionamiento de los mecanismos y sistemas de protección
- Mal comportamiento de las tomas de tierra

Normas o medidas preventivas

- Los cuadros eléctricos de obra serán instalados por la Empresa Constructora con arreglo al Reglamento Electrónico de Baja Tensión, con protecciones diferenciales y puestas a tierra.
- Los cuadros instalados trabajaran a tensión de seguridad de 24V debido a las condiciones de humedad de la obra.
- Los relés para fuerza serán de 0.3 A. de sensibilidad y tendrán que estar forzosamente conectados a toma de tierras de resistencia no superior a 37 Ohmios.
- Los interruptores diferenciales para el alumbrado serán de 0.03 A. de sensibilidad y se conectarán a ellos toda la instalación de alumbrado, así como las herramientas eléctricas portátiles.
- A los relés para fuerza, estarán conectadas todas las máquinas grandes de obra, teniendo en cuenta que debe llegar a cada una de ellas la toma de tierra de cuadro sino tienen una propia.
- Todos los bornes de la maquinaria y cuadros eléctricos que estén en tensión o sean susceptibles de estarlo, deberán estar protegidos con carcasas de material aislante.
- Es aconsejable, que los materiales eléctricos para obra sean armados o blindados, ya que generalmente corren riesgos de recibir golpes y aplastamientos. Los cables de alimentación a equipos móviles tendrán cubiertas protectoras de material resistente a la abrasión.
- La conducción eléctrica debe estar protegida del paso de máquinas y personas, en previsión de deterioro de la cubierta aislante de los cables, mediante tendido aéreo o empotramiento.
- Queda prohibida la utilización directa de las puntas de los conductores, como clavijas de toma de corriente, empleándose para ello aparellaje eléctrico debidamente aislado.
- Se dispondrá en obra de recambios de los cuadros, en número suficiente para que en todo momento pueda acoplarse o sustituirse en las máquinas y elementos que carecieran de ellos o

fueran de diferentes características.

- Para evitar grandes tendidos provisionales de cables, con el consiguiente desorden, en conveniente la confección de cuadros secundarios, con sus correspondientes clavijas para el reparto de la corriente.
- Todos los cables deberán quedar sin tensión al dar por finalizado el trabajo.
- Se revisará periódicamente el estado de la instalación y el aislamiento de cada aparato, y con frecuencia el estado físico de las cubiertas de todos los conductores, sus conexiones y empalmes.
- Los portalámparas deben de ser de material aislante, de tal manera que no puedan transmitir corriente por contactos con otros elementos de la obra, y estarán aislados de los contactos que pudieran producirles en el montaje y desmontaje de las lámparas.
- Antes de accionar un interruptor, se estará seguro de que corresponde a la máquina que interesa y que junto a ella no hay nadie inadvertido.
- Hacer siempre la desconexión de máquinas eléctricas por medio del interruptor correspondiente, nunca en el enchufe, y no desenchufar nunca tirando del cable.
- Cuidar de que los cables no se deterioren al estar sobre aristas o ser pisados o impactados.
- No se realizarán reparaciones eléctricas provisionales. De ser necesarias se avisará a personas autorizadas para ello.
- Es importante disponer de un extintor adecuado en las inmediaciones del cuadro eléctrico de la obra.

Protecciones colectivas

- Tomas de tierra
- Disyuntores
- Magnetotérmicos
- Portátiles aislados
- Comprobador de tensión

Equipos de protección individual

- Casco en lugares donde existan cargas o elementos suspendidos

- Guantes dieléctricos
- Calzado aislante

3.5.ACCESO A LA OBRA

La obra se desarrolla en el depósito de la IDAM de Formentera, ubicado en una parcela vallada perimetralmente, por lo que el acceso al recinto solo está permitido a los trabajadores de la desaladora. En el interior de la parcela, los accesos a la obra estarán cerrados por valla de 2 m y presentarán señalización de peligro obra, peligro maquinaria trabajando y prohibido el paso a personas ajenas, además se pondrán señales de los riesgos que puede haber en cada tajo y, por último, señalización de obligación de las protecciones individuales en necesarias para acceder a la obra.

Por otro lado, habrá accesos diferenciados para el personal de obra y para la maquinaria.

En los accesos de maquinaria habrá un cartel de velocidad máxima a la que se puede circular por la obra que será de 20 km/h y al salir de la obra habrá una señal de Stop antes de acceder a otra vía.

3.6.ZONA DE ACOPIOS

Los acopios en la obra se situarán en lugares que no imposibiliten el paso de personas o vehículos, estos estarán en recintos cerrados por valla de 2 m y señalizados con peligro cargas en suspensión.

Los acopios estarán correctamente organizados, los materiales por un lado y el punto limpio por otro.

Solamente se accederá a la zona de acopios a recoger material para la obra o para acopiar otros materiales.

Dentro de la zona de acopios habrá un punto limpio donde se gestiones todos los residuos o escombros generados en la obra.

Se seguirán las medidas preventivas siguientes:

- El material pesado será retirado del acopio por un mínimo de dos hombres, para evitar el riesgo de sobreesfuerzo, o cortes o golpes por desequilibrio.
- Se almacenará cada material en recipientes adecuados según la naturaleza de los mismos.
- Las sustancias peligrosas cumplirán la legislación vigente.
- Está prohibido mezclar sustancias combustibles y comburentes en el mismo recinto.
- El correcto almacenamiento de materiales evitará en gran medida los posibles desprendimientos, corrimientos o caídas. Se distingue entre:

  a) Almacenamiento de objetos sin embalar

Materiales lineales rígidos: Deberán almacenarse debidamente sujetos con soportes. La altura máxima de apilamiento ha de ser de 6 metros, accediendo a la misma mediante accesos mecánicos, nunca a través de los elementos apilados. Los tubos o elementos de forma redondeada en general, deben apilarse en capas separadas mediante soportes intermedios.

Sacos: Se deben disponer en capas transversales, con la boca del saco mirando hacia el interior de la pila. Si la altura de almacenamiento llega a 1.5 m se deberá escalonar y cada 0,5 m se debería reducir el grosor en una pila de sacos. La envoltura del conjunto de sacos mediante una lámina de plástico retráctil, contribuye notablemente a mejorar la estabilidad del apilamiento.

Materiales rígidos no lineales: Preferiblemente este tipo de almacenamiento se realizará en estanterías, si se dispone de medios adecuados para acceder a las mismas. En las estanterías se colocarán los elementos más pesados en la parte inferior. Las estanterías deberán estar perfectamente aseguradas con sujeción a elementos estructurales. Los bidones no deben

apilarse unos sobre otros, excepto que se manejen con elementos mecánicos especiales, y en este caso, interponiendo elementos metálicos o palets entre ellos.

b) Almacenamiento de objetos embalados:

La altura máxima de la carga no debe ser superior a 1,5 m y su carga máxima conjunta no debe superar los 700 kg. Para evitar la caída de la carga, ésta deberá sujetarse con flejes de acero o similares.

4.UNIDADES CONSTRUCTIVAS QUE COMPONEN LA OBRA

4.1.DEMOLICIONES

4.1.1.Descripción de los trabajos

Realización con medios mecánicos de la rotura y fragmentación de los elementos a demoler, con posterior carga y transporte de los productos demolidos a vertedero.

Se emplearán, en la fragmentación, martillos neumáticos manuales con suministro de aire comprimido mediante compresores móviles, máquinas retroexcavadoras provistas de martillo oleohidráulico. La carga y transporte de los productos demolidos se efectuará con palas cargadoras de cazo frontal y camiones convencionales.

4.1.2.Riesgos más frecuentes

- Caídas desde el mismo nivel.
- Caídas desde distinto nivel.
- Choques y atropellos causados por la maquinaria.

- Inhalación de polvo.
- Ruidos excesivos.
- Pisadas sobre objetos punzantes.
- Golpes y atrapamientos.
- Sobreesfuerzos.
- Sepultamientos en el derribo.

4.1.3.Normas básicas de seguridad

- Utilizar los equipos de protección individual preceptivos de esta fase.
- Utilización de la maquinaria y vehículos por personal válido autorizado.
- Permanencia de los trabajadores fuera del radio de acción de las máquinas.
- Permanencia de los trabajadores fuera del radio de acción de los derribos.
- Anulación previa de todo tendido eléctrico en la zona de demolición.

4.1.4.Equipos de protección individual

- Casco de seguridad homologado.
- Botas de seguridad con suela antideslizante y puntera metálica.
- Guantes de cuero para manejo de los martillos.
- Mascarilla antipolvo.
- Gafas de PVC.
- Auriculares con su arnés.
- Mono de trabajo.

4.1.5.Equipos de protección colectiva

- Balizamiento de las zonas a demoler.
- No se permitirá el paso de personal ajeno a las obras de demolición.
- Señalización y limitación de la zona de trabajo de la maquinaria las maniobras de aproximación de vehículos se realizarán con ayuda de un auxiliar.
- En núcleos poblacionales se emplearán martillos y compresores de baja intensidad sonora cumpliendo la reglamentación de limitación de ruidos.

- En estas mismas zonas, se dispondrá de equipos de riego antipolvo.

4.1.6.Señalización

Se aplicará la prevista en el Real Decreto 485/97, de 14 de abril, sobre disposiciones mínimas en materia de señalización de seguridad y salud en el trabajo.

4.2.MOVIMIENTOS DE TIERRA

4.2.1.Descripción de los trabajos

Desbroce

Realización por medios mecánicos o manuales del desbroce y acondicionamiento del terreno. Comprende los trabajos necesarios para retirar de las zonas previstas arbustos, pequeñas plantas, tocones, maleza, broza, maderas caídas, escombros, basuras o cualquier otro material existente, hasta una profundidad no menor que el espesor de la capa vegetal (min. 25 cm de espesor).

Zanjas

Realización por medios mecánicos o manuales de zanjas en cualquier tipo de terreno, incluso roca.

Estructuras enterradas, cimientos y pozos

Realización por medios mecánicos de excavaciones para emplazamiento de estructuras, cimientos y pozos de registro.

4.2.2.Riesgos más frecuentes

- Sepultamientos por desprendimiento de tierras de taludes.
- Choques y atropellos causados por la maquinaria.
- Caídas desde el mismo nivel.
- Caídas desde distinto nivel.
- Golpes y atrapamientos.
- Caídas de la maquinaria a los huecos excavados.
- Manejo inadecuado de detonadores y explosivos.
- Contados eléctricos.
- Gases tóxicos.

4.2.3.Normas básicas de seguridad

Utilizar los equipos de protección individual preceptivos de esta fase.

Los acopios estarán a más de 0,60 m del borde de la zanja.

Utilización de la maquinaria y vehículos por personal válido y autorizado.

Señalización de las zanjas mediante cinta plástica (reja y blanca) con vallas metálicas de 1,80 m con sobrepié de hormigón.

Guardar una distancia mínima entre trabajadores en las zanjas de 1 metro (evitar interacciones). Controlar el estado de las paredes excavadas después de lluvias, heladas y paros superiores a 1 día. Colocar en lugar apropiado la tierra resultante de la excavación (nunca a menos de 2 m del borde). No aproximar en exceso la maquinaria a las excavaciones (se colocarán topes para vehículos).

Se señalizarán y acotarán los lugares en que haya tendidos eléctricos, a 3 metros de distancia en baja tensión ya 5 metros en alta tensión.

Cubrimiento de las zanjas resultantes al finalizar la tarea en el tajo y al finalizar la jornada, con elementos resistentes.

Los movimientos de los vehículos se realizarán con la ayuda de un trabajador, cuando la visibilidad de este no sea suficiente, y siguiendo el código estándar de señalizaciones que dispone el Real Decreto 485/97.

En el caso de utilización de voladuras, seguir escrupulosamente las directrices fijadas en el Pliego de Prescripciones Técnicas Particulares.

Se establecerá un sistema de señales acústicas conocidas por el personal para ordenar la salida de las excavaciones en caso de peligro.

4.2.4.Equipos de protección individual

- Casco de seguridad homologado.
- Calzado antideslizante homologado.
- Guantes homologados para el trabajo con hormigón.
- Guantes de cuero para manipulación de ferralla.

4.2.5.Equipos de protección colectiva

- Balizamiento de las excavaciones.
- No se permitirá el acceso del personal a la zona de influencia de la maquinaria y ésta estará debidamente señalizada.
- Puesta a tierra de la maquinaria.
- Limitación del campo de actuación de la maquinaria.

- Las maniobras de aproximación de vehículos se realizarán con ayuda de un auxiliar.

4.2.6.Señalización

- Peligro por caída a distinto nivel.
- Señalización de zona de obras y de voladuras si las hubiera.

4.3.RELLENOS EN ZANJA Y LOCALIZADOS

4.3.1.Descripción de los trabajos

Relleno de material seleccionado de la propia excavación

Realización por medios mecánicos de la formación de relleno con material seleccionado procedente de la excavación en zanjas, trasdós de muros, pozos y/o cimientos.

Relleno de arena común

Realización por medios mecánicos de la formación de relleno envolvente de zanjas para instalaciones con arena común.

4.3.2.Riesgos más frecuentes

- Caídas desde el mismo nivel.
- Caídas desde distinto nivel.
- Caídas de material desde las cajas de los vehículos.
- Caídas de personal desde las cajas o carrocerías de los vehículos.
- Siniestros de vehículos por exceso de carga o mal mantenimiento.
- Interferencias entre vehículos por falta de dirección o señalización en las maniobras.
- Atropello de personas.
- Vuelco de vehículos durante descargas en sentido de retroceso.
- Accidentes por conducción sobre terrenos encharcados, sobre barrizales.
- Vibraciones sobre las personas.
- Ruido ambiental.

4.3.3.Normas básicas de seguridad

Todo el personal que maneje los camiones, dumper, apisonadoras, o compactadoras, será especialista en el manejo de estos vehículos, estando en posesión de la documentación de capacitación acreditativa.

Todos los vehículos serán revisados periódicamente en especial en los órganos de accionamiento neumático, quedando reflejadas las revisiones en el libro de mantenimiento.

Se prohíbe sobrecargar los vehículos por encima de la carga máxima admisible que llevarán siempre escrita de forma legible.

Todos los vehículos de transporte de material empleados especificarán claramente la "Tara" y la "Carga máxima".

Se prohíbe el transporte de personal fuera de la cabina de conducción y/o en número superior a los asientos existentes en el interior.

Cada equipo de carga para rellenos será dirigido por un jefe de equipo que coordinará las maniobras.

Se regarán periódicamente los tajos, las cargas y cajas de camión, para evitar las polvaredas.

Se señalizarán los accesos y recorridos de los vehículos en el interior de la obra para evitar las interferencias.

Se instalará en el borde de los terraplenes de vertido, sólidos topes de licitación de recorrido para el vertido en retroceso.

Todas las maniobras de vertido en retroceso serán dirigidas por el encargado.

Se prohíbe la permanencia de personas en un radio no inferior a los 5 m (como norma general) en tomo a las compactadoras y apisonadoras en funcionamiento.

Todos los vehículos empleados en esta obra, para las operaciones de relleno y compactación serán dotados de bocina automática de marcha hacia atrás.

Los vehículos de compactación y apisonado irán provistos de cabina de seguridad de protección en caso de vuelco. Los vehículos utilizados están dotados de póliza de seguro con responsabilidad civil limitada.

Se establecerán a lo largo de la obra los terrenos divulgativos y señalización de los riesgos propios de este tipo de trabajos.

Los conductores de cualquier vehículo provisto de cabina cerrada quedan obligados a utilizar el casco de seguridad para abandonar la cabina en el interior de la obra

4.3.4.Equipos de protección individual

- Casco de seguridad homologado.
- Calzado antideslizante homologado.
- Guantes de cuero
- Mascarillas antipolvo con filtro mecánico recambiable

- Cinturón antivibratorio
- Ropa de trabajo (mono).

4.3.5.Equipos de protección colectiva

- Balizamiento de las excavaciones.
- No se permitirá el acceso del personal a la zona de influencia de la maquinaria y ésta estará debidamente señalizada.
- Puesta a tierra de la maquinaria.
- Limitación del campo de actuación de la maquinaria.
- Las maniobras de aproximación de vehículos se realizarán con ayuda de un auxiliar.

4.4.TRABAJOS CON FERRALLA O ELEMENTOS METÁLICOS

4.4.1.Descripción de los trabajos

- Armado de obras de fábrica en general.
- Armado de estructuras de hormigón en general.
- Armado de obras de drenaje y saneamiento.
- Corte de redondos con sierra radial.
- Montaje de perfiles laminados, redes de cables, mallas, bulones.

4.4.2.Riesgos más frecuentes

- Cortes, golpes y atrapamier1os con los redondos o parillas.
- Lesiones en la córnea por desprendimiento de virutas en el corte con sierra radial.
- Cortes y amputaciones con sierra radial por impericia o descuido.
- Sobre esfuerzos en el transporte y colocación.
- Caldas al mismo nivel por falta de limpieza de las zonas de trabajo.
- Caídas a distinto nivel desde andamios.
- Contados eléctricos por falta de aislamiento de herramientas eléctricas.

4.4.3.Normas básicas de seguridad

- Orden y limpieza de las zonas de trabajo.
- Revisar el estado de las herramientas (carcasa, aislamiento y estado del disco de la sierra

radial).

- Observancia de las normas de seguridad de andamios y herramientas.
- Evitar sobre esfuerzos durarte el transporte y/o colocación de armaduras.

4.4.4.Equipos de protección individual

- Casco de seguridad homologado tipo N.
- Guantes de cuero para manejo y transporte de redondos, parillas y sierra radial.
- Botas de seguridad homologadas con suela antideslizante y puntera metálica.
- Pantalla o gafas de PVC transparente para corte con sierra radial.
- Ropa de trabajo (mono).
- Botas de goma para colocación de armadura de reparto en solera (hormigón fresco).

4.5.ENCOFRADO Y DESENCOFRADO

4.5.1.Descripción de los trabajos

Montaje de encofrados necesarios para la realización de estructuras de hormigón.

Se emplearán chapas metálicas, planchas de madera y puntales. Será necesaria la utilización de escaleras auxiliares y herramientas manuales de carpintería.

4.5.2.Riesgos más frecuentes

- Caídas de altura de personas y/o material. Golpes en las manos al clavar puntas.
- Peligro de incendios.
- Vuelco de los medios de elevación de encofrados por enganche defectuoso de los mismos.
- Cortes al utilizar la sierra circular de mesa.
- Sobreesfuerzos para posturas inadecuadas.
- Golpes en la cabeza.
- Contactos con el cemento.
- Contacto eléctrico.
- Caídas por trepar por encofrado.
- Golpes en manejo del encofrado.
- Atrapamientos.

4.5.3.Normas básicas de seguridad

Se prohíbe expresamente, que permanezca ningún operario en la zona de batido de cargas, durante la operación de izado de madera o piezas de encofrado con grúa.

Los elementos que deban ser izados contarán con dispositivos adecuados a tal fin, imposibilitándose el izado desde elementos no concebidos para ello.

El acceso del personal a los encofrados se realizará de forma cómoda y fácil mediante andamios dotados de escaleras peldañeadas y barandillas.

Se contará con plataformas de trabajo adecuadas con accesos seguros (andamios, torres...).

Se extremará la vigilancia de taludes durante las operaciones de encofrado y desencofrado del trasdós de los muros de hormigón, en prevención de derrumbamientos. Estas operaciones se realizarán bajo vigilancia constante.

Los clavos existentes en la madera ya usada se sacarán o se remacharán inmediatamente después de haber desencofrado, retirando los que pudieran haber quedado sueltos por el suelo.

El acopio de madera, tanto nueva como usada, debe ocupar el menor espacio posible, estando debidamente clasificada y no estorbando las zonas de paso.

Los puntales metálicos deformados por el uso se retirarán sin intentar enderezarlos para su reutilización.

Todas las máquinas accionadas eléctricamente, tendrán sus correspondientes protecciones a tierra e interruptores diferenciales, manteniendo en buen estado todas las conexiones y cables.

Las conexiones eléctricas se efectuarán mediante mecanismos estancos de intemperie.

Utilización por parte del personal las prendas de protección personal necesarias de las que se incluyen en la siguiente relación.

Antes de quitar las piezas de amarre a los muros o losas, una vez fraguado el hormigón, se sujetarán mediante eslingas a la grúa.

4.5.4.Equipos de protección individual

- Botas de agua.
- Botas de seguridad.
- Casco de seguridad.
- Gafas contraimpactos.
- Guantes para manipulación de objetos.

- Buzo de trabajo.
- Traje impermeable.

4.5.5.Equipos de protección colectiva

Para los trabajos en los muros, losas o pilares a más de dos metros de altura con peligro eventual de caída, se utilizarán andamios, protecciones colectivas (redes, barandillas reglamentarias) o cinturón de seguridad anclado a un punto sólido.

4.6.HORMIGONADO

4.6.1.Descripción de los trabajos

Se realizan los trabajos de vertido de hormigón en la ejecución de las estructuras. El vertido se realizará bien directo desde camión hormigonera o con cubilete.

4.6.2.Riesgos más frecuentes

- Caída de objetos.
- Caída de personas al mismo y/o distinto nivel.
- Cortes y heridas.
- Desprendimiento de tierras.
- Golpes por objetos.
- Pisadas sobre materiales.
- Trabajos en ambientes húmedos y/o encharcados.
- Sobreesfuerzos.
- Quemaduras y electrocución.
- Arrastres por agua.
- Hundimientos.
- Pinchazos y golpes contra obstáculos.
- Pisadas sobre punzantes.
- Trabajos sobre pisos húmedos o mojados.
- Contactos con el hormigón.
- Atrapamientos.

- Vibraciones por manejo de aguja vibrante.
- Ruido puntual y ambiental.
- Contacto eléctrico.

4.6.3.Normas básicas de seguridad

Mientras se realice el vertido se prestará la máxima atención a las paredes de zanjas y pozos en prevención de posibles derrumbamientos.

En todo momento se mantendrán las zonas de trabajo limpias y ordenadas.

Se habilitarán caminos de acceso a los tajos, estableciéndose pasarelas para poder atravesar zanjas y pozos sin riesgo de caída.

Se realizará revisión previa de las excavaciones entibadas antes de proceder al vertido del hormigón.

Se señalizarán y protegerán en su caso, las excavaciones con cordón de balizamiento o vallas de madera a una distancia aproximada de 1,5 m del borde.

Los vibradores estarán provistos de toma de tierra.

Antes del vertido del hormigón se revisarán los encofrados en evitación de reventones o derrames innecesarios.

Mientras se realice el vertido de hormigón se prestará especial atención a los taludes de la excavación, y se vigilará atentamente el comportamiento de los encofrados, deteniendo los trabajos en caso de fallo, en evitación de atrapamientos.

El vertido de hormigón en los muros se realizará uniformemente a lo largo de los mismos, no vertiendo únicamente en un solo punto. Estas operaciones se realizarán desde andamios corridos a uno o ambos lados del muro a construir, dotados de barandilla de 90 cm, listón intermedio y rodapié.

El acceso a las plataformas de coronación se efectuará desde el terreno, preferentemente, mediante escaleras peldañeadas dotadas de las barandillas reglamentarias.

Se extremarán las precauciones en el desencofrado del trasdós de muros. Habrá siempre escaleras en número suficiente, dispuestas para su utilización en caso de emergencia.

En todo caso se dispondrán pasarelas reglamentarias de circulación sobre la coronación de muros a fin de facilitar las operaciones de vertido, así como el paso y la permanencia de los operarios.

<u>Hormigonado por vertido directo</u>

Previamente al inicio del vertido del hormigón directamente con el camión hormigonera, se instalarán topes en el lugar donde haya de quedar situado el camión, siendo conveniente no estacionarlo en rampas con pendientes fuertes.

Los operarios nunca se situarán detrás de los vehículos en maniobras de marcha atrás que, por otra parte, siempre deberán ser dirigidos desde fuera del vehículo. Tampoco se situarán en el lugar de hormigonado hasta que el camión hormigonera no esté situado en posición de vertido.

Se prohíbe el desplazamiento del vehículo con las canaletas desplegadas

Se prohíbe acercar las ruedas de los camiones hormigoneras a menos de 2 metros (como norma general) del borde de la excavación.

Hormigonado con cubilote

Se prohíbe que su peso (una vez lleno) sea superior a la carga máxima admitida por la grúa.

Se prohíbe rigurosamente a persona alguna permanecer debajo de las cargas suspendidas por las grúas.

Se obligará a los operarios en contacto con los cubilotes, al uso de guantes protectores. Se recomienda la guía de los cubilotes mediante cuerdas.

4.6.4.Equipos de protección individual

- Casco de seguridad.
- Guantes de cuero para manipulación de objetos.
- Guantes de goma.
- Calzado impermeable al agua y la humedad.
- Buzo de trabajo.

4.6.5.Equipos de protección colectiva

Para los trabajos en los muros, losas o pilares a más de dos metros de altura con peligro eventual de caída, se utilizarán andamios, protecciones colectivas (redes, barandillas reglamentarias) o cinturón de seguridad anclado a un punto sólido.

4.7.ELEMENTOS PREFABRICADOS

4.7.1.Descripción de los trabajos

En esta unidad de obra se realizan las operaciones previstas consistentes en el replanteo, colocación y nivelación de vigas prefabricadas y placas TT del forjado.

La colocación de los prefabricados se realizará mediante grúa, éstos serán puestos en obra suspendiéndolos al menos de dos puntos y se procederá a la revisión de su estado antes de cargar el elemento prefabricado. Se tendrá especial cuidado con el aplomado, antes de proceder a la fijación del elemento.

4.7.2.Riesgos más frecuentes

- Caída de personas al mismo y/o distinto nivel.
- Golpes a las personas por el transporte en suspensión de grandes piezas.
- Atrapamientos durante maniobras de ubicación.
- Vuelco de piezas prefabricadas.
- Desplome de piezas prefabricadas.
- Cortes por manejo de herramientas manuales.
- Cortes o golpes por manejo de máquinas-herramienta.
- Aplastamientos de manos o pies al recibir las piezas.
- Los derivados de la realización de trabajos bajo régimen de fuertes vientos.
- Atrapamiento o aplastamiento por vuelco de máquinas o vehículos.
- Atropellos o golpes con vehículos.

4.7.3.Normas básicas de seguridad

Los operarios tendrán los Equipos de Protección Individual correspondientes para la realización de las tareas.

Los trabajos estarán supervisados por una persona competente en la materia.

En los trabajos en altura los operarios llevarán arnés de seguridad para el que se habrán previsto puntos fijos de enganche con la necesaria resistencia.

No se realizarán trabajos en altura sin antes haber cubierto el riesgo de caída desde altura mediante la instalación o rectificación de las redes y la instalación de barandillas.

Los prefabricados se descargarán de los camiones y se acopiarán en los lugares señalados para tal menester.

Los prefabricados se acopiarán en posición horizontal sobre durmientes dispuestos por capas de tal forma que no se dañen los elementos de enganche para su izado.

Se realizará el transporte de los elementos prefabricados mediante eslingas enlazadas y provistas de ganchos con pestillos de seguridad.

El izado de los prefabricados se ejecutará suspendiendo la carga de dos puntos tales, que la carga permanezca estable.

La colocación y ensamblaje deberán ser efectuado bajo la supervisión del jefe de obra, por personal técnicamente capacitado.

El elemento prefabricado se manejará, para su colocación, por medio de las cuerdas dispuestas a tal fin y de los hierros de ensamblaje salientes para su colocación definitiva.

Los elementos verticales no se soltarán de los ganchos de suspensión de la carga hasta que no estén debidamente anclados por los puntales y enroscada a tope la tuerca que la sujeta.

Diariamente se realizará una inspección sobre el buen estado de los elementos de elevación.

Se prohibirá trabajar o permanecer en lugares de tránsito de piezas suspendidas, en prevención del riesgo de desplome.

Se instalarán señales de peligro, paso de cargas suspendidas sobre pies derechos bajo los lugares destinados a su paso.

Se prepararán zonas de obra compactadas para facilitar la circulación de camiones de transporte de prefabricados.

Una vez concluido un determinado tajo, se limpiará eliminando todo el material sobrante, que se apilará, en un lugar conocido para su posterior retirada.

La obra se mantendrá en las debidas condiciones de orden y limpieza.

Se suspenderán los trabajos en condiciones climatológicas adversas.

4.7.4.Equipos de protección individual

- Casco de seguridad homologado.
- Calzado antideslizante homologado.
- Guantes de cuero
- Monos de trabajo.
- Chaleco reflectante.
- Traje impermeable
- Cinturón de seguridad clase A

4.7.5.Equipos de protección colectiva

Para los trabajos a más de dos metros de altura con peligro eventual de caída, se utilizarán andamios, protecciones colectivas (redes, barandillas reglamentarias) o cinturón de seguridad anclado a un punto sólido.

4.8.ACABADOS DE CUBIERTA

4.8.1.Descripción de los trabajos

- Formación de pendientes con hormigón celular
- Impermeabilización líquida de cubiertas
- Colocación del geotextil
- Solado de baldosín catalán
- Remate lateral de cubierta mediante pletina de aluminio (vierteaguas).

4.8.2.Riesgos más frecuentes

- Caída de personas al mismo y/o distinto nivel.
- Caídas de objetos desde altura.
- Hundimiento de los elementos de la cubierta por exceso de acopios de materiales.
- Desprendimiento de piezas de remate perimetral.
- Golpes con las distintas herramientas y materiales a utilizar.
- Atrapamiento con los materiales resultantes de la actuación.
- Cortes y punzamientos con las distintas herramientas utilizadas.
- Proyección de objetos, herramientas y trozos de partículas de los materiales.
- Sobreesfuerzos.
- Inhalación de polvo y partículas orgánicas resultantes de la actuación.
- Afecciones en la piel (dermatosis e irritaciones por contacto con sustancia corrosiva e irritante).
- Los derivados del uso de medios auxiliares (borriquetas, escaleras, andamios, etc.).

4.8.3.Normas básicas de seguridad

Colocación de malla en todos los andamios colocados en el perímetro para evitar la expulsión al exterior de objetos y escombros.

Se instalarán redes horizontales de fibra de poliamida en zonas donde no se pudieran colocar correctamente las redes se trabajará anclado a línea de vida.

Revisión diaria de todos los anclajes y medios auxiliares.

Señalización y vallado de la zona de almacenaje de escombros.

Los acopios de materiales serán los mínimos, teniendo en cuenta su inmediata utilización, tomando la precaución de colocarlos sobre elementos planos a manera de durmientes para así repartir la carga sobre las dallas.

Los trabajos en la cubierta se suspenderán, siempre que se presenten vientos fuertes que comprometan la estabilidad de los operarios y puedan desplazar los materiales, así como cuando se produzcan heladas, nevadas y lluvias que hacen deslizantes las superficies del tejado.

La herramienta de mano se llevará enganchada con mosquetón.

Adopción de posturas adecuadas y ergonómicas.

Todas las instalaciones eléctricas estarán en perfecto estado y cumpliendo la normativa vigente.

Todos los conductores irán provistos de toma de tierra.

Utilización de medios auxiliares adecuados (borriquetas, escaleras, andamios, etc.)

Protección de personas en maniobras en altura mediante plataformas de trabajo, andamios y anclajes apropiados

Si hay que hacer cualquier operación a una altura superior a 2 m y no se dispone de protección colectiva se tenderán cables amarrados a puntos fijos y se utilizará cinturón de seguridad de caída.

Todas las plataformas de trabajo reunirán los requisitos marcados, en cuanto a anchura (60 cm. mínimo) y protecciones -doble barandilla y rodapié- siempre que tengan una altura superior a 2 m.

Para evitar accidentes por tropiezo o pisada sobre objetos cortantes, se mantendrán limpios y ordenados los lugares de trabajo.

No fumar, ni comer o beber durante el trabajo y lavarse las manos antes de una pausa y al finalizar los trabajos.

Aplicar las medidas preventivas recogidas en las fichas de seguridad de los productos.

4.8.4.Equipos de protección individual

- Casco de seguridad homologado.
- Calzado antideslizante homologado.
- Guantes de cuero
- Monos de trabajo.

- Chaleco reflectante.
- Traje impermeable
- Cinturón de seguridad clase A
- Rodilleras

4.8.5.Equipos de protección colectiva

- Para los trabajos a más de dos metros de altura con peligro eventual de caída, se utilizarán andamios, protecciones colectivas (redes, barandillas reglamentarias) o cinturón de seguridad anclado a un punto sólido.
- Plataformas de trabajo 0,60 m. anchura mínima.
- Doble barandilla y rodapié en plataformas trabajo.
- Línea de vida
- Señalización de obra.

4.9.OBRAS DE FÁBRICA

4.9.1.Descripción de los trabajos

Corresponden a todas las obras de fábrica tales como ejecución de arquetas, pasamuros, apertura de paso en panel prefabricado, así como todos los elementos necesarios para la correcta adaptación de las instalaciones existentes.

4.9.2.Riesgos más frecuentes

- Caída de personas al mismo y/o distinto nivel.
- Caídas del material empleado en los trabajos.
- Golpes contra objetos.
- Cortes por el manejo de objetos y herramientas manuales.
- Dermatitis por contactos con el cemento.
- Partículas en los ojos.
- Atrapamientos por los medios de elevación y transporte.
- Los derivados del uso de medios auxiliares (borriquetas, escaleras, andamios, etc.).

4.9.3.Normas básicas de seguridad

En todo momento se mantendrán limpias y ordenadas las superficies de tránsito y de apoyo para realizar los trabajos para evitar los accidentes por resbalón.

Todas las plataformas de trabajo reunirán los requisitos marcados, en cuanto a anchura (60 cm. mínimo) y protecciones -doble barandilla y rodapié- siempre que tengan una altura superior a 2 m.

En todo caso, las plataformas de trabajo no tendrán un ancho inferior a 0,60 m. y estarán aseguradas contra deslizamientos, rebasando como mínimo en 0,15 m. de longitud el punto de apoyo cuando se utilicen tablones, cuyo espesor no será menor de 7 cm.

- Es obligatorio el uso de pisas metálicas en la formación de las plataformas de

trabajo de los andamios tubulares.

- Los andamios para interiores se formarán sobre borriquetas. Se prohíbe el uso de

escaleras, bidones, pilas de material, etc., para estos fines, para evitar los

accidentes por trabajar sobre superficies inseguras. Se utilizarán siempre

borriquetas metálicas con elementos de limitación de apertura.

- Se prohíbe el uso de borriquetas en zonas sin protección contra las caídas desde

alturas.

- Atención a comprobar previamente al trabajo, las condiciones de montaje y

protección del andamio tubular.

- Todos los huecos que queden, tanto interiores (ascendentes, escaleras, etc.) como

exteriores (terrazas, balcones, etc.), después de realizar las fábricas, deberán ser

protegidos mediante doble barandilla y/o redes.

- Es importante mantener el orden y la limpieza en el tajo.

- Al transportar la estructura para el montaje del Pladúr o perfiles similares, al

hombro llevar el extremo anterior levantado.

- Las zonas destinadas a vertido y acopio de escombros deberán quedar

señalizadas y prohibido el paso.

- Debe planificarse el trabajo de las diversas cuadrillas para evitar su coincidencia en

el mismo plano vertical y a distintas alturas.

- Atención a no sobrecargar las plataformas de trabajo. En todo caso se acotará la zona inferior de posible caída de materiales, cascotes etc.

- Utilizar trompas de descargas de escombros, acotando la zona inferior, planificando su situación de forma que existan pocos puntos de vertido.

- Repartir por los forjados los palets de ladrillo para evitar sobrecargas.

- Utilizar plataformas de recogida de cargas provistas de doble barandilla lateral de protección y protección frontal cuando no se esté utilizando.

- Toda la maquinaria usada deberá estar en óptimas condiciones y con todos los mecanismos y protecciones de seguridad.

- Se colgarán a elementos firmes de la estructura, cables en los que amarrar el fiador del arnés de seguridad para realizar los trabajos sobre borriquetas en los lugares con riesgo de caída desde altura.

- La utilización de arnés de seguridad trabajando en un andamio colgado a más de 2 m. de altura, es obligatoria.

- Las zonas de trabajo tendrán una iluminación mínima de 100 lux, medidos a una altura sobre el suelo en torno a los 2 m. La iluminación mediante portátiles, se hará con portalámparas estancos con mango aislante y rejilla de protección de la bombilla. La energía eléctrica los alimentará a tensión de seguridad.

- Se acordonará la zona en la que pueda caer cascotes, piedra durante las operaciones de proyección de garbancillo sobre morteros, o cualquier otro material, mediante cintas de banderolas y letreros de prohibido el paso.

- El transporte de sacos aglomerantes o de áridos se realizará preferentemente sobre carretilla de mano, para evitar sobreesfuerzos.

- Los sacos de aglomerados, se acopiarán ordenadamente repartidos junto a los tajos en los que se les vaya a utilizar, lo más separados posible de los vanos, para

evitar sobrecargas innecesarias, y se dispondrán de forma que no obstaculicen los lugares de paso, para evitar accidentes por tropiezos.

- Las plataformas de trabajo serán como mínimo de 0,60 m.

- Se deberán señalizar debidamente la zona de acopios.

- El corte de las piezas cerámicas a máquina ('tronzadora radial' o 'sierra de disco') deberá hacerse por vía húmeda, sumergiendo la pieza a cortar en un cubo con agua, para evitar la formación de polvo ambiental durante el trabajo.

- El corte de las plaquetas y demás piezas cerámicas se ejecutará a la intemperie, para evitar respirar aire con gran cantidad de polvo.

- Los tajos se limpiarán de recortes y desperdicios de pasta, apilando los escombros ordenadamente para su evacuación mediante bajantes de escombros. Se prohíbe lanzar los escombros directamente por huecos.

4.9.4.Equipos de protección individual

- Casco de seguridad homologado.
- Calzado antideslizante homologado.
- Guantes de cuero
- Monos de trabajo.
- Chaleco reflectante.
- Traje impermeable
- Cinturón de seguridad clase A
- Rodilleras

4.9.5.Equipos de protección colectiva

- Para los trabajos a más de dos metros de altura con peligro eventual de caída, se utilizarán andamios, protecciones colectivas (redes, barandillas reglamentarias) o cinturón de seguridad anclado a un punto sólido.
- Plataformas de trabajo 0,60 m. anchura mínima.
- Doble barandilla y rodapié en plataformas trabajo.

- Línea de vida
- Señalización de obra.

4.10.COLOCACIÓN DE TUBERÍAS

4.10.1.Descripción de los trabajos

- Acopio de tuberías
- Colocación de tuberías
- Soldadura de juntas térmicamente a tope

4.10.2.Riesgos más importantes

- Caídas desde mismo nivel.
- Caídas desde distinto nivel.
- Caídas de objetos en manipulación
- Desplome y vuelco de los paramentos del pozo.
- Desplome de taludes en una zanja.
- Atrapamiento o aplastamiento por o entre objetos
- Golpes y cortes por el uso de herramientas manuales.
- Sobreesfuerzos por posturas obligadas, (caminar en cuclillas, por ejemplo).
- Los derivados de trabajos realizados en ambientes húmedos y encharcados.
- Electrocución.
- Quemaduras por soldadura.

4.10.3.Normas básicas de seguridad

Los operarios tendrán los Equipos de Protección Individual correspondientes para la realización de las tareas.

Los trabajos estarán supervisados por una persona competente en la materia.

En los trabajos en altura los operarios llevarán arnés de seguridad para el que se habrán previsto puntos fijos de enganche con la necesaria resistencia.

Los tubos se descargarán de los camiones y se acopiarán en los lugares señalados para tal menester.

Los tubos se acopiarán en posición horizontal sobre durmientes dispuestos por capas de tal forma que no se dañen los elementos de enganche para su izado.

Se realizará el transporte de los tubos mediante eslingas enlazadas y provistas de ganchos con pestillos de seguridad.

El izado de los tubos se ejecutará suspendiendo la carga de dos puntos tales, que la carga permanezca estable.

La colocación deberá ser efectuada bajo la supervisión del jefe de obra, por personal técnicamente capacitado.

El tubo se manejará, para su colocación, por medio de las cuerdas dispuestas a tal fin. Diariamente se realizará una inspección sobre el buen estado de los elementos de elevación.

Se prohibirá trabajar o permanecer en lugares de tránsito de piezas suspendidas, en prevención del riesgo de desplome.

Se instalarán señales de peligro, paso de cargas suspendidas sobre pies derechos bajo los lugares destinados a su paso.

Se prepararán zonas de obra compactadas para facilitar la circulación de camiones de transporte de tubos. La obra se mantendrá en las debidas condiciones de orden y limpieza.

Se recomienda tomar precauciones y pedir que se suministren los planos de las conducciones subterráneas que pudieran existir en la zona.

Siempre que exista peligro de derrumbamiento, se procederá a entibar.

Se prohíbe la permanencia en solitario en el interior de pozos o galerías.

Se tenderá a lo largo del recorrido una soga a la que asirse para avanzar, en caso de emergencia.

El ascenso o descenso a los pozos y zanjas se realizará mediante escaleras normalizadas, firmemente ancladas a los extremos superior e inferior.

Los trabajadores permanecerán unidos al exterior mediante una soga anclada al cinturón de seguridad, tal que permita bien la extracción del operario tirando, o en su defecto, su localización en caso de rescate.

Las operaciones de soldadura en altura se realizarán desde el interior de una guindola de soldador. Se usarán equipos de protección para soldadura completos.

Se prohíbe dejar la pinza y el electrodo directamente en el suelo conectado al grupo. Se exige el uso de pinzas.

Las botellas de gases en uso en la obra permanecerán siempre en el interior del carro portabotellas correspondiente.

Se prohíbe la permanencia de operarios directamente bajo tajos de soldadura.

Se suspenderán los trabajos en condiciones climatológicas adversas

4.10.4.Equipos de protección individual

- Casco de seguridad homologado.
- Calzado antideslizante homologado.
- Guantes de cuero
- Monos de trabajo.
- Chaleco reflectante.
- Traje impermeable
- Cinturón de seguridad clase A
- Manguitos y polainas de cuero
- Gafas de seguridad antiproyecciones

4.10.5.Equipos de protección colectiva

- Balizamiento de las zanjas
- No se permitirá el paso de personal ajeno a las obras en las zonas de trabajo situando la señalización correspondiente.

4.11.ELEMENTOS DE VALVULERÍA

4.11.1.Descripción de los trabajos

Se incluye en esta unidad las operaciones necesarias para la correcta instalación de las válvulas, bridas y carretes de desmontajes en la instalación. El tipo de válvula a utilizar será el indicado en el proyecto de obra, adecuándose a los diámetros y características de las conducciones donde se deban situar.

4.11.2.Riesgos más importantes

- Caídas desde mismo nivel.
- Caídas desde distinto nivel.
- Caídas de objetos en manipulación
- Golpes y cortes por el uso de herramientas manuales.
- Los derivados de trabajos realizados en ambientes húmedos y encharcados.
- Electrocución.

4.11.3.Normas básicas de seguridad

Los operarios tendrán los Equipos de Protección Individual correspondientes para la realización de las tareas.

Los trabajos estarán supervisados por una persona competente en la materia.

El acopio de materiales nunca obstaculizará las zonas de paso, para evitar tropiezos.

Se retirará las sobras de materiales, herramientas y restos de obra no colocados como piezas rotas, envoltorios, palets, etc.

La colocación de cada uno de los dispositivos lo realizará personal especializado en el mismo.

Las herramientas a utilizar por los instaladores estarán protegidas contra contactos eléctricos con material aislante normalizado. Las herramientas con aislante en mal estado o defectuoso serán sustituidas de inmediato por otras que estén en buen estado.

Antes de que las instalaciones entren en carga, se revisarán perfectamente las conexiones de mecanismos y protecciones.

Se suspenderán los trabajos con condiciones climatológicas adversas.

Se mantendrá la obra en buen estado de orden y limpieza.

4.11.4.Equipos de protección individual

- Casco de seguridad homologado.
- Calzado antideslizante homologado.
- Guantes de cuero
- Monos de trabajo.
- Chaleco reflectante.
- Traje impermeable
- Cinturón de seguridad clase A

4.11.5.Equipos de protección colectiva

- No se permitirá el paso de personal ajeno a las obras en las zonas de trabajo situando la señalización correspondiente.

4.12.INSTALACIONES ELÉCTRICAS

4.12.1.Descripción de los trabajos

Realización de reposiciones de servicios y remates de las obras, como recogida de productos de desecho, limpieza general, arreglo de vertederos, demolición y retirada de instalaciones de obra, etc.

4.12.2.Riesgos más importantes

- Choques y atropellos por vehículos.
- Caídas desde mismo nivel.
- Caídas desde distinto nivel.
- Golpes y atrapamientos.
- Pisadas sobre objetos punzantes.
- Sobre esfuerzos en manipulación de cargas.

4.12.3.Normas básicas de seguridad

- Utilizar los equipos de protección individual preceptivos en esta fase. Utilización de la maquinaria y equipos por personal válido autorizado.
- Atenerse a las normas básicas de seguridad en demoliciones si las hubiere.
- Efectuar el desmontaje y desconexión de tendidos eléctricos por personal reglamentariamente autorizado.
- Cubrimiento de las zanjas y badenes resultantes de la retirada de las instalaciones de la obra.

4.12.4.Equipos de protección individual

- Chaleco reflectante.
- Casco de seguridad homologado.
- Calzado antideslizante homologado.
- Guantes de loneta en manipulación y desescombros.
- Monos de trabajo.
- Los indicados en los procedimientos de demolición si los hubiera.
- Los indicados en los procedimientos de excavaciones si las hubiera.

4.12.5.Equipos de protección colectiva

- Balizamiento de las zonas de desmontaje de instalaciones

- No se permitirá el paso de personal ajeno a las obras en las zonas de trabajo situando la señalización correspondiente.

4.13.OBRAS DE REPOSICIÓN DE SERVICIOS Y REMATES

4.13.1.Descripción de los trabajos

Realización de reposiciones de servicios y remates de las obras, como recogida de productos de desecho, limpieza general, arreglo de vertederos, demolición y retirada de instalaciones de obra, etc.

4.13.2.Riesgos más importantes

- Choques y atropellos por vehículos.
- Caídas desde mismo nivel.
- Caídas desde distinto nivel.
- Golpes y atrapamientos.
- Pisadas sobre objetos punzantes.
- Sobre esfuerzos en manipulación de cargas.

4.13.3.Normas básicas de seguridad

- Utilizar los equipos de protección individual preceptivos en esta fase. Utilización de la maquinaria y equipos por personal válido autorizado.
- Atenerse a las normas básicas de seguridad en demoliciones si las hubiere.
- Efectuar el desmontaje y desconexión de tendidos eléctricos por personal reglamentariamente autorizado.
- Cubrimiento de las zanjas y badenes resultantes de la retirada de las instalaciones de la obra.

4.13.4.Equipos de protección individual

- Chaleco reflectante.
- Casco de seguridad homologado.
- Calzado antideslizante homologado.
- Guantes de loneta en manipulación y desescombros.
- Monos de trabajo.
- Los indicados en los procedimientos de demolición si los hubiera.
- Los indicados en los procedimientos de excavaciones si las hubiera.

4.13.5.Equipos de protección colectiva

- Balizamiento de las zonas de desmontaje de instalaciones
- No se permitirá el paso de personal ajeno a las obras en las zonas de trabajo situando la señalización correspondiente.

5.MAQUINARIA

5.1.RETROEXCAVADORA

5.1.1.Características

- Tren de orugas o ruedas de neumáticos.
- Esfuerzo a tracción de mayor de 5 toneladas.
- Capacidad de cuchara: mayor o igual a 350 litros.
- Puede ir provista de martillo rompedor.

5.1.2.Utilización

- Excavación de vaciados, pozos, zanjas y cimientos.

5.1.3.Riesgos más frecuentes

- Caída y vuelco en zanjas
- Contactos eléctricos.
- Atropellos.

5.1.4.Normas básicas de seguridad

- Utilización por personal capacitado y autorizado.
- Cuando circule lo hará con la cuchara plegada.
- El personal de obra se encontrará fuera del radio de acción de la máquina.

5.1.5.Protecciones personales

- Ropa de trabajo sin holguras.
- Botas de seguridad con suela de goma antideslizante y puntera metálica.
- Casco de seguridad tipo N.

5.2.CAMIÓN HORMIGONERA

5.2.1.Utilización

En todas las operaciones que requieran hormigonado: relleno de zarjas, solado.

5.2.2.Riesgos más frecuentes

Atrapamientos por falta de protección de la carcasa.

Contactos eléctricos directos.

Dermatosis por contado con el hormigón.

Caída a distinto nivel por superficie de tránsito peligrosa, emp4e de la canaleta por movimientos fuera de control del camión hormigonera en movimiento.

Atrapamientos de miembros en el montaje y desmontaje de la canaleta. Afecciones reumáticas por trabajos en ambientes húmedos.

Sobre esfuerzos en el guiado de la canaleta.

5.2.3.Normas básicas de seguridad

Antes de comenzar cualquier operación se entregará a los maquinistas las normas y exigencias de seguridad que les afecten específicamente.

El maquinista será persona autorizada y capacitada para el desarrollo de las tareas que se le encomiendan.

Se revisará diariamente el estado de sus elementos fundamentales: movimientos y funcionamiento de su brazo, estado de conservación de los ganchos de fijación y cables, observancia de éstos respecto a la normativa vigente.

Se seguirán estrictamente las prescripciones de utilización, cargas máximas que el fabricante del camión haya dispuesto.

Se prohíbe estacionar a menos de 2 metros del borde de las zarjas. Peldaños y asidero antideslizante para acceso a la cabina.

Mantener limpios los cristales y retrovisores para maniobras.

Bajo ningún concepto se introducirá el brazo en el tambor con movimiento.

Deberá dejarse inmovilizada por el mecanismo correspondiente una vez terminados los trabajos.

5.3.GRÚA AUTOPROPULSADA

5.3.1.Utilización

Izado y colocación de cargas.

5.3.2.Riesgos más frecuentes

Atropello de personas por maniobras en retroceso, ausencia de señalista, espacio angosto.

Caídas al subir o bajar a la zona de mandos por lugares imprevistos.

Vuelco del vehículo (exceso de carga, falta de sustentación, caída en huecos horizontales).

Niveles sonoros altos (ruido motor en izado de cargas).

Golpeo de la carga o de los elementos de la grúa con el andamiaje o con las construcciones adyacentes.

Desprendimiento de la carga por eslingado peligroso.

Golpes de la carga a paramentos verticales u horizontales durante las maniobras de servicio.

Contados eléctricos con líneas de alta tensión o cableado.

5.3.3.Normas básicas de seguridad

Antes de comenzar cualquier operación se entregará a los maquinistas las normas y exigencias de seguridad que les afecten específicamente.

El maquinista será persona autorizada y capacitada para el desarrollo de las tareas que se le encomiendan.

Se prohíbe desplazar el camión durante las operaciones 6 movimientos de su brazo, con o sin carga.

Antes de realizar cualquier operaci6n, se extenderán los 4 apoyos de la que ha de estar dotado para asegurar su estabilidad.

Se revisará diariamente el estado de sus elementos fundamentales: movimientos y funcionamiento de su brazo, estado de conservación de los ganchos de fijación y cables, observancia de éstos respecto a la normativa vigente.

Se prohíbe realizar esfuerzos por encima del límite de carga útil del camión.

Se seguirán estrictamente las prescripciones de utilización, cargas máximas que el fabricante del camión haya dispuesto.

Se prohíbe estacionar a menos de 2 metros del borde de las zarjas.

Se prohíbe terminantemente su utilización en condiciones de vientos superiores a 50 km/h o racheados.

Se prohíbe acceder a la máquina utilizando vestimenta sin ceñir y/o joyas, que puedan engancharse en los salientes o controles.

Peldaños y asidero antideslizante para acceso a la cabina. Mantener limpios los cristales y retrovisores para maniobras.

Los ganchos de cuelgue estarán dotados de pestillo de seguridad

5.3.4.Protecciones personales

- Casco de seguridad homologado para cuando abandone la cabina.
- Ropa de trabajo (mono o pantalón y chaquetilla).
- Botas de seguridad homologadas con suela antideslizante y puntera

5.3.5.Protecciones colectivas

- Señalizar la zona de influencia y trabajo de las grúas
- Impedir el paso a toda persona ajena a los trabajos que desarrolle.

5.4.GRÚA HIDRÁULICA

5.4.1.Utilización

- Izado y colocación de cargas.

5.4.2.Riesgos más frecuentes

Atropello de personas por maniobras en retroceso, ausencia de señalista, espacio angosto.

Caídas al subir o bajar a la zona de mandos por lugares imprevistos.

Vuelco del vehículo (exceso de carga, falta de sustentación. caída en huecos horizontales). Niveles sonoros altos (ruido motor en izado de cargas).

Golpeo de la carga 6 de los elementos de la grúa con el andamiaje o con las construcciones adyacentes.

Desprendimiento de la carga por eslingado peligroso.

Golpes de la carga a paramentos verticales u horizontales durante las maniobras de servicio. Contactos eléctricos con líneas de alta tensión o cableado.

5.4.3.Normas básicas de seguridad

Antes de comenzar cualquier operación se entregará a los maquinistas las normas y exigencias de seguridad que les afecten específicamente.

El maquinista será persona autorizada y capacitada para el desarrollo de las tareas que se le encomiendan.

Se prohíbe desplazar el camión durante las operaciones ó movimientos de su brazo, con o sin carga.

Antes de realizar cualquier operación, se extenderán los 4 apoyos de la que ha de estar dotado para asegurar su estabilidad.

Se revisará diariamente el estado de sus elementos fundamentales: movimientos y funcionamiento de su brazo, estado de conservación de los ganchos de fijación y cables, observancia de éstos raspado a la normativa vigente.

Se prohíbe realizar esfuerzos por encima del límite de carga útil del camión.

Se seguirán estrictamente las prescripciones de utilización, cargas máximas que el fabricante del camión haya dispuesto.

Se prohíbe estacionar a menos de 2 metros del borde de las zarjas.

Se prohíbe terminantemente su utilización en condiciones de vientos superiores a 50 km/h ó racheados.

Se prohíbe acceder a la máquina utilizando vestimenta sin ceñir y/o joyas, que puedan engancharse en los salientes o controles.

Peldaños y asidero antideslizante para acceso a la cabina. Mantener limpios los cristales y retrovisores para maniobras.

Los ganchos de cuelgue estarán dotados de pestillo de seguridad

5.4.4.Protecciones personales

- Casco de seguridad homologado para cuando abandone la cabina.
- Ropa de trabajo (mono o pantalón y chaquetilla).
- Botas de seguridad homologadas con suela antideslizante y puntera metálica.

5.4.5.Protecciones colectivas

- Señalizar la zona de influencia y trabajo de las grúas
- Impedir el paso a toda persona ajena a los trabajos que desarrolle.

5.5.MARTILLO PERFORADOR Y COMPRESOR DE AIRE

5.5.1.Utilización

- Realizar perforaciones para voladuras generales o precortes.
- Realizar taladros para introducción de bulones y anclajes.

5.5.2.Riesgos más frecuentes

- Aplastamientos con las orugas
- Inhalación de polvo
- Dolor lumbar. Ruidos.
- Vibraciones.

5.5.3.Normas básicas de seguridad

- Utilización por personal autorizado y competente.

- Revisar periódicamente su estado de conservación.
- Revisar sus conexiones neumáticas o hidráulicas
- Motor protegido por carcasa.
- Desconectar tras su utilización.
- Adoptar posturas ergonómicas para evitar fatiga y sobre esfuerzos.
- Equipos de protección personal
- Casco de seguridad homologado.
- Guantes antivibración.
- Faja antivibración.
- Botas de seguridad con suela antideslizante, plantilla anticlavos y puntera metálica.
- Protectores auditivos tipo tapones.
- Mono de trabajo.

5.6.MÁQUINA HORMIGONERA

5.6.1.Utilización

En todas las operaciones que requieran hormigonado.

5.6.2.Riesgos más frecuentes

- Atrapamientos por falta de protección de la carcasa.
- Contactos eléctricos directos.
- Vuelcos y atropellos al transportarla.
- Dermatosis por contacto con el hormigón.

5.6.3.Normas básicas de seguridad

- Se comprobará el estado de los cables, palanca y accesorios con regularidad, así como los dispositivos de seguridad.
- Estará situada en una superficie llana y horizontal.
- Las paredes móviles estarán protegidas por carcasas.
- Tendrá toma de tierra conectada a la general.
- Su utilización se realizará con guantes de protección para trabajos con hormigón.

- Bajo ningún concepto se introducirá el brazo en el tambor con movimiento.
- Deberá dejarse inmovilizada por el mecanismo correspondiente una vez terminados los trabajos.

5.7.CAMIONES O DÚMPERES

5.7.1.Utilización

- Transporte de elementos estructurales, hormigones y otras piezas hasta pie de obra.
- Transporte de materiales de la explanación y de escombros hasta vertedero.
- Transporte de materiales de construcción.

5.7.2.Riesgos más frecuentes

- Atropellos a personas.
- Choques entre vehículos.
- Caída de vehículos a zanjas.
- Calda desde la cabina.
- Caldas al acceder a bajar por zonas no dispuestas a tal efecto.

5.7.3.Normas básicas de seguridad

Respetar el código de la circulación.

Antes de comenzar cualquier operación se entregará a los maquinistas las normas y exigencias de seguridad que les afecten específicamente.

El maquinista será persona autorizada y capacitada para, el desarrollo de las tareas que se le encomiendan.

Se revisará diariamente el estado de sus elementos fundamentales: movimientos y funcionamiento de su brazo, estado de conservación de los ganchos de fijación y cables, observancia de éstos respecto a la normativa vigente.

Se seguirán estrictamente las prescripciones de utilización, cargas máximas que el fabricante del camión haya dispuesto.

Se prohíbe estacionar a menos de 2 metros del borde de las zanjas. Peldaños y asidero antideslizante para acceso a la cabina.

Mantener limpios los cristales y retrovisores para maniobras.

Deberá dejarse inmovilizado por el mecanismo correspondiente una vez terminados los trabajos.

5.7.4.Protecciones personales

- Casco de seguridad clase N al abandonar la cabina.
- Calzado de seguridad con suela antideslizante, plantilla anticlavos y puntera metálica.
- Ropa de trabajo sin botones ni holguras.

6.HERRAMIENTAS

6.1.SIERRA RADIAL

6.1.1.Utilización

- Cortes en piezas metálicas.
- Realización de juntas.

6.1.2.Riesgos de la actividad

- Exposición a ruido.
- Cortes y amputaciones en extremidades.
- Contactos eléctricos.
- Sobre esfuerzos.
- Atrapamientos.
- Proyección de partículas.
- Inhalación de polvo.
- Rotura de disco.
- Incendio.

6.1.3.Medidas preventivas a adoptar

- Utilización por personal autorizado y cualificado.
- Doble aislamiento eléctrico.
- Disco protegido mediante carcasa antiproyecciones.
- Llevará toma de tierra y deberá estar incluida en el mismo clave de alimentación.
- Controlar los dientes del disco para evitar que se produzca una fuerza de atracción hacia el disco.
- Deberá existir un interruptor cerca de la zona del mando.

- Prohibido realizar reparaciones con la máquina en marcha.
- Prohibido dejar la máquina-herramienta en el suelo.
- la zona de trabajo deberá estar limpia de serrín y virutas para evitar incendios.
- En caso de utilizarse para cortar madera, ésta estará desprovista de clavos.
- Trabajar con el disco abrasivo, preferentemente en húmedo o con instalación de extracción de polvo.
- Utilizar, si es preciso, prendas de protección personal (adaptador facial y filtro mecánico).

6.1.4.Protecciones individuales

- Casco de seguridad homologado tipo N.
- Mono de trabajo (suficientemente ceñido para evitar atrapamientos).
- Botas de seguridad homologadas con suela antideslizante, plantilla anticlavos y puntera metálica.
- Protectores auditivos (tipo tapones).

6.2.GRUPO MOTOBOMBA DE GASOIL

6.2.1.Utilización

Drenaje de zanjas y pozos. Mantenimiento en seco de zanjas y pozos.

6.2.2.Riesgos de la actividad

- Explosión del depósito de combustible.
- Falta de potencia en el achique.
- Dolor lumbar. Ruidos.
- Vibraciones.
- Normas básicas de utilización.
- Utilización por personal autorizado y competente.
- Revisar periódicamente su estado de conservación.
- Revisar conexiones de combustible y cámara de explosión.
- Revisar estado de la válvula de aspiración.
- Motor protegido por carcasa.

- Desconectar tras su utilización.
- Operaciones de limpieza tras su utilización.
- Adoptar posturas ergonómicas para evitar fatiga y sobre esfuerzos.

6.2.3.Protecciones individuales

- Casco de seguridad homologado.
- Guantes antivibración.
- Faja antivibración.
- Botas de seguridad con suela antideslizante, plantilla anticlavos y puntera metálica.
- Protectores auditivos tipo tapones.
- Mono de trabajo.

6.3.MARTILLO ROTATIVO

6.3.1.Utilización

- Practicar huecos en estructuras.
- Levantar pavimento.

6.3.2.Riesgos de la actividad

- Contactos eléctricos.
- Dolor lumbar.
- Ruidos. Vibraciones.
- Generación de polvo.

6.3.3.Medidas preventivas a adoptar

- Utilización por personal autorizado y competente.
- Revisar periódicamente su estado de conservación.
- Revisar sus conexiones eléctricas; en especial toma de tierra.
- Doble aislamiento eléctrico.
- Motor protegido por carcasa.
- Desconectar tras su utilización.
- Prohibido abandonarla en el suelo.

- Adoptar posturas ergonómicas para evitar fatiga y sobre esfuerzos.
- Equipos de protección personal
- Casco de seguridad homologado.
- Guantes antivibración.
- Faja antivibración.
- Botas de seguridad con suela antideslizante, plantilla anticlavos y puntera metálica.
- Protectores auditivos tipo tapones.
- Mono de trabajo.

6.3.4.Protecciones individuales

- Casco de seguridad homologado.
- Guantes antivibración.
- Faja antivibración.

6.4.EQUIPOS DE SOLDADURA Y OXICORTE

6.4.1.Utilización

- En todas las operaciones que requieran la unión de elementos y piezas metálicas.
- En todas las operaciones que requieran corte de elementos y piezas metálicas.

6.4.2.Riesgos de la actividad

- Ceguera total o parcial por uso indebido de la máscara de protección ocular.
- Quemaduras en la cara, manos y tronco.
- Golpes y atrapamientos de las piezas a unir o cortar.
- Electrocución.
- Proyección de partículas.

6.4.3.Medidas preventivas a adoptar

Será utilizado por personal autorizado y competente.

Comprobar el estado de los elementos: válvula antirretorno, manómetros de presión, carga de las bombonas, limpieza de la antorcha, estado de los cables de conducción de fluidos desde las bombonas.

Asegurar el arriostramiento de las bombonas antes de ser utilizadas.

En caso de no tener suficientes garantías sobre el correcto funcionamiento del equipo, el trabajador a su cargo lo comunicará al encargado de su empresa y al Coordinador de Seguridad y Salud.

Disponer de extintor de polvo seco en las proximidades del equipo.

Realizar las operaciones en presencia de otro trabajador, que será el encargado del manejo del extintor, en caso de ser necesario.

No exponer las bombonas a temperaturas elevadas (no dejarlas al sol). La primera bombona en abrirse será la de acetileno.

La primera bombona en cerrarse será la de oxígeno, realizándose esta operación de forma progresiva para evitar el golpe de ariete.

No fumar en las proximidades del equipo.

Una vez finalizadas las operaciones, asegurarse de haber cerrado correctamente ambas bombonas. Comprobar el estado y tipo de los electrodos para soldadura

6.4.4.Protecciones individuales

- Pantallas y gafas de protección en soldadura.
- Guantes de soldador.
- Manguitos de soldador.
- Mandiles de cuero de soldador.
- Botas de seguridad.
- Casco de seguridad.
- Arnés de seguridad.
- Ropa de trabajo

6.5.CABLES, ESLINGAS Y MATERIAL AUXILIAR

6.5.1.Utilización

En todas las operaciones que precisen el embrague de elementos de la obra, como son: izado y sujeción de cargas en general, de bloques, vigas, mampuestos, escolleras, tubos, perfiles metálicos, etc., etc.

En todas las operaciones que requieran selección de máquinas, embarcaciones y elementos flotantes. Herramientas menores como son: martillos, llaves fías o inglesas, escoplos etc.

6.5.2.Riesgos de la actividad

- Golpes, cortes y atrapamientos. Caídas de los elementos a sujetar.
- Manejo de los cables sin guantes de protección.

6.5.3.Medidas preventivas a adoptar

Utilizar los equipos de protección individual necesarios para cada operación.

Utilizar la herramienta propia para cada actividad.

Mantener el lugar de trabajo limpio y ordenado evitando dejar la herramienta en lugares de tránsito, especialmente plataforma de andamios, cubierta, etc.

Mantener enrollados los cables y eslingas que no estén en uso.

6.5.4.Protecciones individuales

- Casco de seguridad homologado
- Guantes de cuero.
- Calzado de seguridad con suela antideslizante
- Cinturón porta-herramientas

6.6.TALADRO

6.6.1.Riesgos de la actividad

- Contactos eléctricos.
- Proyección de partículas.
- Heridas y atrapamientos por utilización incorrecta.
- Inhalación de polvo.

6.6.2.Medidas preventivas a adoptar

- Prohibido su uso por personal no autorizado.
- Será utilizada por personal competente y autorizado.
- Doble aislamiento eléctrico.
- Motor protegido por carcasa.
- Prohibido realizar reparaciones con la máquina en marcha.
- Revisar periódicamente su estado de conservación, así como el de la broca.

- Revisar el cableado para evitar electrocución.
- Apretar suficientemente la broca.
- Enfriar la broca a intervalos regulares si su uso es prolongado.
- No utilizar vestimentas holgadas, para evitar atrapamientos.
- Desconectar tras su utilización.

6.6.3.Protecciones individuales

- Guantes de cuero.
- Calzado antideslizante.
- Pantalla de protección ocular cuando haya riesgo de proyección de partículas.
- Mono de trabajo suficientemente ceñido, especialmente las mangas.
- Plantillas anticlavo.
- Protectores auditivos tipo tapones.

6.7.VIBRADOR ELÉCTRICO

6.7.1.Utilización

Vibrado de la masa de hormigón para su compactación.

6.7.2.Riesgos de la actividad

- Contactos eléctricos.
- Dolor lumbar.
- Ruidos. Vibraciones.
- Generación de polvo.

6.7.3.Medidas preventivas a adoptar

- Utilización por personal autorizado y competente.
- Revisar periódicamente su estado de conservación.
- Revisar sus conexiones eléctricas; en especial toma de tierra.
- Doble aislamiento eléctrico.
- Motor protegido por carcasa.
- Desconectar tras su utilización.

- Prohibido abandonarla en el suelo.
- Adoptar posturas ergonómicas para evitar fatiga y sobre esfuerzos.

6.7.4.Protecciones individuales

- Casco de seguridad homologado.
- Guantes antivibración.
- Faja antivibración.
- Botas de seguridad con suela antideslizante, plantilla y puntera metálica anticlavos.
- Protectores auditivos tipo tapones.
- Mono de trabajo.

6.8.BOMBA ESTÁTICA DE HORMIGÓN

6.8.1.Utilización

- Colocación del hormigón en los tajos.

6.8.2.Riesgos de la actividad

- Contados eléctricos.
- Dolor lumbar.
- Ruidos.
- Vibraciones.
- Generación de polvo.

6.8.3.Medidas preventivas a adoptar

- Utilización por personal autorizado y competente.
- Revisar periódicamente su estado de conservación.
- Revisar sus conexiones eléctricas; en especial toma de tierra.
- Doble aislamiento eléctrico.
- Motor protegido por carcasa.
- Desconectar tras su utilización.
- Operaciones de limpieza tras su utilización.
- Adoptar posturas ergon6micas para evitar fatiga y sobre esfuerzos.

6.8.4.Protecciones individuales

- Casco de seguridad homologado.
- Guantes antivibración.
- Faja antivibración.
- Botas de seguridad con suela antideslizante, plantilla anticlavos y puntera metálica.
- Protectores auditivos tipo tapones.
- Mono de trabajo.

6.9.EQUIPO DE SOLDADURA A TOPE

6.9.1.Utilización

Sirve para unir tubos de polietileno y sus accesorios. Las áreas o partes que se van a unir se calientan a la temperatura de fusión y se unen por aplicación de presión.

6.9.2.Riesgos de la actividad

- Quemaduras.
- Golpes contra objetos o herramientas.
- Sobreesfuerzos.
- Contactos eléctricos.
- Inhalación de sustancias nocivas.

6.9.3.Medidas preventivas a adoptar

- Utilización por personal autorizado y competente.
- Revisar periódicamente su estado de conservación.
- Revisar sus conexiones eléctricas; en especial toma de tierra.
- Doble aislamiento eléctrico.
- Motor protegido por carcasa.
- Desconectar tras su utilización.
- Operaciones de limpieza tras su utilización.

6.9.4.Protecciones individuales

- Guantes de cuero.

- Calzado de seguridad con suela antideslizante
- Cinturón porta-herramientas
- Mono de trabajo.

6.10.HERRAMIENTAS PROPIAS DE OBRAS DE CONSTRUCCIÓN

6.10.1.Utilización

Se incluyen el resto de herramientas propias de las obras de construcción, como son: martillo, llana, alicates, llave inglesa, cincel, paleta, azada clavadora…

6.10.2.Riesgos de la actividad

- Golpes, cortes y atrapamientos.
- Inhalación de polvo.

6.10.3.Medidas preventivas a adoptar

- Utilizar los equipos de protección individual necesarios para cada operación.
- Utilizar la herramienta propia para cada actividad.
- Mantener el lugar de trabajo limpio y ordenado, evitando dejar la herramienta en lugares de tránsito, especialmente plataforma de andamios, cubierta, etc.

6.10.4.Protecciones individuales

- Casco de seguridad homologado tipo N.
- Guantes de cuero.
- Guantes de plástico para manejo de hormigón y/o morteros.
- Calzado de seguridad con suela antideslizante.
- Cinturón porta-herramientas.

7.CONCLUSIÓN

El presente Estudio de Seguridad y Salud comprende la previsión de las actividades constructivas proyectadas y los riesgos previsibles en la ejecución de las mismas, así como las normas y medidas preventivas que habrán de adoptarse en la obra, la definición de las protecciones a utilizar, sus respectivas mediciones y precios y el presupuesto final del estudio.

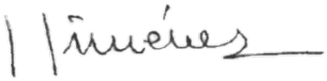
Sobre la base de tales previsiones el contratista elaborará y propondrá el Plan de seguridad y salud de la obra como aplicación concreta y desarrollo de este estudio, así como de presentación y justificación de las alternativas

preventivas que se juzguen necesarias, en función del método y equipos que en cada caso vayan a utilizarse en la obra.

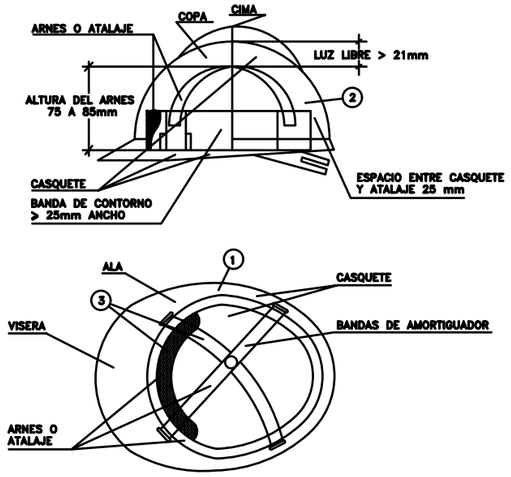
En relación con tal función y aplicaciones, el autor del presente Estudio de seguridad y salud estima que su contenido resulta suficiente para cumplir dichos objetivos y para constituir el conjunto básico de previsiones preventivas de la obra a realizar.

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

	
Redactor de proyecto: Juan Carlos Arroyo Portero ICCP	**Redactor adjunto:** Jesús Jiménez Cañas ICCP

DOCUMENTO II: PLANOS

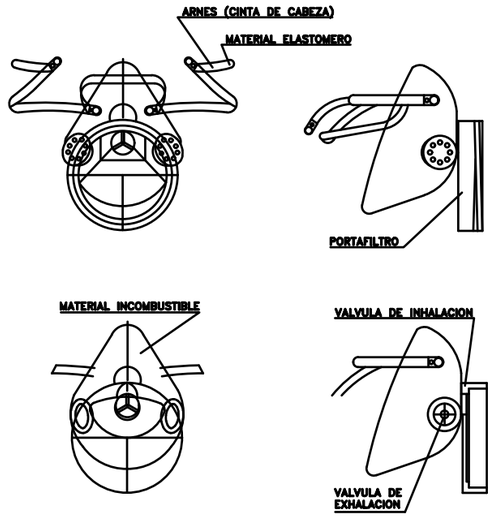


(1) MATERIAL INCOMBUSTIBLE, RESISTENTE A GRASAS, SALES Y AGUA.

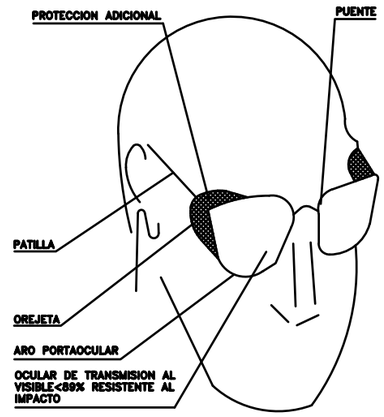
(2) CLASE N AISLANTE A 1.000 Y CLASE E-AT AISLANTE A 25.000.

(3) MATERIAL NO RIGIDO, HIDROFUGO, FACIL LIMPIEZA Y DESINFECCION.

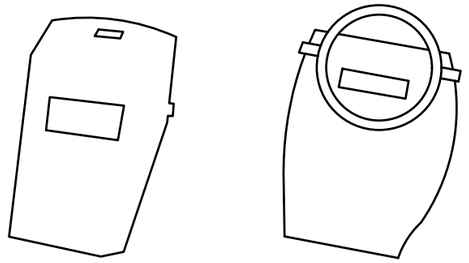
CASCO DE SEGURIDAD NO METALICO



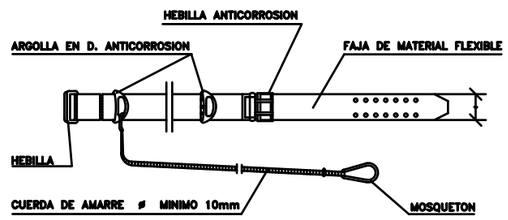
MASCARILLA ANTIPOLVO



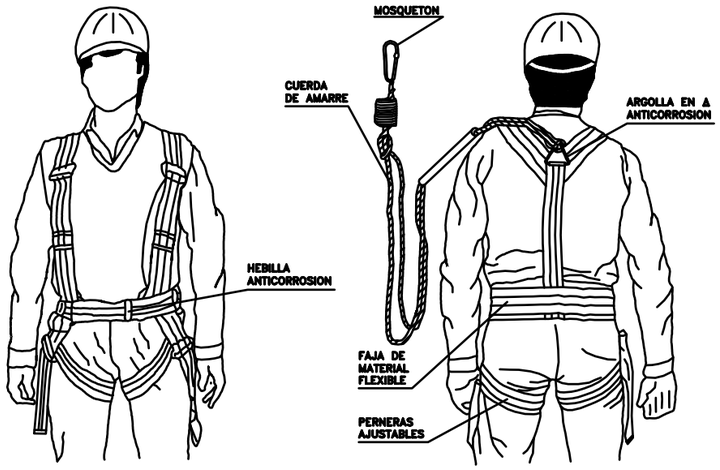
GAFAS DE MONTURA TIPO UNIVERSAL CONTRA IMPACTOS



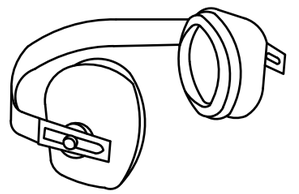
PROTECTOR PANTALLA SOLDADOR



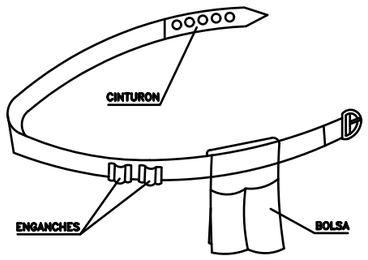
CINTURON DE SEGURIDAD CLASE A, TIPO 2.



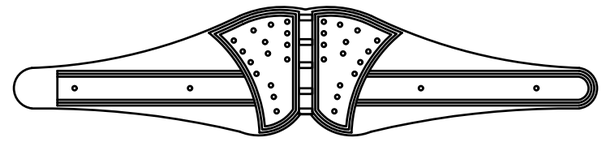
CINTURON DE SEGURIDAD CLASE C



PROTECTOR AUDITIVO

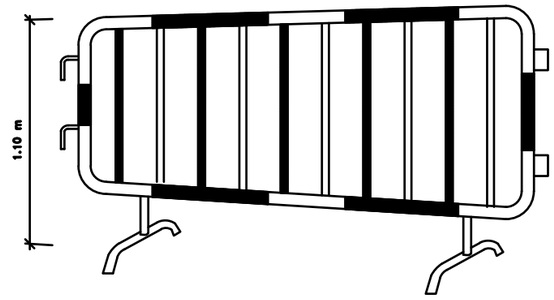


PORTAHERRAMIENTAS

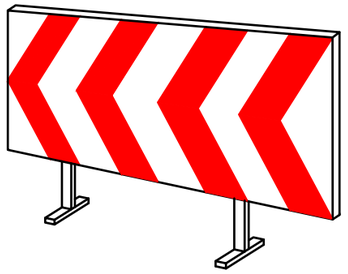


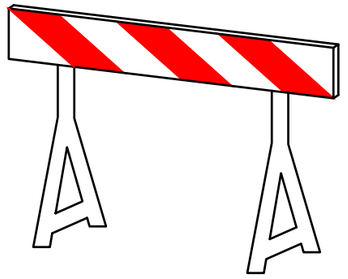
FAJA ANTIVIBRATORIA

Promotor: GOVERN DE LES ILLES BALEARS. Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP. Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: EQUIPOS DE PROTECCIÓN INDIVIDUAL	Escala: S/N	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud. Fecha: JULIO 2021	Núm. Plano: 01. Núm. Hoja: 1 DE 1



VALLA DESVIO TRAFICO

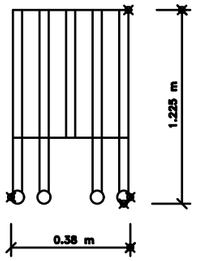


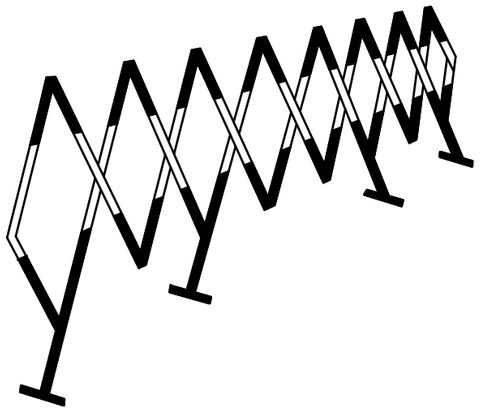


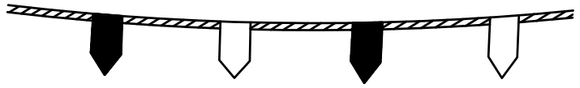
VALLAS AUTONOMAS DE
LIMITACION Y PROTECCION



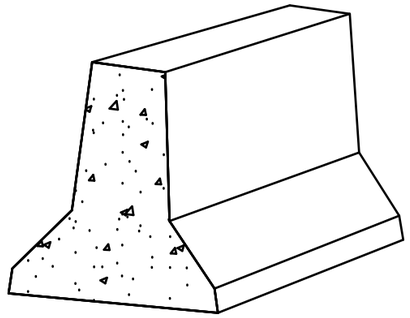
BALIZA DE BORDE DERECHO



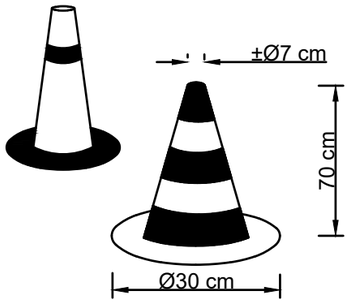




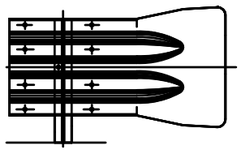
CORDON BALIZAMIENTO



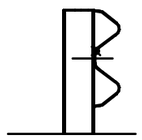
BARRERA DE SEGURIDAD RIGIDA PORTATIL



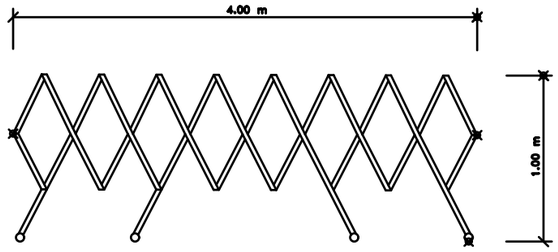
CONO BALIZAMIENTO



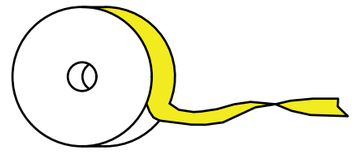
BARRERA RIGIDA



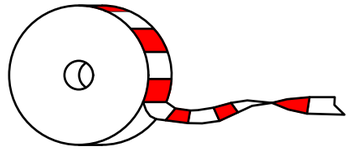
SECCION TRANSVERSAL



VALLA EXTENSIBLE TIPO ACORDEON



CINTA BALIZAMIENTO REFLECTANTE



CINTA BALIZAMIENTO PLÁSTICO

GOIB CONSELLERIA MEDI AMBIENT I TERRITORI AGÈNCIA BALEAR AIGUA I QUALITAT AMBIENTAL	Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	calter ingeniería de estructuras	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: MEDIOS DE PROTECCIÓN. SISTEMAS DE ACOTACIÓN	Escala: S/N; Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud; Fecha: JULIO 2021; Núm. Plano: 02; Núm. Hoja: 1 DE 1

CÓDIGO DE SEÑALES DE MANIOBRAS

1 LEVANTAR LA CARGA



2 LEVANTAR EL AGUILON O PLUMA



3 LEVANTAR LA CARGA



4 LEVANTAR EL AGUILON O PLUMA LENTAMENTE



5 LEVANTAR EL AGUILON O PLUMA Y BAJAR LA CARGA



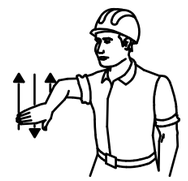
6 BAJAR LA CARGA



7 BAJAR LA CARGA LENTAMENTE



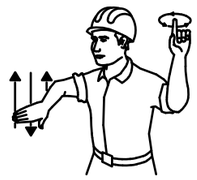
8 BAJAR EL AGUILON O PLUMA



9 BAJAR EL AGUILON O PLUMA LENTAMENTE



10 BAJAR EL AGUILON O PLUMA Y LEVANTAR LA CARGA



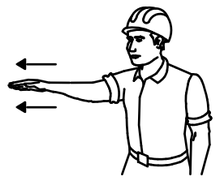
11 GIRAR EL AGUILON EN LA DIRECCION INDICADA POR EL DEDO



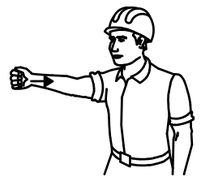
12 AVANZAR EN LA DIRECCION INDICADA POR EL SENALISTA



13 SACAR PLUMA

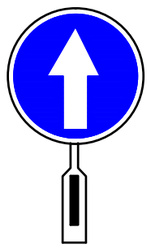


14 METER PLUMA



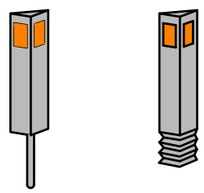
15 PARAR







PALETAS MANUALES
DE SENALIZACION



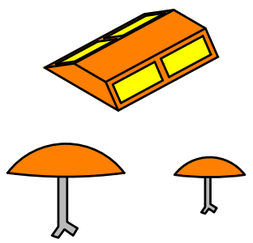
HITOS CAPTAFAROS PARA SENALIZACION
LATERAL DE AUTOPISTAS EN POLIETILENO



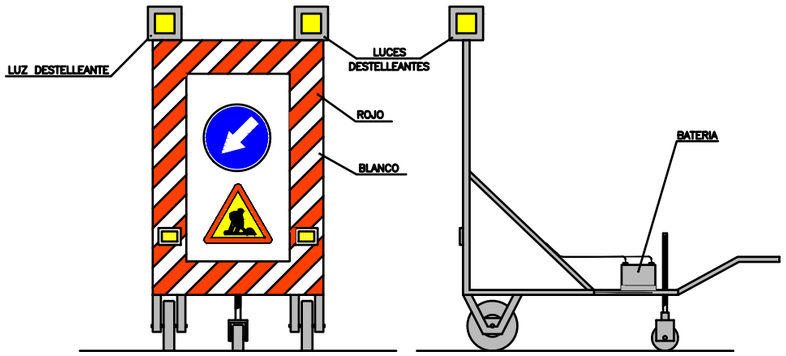
PORTALAMPARAS DE PLASTICO



CORDON DE BALIZAMIENTO
NORMAL Y REFLEXIVO

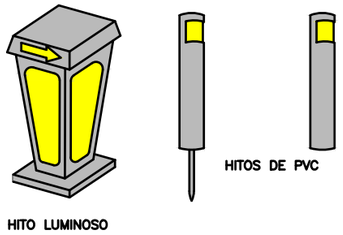


CAPTAFAROS HORIZONTAL
"OJOS DE GATO"



VISTA FRONTAL

VISTA LATERAL

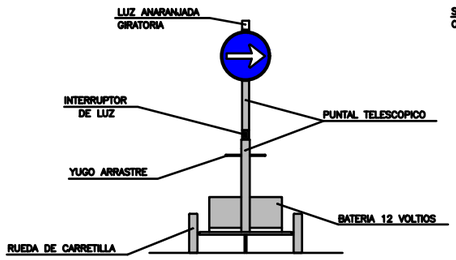


HITO LUMINOSO

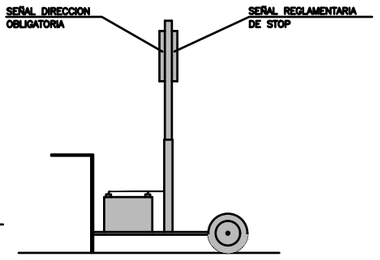
HITOS DE PVC



LAMPARA AUTONOMA
FIJA INTERMITENTE



VISTA FRONTAL



VISTA LATERAL

MEDIOS DE PROTECCIÓN CON SEÑALIZACIÓN DE SEGURIDAD

Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP, Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: SEÑALIZACIÓN I	Escala: S/N	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud	Núm. Plano: 03
							Fecha: JULIO 2021	Núm. Hoja: 1 DE 2

MEDIOS DE PROTECCIÓN CON SEÑALIZACIÓN DE SEGURIDAD



MODELO DE CARTEL DE DIRECCIONES Y TELÉFONOS EN CASO DE EMERGENCIA.
DEBERÁ RELLENARSE PARA CADA TRAMO DE OBRA, SEGÚN LOS CENTROS MÁS CERCANOS.

SEÑALES DE PROHIBICION

SIGNIFICADO DE LA SEÑAL	SIMBOLO	COLORES DEL SIMBOLO	COLORES DE SEGURIDAD	COLORES DE CONTRASTE	SEÑAL DE SEGURIDAD
PROHIBIDO FUMAR		NEGRO	ROJO	BLANCO	
PROHIBIDO APAGAR CON AGUA		NEGRO	ROJO	BLANCO	
PROHIBIDO FUMAR Y LLAMAS DESNUDAS		NEGRO	ROJO	BLANCO	
AGUA NO POTABLE		NEGRO	ROJO	BLANCO	
PROHIBIDO PASAR A PEATONES		NEGRO	ROJO	BLANCO	
ENTRADA PROHIBIDA A PERSONAS NO AUTORIZADAS		NEGRO	ROJO	BLANCO	
PROHIBIDO A LOS VEHICULOS DE MANUTENCION		NEGRO	ROJO	BLANCO	
NO TOCAR		NEGRO	ROJO	BLANCO	
PROHIBIDO CIRCULAR BAJO CARGAS SUSPENDIDAS		NEGRO	ROJO	BLANCO	
PROHIBIDO PERMANECER EN EL RADIO DE ACCION DE LA MAQUINA		NEGRO	ROJO	BLANCO	
PROHIBIDO EL ACCESO A LA ESCALERA		NEGRO	ROJO	BLANCO	

SEÑALES DE ADVERTENCIA
(CONTENIDAS EN EL REAL DECRETO 485/1997)

SIGNIFICADO DE LA SEÑAL	SIMBOLO	COLORES DEL SIMBOLO	COLORES DE SEGURIDAD	COLORES DE CONTRASTE	SEÑAL DE SEGURIDAD
RIESGO DE INCENDIO MATERIALES INFLAMABLES		NEGRO	AMARILLO	NEGRO	
RIESGO DE EXPLOSION MATERIALES EXPLOSIVOS		NEGRO	AMARILLO	NEGRO	
RIESGO DE RADIACION MATERIALES RADIACTIVOS		NEGRO	AMARILLO	NEGRO	
RIESGO DE CARGA SUSPENDIDA		NEGRO	AMARILLO	NEGRO	
RIESGO DE INTOXICACION SUBSTANCIAS NOCIVAS		NEGRO	AMARILLO	NEGRO	
RIESGO DE CORROSION SUBSTANCIAS CORROSIVAS		NEGRO	AMARILLO	NEGRO	
RIESGO ELECTRICO		NEGRO	AMARILLO	NEGRO	
PELIGRO INDETERMINADO		NEGRO	AMARILLO	NEGRO	
RADIACIONES LASER		NEGRO	AMARILLO	NEGRO	
VEHICULOS DE MANUTENCION		NEGRO	AMARILLO	NEGRO	
RIESGO DE TROPEZAR		NEGRO	AMARILLO	NEGRO	
CAIDAS A DISTINTO NIVEL		NEGRO	AMARILLO	NEGRO	
MATERIAS NOCIVAS O IRRITANTES		NEGRO	AMARILLO	NEGRO	
OBRAS		NEGRO	AMARILLO	NEGRO	
CAIDA DE OBJETOS		NEGRO	AMARILLO	NEGRO	
CAIDA DE OBJETOS		NEGRO	AMARILLO	NEGRO	

SEÑALES DE SEGURIDAD
(CONTENIDAS EN EL REAL DECRETO 485/1997)

SIGNIFICADO DE LA SEÑAL	SIMBOLO	COLORES DEL SIMBOLO	COLORES DE SEGURIDAD	COLORES DE CONTRASTE	SEÑAL DE SEGURIDAD
PROTECCION OBLIGATORIA DE VIAS RESPIRATORIAS		BLANCO	AZUL	BLANCO	
PROTECCION OBLIGATORIA DE LA CABEZA		BLANCO	AZUL	BLANCO	
PROTECCION OBLIGATORIA DEL OIDO		BLANCO	AZUL	BLANCO	
PROTECCION OBLIGATORIA DE LA VISTA		BLANCO	AZUL	BLANCO	
PROTECCION OBLIGATORIA DE LAS MANOS		BLANCO	AZUL	BLANCO	
PROTECCION OBLIGATORIA DE LOS PIES		BLANCO	AZUL	BLANCO	
USO OBLIGATORIO DEL CINTURON DE SEGURIDAD		BLANCO	AZUL	BLANCO	
PROTECCION OBLIGATORIA DEL CUERPO		BLANCO	AZUL	BLANCO	
PROTECCION OBLIGATORIA DE LA CARA		BLANCO	AZUL	BLANCO	
OBLIGACION GENERAL		BLANCO	AZUL	BLANCO	
VIA OBLIGATORIA PARA PEATONES		BLANCO	AZUL	BLANCO	

G CONSELLERIA
O MEDI AMBIENT
I TERRITORI
B AGÈNCIA BALEAR
DE L'AIGUA I QUALITAT AMBIENTAL

Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)

Responsable del Contrato:
Guillem Rosselló Alcina

calter ingeniería de estructuras

Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

Situación:
FORMENTERA

Título del Proyecto:
PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

Título del Plano:
SEÑALIZACIÓN II

Escala:
S/N

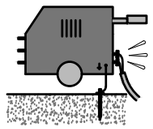
Clave:
D1. Memoria y anejos
A12. Estudio de Seg. y Salud

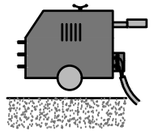
Fecha:
JULIO 2021

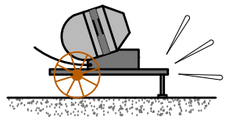
Núm. Plano:
03

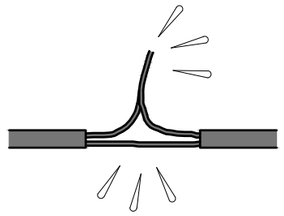
Núm. Hoja:
2 DE 2

MEDIDAS GENERALES DE PROTECCION

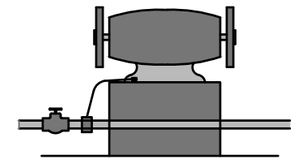


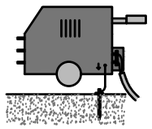




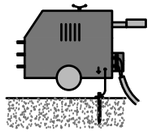


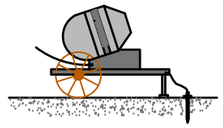


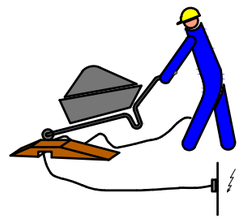


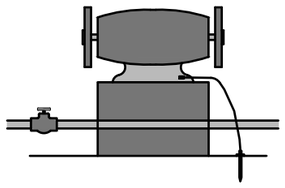


INSTALAR TOMA DE TIERRA Y CABLE DE MASA
EVITAR ZONAS HUMEDAS







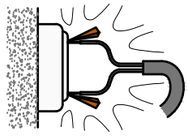


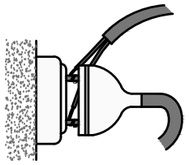
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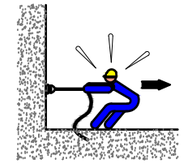








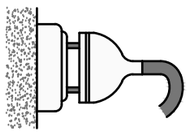


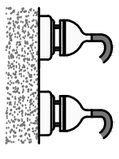






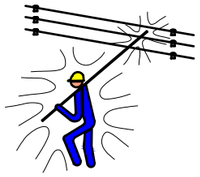


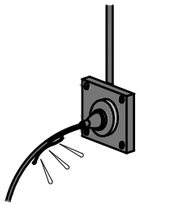


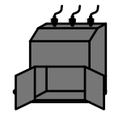




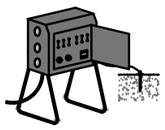


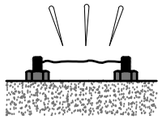






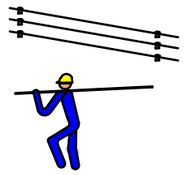


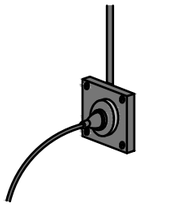


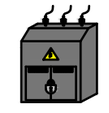


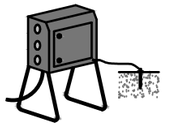


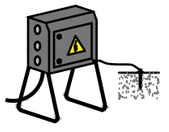
PORTALAMPARAS CON MANGO
DE MATERIAL AISLANTE



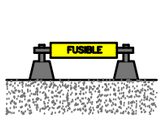








PERMANEZCA CERRADO BAJO LLAVE
Y DOTADO DE TOMA DE TIERRA



FUSIBLE

Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: MEDIOS DE PROTECCIÓN CONTRA DESCARGAS ELÉCTRICAS	Escala: S/N	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud	Núm. Plano: 04
							Fecha: JULIO 2021	Núm. Hoja: 1 DE 1

SOLDADURA ELECTRICA



USE MATERIAL DE PROTECCION PERSONAL:

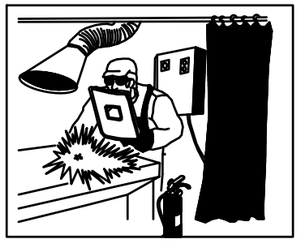
- –PANTALLA DE MANO O DE CABEZA
- –GAFAS DE PROTECCION CONTRA PROYECCIONES
- –MANDIL
- –GUANTES
- –POLAINAS



–SI SE TRABAJA POR ENCIMA DE LA CABEZA ES NECESARIO PROTEGER, ADEMAS DE ESTA EL CUELLO Y OTRAS PARTES QUE PUEDAN QUEDAR EXPUESTAS A LAS PARTICULAS INCANDESCENTES

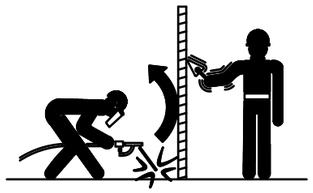


–NO SUELDE CERCA DE RECIPIENTES QUE CONTENGAN O HAYAN CONTENIDO PRODUCTOS INFLAMABLES. PUEDE PROVOCAR UNA EXPLOSION.
–VIGILE DONDE CAEN LAS CHISPAS O MATERIAL FUNDIDO. CUANDO SEA NECESARIO SOLDAR POR ENCIMA DE MATERIAL COMBUSTIBLE PROTEJALO CON UNA LONA IGNIFUGA.

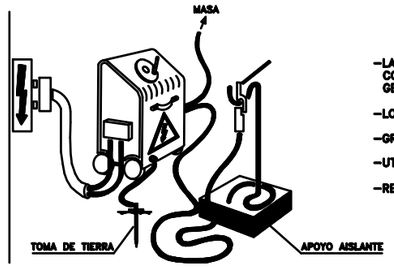


AISLAMIENTO DEL PUESTO DE SOLDADURA:

- –CUANDO EL PUESTO ES FIJO, SE PROTEGERA POR UNA CORTINA INCANDESCENTE.
- –EXTRACCION DE HUMO.
- –SE DISPONDRA DE UN EXTINTOR CERCA DE LA CABINA DE SOLDADURA.



–EVITAR LA EXPOSICION A RADIACIONES DE CUALQUIER OPERARIO QUE NO DISPONGA DE LAS ADECUADAS PROTECCIONES.



–LA ALIMENTACION SE REALIZARA MEDIANTE CONEXION A TRAVES DEL CUADRO ELECTRICO GENERAL Y SUS PROTECCIONES.

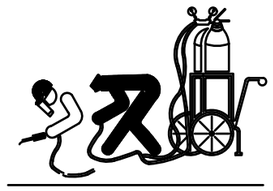
–LOS CABLES SERAN DE IGUAL SECCION.

–GRUPO CONECTADO A TOMA DE TIERRA.

–UTILIZAR MANGUERAS EN BUEN ESTADO.

–REVISE EL EQUIPO.

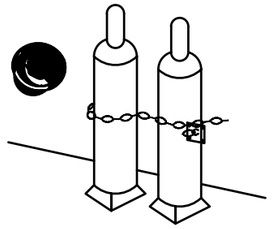
SOLDADURA OXIACETILENICA Y OXICORTE



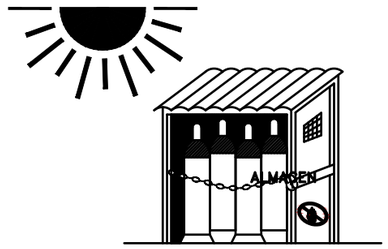
– LAS BOTELLAS DE ACETILENO Y OXIGENO SIEMPRE SE UTILIZARAN EN POSICION VERTICAL.
– SE ASEGURARAN CONTRA CAIDAS Y GOLPES.



– PARA EVITAR RETROCESOS, ES PRECISO QUE EL EQUIPO VAYA PROVISTO DE VALVULAS ANTIRRETROCESO DE LLAMAS.

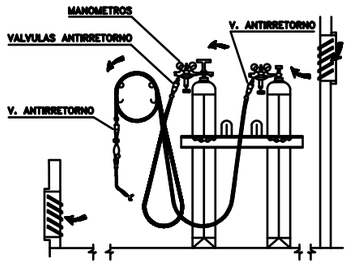


– NO EXISTIRAN EN LAS PROXIMIDADES DE LAS BOTELLAS, MATERIALES INFLAMABLES, NI FRENTES DE CALOR.



ALMACÉN

INSTALACION DE BOMBONAS DE OXIGENO Y ACEITILENO

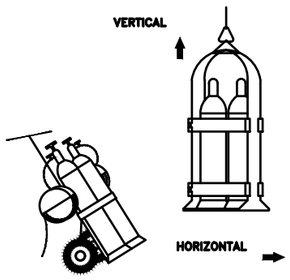


–ALMACENAR LAS BOTELLAS EN POSICION VERTICAL, EN UN LOCAL VENTILADO Y NO EXPUESTAS AL SOL.

–VIGILE LA POSIBLE EXISTENCIA DE FUGAS EN MANGUERAS Y GRIFOS.

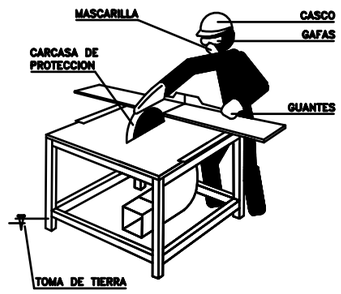
–LAS MANGUERAS SE RECOGERAN EN CARRETES CIRCULARES.

–LOS MECHEROS IRAN PROVISTOS DE VALVULAS ANTIRRETORNO.



TRANSPORTE

SIERRA CIRCULAR



– DEBEN UTILIZARSE EMPUJADORES ADECUADOS EN LOS TRABAJOS EN QUE EL TAMAÑO DE LAS PIEZAS A CORTAR COMPROMETA LA SEGURIDAD DE LAS MANOS DEL OPERARIO.

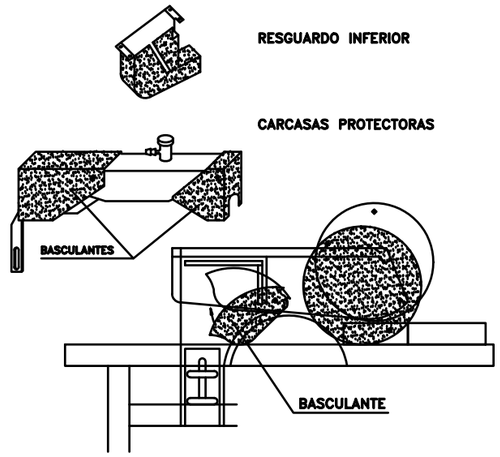
– CON LOS DISCOS DE CARBURUM O WIDIA DEBEN EXTREMARSE LAS PRECAUCIONES EN CUANTO AL EQUILIBRADO Y EMPUJE DE LA PIEZA, YA QUE SON FRAGILES Y TIENEN GRAN FACILIDAD PARA LA ROTURA.

– LA SIERRA CIRCULAR ESTARA PROTEGIDA FRENTE A RIESGOS ELECTRICOS CON INTERRUPTOR DIFERENCIAL ASOCIADO A TOMA DE TIERRA.

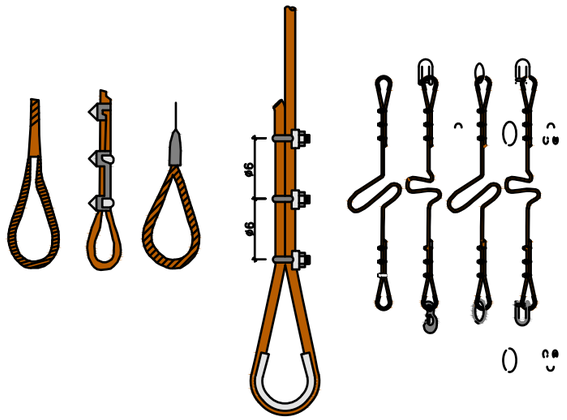
– LA UTILIZACION DE LA SIERRA SE HARA SOLO POR EL PERSONAL AUTORIZADO.

– SE UTILIZARAN LOS SIGUIENTES EQUIPOS DE PROTECCION INDIVIDUAL: CASCO, GAFAS DE SEGURIDAD, MASCARILLA Y GUANTES.

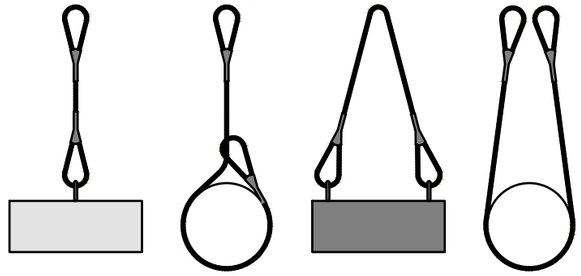
– EL DISCO POR SU PARTE POSTERIOR DEBE ESTAR TOTALMENTE PROTEGIDO.



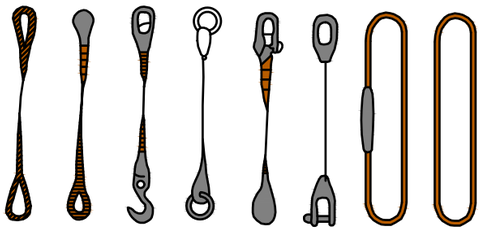
Promotor: GOVERN DE LES ILLES BALEARS, Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: SOLADURA Y CORTE	Escala: S/N	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud; Fecha: JULIO 2021	Núm. Plano: 05; Núm. Hoja: 1 DE 1



ESQUEMAS DE LOS DIVERSOS TIPOS DE GAZAS



DIFERENTES FORMAS DE UTILIZACION DE ESLINGAS



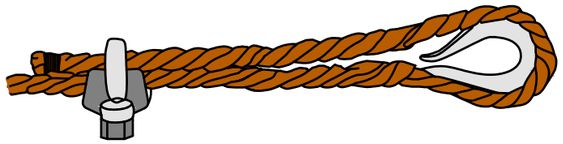
ESQUEMAS DE LOS DIVERSOS TIPOS DE ESLINGAS

CONSIDERACONES GENERALES

- CORRECTO ASENTAMIENTO DE LAS ESLINGAS
- EVITAR QUE AL UTILIZAR VARIAS ESLINGAS ESTAS SE MONTEN O CRUCEN
- ELEGIR LOS TERMINALES ADECUADOS (ANILLAS, GRILLETES, GANCHOS, ETC)
- TENER EN CUENTA QUE CUANDO MAYOR ES EL ANGULO DE TRABAJO DE LA ESLINGA MENOR CAPACIDAD DE TRABAJO TENDRA
- SEGUN EL APARTADO ANTERIOR Y COMO NORMA GENERAL EL ANGULO DE TRABAJO EN NINGUN CASO SUPERARA LOS 90°

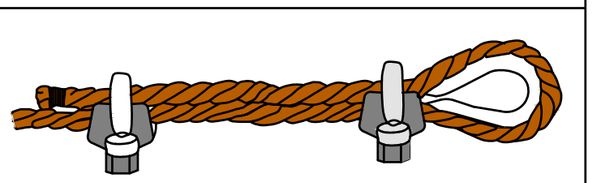
COLOCACION DE GRAPAS EN LAS GAZAS

PRIMERA OPERACION



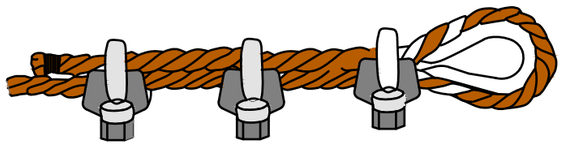
PARA PODER APLICAR LAS GRAPAS EN NUMERO Y ESPACIAMIENTO DADOS POR LA TABLA. SE COLOCA LA PRIMERA A UNA DISTANCIA DEL EXTREMO DEL CABLE IGUAL A LA ANCHURA DE LA BASE DE LA GRAPA. LA CONCAVIDAD DEL PERNO EN FORMA DE U APRIETA EL EXTREMO LIBRE DEL CABLE. APRETAR LA TUERCA CON EL PAR RECOMENDADO.

SEGUNDA OPERACION



APLICACION DE LA SEGUNDA GRAPA : SE COLOCARA TAN PROXIMA A LA GAZA COMO SEA POSIBLE.
LA CONCAVIDAD DEL PERNO EN FORMA DE U, APRIETA EL EXTREMO LIBRE DEL CABLE.
NO APRETAR LAS TUERCAS A FONDO.

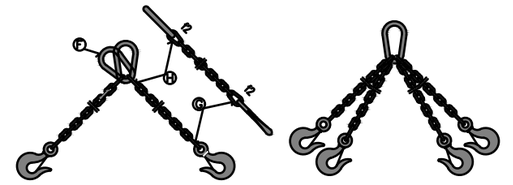
TERCERA OPERACION



APLICACION DE LAS DEMAS GRAPAS : SE COLOCARAN DISTANCIANDOLAS A PARTES IGUALES ENTRE LAS DOS PRIMERAS (A DISTANCIA NO MAYOR QUE LA ANCHURA DE LA BASE DE LA GRAPA). SE GIRAN LAS TUERCAS Y SE TENSA EL CABLE.
APRETAR A FONDO Y DE FORMA REGULAR TODAS LAS GRAPAS HASTA EL PAR RECOMENDADO.

FORMACION DE ESLINGAS	
DISTANCIA ENTRE APRIETOS = 6 ø S/GROSOR CABLE	
ø DEL CABLE	Nº RECOMENDADO DE APRIETOS
HASTA 12 mm.	3 APR. A 6 DIAMETROS
DE 12 A 20 mm.	4 APR. A 6 DIAMETROS
DE 20 A 25 mm.	5 APR. A 6 DIAMETROS
DE 25 A 35 mm.	6 APR. A 6 DIAMETROS

- CABLES DE ACERO
- LAZOS PROTEGIDOS CON FORNILLO GUARDACABOS
- PUEDEN SUSTITUIRSE LOS APRIETOS POR CASQUILLOS SOLDADOS



ESLINGAS DE SEGURIDAD

CADENA DE CARGA	CADENA DE ARRASTRE	CARGA UTIL					LONGITUD DE LA CADENA TERMINADA PARA K=1000 mm.	ESLABON F			ESLABONES G H		
		c← 45°	c← 90°	c←120°									
Espesor nominal d mm.	DIN 689 ø mm.	Kgs.	Kgs.	Kgs.	X_1 mm.	Y_1 mm.	L_1 mm.	f_1 mm.	d_1 mm.	w_1 mm.	f_2 mm.	f_3 mm.	d_2 mm.
5	62	150	110	80	80	77	1157	55	11	30	18	22	6
6	62	230	180	125	83	92	1175	66	13	36	21	26	7
7	82	330	250	185	107	107	1214	77	16	42	25	30	9
8	82	500	400	275	110	122	1232	88	18	48	28	34	10
10	113	850	650	475	148	157	1305	110	22	60	35	47	13
13	133	1450	1100	800	179	200	1379	145	25	78	46	55	16
16	167	2250	1750	1250	223	245	1468	175	35	96	56	70	19
18	211	2700	2100	1500	274	276	1550	200	40	108	63	76	21
20	211	3400	2650	1900	281	305	1586	220	45	120	70	85	25
23	236	4500	3500	2500	317	354	1671	255	51	138	81	99	27
26	265	5800	4500	3200	356	398	1754	285	57	156	91	113	31
28	299	6800	5200	3750	397	430	1827	310	63	168	98	120	35
30	299	7700	6000	4250	404	460	1864	330	66	180	105	130	38
33	334	9000	7000	5000	449	503	1952	360	72	200	115	143	40
36	373	11000	8700	6250	499	536	2035	380	78	215	126	156	43
39	422	13500	10500	7500	559	570	2129	400	87	235	137	170	47
42	422	15000	12000	8500	569	600	2189	420	93	250	147	180	49
45	472	18000	14000	10000	632	635	2267	440	100	270	160	195	54
48	528	20000	15400	11000	698	665	2363	460	105	290	170	205	58
51	528	22500	17500	12500	708	700	2408	480	110	305	180	220	62
54	592	25000	19500	14000	782	730	2512	500	120	325	190	230	65
57	592	28000	21700	15500	792	765	2557	520	125	340	200	245	69
60	592	30000	24000	17000	802	800	2602	540	130	360	210	260	73

LOS VALORES DE LA LONGITUD DE LA CADENA K, SE CALCULARAN COMO MULTIPLOS DEL PASO t, SEGUN DIN 766.
ESTAS ESLINGAS SE CONSTRUYEN TAMBIEN CON ARGOLLA EN LUGAR DE GANCHO.
AL REMOLCAR MAS DE DOS RAMALES DE CADENA, SE RECOMIENDA CALCULAR COMO RESISTENTES SOLO DOS DE ELLAS.

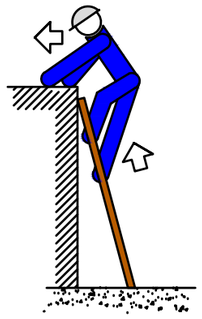
Promotor: GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina
Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP
Situación: FORMENTERA
Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA
Título del Plano: PLATAFORMAS DE TRABAJO Y ESCALERAS
Escala: S/N
Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud
Fecha: JULIO 2021
Núm. Plano: 06
Núm. Hoja: 1 DE 1



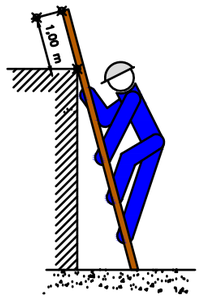
NO



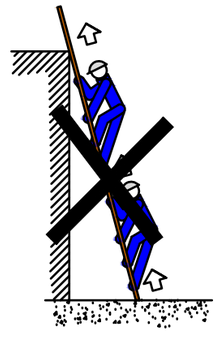
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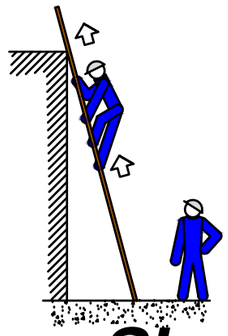
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SI

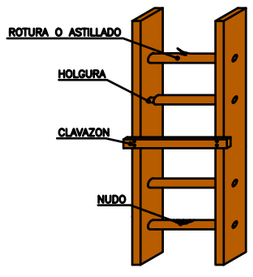


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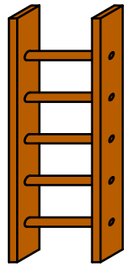


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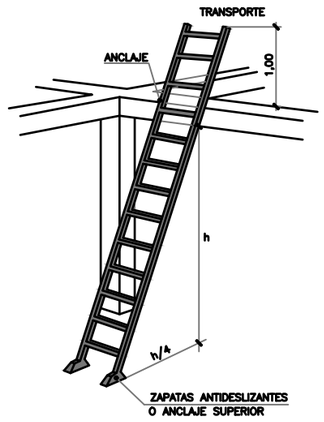
ESCALERAS DE MANO PRECAUCIONES DE UTILIZACION



NO

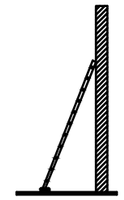


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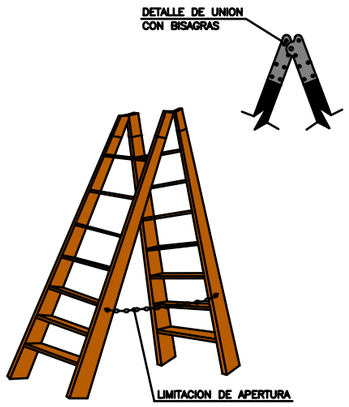


ESCALERA METALICA

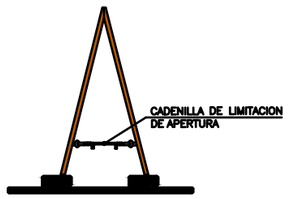
–ESTARAN PROVISTAS DE ZAPATAS U OTROS SISTEMAS PARA EVITAR DESLIZAMIENTOS.
–SOLO SUPERARAN ALTURAS DE HASTA 5 m. (HASTA 7 m. CON REFUERZOS ESPECIALES EN SU ZONA CENTRAL).
–SUBIR Y BAJAR DE FRENTE A LA ESCALERA.
–NO LLEVAR CARGAS SUPERIORES A 25 Kg.
–COLOCAR LA ESCALERA CON LA INCLINACION ADECUADA.
–SOBREPASARA EN 1 m. LOS PUNTOS SUPE–RIORES DE APOYO.

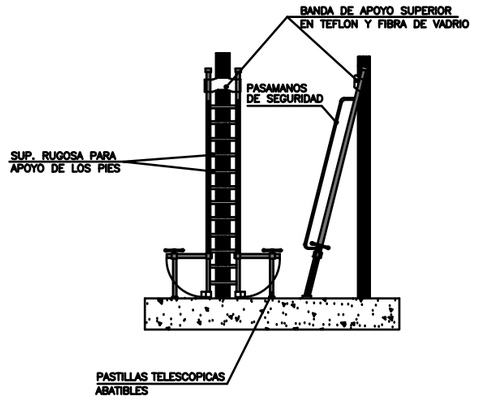


ESCALERAS DE MANO

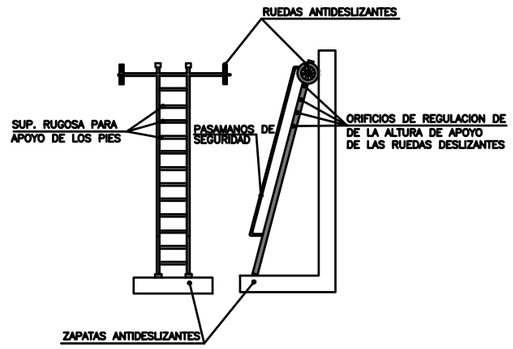


ESCALERA DE TIJERA





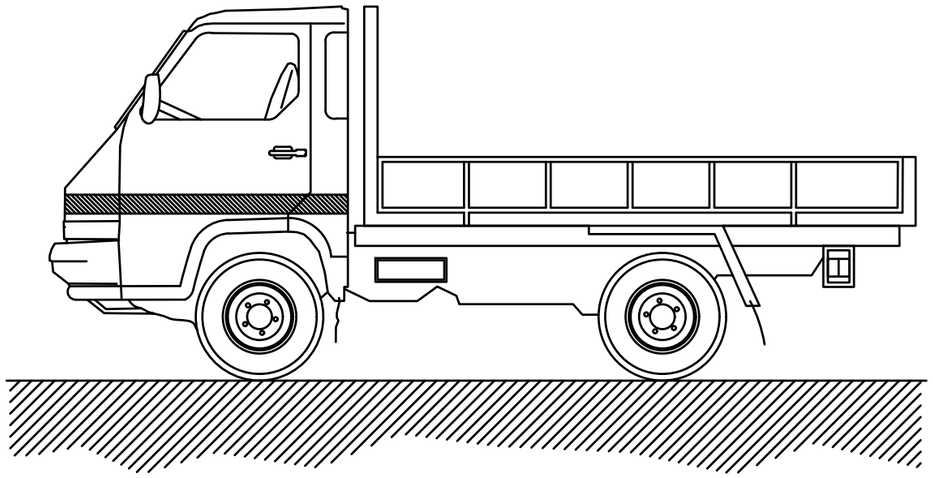
ESCALERA ANTIVUELCO PARA ACCESO A ELEMENTOS ESTRECHOS



ESCALERA ANTIVUELCO LATERAL Y ANTIDESLIZAMIENTO

GOIB CONSELLERIA MEDI AMBIENT I TERRITORI AGÈNCIA BALEAR AIGUA I QUALITAT AMBIENTAL	Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	calter ingeniería de estructuras	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: ESCALERAS	Escala: S/N	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud Fecha: JULIO 2021	Núm. Plano: 07 Núm. Hoja: 1 DE 1

ELEMENTOS AUXILIARES Y MAQUINARIA
(Camión de carga)



NORMAS BÁSICAS DE SEGURIDAD Y PROTECCIONES COLECTIVAS :

- Todos los camiones que realicen labores de transporte en esta obra estarán en perfectas condiciones de mantenimiento y conservación.

- Antes de iniciar las labores de carga y descarga estará el freno de mano puesto y las ruedas estarán inmovilizadas con cuñas.

- El izado y descenso de la caja se realizará con escalera metálica sujeta al camión.

- Si hace falta, las maniobras de carga y descarga serán dirigidas por el encargado de seguridad.

- La carga se tapará con una lona para evitar desprendimientos.

- Las cargas se repartirán uniformemente por la caja, y si es necesario se atarán.

MEDIDAS PREVENTIVAS a seguir en los trabajos de carga y descarga.

- El encargado de seguridad o el encargado de obra, entregará por escrito el siguiente listado de medidas preventivas al Jefe de la cuadrilla de carga y descarga. De esta entrega quedará constancia con la firma del Jefe de cuadrilla al pié de este escrito.

- Pedir guantes de trabajo antes de hacer trabajos de carga y descarga, se evitarán lesiones molestas en las manos.

- Usar siempre botas de seguridad, se evitarán golpes en los pies.

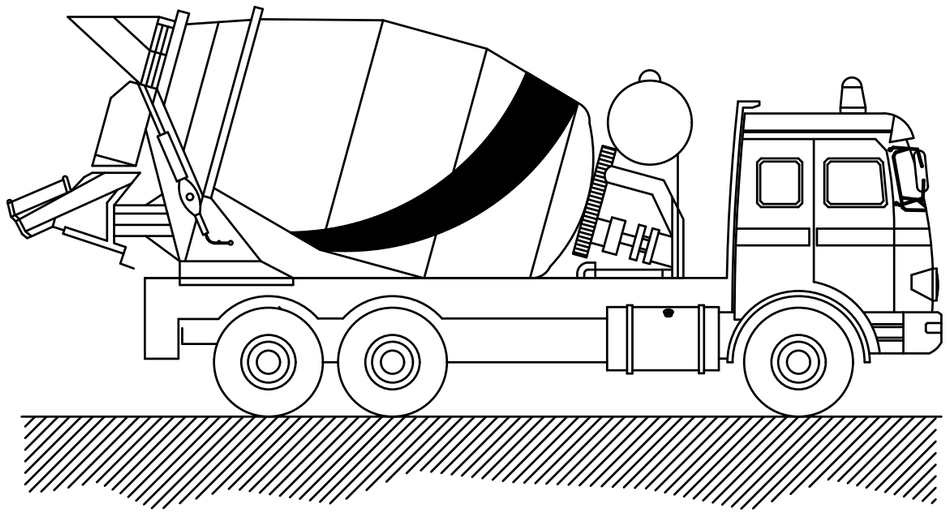
- Subir a la caja del camión con una escalera.

- Seguir siempre las indicaciones del Jefe del equipo, es un experto que vigila que no hayan accidente.

- Las cargas suspendidas se han de conducir con cuerdas y no tocarlas nunca directamente con las manos.

- No saltar a tierra desde la caja, peligro de fractura de los talones.

ELEMENTOS AUXILIARES Y MAQUINARIA
(Camión hormigonera)



NORMAS BÁSICAS DE SEGURIDAD Y PROTECCIONES COLECTIVAS :

- Las rampas de acceso tendrán una pendiente no superior al 20%

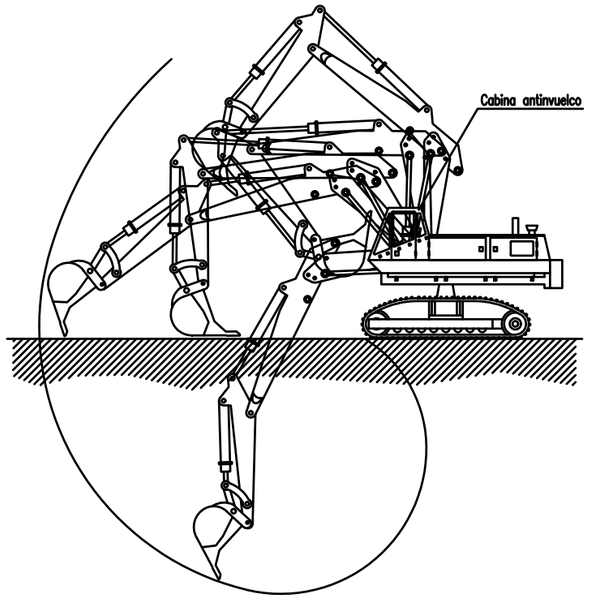
- El depósito y canaletas se limpiarán en un lugar al aire libre lejos de las obras principales.

- El camión se situará en el lugar de vaciado dirigido por el encargado de obra o persona en quien delegue.

- Los camiones de hormigón no se podrán acercar a menos de 2 metros del borde superior de los taludes.

GOIB CONSELLERIA MEDI AMBIENT I TERRITORI AGÈNCIA BALEAR AIGUA I QUALITAT AMBIENTAL	Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	calter ingeniería de estructuras	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: MAQUINARIA	Escala: S/N	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud Fecha: JULIO 2021	Núm. Plano: 08 Núm. Hoja: 1 DE 2

ELEMENTOS AUXILIARES Y MAQUINARIA
(Retroexcavadora)



NORMAS BÁSICAS DE SEGURIDAD Y PROTECCIONES COLECTIVAS:

- Los caminos de circulación interna de la obra, se cuidarán para evitar blandones y embarramientos excesivos que mermen la seguridad de la circulación de la maquinaria.

- No se admitirán en esta obra máquinas que no vengan con la protección de cabina antivuelco o pórtico de seguridad.

- Se prohibirá que los conductores abandonen la máquina con el motor en marcha.

- Se prohibirá que los conductores abandonen la pala con la cuchara izada y sin apoyar en el suelo.

- La cuchara durante los transportes de tierras, permanecerá lo más baja posible para poder desplazarse con la máxima estabilidad.

- Los ascensos o descensos en carga de la máquina se efectuarán siempre utilizando marchas cortas.

- La circulación sobre terrenos desiguales se efectuará a velocidad lenta.

- Se prohibirá transportar personas en el interior de la cuchara.

- Se prohibirá izar personas para acceder a trabajos puntuales utilizando la cuchara.

- Las máquinas a utilizar en esta obra, estarán dotadas de un extintor, timbrado y con las revisiones al ida.

- Las máquinas a utilizar en esta obra, estarán dotadas de luces y bocina de retroceso.

- Se prohibirá arrancar el motor sin antes cerciorarse de que no hay nadie en el área de operación de la pala.

- Los conductores se cerciorarán de que no existe peligro para los trabajadores que se encuentren en el interior de pozos o zanjas próximos al lugar de excavación.

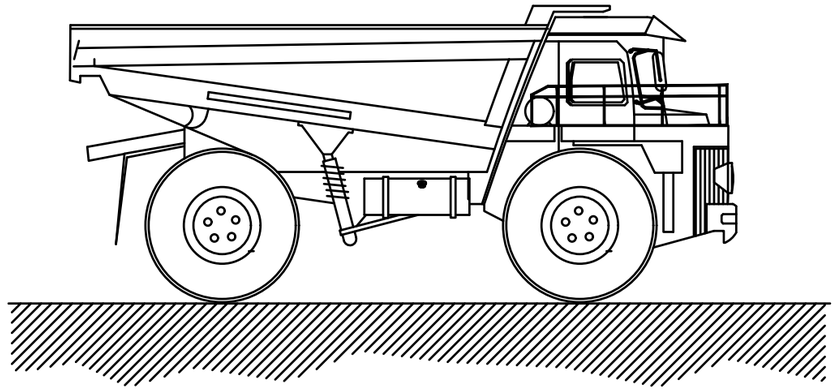
- Se acotará a una distancia igual a la del alcance máximo del brazo excavador, el entorno de la máquina. Sé prohibe en la zona la realización de trabajos o la permanencia de personas.

- Se prohibirá en esta obra utilizar la retroexcavadora como una grúa, para la introducción de piezas, tuberías, etc., en el interior de las zanjas.

- Se prohibirá realizar trabajos en el interior de las trincheras o zanjas, en la zona de alcance del brazo de la retro.

- A los maquinistas de estas máquinas se les comunicará por escrito la siguiente normativa preventiva, antes del inicio de los trabajos.

ELEMENTOS AUXILIARES Y MAQUINARIA
(Volquete)



NORMAS BÁSICAS DE SEGURIDAD Y PROTECCIONES COLECTIVAS :

- Con el vehículo cargado deberán bajarse las rampas de espaldas a la marcha, despacio y evitando frenazos bruscos.

- Se prohibirá circular por pendientes o rampas superiores al 20 30% en terrenos secos.

- Se establecerá unas vías de circulación cómodas y libres de obstáculos señalizando las zonas peligrosas.

- En las rampas por las que circulen estos vehículos existirá al menos un espacio libre de 70 cm. sobre las partes más salientes de los mismos.

- Cuando se deje estacionado el vehículo se parará el motor y se accionará el freno de mano. Si está en pendiente, además se calzarán las ruedas.

- En el vertido de tierras, u otro material, junto a zanjas y taludes deberá colocarse un tope que impida el avance del dumper más allá de una distancia prudencial al borde del desnivel, teniendo en cuenta el ángulo natural del talud. Si la descarga es lateral, dicho tope se prolongará en el extremo más próximo al sentido de circulación.

- En la puesta en marcha, la manivela debe cogerse colocando el pulgar del mismo lado que los demás dedos.

- La manivela tendrá la longitud adecuada para evitar golpear partes próximas a ella.

- Se retirarán del vehículo, cuando se deje estacionado, los elementos necesarios que impidan su arranque, en prevención de que cualquier otra persona no autorizado pueda utilizarlo.

- Se revisará la carga antes de iniciar la marcha observando su correcta disposición y que no provoque desequilibrio en la estabilidad del dumper.

- Las cargas serán apropiadas al tipo de volquete disponible y nunca dificultarán la visión del conductor.

- En previsión de accidentes, se prohibirá el transporte de piezas (puntales, tablones y similares) que sobresalgan lateralmente del cubilote del dumper.

- Se prohibirá expresamente en esta obra, conducir los dúmperes a velocidades superiores a los 20 Km. por hora.

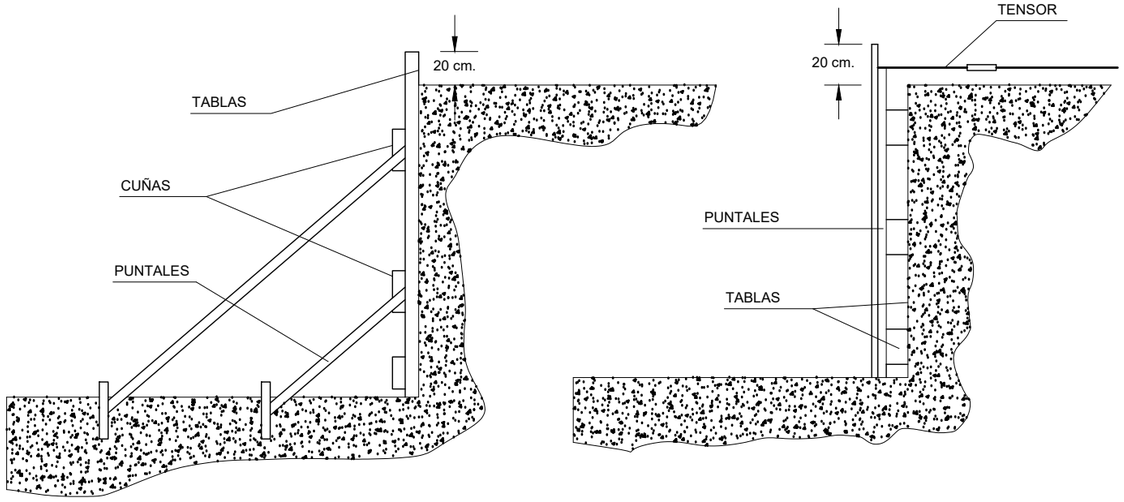
- Los conductores de dúmperes de esta obra estarán en posesión del carnet de clase B, para poder ser autorizados a su conducción.

- El conductor del dumper no deberá permitir el transporte de pasajeros sobre el mismo, estará directamente autorizado por personal responsable para su utilización y deberá cumplir las normas de circulación establecidas en el recinto de la obra y, en general, se atendrá al Código de Circulación.

- En caso de cualquier anomalía observada en su manejo se pondrá en conocimiento de su inmediato superior, con el fin de que se tomen las medidas necesarias para subsanar dicha anomalía.

- Nunca se parará el motor empleando la palanca del descompresor.

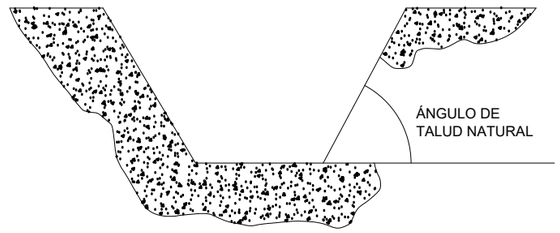
APUNTALAMIENTOS



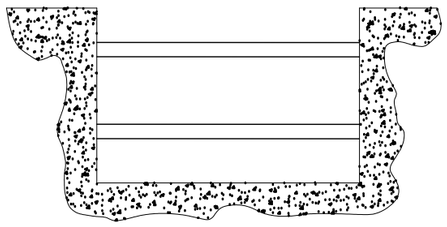
A) ENTABLADO SUJETO MEDIANTE APUNTALAMIENTO

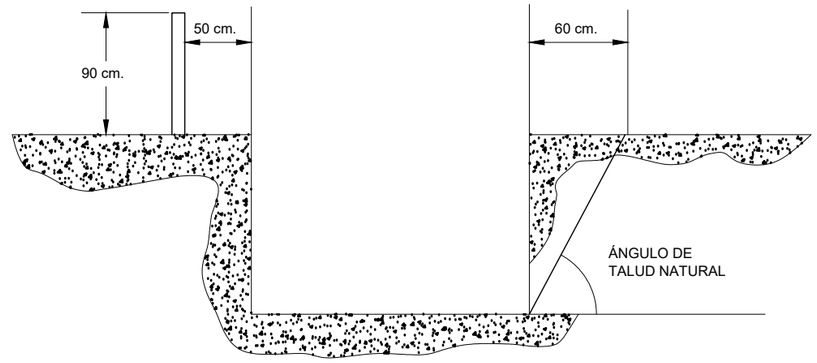
B) FIJACIÓN DEL ENTABLADO MEDIANTE PERFILES METALICOS

A. TALUD NATURAL



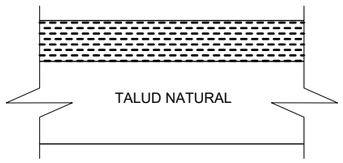
B. APUNTALAMIENTO



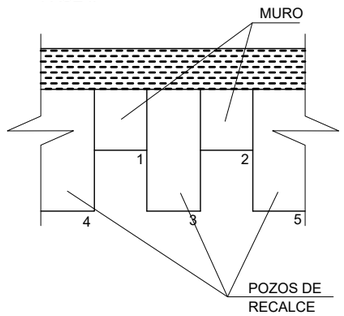


EXCAVACIONES PARA POZO DE RECALCE

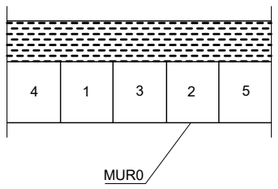
FASE I



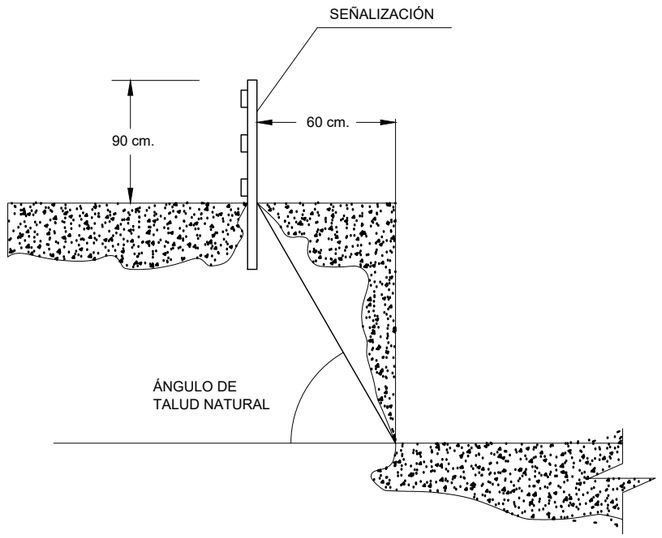
FASE II



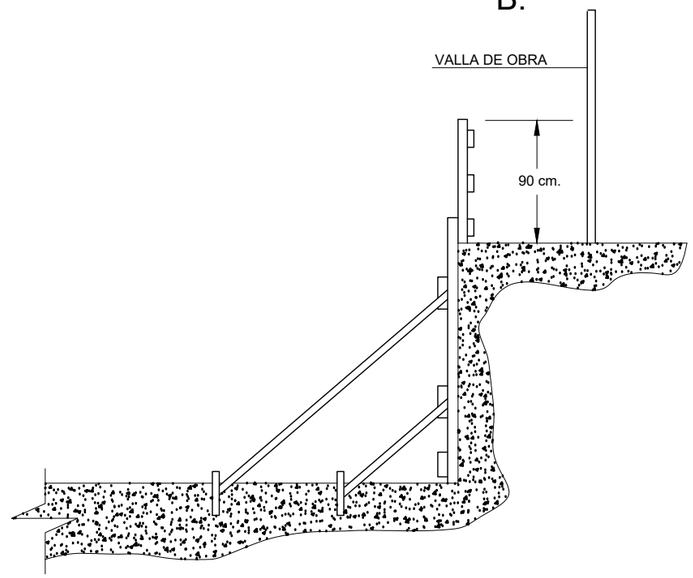
FASE III



A.



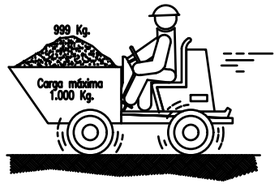
B.



Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: APUNTALAMIENTOS Y ENTIBACIONES	Escala: S/N	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud Fecha: JULIO 2021	Núm. Plano: 09 Núm. Hoja: 1 DE 1

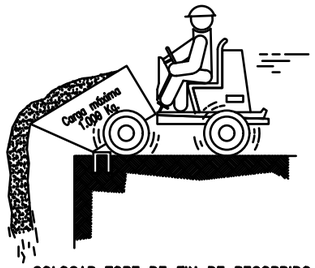
ELEMENTOS AUXILIARES Y MAQUINARIA





- EN NINGUN CASO SE SUPERARA LA CARGA MAXIMA. SE DISPONDRA LA CARGA DE MANERA QUE GARANTICE LA ESTABILIDAD DEL DUMPER.
- LA CARGA NUNCA DIFICULTARA LA VISIBILIDAD DEL CONDUCTOR.





- COLOCAR TOPE DE FIN DE RECORRIDO PARA VERTER MATERIALES.





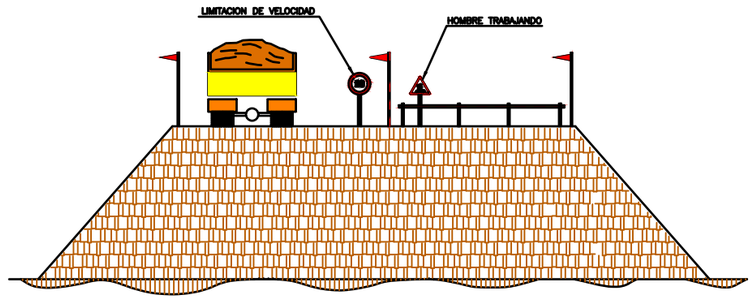
- NO SE DEBE CICULAR A MAS DE 20 Km/h. LA CONDUCCION SE HARA DE FORMA PRUDENTE.

NO **SI**

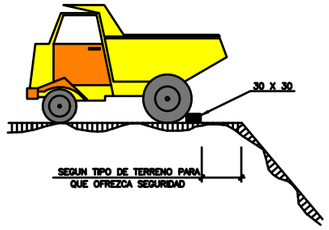


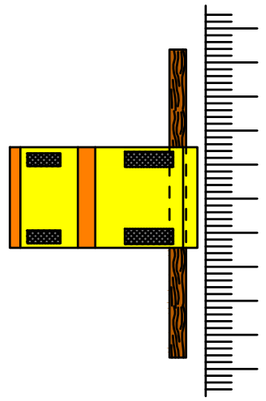
- CON EL VEHICULO CARGADO LAS RAMPAS DEBEN BAJARSE MARCHA ATRAS.

- EL MANEJO DE MAQUINARIA SOLO LO REALIZARA PERSONAL AUTORIZADO.
- EL CONDUCTOR DEBERA UTILIZAR CINTURON ANTIVIBRATORIO.
- PARA CIRCULAR POR VIAS PUBLICAS ESTARAN PROVISTOS DE LUCES Y DISPOSITIVOS DE AVISO ACUSTICO.
- ESTA ABSOLUTAMENTE PROHIBIDO EL TRANSPORTE DE PERSONAL.

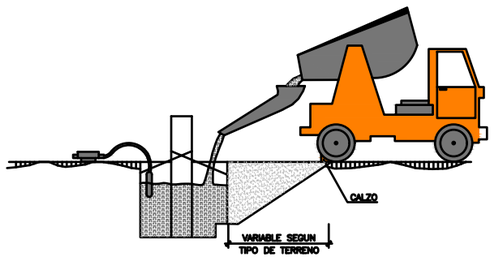


EJECUCION DE TERRAPLENES Y DE AFIRMADOS

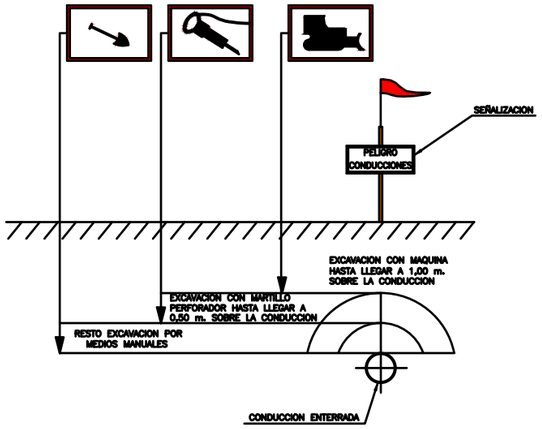




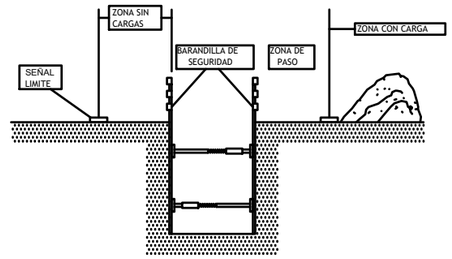
TOPE DE RETROCESO DE VERTIDO

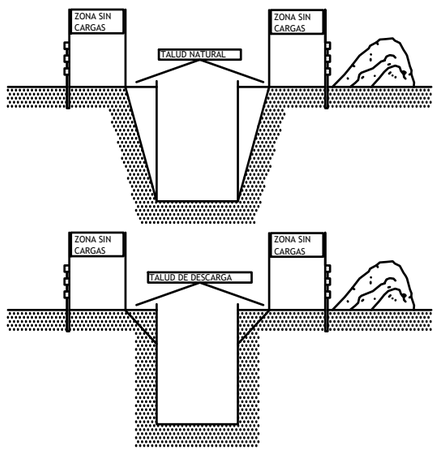


HORMIGONADO DE ZANJAS Y POZOS



DISTANCIAS DE SEGURIDAD EN TRABAJOS SOBRE INSTALACIONES SUBTERRANEAS

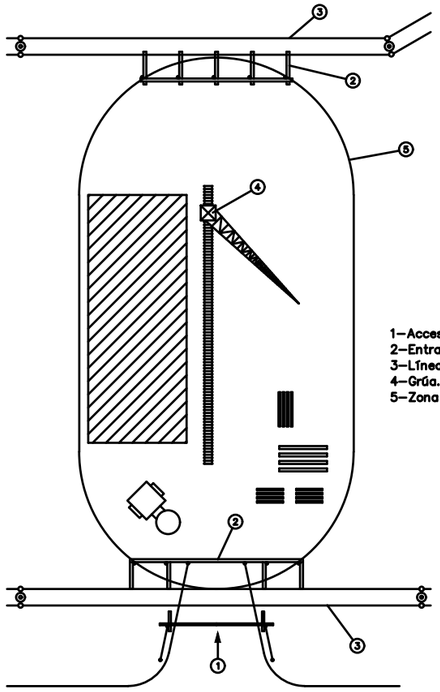




SEGURIDAD EN ZANJAS

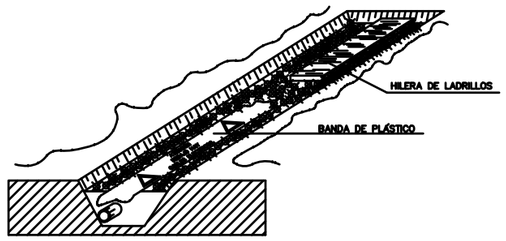
Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: MEDIDAS PREVENTIVAS I	Escala: S/N	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud Fecha: JULIO 2021	Núm. Plano: 10 Núm. Hoja: 1 DE 2

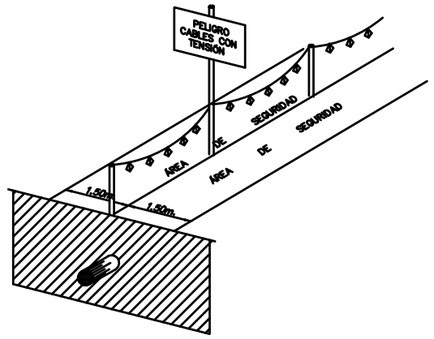
EMPLAZAMIENTO EN OBRA DE UNA GRÚA CON RIESGO DE CONTACTO CON UNA LÍNEA ELÉCTRICA DE ALTA TENSIÓN Y ACCESO A LA OBRA.



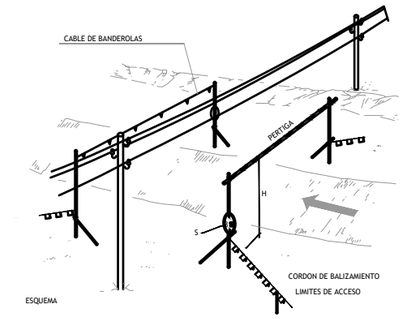
1—Acceso obra.
2—Entramado de malla.
3—Línea aérea.
4—Grúa.
5—Zona barrido de la grua.

FORMAS MAS USUALES DE SEÑALIZACIÓN INTERIOR Y PROTECCIÓN EMPLEADAS EN CONSTRUCCIONES ELÉCTRICAS



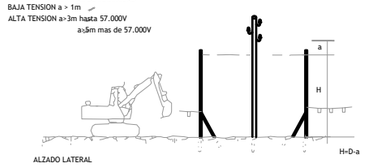


SENALIZACION EXTERIOR DE CONDUCCIONES DE ELECTRICIDAD Y DISTANCIAS PARA ÁREAS DE SEGURIDAD.



ESQUEMA

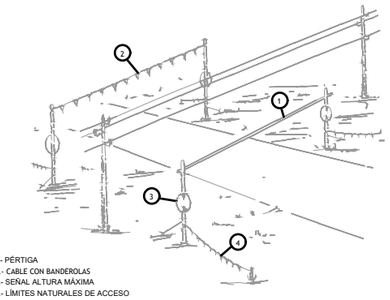
a=DISTANCIAS MINIMAS DE SEGURIDAD
BAJA TENSION a > 1m
ALTA TENSION a>3m hasta 57.000V
a≥5m mas de 57.000V



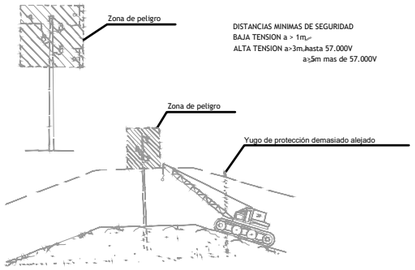
ALZADO LATERAL

D= Altura minima de la linea al suelo
a= Distancia minima de seguridad
H= Altura libre

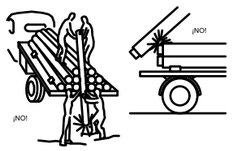
PÓRTICO DE BALIZAMIENTO DE LÍNEAS AÉREAS ELÉCTRICAS

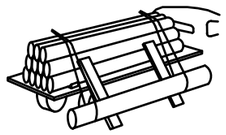


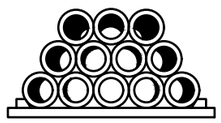
1.- PÉRTIGA
2.- CABLE CON BANDEROLAS
3.- SEÑAL ALTURA MAXIMA
4.- LÍMITES NATURALES DE ACCESO



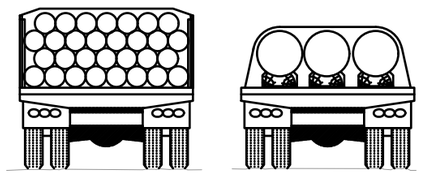
PASO BAJO LÍNEAS ELÉCTRICAS AÉREAS DE TENSIÓN



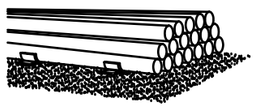




DESCARGA DE TUBOS



TRANSPORTE DE TUBOS

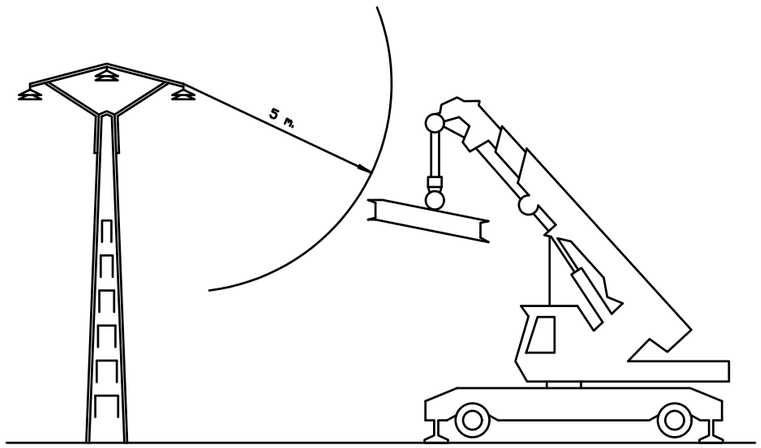


ACOPIOS DE TUBOS

TRANSPORTE DE TUBOS

INTERFERENCIA DE GRUA CON LINEA AEREA DE ALTA TENSION

– LA DISTANCIA ENTRE EL OBJETO SUSPENDIDO EN EL EXTREMO DE LA PLUMA Y LOS CONDUCTORES DE LA LINEA ELECTRICA DEBE SER SUPERIOR A 5 m.



Promotor: GOVERN DE LES ILLES BALEARS, Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP, Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: MEDIDAS PREVENTIVAS II	Escala: S/N	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud Fecha: JULIO 2021	Núm. Plano: 10 Núm. Hoja: 2 DE 2

PRIMEROS AUXILIOS (No traumaticos)

PROCESO	SINTOMAS	GRAVEDAD	NO HACER	SE PUEDE HACER
INDIGESTIONES	NAUSEAS-VOMITOS COLICOS-DIARREAS	POCA	NO DAR NADA	NO HACER NADA (Hacer vomitar)
MAREOS	ANGUSTIA PERDIDA CONOCIMIENTO VERTIGO	POCA O PUEDE SER GRAVE	NO DAR NADA	ACOSTAR CABEZA ABAJO AIRE FRESCO DESABROCHAR
INTOXICACIONES	VERTIGOS-ABATIMIENTO NAUSEAS-VOMITOS ESCALOFRIOS-DELIRIO	PUEDE SER GRAVE	NO ALCOHOL NO DAR NADA	HACER VOMITAR TAPAR AL LESIONADO
INSOLACION	JAQUECAS VERTIGOS NAUSEAS	PUEDE SER GRAVE	NO TAPAR DAR SOLO AGUA	PONER A LA SOMBRA AIREAR-DESABROCHAR
CRISIS NERVIOSA	GESTICULA-GRITA LLORA-PATALEA SE TIRA AL SUELO	NO GRAVE	NO ALCOHOL NO DAR NADA NO TRATAR EN GRUPO	AISLAR AL LESIONADO NO DEJARSE IMPRESIONAR
EPILEPSIA	CAE SIN CONOCIMIENTO SE MUERDE LA LENGUA ORINA	APARATOSO NO SUELE SER GRAVE	NO DAR NADA	APARTAR OBJETOS PROTEGER LA CABEZA CUIDAR NO SE MUERDA
EMBRIAGUEZ	EXCITACION ACTUACION ALOCADA OLOR A VINO	NO GRAVE	NO DAR NADA	ACOMPAÑAR A SERVICIO MEDICO

EN TODOS LOS CASOS REMITIR A S.S.

RECOMENDACIONES BASICAS A TODA ACCION SOCORREDORA

- FACILITAR RESPIRACION Y VENTILACION
  FOMENTAR AMBIENTE DE SEGURIDAD
  FOMENTAR TRANQUILIDAD Y MESURA
- ORGANIZAR ACTUACION CON CALMA
  OBSERVAR CUIDADOSAMENTE AL LESIONADO
  ORGANIZAR TRASLADO CON EFICACIA
- COMUNICAR A SERVICIO MEDICO
  CONSIDERA NUEVOS POSIBLES ACCIDENTES
  CUIDAR AL ACCIDENTADO SIN ABANDONAR

RESUMEN

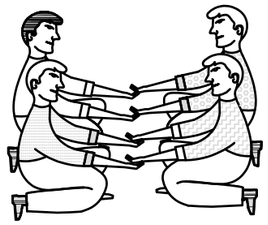
TIPOS DE ACCIDENTE: LEVES (Muy frecuentes); GRAVES; MORTALES; CATASTROFES (Poco frecuentes)

ACCION PREVISORA
MEDIDAS PREVENTIVAS DE SEGURIDAD
BOTIQUIN-CAMILLAS-MANTAS ETC.
A.T.S. SOCORRISTAS-PERSONAL RESPONSABLE
CONOCER CENTROS ASISTENCIALES-TELEFONOS

ACTUACION LESIONES GRAVES
NO DAR NADA
AFLOJAR ROPAS
NO MOVILIZAR
ABRIGAR
TRASLADO RAPIDO A HOSPITAL

ACCIDENTES ELECTRICOS
ANTES QUE NADA
CERRAR PASO DE CORRIENTE
SI HAY CABLES ROTOS O SUELTOS
APARTARLOS DEL LESIONADO
CON UN OBJETO DE MADERA
SI SOLO SE PRODUCE LESION LOCAL
TRATAR COMO QUEMADURA

ANTES DEL TRASLADO

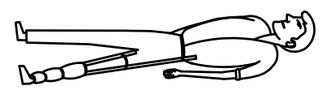


POSICION CORRECTA PARA "RECOGER" UN LESIONADO GRAVE

TRASLADOS
INMOVILIZACION DE MIEMBROS ANTES DEL TRASLADO

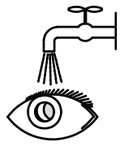


MIEMBRO SUPERIOR



MIEMBRO INFERIOR

LESIONES OCULARES



LAVAR CON AGUA ABUNDANTE
NO TOCAR
NO INTENTAR SACAR NADA
NO POMADAS
!! NO MANIPULAR !!

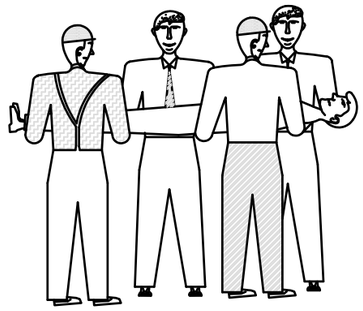


TAPAR SUAVEMENTE

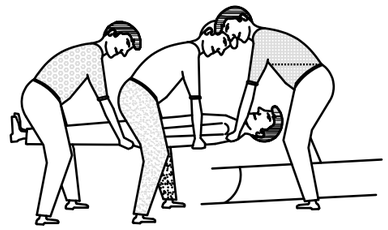


TRASLADO (A ser posible a centro especializado)
LESIONES NARIZ OIDO
TAPONAR SUAVEMENTE - TRASLADO
EPISTAXIS (Nariz sangrante) TAPONAR

TRASLADOS (Continuacion)

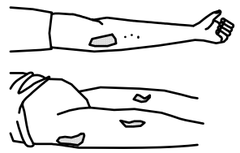


FORMA CORRECTA DE COGER UN LESIONADO GRAVE



POSICION CORRECTA DE COLOCAR UN LESIONADO GRAVE EN UNA CAMILLA

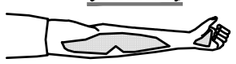
QUEMADURAS
PEQUENA QUEMADURA



NO ABRIR AMPOLLAS
TAPAR CON GASA
NO TOCAR
NO PONER NADA

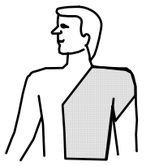
TRASLADO SIN PRISA

GRAN QUEMADO (EXTENSO)



NO TOCAR
NO PUEDE BEBER
NO PONER NADA

DE PONER-GASA ESTERIL
TRASLADO !! URGENTE !!





LESIONES POR ACIDOS O CAUSTICOS



AGUA ABUNDANTE (A CHORRO)

TAPAR SIN COMPRIMIR

TRASLADO SIN PRISA

RESPIRACION DIRIGIDA - BOCA A BOCA



LIMPIAR CUIDADOSAMENTE EL INTERIOR DE LA BOCA
SACAR PROTESIS DENTAL
AFLOJAR ROPAS



FORZAR LA HIPER EXTENSION (BARBILLA HACIA ARRIBA) PARA LOGRAR CONDUCTOS ABIERTOS
TAPAR NARIZ



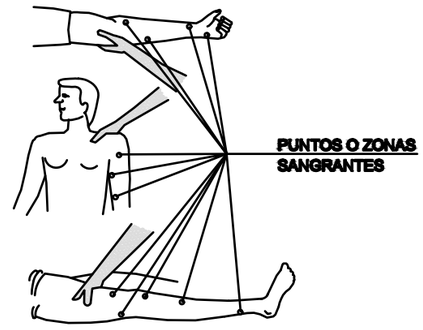
ADAPTAR RITMO RESPIRATORIO AL PROPIO DEL QUE LO EJECUTA



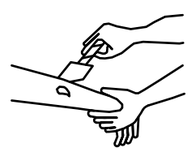
NO ABANDONAR LA TECNICA HASTA LLEGAR AL HOSPITAL

HERIDAS SANGRANTES
HEMORRAGIAS
COMPRESION ARTERIAL

LAS MANOS SOMBREADAS EN OSCURO
SON LAS QUE PRESIONAN Y CORTAN LA HEMORRAGIA
EN LOS PUNTOS Y ZONAS INDICADAS



HERIDAS



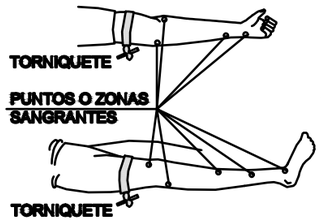


LAVAR CON AGUA
TAPAR CON GASA
NO POMADAS
NO LIQUIDOS
NO MANIPULAR

TRASLADO SIN PRISA

HEMORRAGIAS (continucion)
Metodo compresivo TORNIQUETE

NO PUEDE LLEVARSE MAS DE UNA HORA SIN AFLOJARLO

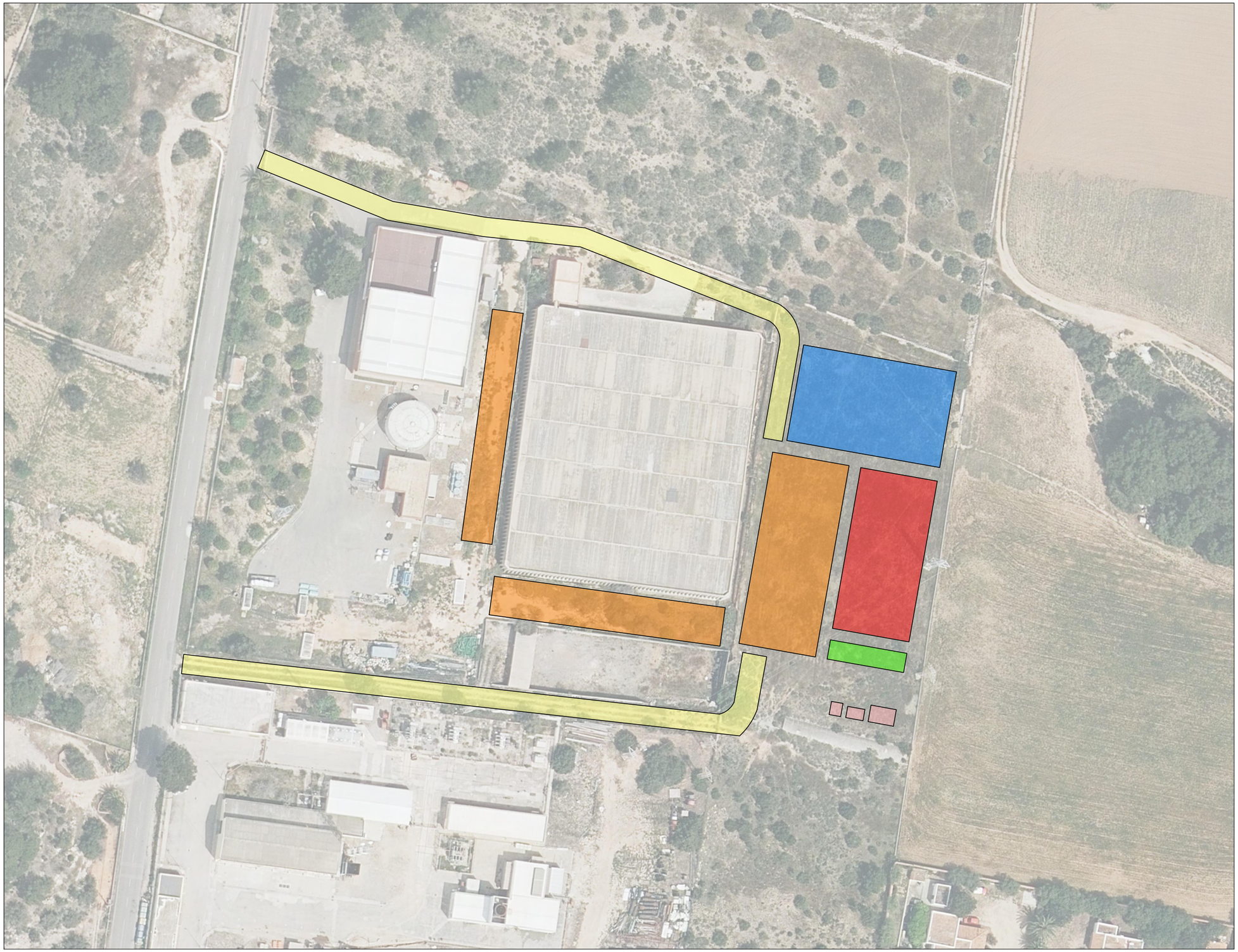


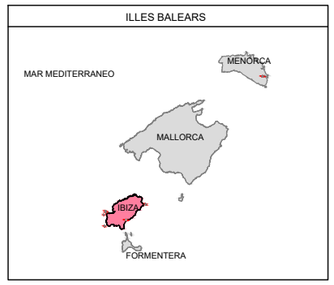
LESIONADO CON TORNIQUETE ES URGENTE

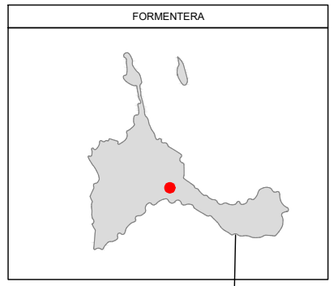
SOLO DEBE USARSE CUANDO LA COMPRESION DIRECTO NO ES SUFICIENTE PARA PARAR LA HEMORRAGIA

GOVERN DE LES ILLES BALEARS CONSELLERIA MEDI AMBIENT I TERRITORI AGENCIA BALEAR AIGUA I QUALITAT AMBIENTAL	Promotor: GOVERN DE LES ILLES BALEARS Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	calter ingeniería de estructuras	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: PRIMEROS AUXILIOS	Escala: S/N	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud Fecha: JULIO 2021	Núm. Plano: 11 Núm. Hoja: 1 DE 1

INSTALACIONES PROVISIONALES DE OBRA E:1/1000







FORMENTERA

LEYENDA

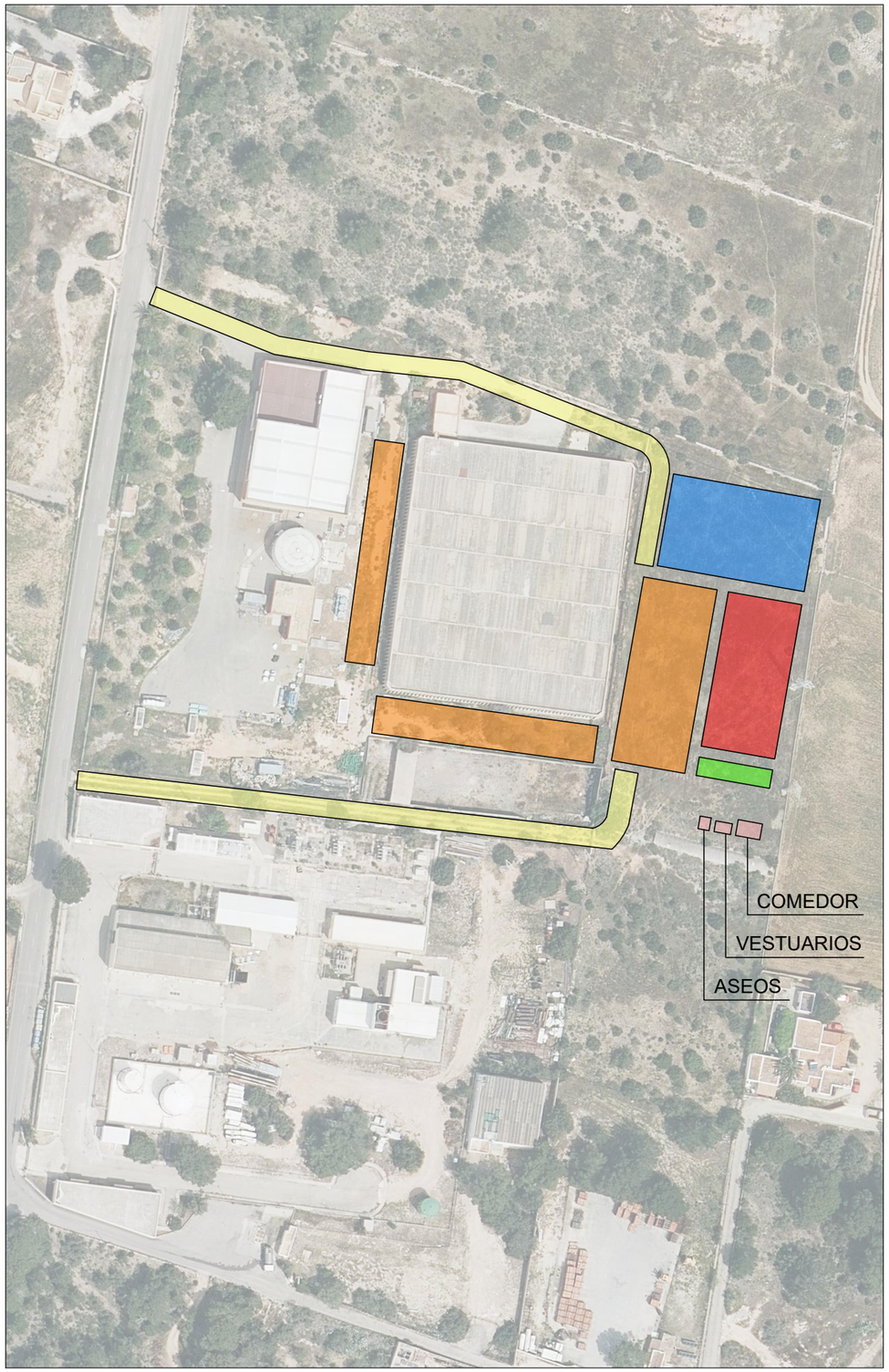
- Zona de acopio de materiales
- Zona de acopio de residuos
- Zona de trabajo grúas móviles
- Camino de acceso a la obra
- Depósito de agua provisional durante las obras
- Instalaciones de higiene y bienestar

Sist. coord.: ETRS89 - Proyección UTM - HUSO 31

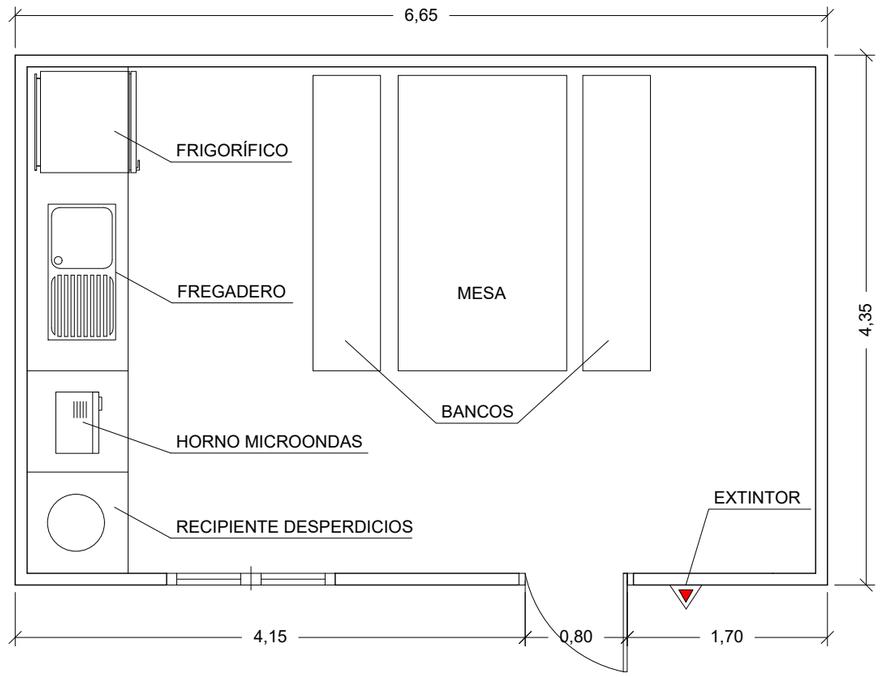
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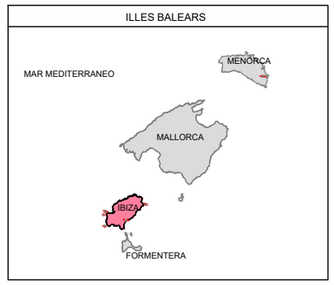
Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: INSTALACIONES PROVISIONALES DE OBRA	Escala: 1/1000	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud Fecha: JULIO 2021	Núm. Plano: 12 Núm. Hoja: 1 DE 1

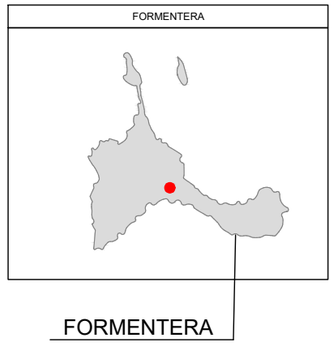
EMPLAZAMIENTO E:1/100



PLANTA ASEOS E:1/50

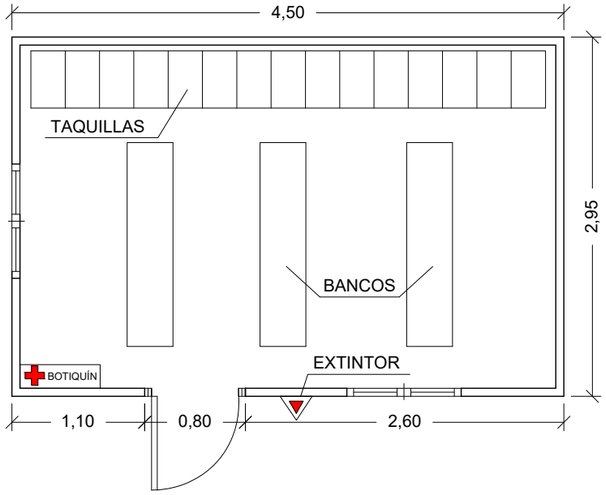


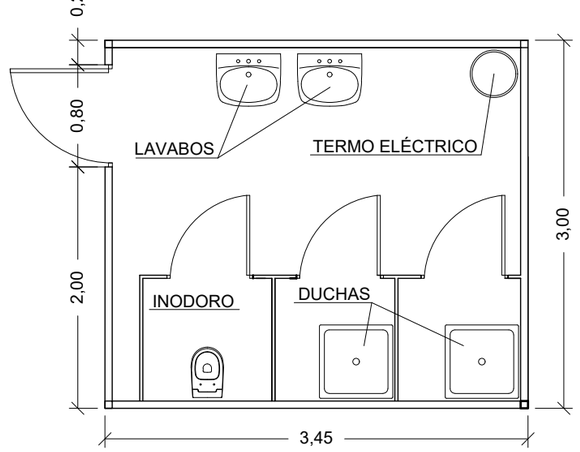




FORMENTERA

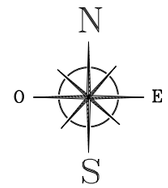
PLANTA ASEOS E:1/100





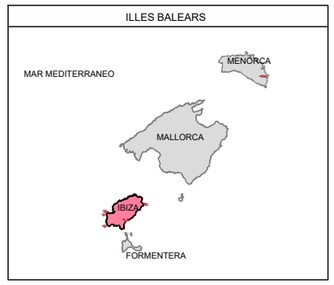
SUPERFICIES DE OCUPACIÓN TEMPORAL	
CASETAS	SUPERFICIES (M2)
Comedor	28,93
Vestuarios	13,28
Aseos	10,35
Total	52,56

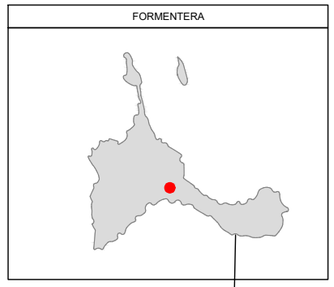
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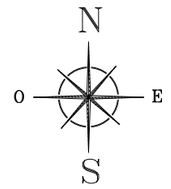
GOIB CONSELLERIA MEDI AMBIENT I TERRITORI AGÈNCIA BALEAR AIGUA I QUALITAT AMBIENTAL	Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	calter ingeniería de estructuras	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: INSTALACIONES DE HIGIENE Y BIENESTAR	Escala: Varias	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud Fecha: JULIO 2021	Núm. Plano: 13 Núm. Hoja: 1 DE 1







Sist. coord.: ETRS89 - Proyección UTM - HUSO 31



Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP, Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: HOSPITALES	Escala: 1/25.000	Clave: D1. Memoria y anejos A12. Estudio de Seg. y Salud	Núm. Plano: 14
							Fecha: JULIO 2021	Núm. Hoja: 1 DE 1

DOCUMENTO III: PLIEGO DE PRESCRIPCIONES

TÉCNICAS PARTICULARES

DOCUMENTO Nº 3: PLIEGO DE PRESCRIPCIONES TÉCNICAS

PLIEGO DE PRESCRIPCIONES TÉCNICAS PARTICULARES

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PLIEGO DE PRESCRIPCIONES TÉCNICAS PARTICULARES

1.- VALIDEZ DEL PLIEGO DE P.T.P. DEL PROYECTO

Se basa en los expresado en el proyecto objeto de esta "PROYECTO DE EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA".

Para todo lo no definido en el presente Pliego de Prescripciones Técnicas Particulares de este Estudio de Seguridad y Salud, será de aplicación el Pliego de Prescripciones Técnicas Particulares del Proyecto Constructivo.

1.1.- DISPOSICIONES LEGALES DE APLICACIÓN

El presente Pliego de Condiciones Particulares se redacta este en cumplimiento del artículo 5.2.b del Real Decreto 1627/1997, de 24 de octubre, sobre disposiciones mínimas de Seguridad y Salud en las obras de Construcción.

Se refiere este Pliego, en consecuencia, a partir de la enumeración de las normas legales y reglamentarias aplicables a la obra, al establecimiento de las prescripciones organizativas y técnicas que resultan exigibles en relación con la prevención de riesgos laborales en el curso de la construcción y, en particular, a la definición de la organización preventiva que corresponde al contratista y, en su caso, a los subcontratistas de la obra y a sus actuaciones preventivas, así como a la definición de las prescripciones técnicas que deben cumplir los sistemas y equipos de protección que hayan de utilizarse en las obras, formando parte o no de equipos y máquinas de trabajo.

Dadas las características de las condiciones a regular, el contenido de este Pliego se encuentra sustancialmente complementado con las definiciones efectuadas en la Memoria de este Estudio de Seguridad y Salud, en todo lo que se refiere a características técnicas preventivas a cumplir por los equipos de trabajo y máquinas, así como por los sistemas y equipos de protección personal y colectiva a utilizar, su composición, transporte, almacenamiento y reposición, según corresponda. En estas circunstancias, el contenido normativo de este Pliego ha de considerarse ampliado con las previsiones técnicas de la Memoria, formando ambos documentos un sólo conjunto de prescripciones exigibles durante la ejecución de la obra.

1.2.- LEGISLACIÓN Y NORMAS APLICABLES

El cuerpo legal y normativo de obligado cumplimiento está constituido por diversas normas de muy variados condición y rango, actualmente condicionadas por la situación de vigencias que deriva de la Ley 31/1.995, de Prevención de Riesgos Laborales, excepto en lo que se refiere a los reglamentos dictados en desarrollo directo de dicha Ley que, obviamente, están plenamente vigentes y condicionan o derogan, a su vez, otros textos normativos precedentes.

Con todo, el marco normativo vigente, propio de Prevención de Riesgos Laborales en el ámbito del Ministerio de Trabajo y Seguridad Social, se concreta del modo siguiente:

Ley 31/1995, de 8 de noviembre, de Prevención de Riesgos Laborales (B.O.E. del 10-11-95). Modificaciones en la Ley 50/1998, de 30 de diciembre.

Ley 54/2003, de 12 de Diciembre de reforma del Marco Normativo de la Prevención De Riesgos Laborales.

Ley 42/1997 de 14/11/1997, Ordenadora de la Inspección de Trabajo y Seguridad Social (BOE 15/11/1997).

Real Decreto Legislativo 2/2015, de 23 de octubre, por el que se aprueba el texto refundido de la Ley del Estatuto de los Trabajadores.

Reglamento de los Servicios de Prevención (Real Decreto 39/97, de 17 de enero, B.O.E. 31-01-97)

Modificación del Reglamento de los Servicios de Prevención (Real Decreto 780/1998, de 30 de abril, B.O.E. 01-05-98)

Orden TIN/2504/2010, de 20 de septiembre, por la que se desarrolla el Real Decreto 39/1997, de 17 de enero, por el que se aprueba el Reglamento de los Servicios de Prevención, en lo referido a la acreditación de entidades especializadas como servicios de prevención, memoria de actividades preventivas y autorización para realizar la actividad de auditoría del sistema de prevención de las empresas.

Reglamento sobre disposiciones mínimas de Seguridad y Salud en las obras de Construcción (Real Decreto 1627/1997, de 24 de octubre, B.O.E. 25-10-97)

Reglamento sobre disposiciones mínimas en materia de Señalización de Seguridad y Salud en el Trabajo (Real Decreto 485/1997, de 14 de abril, B.O.E. 23-04-97)

Reglamento sobre disposiciones mínimas de Seguridad y Salud en los Lugares Trabajo [excepto Construcción] (Real Decreto 486/97, de 14 de abril, B.O.E23-04-97)

Reglamento sobre disposiciones mínimas de Seguridad y Salud relativas a la Manipulación de Cargas (Real Decreto 487/1997, de 14 de abril, B.O.E. 23-04-97)

Reglamento sobre disposiciones mínimas de Seguridad y Salud relativas al trabajo con Equipos que incluyen Pantallas de Visualización (Real Decreto 488/1997, de 14 de abril, B.O.E. 23-04-97)

Reglamento de Protección de los trabajadores contra los Riesgos relacionados con la Exposición a Agentes Biológicos durante el trabajo (Real Decreto 664/1997, de 12 de mayo, B.O.E. 24-05-97)

Adaptación en función del progreso técnico del Real Decreto 664/1997 (Orden de 25 de marzo de 1998 (corrección de errores del 15 de abril)

Reglamento de Protección de los trabajadores contra los Riesgos relacionados con la Exposición a Agentes Cancerígenos durante el trabajo (Real Decreto 665/1997, de 12 de mayo, B.O.E. 24-05-97)

Reglamento sobre disposiciones mínimas de Seguridad y Salud relativas a la utilización por los trabajadores de Equipos de Protección Individual (Real Decreto 773/1997, de 22 de mayo, B.O.E. 12-06-97)

Reglamento sobre disposiciones mínimas de Seguridad y Salud para la utilización por los trabajadores de los Equipos de Trabajo (Real Decreto 1215/1997, de 18 de julio, B.O.E. 07-08-97)

Real Decreto 949/1997, de 20 de junio, por el que se establece el certificado de profesionalidad de la ocupación de prevencionista de riesgos laborales

Real Decreto 216/1999, de 5 de febrero, sobre disposiciones mínimas de seguridad y salud en el trabajo en el ámbito de las empresas de trabajo temporal.

Real Decreto 374/2001, de 6 de abril, sobre la protección de la salud y seguridad de los trabajadores contra los riesgos relacionados con los agentes químicos durante el trabajo.

Real Decreto 614/2001, de 8 de junio, sobre disposiciones mínimas para la protección de la salud y seguridad de los trabajadores frente al riesgo eléctrico.

Ampliación 1 normativa del Estado

Junto a las anteriores, que constituyen el marco legal actual, tras la promulgación de la Ley de Prevención, debe considerarse un amplio conjunto de normas de prevención laboral que, si bien de forma desigual y a veces dudosa, permanecen vigentes en alguna parte de sus respectivos textos. Entre ellas, cabe citar las siguientes:

Ordenanza General de Seguridad e Higiene en el Trabajo (O.M. de 09-03-71, B.O.E. 16-03-71; vigente el capítulo 6 del título II). Títulos I y III derogados por Ley 31/1995.

Ordenanza Laboral de la Construcción, Vidrio y Cerámica (O.M. 28-08-70, B.O.E. 09-09-70), utilizable como referencia técnica, en cuanto no haya resultado mejorado, especialmente en su capítulo XVI, excepto las Secciones Primera y Segunda, por remisión expresa del Convenio General de la Construcción, en su Disposición Final Primera.2.

Real Decreto 542/2020, de 26 de mayo, por el que se modifican y derogan diferentes disposiciones en materia de calidad y seguridad industrial.

Real Decreto 286/2006, de 10 de marzo, sobre la protección de la salud y la seguridad de los trabajadores contra los riesgos relacionados con la exposición al ruido.

Real Decreto 396/2006, de 31 de marzo, por el que se establecen las disposiciones mínimas de seguridad y salud aplicables a los trabajos con riesgo de exposición al amianto.

Convenio Colectivo Provincial de la Construcción

Además, han de considerarse otras normas de carácter preventivo con origen en otros Departamentos ministeriales, especialmente del Ministerio de Industria, y con diferente carácter de aplicabilidad, ya como normas propiamente dichas, ya como referencias técnicas de interés, a saber:

Ley de Industria (Ley 21/1992, de 16 de julio, B.O.E. 26-07-92)

Real Decreto 474/1988, de 30 de marzo, por el que se establecen las disposiciones de aplicación de la Directiva 84/528/CEE, sobre aparatos elevadores y manejo mecánico (B.O.E. 20-05-88)

Real Decreto 1849/2000, de 10 de noviembre, por el que se derogan diferentes disposiciones en materia de normalización y homologación de productos industriales.

Real Decreto 1644/2008, de 10 de octubre, por el que se establecen las normas para la comercialización y puesta en servicio de las máquinas.

Real Decreto 2291/1985, de 8 de noviembre, por el que se aprueba el Reglamento de Aparatos de Elevación y Manutención (B.O.E. 11-12-85) e instrucciones técnicas complementarias. en lo que pueda quedar vigente.

Decreto 842/2004, de 2 de agosto, por el que se aprueba el Reglamento Electrotécnico de Baja Tensión e Instrucciones técnicas complementarias

Real Decreto 223/2008, de 15 de febrero, por el que se aprueban el Reglamento sobre condiciones técnicas y garantías de seguridad en líneas eléctricas de alta tensión y sus instrucciones técnicas complementarias ITC-LAT 01 a 09.

Real Decreto 212/2002, de 22 de febrero, por el que se regulan las emisiones sonoras en el entorno debidas a determinadas máquinas de uso al aire libre.

Real Decreto 1389/1997, por el que se establecen disposiciones mínimas destinadas a proteger la seguridad y la salud de los trabajadores en las actividades mineras (B.O.E. 07-10-97).

Normas Tecnológicas de la Edificación, del Ministerio de Fomento, aplicables en función de las unidades de obra o actividades correspondientes.

Normas de determinadas Comunidades Autónomas, vigentes en las obras en su territorio, que pueden servir de referencia para las obras realizadas en los territorios de otras comunidades. Destacan las relativas a los Andamios tubulares (p.ej.: Orden 2988/1988, de 30 de junio, de la Consejería de Economía y Empleo de la Comunidad de Madrid), a las Grúas (p.ej.: Orden 2243/1997, sobre grúas torre desmontables, de 28 de julio, de la Consejería de Economía y Empleo de la Comunidad de Madrid y Orden 7881/1988, de la misma, sobre el carné de Operador de grúas y normas complementarias por Orden 7219/1999, de 11 de octubre), etc.

Diversas normas competenciales, reguladoras de procedimientos administrativos y registros que pueden resultar aplicables a la obra, cuya relación puede resultar excesiva, entre otras razones, por su variabilidad en diferentes comunidades autónomas del Estado. Su consulta idónea puede verse facilitada por el coordinador de seguridad y salud de la obra.

1.3.- OBLIGACIONES DE LAS DIVERSAS PARTES INTERVINIENTES EN LA OBRA

En cumplimiento de la legislación aplicable y, de manera específica, de lo establecido en la Ley 31/1995, de Prevención de Riesgos Laborales, en el Real Decreto 39/1997, de los Servicios de Prevención, y en el Real Decreto 1627/1997, sobre disposiciones mínimas de seguridad y salud en las obras de construcción, corresponde a la administración, la designación del coordinador de seguridad y salud de la obra, así como la aprobación del Plan de Seguridad y Salud propuesto por el contratista de la obra, con el preceptivo informe y propuesta del coordinador, así como remitir el Aviso Previo a la Autoridad laboral competente.

En cuanto al contratista de la obra, viene éste obligado a redactar y presentar, con anterioridad al comienzo de los trabajos, el Plan de Seguridad y Salud de la obra, en aplicación y desarrollo del presente Estudio y de acuerdo con lo establecido en el artículo 7 del citado Real Decreto 1627/1997. El Plan de Seguridad y Salud contendrá, como mínimo, una breve descripción de la obra y la relación de sus principales unidades y actividades a desarrollar, así como el programa de los trabajos con indicación de los trabajadores concurrentes en cada fase y la evaluación de los riesgos esperables en la obra. Además, específicamente, el Plan expresará resumidamente las medidas preventivas previstas en el presente Estudio que el contratista admita como válidas y suficientes para evitar o proteger los riesgos evaluados y presentará las alternativas a aquéllas que considere conveniente modificar, justificándolas técnicamente. Finalmente, el plan contemplará la valoración económica de tales alternativas o expresará la validez del Presupuesto del presente estudio de Seguridad y Salud. El plan presentado por el contratista no reiterará obligatoriamente los contenidos ya incluidos en este Estudio, aunque sí deberá hacer referencia concreta a los mismos y desarrollarlos específicamente, de modo que aquellos serán directamente aplicables a la obra, excepto en aquellas alternativas preventivas definidas y con los contenidos desarrollados en el Plan, una vez aprobado éste reglamentariamente.

Las normas y medidas preventivas contenidas en este Estudio y en el correspondiente Plan de Seguridad y Salud, constituyen las obligaciones que el contratista viene obligado a cumplir durante la ejecución de la obra, sin perjuicio de los principios y normas legales y reglamentarias que le obligan como empresario. En particular, corresponde al contratista cumplir y hacer cumplir el Plan de Seguridad y Salud de la obra, así como la normativa vigente en materia de prevención de riesgos laborales y la coordinación de actividades preventivas entre las empresas y trabajadores autónomos concurrentes en la obra, en los términos previstos en el artículo 24 de la Ley de Prevención, informando y vigilando su cumplimiento por parte de los subcontratistas y de los trabajadores

autónomos sobre los riesgos y medidas a adoptar, emitiendo las instrucciones internas que estime necesarias para velar por sus responsabilidades en la obra, incluidas las de carácter solidario, establecidas en el artículo 42.2 de la mencionada Ley.

Los subcontratistas y trabajadores autónomos, sin perjuicio de las obligaciones legales y reglamentarias que les afectan, vendrán obligados a cumplir cuantas medidas establecidas en este Estudio o en el Plan de Seguridad y Salud les afecten, a proveer y velar por el empleo de los equipos de protección individual y de las protecciones colectivas o sistemas preventivos que deban aportar, en función de las normas aplicables y, en su caso, de las estipulaciones contractuales que se incluyan en el Plan de Seguridad y Salud o en documentos jurídicos particulares.

En cualquier caso, las empresas contratista, subcontratistas y trabajadores autónomos presentes en la obra estarán obligados a atender cuantas indicaciones y requerimientos les formule el coordinador de seguridad y salud, en relación con la función que a éste corresponde de seguimiento del Plan de Seguridad y Salud de la obra y, de manera particular, aquéllos que se refieran a incumplimientos de dicho Plan y a supuestos de riesgos graves e inminentes en el curso de ejecución de la obra.

1.4. SERVICIOS DE PREVENCIÓN

La empresa adjudicataria vendrá obligada a disponer de una *organización especializada de prevención de riesgos laborales,* de acuerdo con lo establecido en el Real Decreto 39/1997, citado: cuando posea una plantilla superior a los 250 trabajadores, con Servicio de Prevención propio, mancomunado o ajeno contratado a tales efectos, en cualquier caso debidamente acreditados ante la Autoridad laboral competente, o, en supuestos de menores plantillas, mediante la designación de un trabajador (con plantillas inferiores a los 50 trabajadores) o de dos trabajadores (para plantillas de 51 a 250 trabajadores), adecuadamente formados y acreditados a nivel básico, según se establece en el mencionado Real Decreto 39/1997.

La empresa contratista encomendará a su organización de prevención la vigilancia de cumplimiento de sus obligaciones preventivas en la obra, plasmadas en el *Plan de Seguridad y Salud,* así como la asistencia y asesoramiento al Jefe de obra en cuantas cuestiones de seguridad se planteen a lo largo de la construcción. Cuando la empresa contratista venga obligada a disponer de un servicio técnico de prevención, estará obligada, asimismo, a designar un técnico de dicho servicio para su actuación específica en la obra. Este técnico deberá poseer la preceptiva acreditación superior o, en su caso, de grado medio a que se refiere el mencionado Real Decreto 39/1997, así como titulación académica y desempeño profesional previo adecuado y aceptado por el coordinador en materia de seguridad y salud, a propuesta expresa del jefe de obra.

Al menos uno de los trabajadores destinados en la obra poseerá formación y adiestramiento específico en primeros auxilios a accidentados, con la obligación de atender a dicha función en todos aquellos casos en que se produzca un accidente con efectos personales o daños o lesiones, por pequeños que éstos sean.

Los trabajadores destinados en la obra poseerán justificantes de haber pasado reconocimientos médicos preventivos y de capacidad para el trabajo a desarrollar, durante los últimos doce meses, realizados en el departamento de Medicina del Trabajo de un Servicio de Prevención acreditado.

El Plan de Seguridad y Salud establecerá las condiciones en que se realizará la información a los trabajadores, relativa a los riesgos previsibles en la obra, así como las acciones formativas pertinentes.

1.4.1.- Instalaciones y servicios de higiene y bienestar de los trabajadores

Los vestuarios, comedores, servicios higiénicos, lavabos y duchas a disponer en la obra quedarán definidos en el Plan de Seguridad y Salud, de acuerdo con las normas específicas de aplicación y, específicamente, con los apartados 15 a 18 de la Parte A del Real Decreto 1627/1.997, citado. En cualquier caso, se dispondrá de un inodoro cada 25 trabajadores, utilizable por éstos y situado a menos de 50 metros de los lugares de trabajo; de un lavabo por cada 10 trabajadores y de una taquilla o lugar adecuado para dejar la ropa y efectos personales por trabajador. Se dispondrá asimismo en la obra de agua potable en cantidad suficiente y adecuadas condiciones de utilización por parte de los trabajadores.

Se dispondrá siempre de un botiquín, ubicado en un local de obra, en adecuadas condiciones de conservación y contenido y de fácil acceso, señalizado y con indicación de los teléfonos de urgencias a utilizar. Existirá al menos un trabajador formado en la prestación de primeros auxilios en la obra.

Todas las instalaciones y servicios a disponer en la obra vendrán definidos concretamente en el plan de seguridad y salud y en lo previsto en el presente estudio, debiendo contar, en todo caso, con la conservación y limpieza precisos para su adecuada utilización por parte de los trabajadores, para lo que el jefe de obra designará personal específico en tales funciones.

1.5.- CONDICIONES A CUMPLIR POR LOS EQUIPOS DE PROTECCIÓN PERSONAL

Todos los equipos de protección personal utilizados en la obra tendrán fijado un periodo de vida útil, a cuyo término el equipo habrá de desecharse obligatoriamente. Si antes de finalizar tal periodo, algún equipo sufriera un trato límite (como en supuestos de un accidente, caída o golpeo del equipo, etc.) o experimente un envejecimiento o deterioro más rápido del previsible, cualquiera que sea su causa, será igualmente desechado y sustituido, al igual que cuando haya adquirido mayor holgura que las tolerancias establecidas por el fabricante.

Un equipo de protección individual nunca será permitido en su empleo si se detecta que representa o introduce un riesgo por su mera utilización.

Todos los equipos de protección individual se ajustarán a las normas contenidas en los Reales Decretos 1407/1992 y 773/1997, ya mencionados. Adicionalmente, en cuanto no se vean modificadas por lo anteriores, se considerarán aplicables las Normas Técnicas Reglamentarias M.T. de homologación de los equipos, en aplicación de la O.M. de 17-05-1.974 (B.O.E. 29-05-74).

Las presentes prescripciones se considerarán ampliadas y complementadas con las medidas y normas aplicables a los diferentes equipos de protección individual y a su utilización, definidas en la Memoria de este estudio de seguridad y salud y que no se considera necesario reiterar aquí.

1.6.- CONDICIONES DE LAS PROTECCIONES COLECTIVAS

En la Memoria de este estudio se contemplan numerosas definiciones técnicas de los sistemas y protecciones colectivas que está previsto aplicar en la obra, en sus diferentes actividades o unidades de obra. Dichas definiciones tienen el carácter de prescripciones técnicas mínimas, por lo que no se considera necesario ni útil su repetición aquí, sin perjuicio de la remisión de este Pliego a las normas reglamentarias aplicables en cada caso y a la concreción que se estima precisa en las prescripciones técnicas mínimas de algunas de las protecciones que serán abundantemente utilizables en el curso de la obra.

Así, las ***vallas autónomas*** de protección y delimitación de espacios estarán construidas a base de tubos metálicos soldados, tendrán una altura mínima de 90 cm. y estarán pintadas en blanco o en amarillo o naranja luminosos, manteniendo su pintura en correcto estado de conservación y no presentando indicios de óxido ni elementos doblados o rotos en ningún momento.

Las ***barandillas*** de pasarelas y plataformas de trabajo tendrán suficiente resistencia, por sí mismas y por su sistema de fijación y anclaje, para garantizar la retención de los trabajadores, incluso en hipótesis de impacto por desplazamiento o desplome violento. La resistencia global de referencia de las barandillas queda cifrada en 150 Kg./m., como mínimo

Los ***cables de sujeción de cinturones y arneses de seguridad y sus anclajes*** tendrán suficiente resistencia para soportar los esfuerzos derivados de la caída de un trabajador al vacío, con una fuerza de inercia calculada en función de la longitud de cuerda utilizada. Estarán, en todo caso, anclados en puntos fijos de la obra ya construida (esperas de armadura, argollas empotradas, pernos, etc.) o de estructuras auxiliares, como pórticos que pueda ser preciso disponer al efecto.

Todas las ***pasarelas*** y ***plataformas de trabajo*** tendrán anchos mínimos de 60 cm. y, cuando se sitúen a más de 2,00 m. del suelo, estarán provistas de barandillas de al menos 90 cm. de altura, con listón intermedio y rodapié de 15 cm como mínimo.

Las ***escaleras de mano*** estarán siempre provistas de zapatas antideslizantes y presentarán la suficiente estabilidad. Nunca se utilizarán escaleras unidas entre sí en obra, ni dispuestas sobre superficies irregulares o inestables, como tablas, ladrillos u otros materiales sueltos.

La resistencia de las ***tomas de tierra*** no será superior a aquélla que garantice una tensión máxima de 24 V., de acuerdo con la sensibilidad del interruptor diferencial que, como mínimo, será de 30 mA para alumbrado y de 300 mA para fuerza.

Se comprobará periódicamente que se produce la desconexión al accionar el botón de prueba del ***interruptor diferencial,*** siendo absolutamente obligatorio proceder a una revisión de éste por personal especializado o sustituirlo, cuando la desconexión no se produce.

Todo ***cuadro eléctrico general,*** totalmente aislado en sus partes activas, irá provisto de un interruptor general de corte omnipolar, capaz de dejar a toda la zona de la obra sin servicio. Los *cuadros de distribución* deberán tener todas sus partes metálicas conectadas a tierra.

Todos los ***elementos eléctricos,*** como fusibles, cortacircuitos e interruptores, serán de equipo cerrado, capaces de imposibilitar el contacto eléctrico fortuito de personas o cosas, al igual que los bornes de conexiones, que estarán provistas de protectores adecuados. Se dispondrán *interruptores,* uno por enchufe, en el cuadro eléctrico general, al objeto de permitir dejar sin corriente los enchufes en los que se vaya a conectar maquinaria de 10 o más amperios, de manera que sea posible enchufar y desenchufar la máquina en ausencia de corriente. Los *tableros portantes de bases de enchufe* de los cuadros eléctricos auxiliares se fijarán eficazmente a elementos rígidos, de forma que se impida el desenganche fortuito de los conductores de alimentación, así como contactos con elementos metálicos que puedan ocasionar descargas eléctricas a personas u objetos.

Las ***lámparas eléctricas portátiles*** tendrán mango aislante y dispositivo protector de la lámpara, teniendo alimentación de 24 voltios o, en su defecto, estar alimentadas por medio de un transformador de separación de circuitos.

Todas las ***máquinas eléctricas*** dispondrán de conexión a tierra, con resistencia máxima permitida de los electrodos o placas de 5 a 10 ohmios, disponiendo de cables con doble aislamiento impermeable y de cubierta suficientemente resistente. Las mangueras de conexión a las tomas de tierra llevarán un hilo adicional para conexión al polo de tierra del enchufe.

Los ***extintores*** de obra serán de polvo polivalente y cumplirán la Norma UNE 23010, colocándose en los lugares de mayor riesgo de incendio, a una altura de 1,50 m. sobre el suelo y estarán adecuadamente señalizados.

En cuanto a la ***señalización*** de la obra, es preciso distinguir en la que se refiere a la deseada información o demanda de atención por parte de los trabajadores y aquélla que corresponde al tráfico exterior afectado por la obra. En el primer caso son de aplicación las prescripciones establecidas por el Real Decreto 485/1997, de 14 de abril, ya citado en este Pliego, en tanto que la señalización y el balizamiento del tráfico, en su caso, vienen regulados por la Norma 8.3IC de la Dirección General de Carreteras, como corresponde a su contenido y aplicación técnica. Esta distinción no excluye la posible complementación de la señalización de tráfico durante la obra cuando la misma se haga exigible para la seguridad de los trabajadores que trabajen en la inmediación de dicho tráfico, en evitación de intromisiones accidentales de éste en las zonas de trabajo. Dichos complementos, cuando se estimen necesarios, deberán figurar en el plan de seguridad y salud de la obra.

Todas las protecciones colectivas de empleo en la obra se mantendrán en correcto estado de conservación y limpieza, debiendo ser controladas específicamente tales condicione, en las condiciones y plazos que en cada caso se fijen en el plan de seguridad y salud.

Las presentes prescripciones se considerarán ampliadas y complementadas con las medidas y normas aplicables a los diferentes sistemas de protección colectiva y a su utilización, definidas en la Memoria de este estudio de seguridad y salud y que no se considera necesario reiterar aquí.

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

Redactor de proyecto: Juan Carlos Arroyo Portero ICCP	**Redactor adjunto:** Jesús Jiménez Cañas ICCP

DOCUMENTO IV: PRESUPUESTO

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PRESUPUESTO

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CUADRO DE PRECIOS Nº1

CUADRO DE PRECIOS 1

SEGURIDAD Y SALUD

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0001	DO1001	ud	Casco de seguridad homologado.	SEIS EUROS con NOVENTA Y SEIS CÉNTIMOS	6,96
0002	DO1002	ud	Pantalla de seguridad para soldadura, homologada.	ONCE EUROS con VEINTIOCHO CÉNTIMOS	11,28
0003	DO1003	ud	Gafa antipolvo y anti impactos	QUINCE EUROS con TREINTA CÉNTIMOS	15,30
0004	DO1004	ud	Gafa para oxicorte	CINCO EUROS con DOCE CÉNTIMOS	5,12
0005	DO1005	ud	Mascarilla antipolvo, homologada.	SIETE EUROS con DIECISIETE CÉNTIMOS	7,17
0006	DO1006	ud	Filtro recambio mascarilla, homologado.	CERO EUROS con TREINTA CÉNTIMOS	0,30
0007	DO1007	ud	Protectores auditivos tipo oreja, homologados.	ONCE EUROS con SESENTA CÉNTIMOS	11,60
0008	DO1009	ud	Cinturón antivibratorio, homologado.	DOCE EUROS con TREINTA CÉNTIMOS	12,30
0009	DO1010	ud	Mono de trabajo, homologado.	CUARENTA Y CUATRO EUROS con TREINTA Y SEIS CÉNTIMOS	44,36
0010	DO1011	ud	Impermeable de trabajo, homologado.	DIEZ EUROS con SETENTA Y NUEVE CÉNTIMOS	10,79
0011	DO1012	ud	Mandil de cuero para soldador, homologado.	OCHO EUROS con VEINTIÚN CÉNTIMOS	8,21
0012	DO1013	ud	Manguitos para soldador.	CUATRO EUROS con DIEZ CÉNTIMOS	4,10
0013	DO1014	ud	Par de polainas para soldador, homologadas.	TRES EUROS con SETENTA CÉNTIMOS	3,70
0014	DO1015	ud	Par de guantes para soldador, homologado.	DIEZ EUROS con TREINTA Y OCHO CÉNTIMOS	10,38
0015	DO1017	ud	Par de guantes de goma.	DOS EUROS con SETENTA Y CINCO CÉNTIMOS	2,75
0016	DO1018	ud	Par de guantes de cuero.	CINCO EUROS con NUEVE CÉNTIMOS	5,09
0017	DO1019	ud	Par de botas impermeables al agua y a la humedad, homologadas.	SIETE EUROS con DOS CÉNTIMOS	7,02
0018	DO1021	ud	Par botas de seguridad de cuero	VEINTE EUROS con CUARENTA Y OCHO CÉNTIMOS	20,48
0019	DO1024	ud	Chaleco reflentante.	VEINTISÉIS EUROS con TREINTA Y SIETE CÉNTIMOS	26,37
0020	DO2004	m	Cordón de balizamiento reflectante, incluidos soportes, colocación y desmontaje	DOS EUROS con OCHO CÉNTIMOS	2,08
0021	DO3001	ud	Extintor de polvo polivalente	SETENTA Y DOS EUROS con QUINCE CÉNTIMOS	72,15

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0022	DO4001	ud	Instalación de puesta a tierra compuesta por cable de cobre, electrodo conectado a tierra en masas metálicas y cuadros de electricidad.	CIENTO VEINTICUATRO EUROS con QUINCE CÉNTIMOS	124,15
0023	DO4002	ud	Interruptor diferencial de alta sensibilidad (30 m A), incluida su instalación.	TRESCIENTOS OCHENTA Y OCHO EUROS	388,00
0024	DO5005	ud	Horno microondas para calentar comidas, de 18 L de capacidad.	CUARENTA Y SIETE EUROS con CINCUENTA Y UN CÉNTIMOS	47,51
0025	DO5006	ud	Radiador infrarrojos de 1000 kw	VEINTINUEVE EUROS con CUARENTA Y SIETE CÉNTIMOS	29,47
0026	DO5007	ud	Pileta corrida construida en obra y dotada con 3 grifos	NOVENTA Y CINCO EUROS con SESENTA Y TRES CÉNTIMOS	95,63
0027	DO5008	ud	Acometida de agua para aseos y energía eléctrica para vestuarios y aseos, totalmente terminado y en servicio	DOSCIENTOS DIECISIETE EUROS con TREINTA Y NUEVE CÉNTIMOS	217,39
0028	DO5009	ud	Recipiente para recogida de basuras	VEINTISÉIS EUROS con NOVENTA Y SIETE CÉNTIMOS	26,97
0029	DO6001	ud	Botiquín de obra instalado.	NOVENTA Y CINCO EUROS con SESENTA Y OCHO CÉNTIMOS	95,68
0030	DO6003	ud	Ud. Reconocimiento médico obligatorio.	CIENTO DOS EUROS con TREINTA Y SIETE CÉNTIMOS	102,37
0031	DO7001	ud	Reunión mensual de Coordinación	NOVENTA Y TRES EUROS con CINCUENTA Y CINCO CÉNTIMOS	93,55
0032	DO7002	h	Costo mensual de formación específica de seguridad y salud en el trabajo.	TREINTA EUROS con CINCUENTA Y TRES CÉNTIMOS	30,53
0033	DO7003	h	Técnico de Seguridad con titulación de grado medio y formación en Prevención de Riesgos Laborales, como mínimo, de nivel intermedio.	DIECIOCHO EUROS con CUARENTA Y UN CÉNTIMOS	18,41

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0034	YCB030	m	Delimitación de la zona de excavaciones abiertas mediante vallado perimetral formado por vallas peatonales de hierro, de 1,10x2,50 m, color amarillo, con barrotes verticales montados sobre bastidor de tubo, con dos pies metálicos, amortizables en 20 usos. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	TRES EUROS con VEINTICINCO CÉNTIMOS	3,25
0035	YCB060	m	Protección frente a la caída de camiones en bordes de excavación, durante los trabajos de descarga directa de hormigón o materiales de relleno, formada por tope compuesto por 2 tablones de madera de pino de 25x7,5 cm, amortizables en 4 usos y perfiles de acero UNE-EN 10025 S275JR, laminado en caliente, de la serie IPN 200, galvanizado en caliente, de 1 m de longitud, hincados en el terreno cada 2,0 m, amortizables en 150 usos. Incluso elementos de acero para el ensamble de los tablones. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	DIECIOCHO EUROS con TREINTA Y DOS CÉNTIMOS	18,32

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0036	YCF010	m	Sistema provisional de protección de borde de forjado, clase A, de 1 m de altura, que proporciona resistencia sólo para cargas estáticas y para superficies de trabajo con un ángulo de inclinación máximo de 10°, formado por: barandilla principal de tubo de acero de 25 mm de diámetro y 2500 mm de longitud, amortizable en 150 usos; barandilla intermedia de tubo de acero de 25 mm de diámetro y 2500 mm de longitud, dispuesta de manera que una esfera de 470 mm no pase a través de cualquier apertura, amortizable en 150 usos; rodapié metálico de 3 m de longitud, que tenga el borde superior al menos 15 cm por encima de la superficie de trabajo, amortizable en 150 usos y guardacuerpos fijos de seguridad fabricados en acero de primera calidad pintado al horno en epoxi-poliéster, de 40 mm de diámetro y 1200 mm de longitud, separados entre sí una distancia máxima de 2,5 m y fijados al forjado con base plástica embebida en el hormigón, amortizables en 20 usos. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	SEIS EUROS con UN CÉNTIMOS	6,01
0037	YCI040	m²	Sistema S de red de seguridad fija, colocada horizontalmente en estructuras prefabricadas de hormigón y estructuras metálicas, formado por: red de seguridad UNE-EN 1263-1 S A2 M100 D M, de poliamida de alta tenacidad, anudada, de color blanco, para cubrir huecos horizontales de superficie comprendida entre 35 y 250 m². Incluso cuerda de unión de polipropileno, para unir las redes y cuerda de atado de polipropileno, para atar la cuerda perimetral de las redes a un soporte adecuado. Criterio de medición de proyecto: Superficie medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la superficie realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	DOCE EUROS con DOS CÉNTIMOS	12,02

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0038	YCL160	Ud	Suministro, colocación y desmontaje de línea de anclaje horizontal temporal, de cable de acero, con amortiguador de caídas, de 20 m de longitud máxima, para asegurar hasta tres operarios, clase C, compuesta por 2 placas de anclaje y 1 línea de anclaje flexible, formada por 1 absorbedor de energía con indicador de tensión e indicador de número de caídas; 1 tensor y 20 m de cable, de acero galvanizado, de 8 mm de diámetro, compuesto por 7 cordones de 19 hilos, con prensado terminal con casquillo de cobre, guardacable y conector en un extremo, amortizable en 3 usos. Incluso elementos para fijación mecánica a paramento de las placas de anclaje. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	CUATROCIENTOS SETENTA Y TRES EUROS con SESENTA CÉNTIMOS	473,60
0039	YCR030	m	Vallado provisional de solar compuesto por vallas trasladables de 3,50x2,00 m, formadas por panel de malla electrosoldada con pliegues de refuerzo, de 200x100 mm de paso de malla, con alambres horizontales de 5 mm de diámetro y verticales de 4 mm, soldados en los extremos a postes verticales de 40 mm de diámetro, acabado galvanizado, amortizables en 5 usos y bases prefabricadas de hormigón, de 65x24x12 cm, con 8 orificios, para soporte de los postes, amortizables en 5 usos, fijadas al pavimento con pletinas de 20x4 mm y tacos de expansión de acero. Malla de ocultación de polietileno de alta densidad, color verde, colocada sobre las vallas. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	TREINTA Y DOS EUROS con CINCUENTA Y SEIS CÉNTIMOS	32,56

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0040	YCS020	Ud	Cuadro eléctrico provisional de obra para una potencia máxima de 10 kW, compuesto por armario de distribución con dispositivo de emergencia, tomas y los interruptores automáticos magnetotérmicos y diferenciales necesarios, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	TRESCIENTOS SESENTA Y NUEVE EUROS con VEINTE CÉNTIMOS	369,20
0041	YIU040	Ud	Cinturón con bolsa de varios compartimentos para herramientas, amortizable en 10 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	TRES EUROS con DOS CÉNTIMOS	3,02
0042	YIU050	Ud	Faja de protección lumbar con amplio soporte abdominal y sujeción regulable mediante velcro, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	SEIS EUROS	6,00
0043	YIU060	Ud	Par de rodilleras con la parte delantera elástica y con esponja de celulosa, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	CUATRO EUROS con CUATRO CÉNTIMOS	4,04

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0044	YIV020	Ud	Mascarilla autofiltrante contra partículas, fabricada totalmente de material filtrante, que cubre la nariz, la boca y la barbilla, garantizando un ajuste hermético a la cara del trabajador frente a la atmósfera ambiente, FFP2, con válvula de exhalación, amortizable en 1 uso. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	CUATRO EUROS con CINCUENTA Y UN CÉNTIMOS	4,51
0045	YPC010	Ud	Mes de alquiler de caseta prefabricada para aseos en obra, de dimensiones 3,45x3,00x2,30 m (10,35 m²), compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalaciones de fontanería, saneamiento y electricidad, tubos fluorescentes y punto de luz exterior, termo eléctrico, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo contrachapado hidrófugo con capa antideslizante, revestimiento de tablero en paredes, inodoro, dos platos de ducha y lavabo de tres grifos y puerta de madera en inodoro y cortina en ducha. Incluye: Montaje, instalación y comprobación. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.	CIENTO SETENTA Y OCHO EUROS con VEINTIÚN CÉNTIMOS	178,21
0046	YPC020	Ud	Mes de alquiler de caseta prefabricada para vestuarios en obra, de dimensiones 4,50x2,95x2,30 m (13,28 m²), compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalación de electricidad, tubos fluorescentes y punto de luz exterior, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo de aglomerado revestido con PVC continuo y poliestireno con apoyo en base de chapa y revestimiento de tablero en paredes. Incluye: Montaje, instalación y comprobación. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.	CIENTO ONCE EUROS con OCHENTA Y NUEVE CÉNTIMOS	111,89

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0047	YPC030	Ud	Mes de alquiler de caseta prefabricada para comedor en obra, de dimensiones 6,65x4,35x2,30 m (28,93 m²) compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalación de electricidad, tubos fluorescentes y punto de luz exterior, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo de aglomerado revestido con PVC continuo y poliestireno con apoyo en base de chapa y revestimiento de tablero en paredes. Incluye: Montaje, instalación y comprobación. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.	DOSCIENTOS SIETE EUROS con CINCO CÉNTIMOS	207,05
0048	YPM010	Ud	Suministro y colocación de 20 taquillas individuales (amortizables en 3 usos), 20 perchas, banco para 5 personas (amortizable en 2 usos), espejo, portarrollos (amortizable en 3 usos), jabonera (amortizable en 3 usos) en local o caseta de obra para vestuarios y/o aseos, incluso montaje e instalación. Incluye: Colocación y fijación de los elementos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	OCHOCIENTOS DOCE EUROS con CINCUENTA Y NUEVE CÉNTIMOS	812,59
0049	YPM020	Ud	Suministro y colocación de mesa para 10 personas (amortizable en 4 usos), 2 bancos para 5 personas (amortizables en 2 usos), horno microondas (amortizable en 5 usos), nevera (amortizable en 5 usos) y depósito de basura (amortizable en 10 usos) en local o caseta de obra para comedor, incluso montaje e instalación. Incluye: Colocación y fijación de los elementos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	DOSCIENTOS NOVENTA Y OCHO EUROS con VEINTISIETE CÉNTIMOS	298,27

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0050	YSX010	Ud	Conjunto de elementos de balizamiento y señalización provisional de obras, necesarios para el cumplimiento de la normativa vigente en materia de Seguridad y Salud en el Trabajo. Incluso mantenimiento en condiciones seguras durante todo el periodo de tiempo que se requiera, reparación o reposición, cambio de posición y transporte hasta el lugar de almacenaje o retirada a contenedor. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	QUINIENTOS CINCUENTA EUROS	550,00

CUADRO DE PRECIOS Nº2

CUADRO DE PRECIOS 2

SEGURIDAD Y SALUD

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0001	DO1001	ud	Casco de seguridad homologado.	
			Resto de obra y materiales	6,96
			TOTAL PARTIDA	**6,96**
0002	DO1002	ud	Pantalla de seguridad para soldadura, homologada.	
			Resto de obra y materiales	11,28
			TOTAL PARTIDA	**11,28**
0003	DO1003	ud	Gafa antipolvo y anti impactos	
			Resto de obra y materiales	15,30
			TOTAL PARTIDA	**15,30**
0004	DO1004	ud	Gafa para oxicorte	
			Resto de obra y materiales	5,12
			TOTAL PARTIDA	**5,12**
0005	DO1005	ud	Mascarilla antipolvo, homologada.	
			Resto de obra y materiales	7,17
			TOTAL PARTIDA	**7,17**
0006	DO1006	ud	Filtro recambio mascarilla, homologado.	
			Resto de obra y materiales	0,30
			TOTAL PARTIDA	**0,30**
0007	DO1007	ud	Protectores auditivos tipo oreja, homologados.	
			Resto de obra y materiales	11,60
			TOTAL PARTIDA	**11,60**
0008	DO1009	ud	Cinturón antivibratorio, homologado.	
			Resto de obra y materiales	12,30
			TOTAL PARTIDA	**12,30**
0009	DO1010	ud	Mono de trabajo, homologado.	
			Resto de obra y materiales	44,36
			TOTAL PARTIDA	**44,36**
0010	DO1011	ud	Impermeable de trabajo, homologado.	
			Resto de obra y materiales	10,79
			TOTAL PARTIDA	**10,79**
0011	DO1012	ud	Mandil de cuero para soldador, homologado.	
			Resto de obra y materiales	8,21
			TOTAL PARTIDA	**8,21**
0012	DO1013	ud	Manguitos para soldador.	
			Resto de obra y materiales	4,10
			TOTAL PARTIDA	**4,10**
0013	DO1014	ud	Par de polainas para soldador, homologadas.	
			Resto de obra y materiales	3,70
			TOTAL PARTIDA	**3,70**
0014	DO1015	ud	Par de guantes para soldador, homologado.	
			Resto de obra y materiales	10,38
			TOTAL PARTIDA	**10,38**
0015	DO1017	ud	Par de guantes de goma.	
			Resto de obra y materiales	2,75
			TOTAL PARTIDA	**2,75**
0016	DO1018	ud	Par de guantes de cuero.	
			Resto de obra y materiales	5,09
			TOTAL PARTIDA	**5,09**
0017	DO1019	ud	Par de botas impermeables al agua y a la humedad, homologadas.	

Nº	CÓDIGO	UD.	RESUMEN		IMPORTE
				Resto de obra y materiales	7,02
				TOTAL PARTIDA	**7,02**
0018	DO1021	ud	Par botas de seguridad de cuero		
				Resto de obra y materiales	20,48
				TOTAL PARTIDA	**20,48**
0019	DO1024	ud	Chaleco reflentante.		
				Resto de obra y materiales	26,37
				TOTAL PARTIDA	**26,37**
0020	DO2004	m	Cordón de balizamiento reflectante, incluidos soportes, colocación y desmontaje		
				Mano de obra	0,57
				Resto de obra y materiales	1,51
				TOTAL PARTIDA	**2,08**
0021	DO3001	ud	Extintor de polvo polivalente		
				Mano de obra	2,06
				Resto de obra y materiales	70,09
				TOTAL PARTIDA	**72,15**
0022	DO4001	ud	Instalación de puesta a tierra compuesta por cable de cobre, electrodo conectado a tierra en masas metálicas y cuadros de electricidad.		
				Mano de obra	22,33
				Resto de obra y materiales	101,82
				TOTAL PARTIDA	**124,15**
0023	DO4002	ud	Interruptor diferencial de alta sensibilidad (30 m A), incluida su instalación.		
				Mano de obra	18,68
				Resto de obra y materiales	369,32
				TOTAL PARTIDA	**388,00**
0024	DO5005	ud	Horno microondas para calentar comidas, de 18 L de capacidad.		
				Mano de obra	1,03
				Resto de obra y materiales	46,48
				TOTAL PARTIDA	**47,51**
0025	DO5006	ud	Radiador infrarrojos de 1000 kw		
				Mano de obra	0,26
				Resto de obra y materiales	29,21
				TOTAL PARTIDA	**29,47**
0026	DO5007	ud	Pileta corrida construida en obra y dotada con 3 grifos		
				Resto de obra y materiales	95,63
				TOTAL PARTIDA	**95,63**
0027	DO5008	ud	Acometida de agua para aseos y energía eléctrica para vestuarios y aseos, totalmente terminado y en servicio		
				Resto de obra y materiales	217,39
				TOTAL PARTIDA	**217,39**
0028	DO5009	ud	Recipiente para recogida de basuras		
				Resto de obra y materiales	26,97
				TOTAL PARTIDA	**26,97**
0029	DO6001	ud	Botiquín de obra instalado.		
				Resto de obra y materiales	95,68
				TOTAL PARTIDA	**95,68**
0030	DO6003	ud	Ud. Reconocimiento médico obligatorio.		
				Resto de obra y materiales	102,37

Nº	CÓDIGO	UD.	RESUMEN		IMPORTE
				TOTAL PARTIDA	**102,37**
0031	DO7001	ud	Reunión mensual de Coordinación		
				Resto de obra y materiales	93,55
				TOTAL PARTIDA	**93,55**
0032	DO7002	h	Costo mensual de formación específica de seguridad y salud en el trabajo.		
				Resto de obra y materiales	30,53
				TOTAL PARTIDA	**30,53**
0033	DO7003	h	Técnico de Seguridad con titulación de grado medio y formación en Prevención de Riesgos Laborales, como mínimo, de nivel intermedio.		
				Mano de obra	17,63
				Resto de obra y materiales	0,78
				TOTAL PARTIDA	**18,41**
0034	YCB030	m	Delimitación de la zona de excavaciones abiertas mediante vallado perimetral formado por vallas peatonales de hierro, de 1,10x2,50 m, color amarillo, con barrotes verticales montados sobre bastidor de tubo, con dos pies metálicos, amortizables en 20 usos. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.		
				Mano de obra	2,33
				Resto de obra y materiales	0,92
				TOTAL PARTIDA	**3,25**
0035	YCB060	m	Protección frente a la caída de camiones en bordes de excavación, durante los trabajos de descarga directa de hormigón o materiales de relleno, formada por tope compuesto por 2 tablones de madera de pino de 25x7,5 cm, amortizables en 4 usos y perfiles de acero UNE-EN 10025 S275JR, laminado en caliente, de la serie IPN 200, galvanizado en caliente, de 1 m de longitud, hincados en el terreno cada 2,0 m, amortizables en 150 usos. Incluso elementos de acero para el ensamble de los tablones. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.		
				Mano de obra	5,22
				Resto de obra y materiales	13,10
				TOTAL PARTIDA	**18,32**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0036 YCF010 m Sistema provisional de protección de borde de forjado, clase A, de 1 m de altura, que proporciona resistencia sólo para cargas estáticas y para superficies de trabajo con un ángulo de inclinación máximo de 10°, formado por: barandilla principal de tubo de acero de 25 mm de diámetro y 2500 mm de longitud, amortizable en 150 usos; barandilla intermedia de tubo de acero de 25 mm de diámetro y 2500 mm de longitud, dispuesta de manera que una esfera de 470 mm no pase a través de cualquier apertura, amortizable en 150 usos; rodapié metálico de 3 m de longitud, que tenga el borde superior al menos 15 cm por encima de la superficie de trabajo, amortizable en 150 usos y guardacuerpos fijos de seguridad fabricados en acero de primera calidad pintado al horno en epoxi-poliéster, de 40 mm de diámetro y 1200 mm de longitud, separados entre sí una distancia máxima de 2,5 m y fijados al forjado con base plástica embebida en el hormigón, amortizables en 20 usos.
Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud.
Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.

Mano de obra	4,62
Resto de obra y materiales	1,39
TOTAL PARTIDA	**6,01**

0037 YCI040 m² Sistema S de red de seguridad fija, colocada horizontalmente en estructuras prefabricadas de hormigón y estructuras metálicas, formado por: red de seguridad UNE-EN 1263-1 S A2 M100 D M, de poliamida de alta tenacidad, anudada, de color blanco, para cubrir huecos horizontales de superficie comprendida entre 35 y 250 m².
Incluso cuerda de unión de polipropileno, para unir las redes y cuerda de atado de polipropileno, para atar la cuerda perimetral de las redes a un soporte adecuado.
Criterio de medición de proyecto: Superficie medida según Estudio o Estudio Básico de Seguridad y Salud.
Criterio de medición de obra: Se medirá la superficie realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.

Mano de obra	6,93
Maquinaria	1,07
Resto de obra y materiales	4,02
TOTAL PARTIDA	**12,02**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0038	YCL160	Ud	Suministro, colocación y desmontaje de línea de anclaje horizontal temporal, de cable de acero, con amortiguador de caídas, de 20 m de longitud máxima, para asegurar hasta tres operarios, clase C, compuesta por 2 placas de anclaje y 1 línea de anclaje flexible, formada por 1 absorbedor de energía con indicador de tensión e indicador de número de caídas; 1 tensor y 20 m de cable, de acero galvanizado, de 8 mm de diámetro, compuesto por 7 cordones de 19 hilos, con prensado terminal con casquillo de cobre, guardacable y conector en un extremo, amortizable en 3 usos. Incluso elementos para fijación mecánica a paramento de las placas de anclaje. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	
			Mano de obra.....	33,26
			Resto de obra y materiales	440,34
			TOTAL PARTIDA.....	**473,60**
0039	YCR030	m	Vallado provisional de solar compuesto por vallas trasladables de 3,50x2,00 m, formadas por panel de malla electrosoldada con pliegues de refuerzo, de 200x100 mm de paso de malla, con alambres horizontales de 5 mm de diámetro y verticales de 4 mm, soldados en los extremos a postes verticales de 40 mm de diámetro, acabado galvanizado, amortizables en 5 usos y bases prefabricadas de hormigón, de 65x24x12 cm, con 8 orificios, para soporte de los postes, amortizables en 5 usos, fijadas al pavimento con pletinas de 20x4 mm y tacos de expansión de acero. Malla de ocultación de polietileno de alta densidad, color verde, colocada sobre las vallas. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	
			Mano de obra.....	5,65
			Resto de obra y materiales	26,91
			TOTAL PARTIDA.....	**32,56**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0040	YCS020	Ud	Cuadro eléctrico provisional de obra para una potencia máxima de 10 kW, compuesto por armario de distribución con dispositivo de emergencia, tomas y los interruptores automáticos magnetotérmicos y diferenciales necesarios, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	
			Mano de obra	57,51
			Resto de obra y materiales	311,69
			TOTAL PARTIDA	**369,20**
0041	YIU040	Ud	Cinturón con bolsa de varios compartimentos para herramientas, amortizable en 10 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	
			Resto de obra y materiales	3,02
			TOTAL PARTIDA	**3,02**
0042	YIU050	Ud	Faja de protección lumbar con amplio soporte abdominal y sujeción regulable mediante velcro, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	
			Resto de obra y materiales	6,00
			TOTAL PARTIDA	**6,00**
0043	YIU060	Ud	Par de rodilleras con la parte delantera elástica y con esponja de celulosa, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	
			Resto de obra y materiales	4,04

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
			TOTAL PARTIDA.....	**4,04**
0044	YIV020	Ud	Mascarilla autofiltrante contra partículas, fabricada totalmente de material filtrante, que cubre la nariz, la boca y la barbilla, garantizando un ajuste hermético a la cara del trabajador frente a la atmósfera ambiente, FFP2, con válvula de exhalación, amortizable en 1 uso. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	
			Resto de obra y materiales	4,51
			TOTAL PARTIDA.....	**4,51**
0045	YPC010	Ud	Mes de alquiler de caseta prefabricada para aseos en obra, de dimensiones 3,45x3,00x2,30 m (10,35 m²), compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalaciones de fontanería, saneamiento y electricidad, tubos fluorescentes y punto de luz exterior, termo eléctrico, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo contrachapado hidrófugo con capa antideslizante, revestimiento de tablero en paredes, inodoro, dos platos de ducha y lavabo de tres grifos y puerta de madera en inodoro y cortina en ducha. Incluye: Montaje, instalación y comprobación. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.	
			Resto de obra y materiales	178,21
			TOTAL PARTIDA.....	**178,21**
0046	YPC020	Ud	Mes de alquiler de caseta prefabricada para vestuarios en obra, de dimensiones 4,50x2,95x2,30 m (13,28 m²), compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalación de electricidad, tubos fluorescentes y punto de luz exterior, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo de aglomerado revestido con PVC continuo y poliestireno con apoyo en base de chapa y revestimiento de tablero en paredes. Incluye: Montaje, instalación y comprobación. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.	
			Resto de obra y materiales	111,89
			TOTAL PARTIDA.....	**111,89**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0047	YPC030	Ud	Mes de alquiler de caseta prefabricada para comedor en obra, de dimensiones 6,65x4,35x2,30 m (28,93 m²) compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalación de electricidad, tubos fluorescentes y punto de luz exterior, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo de aglomerado revestido con PVC continuo y poliestireno con apoyo en base de chapa y revestimiento de tablero en paredes. Incluye: Montaje, instalación y comprobación. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.	
			Resto de obra y materiales	207,05
			TOTAL PARTIDA.....	**207,05**
0048	YPM010	Ud	Suministro y colocación de 20 taquillas individuales (amortizables en 3 usos), 20 perchas, banco para 5 personas (amortizable en 2 usos), espejo, portarrollos (amortizable en 3 usos), jabonera (amortizable en 3 usos) en local o caseta de obra para vestuarios y/o aseos, incluso montaje e instalación. Incluye: Colocación y fijación de los elementos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	
			Mano de obra.....	41,20
			Resto de obra y materiales	771,39
			TOTAL PARTIDA.....	**812,59**
0049	YPM020	Ud	Suministro y colocación de mesa para 10 personas (amortizable en 4 usos), 2 bancos para 5 personas (amortizables en 2 usos), horno microondas (amortizable en 5 usos), nevera (amortizable en 5 usos) y depósito de basura (amortizable en 10 usos) en local o caseta de obra para comedor, incluso montaje e instalación. Incluye: Colocación y fijación de los elementos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	
			Mano de obra.....	10,30
			Resto de obra y materiales	287,97
			TOTAL PARTIDA.....	**298,27**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0050	YSX010	Ud	Conjunto de elementos de balizamiento y señalización provisional de obras, necesarios para el cumplimiento de la normativa vigente en materia de Seguridad y Salud en el Trabajo. Incluso mantenimiento en condiciones seguras durante todo el periodo de tiempo que se requiera, reparación o reposición, cambio de posición y transporte hasta el lugar de almacenaje o retirada a contenedor. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	

Sin descomposición

Resto de obra y materiales	550,00
TOTAL PARTIDA.....	**550,00**

MEDICIONES

MEDICIONES

SEGURIDAD Y SALUD

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
01	**PROTECCIONES PERSONALES**					
DO1001	**ud Casco de seguridad**					
	Casco de seguridad homologado.	12				12,000
						12,000
DO1003	**ud Gafa antipolvo y anti impactos**					
	Gafa antipolvo y anti impactos	12				12,000
						12,000
YIV020	**Ud Mascarilla autofiltrante contra partículas FFP2**					
	Mascarilla autofiltrante contra partículas, fabricada totalmente de material filtrante, que cubre la nariz, la boca y la barbilla, garantizando un ajuste hermético a la cara del trabajador frente a la atmósfera ambiente, FFP2, con válvula de exhalación, amortizable en 1 uso. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	12				12,00
						12,000
DO1005	**ud Mascarilla antipolvo**					
	Mascarilla antipolvo, homologada.	12				12,000
						12,000
DO1006	**ud Filtro recambio mascarilla**					
	Filtro recambio mascarilla, homologado.	12				12,000
						12,000
DO1007	**ud Protectores auditivos tipo oreja**					
	Protectores auditivos tipo oreja, homologados.	6				6,000
						6,000
DO1009	**ud Cinturón antivibratorio**					
	Cinturón antivibratorio, homologado.	6				6,000
						6,000
DO1010	**ud Mono de trabajo**					
	Mono de trabajo, homologado.	12				12,000
						12,000
DO1011	**ud Impermeable**					
	Impermeable de trabajo, homologado.	12				12,000
						12,000
DO1024	**ud Chaleco reflectante**					
	Chaleco reflentante.	12				12,000
						12,000
DO1002	**ud Pantalla seguridad para soldadura**					
	Pantalla de seguridad para soldadura, homologada.	2				2,000
						2,000
DO1004	**ud Gafa para oxicorte**					
	Gafa para oxicorte	2				2,000
						2,000

MEDICIONES

SEGURIDAD Y SALUD

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
DO1012	ud Mandil cuero soldador					
	Mandil de cuero para soldador, homologado.	2				2,000
						2,000
DO1013	ud Manguitos para soldador					
	Manguitos para soldador.	2				2,000
						2,000
DO1014	ud Par polainas soldadura					
	Par de polainas para soldador, homologadas.	2				2,000
						2,000
DO1015	ud Par de guantes soldadura					
	Par de guantes para soldador, homologado.	2				2,000
						2,000
DO1017	ud Par de guantes de goma					
	Par de guantes de goma.	10				10,000
						10,000
DO1018	ud Par de guantes de cuero					
	Par de guantes de cuero.	12				12,000
						12,000
DO1019	ud Par de botas agua					
	Par de botas impermeables al agua y a la humedad, homologadas.	12				12,000
						12,000
DO1021	ud Par botas de seguridad de cuero					
	Par botas de seguridad de cuero	12				12,000
						12,000
YIU060	Ud Par de rodilleras					
	Par de rodilleras con la parte delantera elástica y con esponja de celulosa, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		5				5,00
						5,000
YIU040	Ud Cinturón con bolsa de varios compartimentos para herramientas					
	Cinturón con bolsa de varios compartimentos para herramientas, amortizable en 10 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		5				5,00
						5,000

MEDICIONES

SEGURIDAD Y SALUD

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
YIU050	**Ud Faja de protección lumbar**					
	Faja de protección lumbar con amplio soporte abdominal y sujeción regulable mediante velcro, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		5				5,00
						5,000

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
02	**PROTECCIONES COLECTIVAS**					
YCL160	**Ud Suministro, colocación y desmontaje de línea de anclaje horizontal temporal, de cable de acero, con amortiguador de caídas, de 2**					
	Suministro, colocación y desmontaje de línea de anclaje horizontal temporal, de cable de acero, con amortiguador de caídas, de 20 m de longitud máxima, para asegurar hasta tres operarios, clase C, compuesta por 2 placas de anclaje y 1 línea de anclaje flexible, formada por 1 absorbedor de energía con indicador de tensión e indicador de número de caídas; 1 tensor y 20 m de cable, de acero galvanizado, de 8 mm de diámetro, compuesto por 7 cordones de 19 hilos, con prensado terminal con casquillo de cobre, guardacable y conector en un extremo, amortizable en 3 usos. Incluso elementos para fijación mecánica a paramento de las placas de anclaje. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		1				1,00
						1,000
YCR030	**m Vallado provisional de solar compuesto por vallas trasladables de 3,50x2,00 m, formadas por panel de malla electrosoldada con pl**					
	Vallado provisional de solar compuesto por vallas trasladables de 3,50x2,00 m, formadas por panel de malla electrosoldada con pliegues de refuerzo, de 200x100 mm de paso de malla, con alambres horizontales de 5 mm de diámetro y verticales de 4 mm, soldados en los extremos a postes verticales de 40 mm de diámetro, acabado galvanizado, amortizables en 5 usos y bases prefabricadas de hormigón, de 65x24x12 cm, con 8 orificios, para soporte de los postes, amortizables en 5 usos, fijadas al pavimento con pletinas de 20x4 mm y tacos de expansión de acero. Malla de ocultación de polietileno de alta densidad, color verde, colocada sobre las vallas. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		100,00				100,00
						100,000
DO2004	**m Cordón de balizamiento reflectante, incluidos soportes, colo**					
	Cordón de balizamiento reflectante, incluidos soportes, colocación y desmontaje					
		200				200,000
						200,000

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
YSX010	**Ud Conjunto de elementos de balizamiento y señalización provisional de obras, necesarios para el cumplimiento de la normativa vigen**					
	Conjunto de elementos de balizamiento y señalización provisional de obras, necesarios para el cumplimiento de la normativa vigente en materia de Seguridad y Salud en el Trabajo. Incluso mantenimiento en condiciones seguras durante todo el periodo de tiempo que se requiera, reparación o reposición, cambio de posición y transporte hasta el lugar de almacenaje o retirada a contenedor. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		1				1,00
						1,000
YCF010	**m Sistema provisional de protección de borde de forjado, clase A, de 1 m de altura, que proporciona resistencia sólo para cargas e**					
	Sistema provisional de protección de borde de forjado, clase A, de 1 m de altura, que proporciona resistencia sólo para cargas estáticas y para superficies de trabajo con un ángulo de inclinación máximo de 10°, formado por: barandilla principal de tubo de acero de 25 mm de diámetro y 2500 mm de longitud, amortizable en 150 usos; barandilla intermedia de tubo de acero de 25 mm de diámetro y 2500 mm de longitud, dispuesta de manera que una esfera de 470 mm no pase a través de cualquier apertura, amortizable en 150 usos; rodapié metálico de 3 m de longitud, que tenga el borde superior al menos 15 cm por encima de la superficie de trabajo, amortizable en 150 usos y guardacuerpos fijos de seguridad fabricados en acero de primera calidad pintado al horno en epoxi-poliéster, de 40 mm de diámetro y 1200 mm de longitud, separados entre sí una distancia máxima de 2,5 m y fijados al forjado con base plástica embebida en el hormigón, amortizables en 20 usos. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		180				180,00
						180,000
YCI040	**m² Sistema S de red de seguridad fija**					
	Sistema S de red de seguridad fija, colocada horizontalmente en estructuras prefabricadas de hormigón y estructuras metálicas, formado por: red de seguridad UNE-EN 1263-1 S A2 M100 D M, de poliamida de alta tenacidad, anudada, de color blanco, para cubrir huecos horizontales de superficie comprendida entre 35 y 250 m². Incluso cuerda de unión de polipropileno, para unir las redes y cuerda de atado de polipropileno, para atar la cuerda perimetral de las redes a un soporte adecuado. Criterio de medición de proyecto: Superficie medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la superficie realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		100				100,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
						100,000
YCB060	**m Protección frente a la caída de camiones en bordes de excavación, durante los trabajos de descarga directa de hormigón o materia**					
	Protección frente a la caída de camiones en bordes de excavación, durante los trabajos de descarga directa de hormigón o materiales de relleno, formada por tope compuesto por 2 tablones de madera de pino de 25x7,5 cm, amortizables en 4 usos y perfiles de acero UNE-EN 10025 S275JR, laminado en caliente, de la serie IPN 200, galvanizado en caliente, de 1 m de longitud, hincados en el terreno cada 2,0 m, amortizables en 150 usos. Incluso elementos de acero para el ensamble de los tablones. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		10				10,00
						10,000
YCB030	**m Delimitación de la zona de excavaciones abiertas mediante vallado perimetral formado por vallas peatonales de hierro, de 1,10x2,**					
	Delimitación de la zona de excavaciones abiertas mediante vallado perimetral formado por vallas peatonales de hierro, de 1,10x2,50 m, color amarillo, con barrotes verticales montados sobre bastidor de tubo, con dos pies metálicos, amortizables en 20 usos. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		50				50,00
						50,000

MEDICIONES

SEGURIDAD Y SALUD

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
03	**EXTINCIÓN DE INCENDIOS**					
DO3001	**ud Extintor de polvo polivalente**					
	Extintor de polvo polivalente	2				2,000
						2,000

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
04	**PROTECCIONES INSTALACIÓN ELÉCTRICA**					
DO4001	**ud Instalación de puesta a tierra**					
	Instalación de puesta a tierra compuesta por cable de cobre, electrodo conectado a tierra en masas metálicas y cuadros de electricidad.					
		1				1,000
						1,000
DO4002	**ud Interruptor difererencial de alt**					
	Interruptor diferencial de alta sensibilidad (30 m A), incluida su instalación.					
		1				1,000
						1,000
YCS020	**Ud Cuadro eléctrico provisional de obra**					
	Cuadro eléctrico provisional de obra para una potencia máxima de 10 kW, compuesto por armario de distribución con dispositivo de emergencia, tomas y los interruptores automáticos magnetotérmicos y diferenciales necesarios, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		1				1,00
						1,000

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD

05 INSTALACIONES DE HIGIENE Y BIENESTAR

YPC030 **Ud** **Alquiler mensual de caseta prefabricada para comedor en obra, de 6,65x4,35x2,30 m (28,93 m²).**

Mes de alquiler de caseta prefabricada para comedor en obra, de dimensiones 6,65x4,35x2,30 m (28,93 m²) compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalación de electricidad, tubos fluorescentes y punto de luz exterior, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo de aglomerado revestido con PVC continuo y poliestireno con apoyo en base de chapa y revestimiento de tablero en paredes.
Incluye: Montaje, instalación y comprobación.
Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud.
Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.

		5				5,00
						5,000

YPC010 **Ud** **Alquiler mensual de caseta prefabricada para aseos en obra, de 3,45x3,00x2,30 m (10,35 m²).**

Mes de alquiler de caseta prefabricada para aseos en obra, de dimensiones 3,45x3,00x2,30 m (10,35 m²), compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalaciones de fontanería, saneamiento y electricidad, tubos fluorescentes y punto de luz exterior, termo eléctrico, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo contrachapado hidrófugo con capa antideslizante, revestimiento de tablero en paredes, inodoro, dos platos de ducha y lavabo de tres grifos y puerta de madera en inodoro y cortina en ducha.
Incluye: Montaje, instalación y comprobación.
Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud.
Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.

		5				5,00
						5,000

YPC020 **Ud** **Alquiler mensual de caseta prefabricada para vestuarios en obra, de 4,50x2,95x2,30 m (13,28 m²).**

Mes de alquiler de caseta prefabricada para vestuarios en obra, de dimensiones 4,50x2,95x2,30 m (13,28 m²), compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalación de electricidad, tubos fluorescentes y punto de luz exterior, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo de aglomerado revestido con PVC continuo y poliestireno con apoyo en base de chapa y revestimiento de tablero en paredes.
Incluye: Montaje, instalación y comprobación.
Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud.
Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.

		5				5,00
						5,000

YPM020 **Ud** **Mesa para 10 personas, 2 bancos para 5 personas, horno microondas, nevera y depósito de basura en local o caseta de obra para co**

Suministro y colocación de mesa para 10 personas (amortizable en 4 usos), 2 bancos para 5 personas (amortizables en 2 usos), horno microondas (amortizable en 5 usos), nevera (amortizable en 5 usos) y depósito de basura (amortizable en 10 usos) en local o caseta de obra para comedor, incluso montaje e instalación.
Incluye: Colocación y fijación de los elementos.
Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud.
Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.

		1				1,00
						1,000

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
YPM010	**Ud 20 taquillas individuales, 20 perchas, banco para 5 personas, espejo, portarrollos, jabonera en local o caseta de obra para vest**					
	Suministro y colocación de 20 taquillas individuales (amortizables en 3 usos), 20 perchas, banco para 5 personas (amortizable en 2 usos), espejo, portarrollos (amortizable en 3 usos), jabonera (amortizable en 3 usos) en local o caseta de obra para vestuarios y/o aseos, incluso montaje e instalación. Incluye: Colocación y fijación de los elementos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.					
		1				1,00
						1,000
DO5005	**ud Horno microondas para calentar comidas**					
	Horno microondas para calentar comidas, de 18 L de capacidad.					
		1				1,000
						1,000
DO5006	**ud Radiador infrarrojos de 1000 kw**					
	Radiador infrarrojos de 1000 kw					
		1				1,000
						1,000
DO5007	**ud Pileta corrida construida en obra y dotada con 3 grifos**					
	Pileta corrida construida en obra y dotada con 3 grifos					
		1				1,000
						1,000
DO5008	**ud Acometida de agua y energía eléctrica para vestuarios y aseos**					
	Acometida de agua para aseos y energía eléctrica para vestuarios y aseos, totalmente terminado y en servicio					
		1				1,000
						1,000
DO5009	**ud Recipiente para recogida de basuras**					
	Recipiente para recogida de basuras					
		1				1,000
						1,000

MEDICIONES

SEGURIDAD Y SALUD

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
06	**MEDICINA PREVENTIVA Y PRIMEROS AUXILIOS**					
DO6001	**ud Botiquín de obra.**					
	Botiquín de obra instalado.					
		4				4,000
						4,000
DO6003	**ud Reconocimiento médico obligatorio**					
	Ud. Reconocimiento médico obligatorio.					
		12				12,000
						12,000

MEDICIONES

SEGURIDAD Y SALUD

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
07	**FORM. Y REUN. OBLIGADO CUMPL.**					
DO7001	**ud Reunión mensual de Coordinación**					
	Reunión mensual de Coordinación					
		5				5,000
						5,000
DO7002	**h Formación en Seguridad e Higiene en el Trabajo**					
	Costo mensual de formación específica de seguridad y salud en el trabajo.					
		5	6,000	7,000		210,000
						210,000
DO7003	**h Técnico de Seguridad con titulación mínima de grado medio y form**					
	Técnico de Seguridad con titulación de grado medio y formación en Prevención de Riesgos Laborales, como mínimo, de nivel intermedio.					
		5	4,000	4,000		80,000
						80,000

PRESUPUESTO

PRESUPUESTO

SEGURIDAD Y SALUD

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
01	**PROTECCIONES PERSONALES**			
DO1001	ud Casco de seguridad	12,000	6,96	83,52
	Casco de seguridad homologado.			
DO1003	ud Gafa antipolvo y anti impactos	12,000	15,30	183,60
	Gafa antipolvo y anti impactos			
YIV020	Ud Mascarilla autofiltrante contra partículas FFP2	12,000	4,51	54,12
	Mascarilla autofiltrante contra partículas, fabricada totalmente de material filtrante, que cubre la nariz, la boca y la barbilla, garantizando un ajuste hermético a la cara del trabajador frente a la atmósfera ambiente, FFP2, con válvula de exhalación, amortizable en 1 uso. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			
DO1005	ud Mascarilla antipolvo	12,000	7,17	86,04
	Mascarilla antipolvo, homologada.			
DO1006	ud Filtro recambio mascarilla	12,000	0,30	3,60
	Filtro recambio mascarilla, homologado.			
DO1007	ud Protectores auditivos tipo oreja	6,000	11,60	69,60
	Protectores auditivos tipo oreja, homologados.			
DO1009	ud Cinturón antivibratorio	6,000	12,30	73,80
	Cinturón antivibratorio, homologado.			
DO1010	ud Mono de trabajo	12,000	44,36	532,32
	Mono de trabajo, homologado.			
DO1011	ud Impermeable	12,000	10,79	129,48
	Impermeable de trabajo, homologado.			
DO1024	ud Chaleco reflectante	12,000	26,37	316,44
	Chaleco reflentante.			
DO1002	ud Pantalla seguridad para soldadura	2,000	11,28	22,56
	Pantalla de seguridad para soldadura, homologada.			
DO1004	ud Gafa para oxicorte	2,000	5,12	10,24
	Gafa para oxicorte			
DO1012	ud Mandil cuero soldador	2,000	8,21	16,42
	Mandil de cuero para soldador, homologado.			
DO1013	ud Manguitos para soldador	2,000	4,10	8,20
	Manguitos para soldador.			
DO1014	ud Par polainas soldadura	2,000	3,70	7,40
	Par de polainas para soldador, homologadas.			
DO1015	ud Par de guantes soldadura	2,000	10,38	20,76
	Par de guantes para soldador, homologado.			
DO1017	ud Par de guantes de goma	10,000	2,75	27,50
	Par de guantes de goma.			
DO1018	ud Par de guantes de cuero	12,000	5,09	61,08
	Par de guantes de cuero.			
DO1019	ud Par de botas agua	12,000	7,02	84,24
	Par de botas impermeables al agua y a la humedad, homologadas.			
DO1021	ud Par botas de seguridad de cuero	12,000	20,48	245,76
	Par botas de seguridad de cuero			

PRESUPUESTO

SEGURIDAD Y SALUD

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
YIU060	**Ud Par de rodilleras**	5,000	4,04	20,20
	Par de rodilleras con la parte delantera elástica y con esponja de celulosa, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			
YIU040	**Ud Cinturón con bolsa de varios compartimentos para herramientas**	5,000	3,02	15,10
	Cinturón con bolsa de varios compartimentos para herramientas, amortizable en 10 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			
YIU050	**Ud Faja de protección lumbar**	5,000	6,00	30,00
	Faja de protección lumbar con amplio soporte abdominal y sujeción regulable mediante velcro, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente suministradas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			
	TOTAL 01			**2.101,98**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
02	**PROTECCIONES COLECTIVAS**			
YCL160	**Ud Suministro, colocación y desmontaje de línea de anclaje horizontal temporal, de cable de acero, con amortiguador de caídas, de 2**	**1,000**	**473,60**	**473,60**
	Suministro, colocación y desmontaje de línea de anclaje horizontal temporal, de cable de acero, con amortiguador de caídas, de 20 m de longitud máxima, para asegurar hasta tres operarios, clase C, compuesta por 2 placas de anclaje y 1 línea de anclaje flexible, formada por 1 absorbedor de energía con indicador de tensión e indicador de número de caídas; 1 tensor y 20 m de cable, de acero galvanizado, de 8 mm de diámetro, compuesto por 7 cordones de 19 hilos, con prensado terminal con casquillo de cobre, guardacable y conector en un extremo, amortizable en 3 usos. Incluso elementos para fijación mecánica a paramento de las placas de anclaje. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			
YCR030	**m Vallado provisional de solar compuesto por vallas trasladables de 3,50x2,00 m, formadas por panel de malla electrosoldada con pl**	**100,000**	**32,56**	**3.256,00**
	Vallado provisional de solar compuesto por vallas trasladables de 3,50x2,00 m, formadas por panel de malla electrosoldada con pliegues de refuerzo, de 200x100 mm de paso de malla, con alambres horizontales de 5 mm de diámetro y verticales de 4 mm, soldados en los extremos a postes verticales de 40 mm de diámetro, acabado galvanizado, amortizables en 5 usos y bases prefabricadas de hormigón, de 65x24x12 cm, con 8 orificios, para soporte de los postes, amortizables en 5 usos, fijadas al pavimento con pletinas de 20x4 mm y tacos de expansión de acero. Malla de ocultación de polietileno de alta densidad, color verde, colocada sobre las vallas. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			
DO2004	**m Cordón de balizamiento reflectante, incluidos soportes, colo**	**200,000**	**2,08**	**416,00**
	Cordón de balizamiento reflectante, incluidos soportes, colocación y desmontaje			
YSX010	**Ud Conjunto de elementos de balizamiento y señalización provisional de obras, necesarios para el cumplimiento de la normativa vigen**	**1,000**	**550,00**	**550,00**
	Conjunto de elementos de balizamiento y señalización provisional de obras, necesarios para el cumplimiento de la normativa vigente en materia de Seguridad y Salud en el Trabajo. Incluso mantenimiento en condiciones seguras durante todo el periodo de tiempo que se requiera, reparación o reposición, cambio de posición y transporte hasta el lugar de almacenaje o retirada a contenedor. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
YCF010	m Sistema provisional de protección de borde de forjado, clase A, de 1 m de altura, que proporciona resistencia sólo para cargas e	180,000	6,01	1.081,80
	Sistema provisional de protección de borde de forjado, clase A, de 1 m de altura, que proporciona resistencia sólo para cargas estáticas y para superficies de trabajo con un ángulo de inclinación máximo de 10°, formado por: barandilla principal de tubo de acero de 25 mm de diámetro y 2500 mm de longitud, amortizable en 150 usos; barandilla intermedia de tubo de acero de 25 mm de diámetro y 2500 mm de longitud, dispuesta de manera que una esfera de 470 mm no pase a través de cualquier apertura, amortizable en 150 usos; rodapié metálico de 3 m de longitud, que tenga el borde superior al menos 15 cm por encima de la superficie de trabajo, amortizable en 150 usos y guardacuerpos fijos de seguridad fabricados en acero de primera calidad pintado al horno en epoxi-poliéster, de 40 mm de diámetro y 1200 mm de longitud, separados entre sí una distancia máxima de 2,5 m y fijados al forjado con base plástica embebida en el hormigón, amortizables en 20 usos. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			
YCI040	m² Sistema S de red de seguridad fija	100,000	12,02	1.202,00
	Sistema S de red de seguridad fija, colocada horizontalmente en estructuras prefabricadas de hormigón y estructuras metálicas, formado por: red de seguridad UNE-EN 1263-1 S A2 M100 D M, de poliamida de alta tenacidad, anudada, de color blanco, para cubrir huecos horizontales de superficie comprendida entre 35 y 250 m². Incluso cuerda de unión de polipropileno, para unir las redes y cuerda de atado de polipropileno, para atar la cuerda perimetral de las redes a un soporte adecuado. Criterio de medición de proyecto: Superficie medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la superficie realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			
YCB060	m Protección frente a la caída de camiones en bordes de excavación, durante los trabajos de descarga directa de hormigón o materia	10,000	18,32	183,20
	Protección frente a la caída de camiones en bordes de excavación, durante los trabajos de descarga directa de hormigón o materiales de relleno, formada por tope compuesto por 2 tablones de madera de pino de 25x7,5 cm, amortizables en 4 usos y perfiles de acero UNE-EN 10025 S275JR, laminado en caliente, de la serie IPN 200, galvanizado en caliente, de 1 m de longitud, hincados en el terreno cada 2,0 m, amortizables en 150 usos. Incluso elementos de acero para el ensamble de los tablones. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
YCB030	**m Delimitación de la zona de excavaciones abiertas mediante vallado perimetral formado por vallas peatonales de hierro, de 1,10x2,**	50,000	3,25	162,50
	Delimitación de la zona de excavaciones abiertas mediante vallado perimetral formado por vallas peatonales de hierro, de 1,10x2,50 m, color amarillo, con barrotes verticales montados sobre bastidor de tubo, con dos pies metálicos, amortizables en 20 usos. Criterio de medición de proyecto: Longitud medida según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá la longitud realmente montada según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			
	TOTAL 02			**7.325,10**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
03	**EXTINCIÓN DE INCENDIOS**			
DO3001	**ud Extintor de polvo polivalente**	2,000	72,15	144,30
	Extintor de polvo polivalente			
	TOTAL 03			**144,30**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
04	**PROTECCIONES INSTALACIÓN ELÉCTRICA**			
DO4001	ud Instalación de puesta a tierra	1,000	124,15	124,15
	Instalación de puesta a tierra compuesta por cable de cobre, electrodo conectado a tierra en masas metálicas y cuadros de electricidad.			
DO4002	ud Interruptor difererencial de alt	1,000	388,00	388,00
	Interruptor diferencial de alta sensibilidad (30 m A), incluida su instalación.			
YCS020	Ud Cuadro eléctrico provisional de obra	1,000	369,20	369,20
	Cuadro eléctrico provisional de obra para una potencia máxima de 10 kW, compuesto por armario de distribución con dispositivo de emergencia, tomas y los interruptores automáticos magnetotérmicos y diferenciales necesarios, amortizable en 4 usos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.			
	TOTAL 04			**881,35**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
05	**INSTALACIONES DE HIGIENE Y BIENESTAR**			
YPC030	**Ud Alquiler mensual de caseta prefabricada para comedor en obra, de 6,65x4,35x2,30 m (28,93 m²).** Mes de alquiler de caseta prefabricada para comedor en obra, de dimensiones 6,65x4,35x2,30 m (28,93 m²) compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalación de electricidad, tubos fluorescentes y punto de luz exterior, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo de aglomerado revestido con PVC continuo y poliestireno con apoyo en base de chapa y revestimiento de tablero en paredes. Incluye: Montaje, instalación y comprobación. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.	**5,000**	**207,05**	**1.035,25**
YPC010	**Ud Alquiler mensual de caseta prefabricada para aseos en obra, de 3,45x3,00x2,30 m (10,35 m²).** Mes de alquiler de caseta prefabricada para aseos en obra, de dimensiones 3,45x3,00x2,30 m (10,35 m²), compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalaciones de fontanería, saneamiento y electricidad, tubos fluorescentes y punto de luz exterior, termo eléctrico, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo contrachapado hidrófugo con capa antideslizante, revestimiento de tablero en paredes, inodoro, dos platos de ducha y lavabo de tres grifos y puerta de madera en inodoro y cortina en ducha. Incluye: Montaje, instalación y comprobación. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.	**5,000**	**178,21**	**891,05**
YPC020	**Ud Alquiler mensual de caseta prefabricada para vestuarios en obra, de 4,50x2,95x2,30 m (13,28 m²).** Mes de alquiler de caseta prefabricada para vestuarios en obra, de dimensiones 4,50x2,95x2,30 m (13,28 m²), compuesta por: estructura metálica, cerramiento de chapa con terminación de pintura prelacada, cubierta de chapa, aislamiento interior, instalación de electricidad, tubos fluorescentes y punto de luz exterior, ventanas de aluminio con luna y rejas, puerta de entrada de chapa, suelo de aglomerado revestido con PVC continuo y poliestireno con apoyo en base de chapa y revestimiento de tablero en paredes. Incluye: Montaje, instalación y comprobación. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Amortización en forma de alquiler mensual, según condiciones definidas en el contrato suscrito con la empresa suministradora.	**5,000**	**111,89**	**559,45**
YPM020	**Ud Mesa para 10 personas, 2 bancos para 5 personas, horno microondas, nevera y depósito de basura en local o caseta de obra para co** Suministro y colocación de mesa para 10 personas (amortizable en 4 usos), 2 bancos para 5 personas (amortizables en 2 usos), horno microondas (amortizable en 5 usos), nevera (amortizable en 5 usos) y depósito de basura (amortizable en 10 usos) en local o caseta de obra para comedor, incluso montaje e instalación. Incluye: Colocación y fijación de los elementos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	**1,000**	**298,27**	**298,27**
YPM010	**Ud 20 taquillas individuales, 20 perchas, banco para 5 personas, espejo, portarrollos, jabonera en local o caseta de obra para vest** Suministro y colocación de 20 taquillas individuales (amortizables en 3 usos), 20 perchas, banco para 5 personas (amortizable en 2 usos), espejo, portarrollos (amortizable en 3 usos), jabonera (amortizable en 3 usos) en local o caseta de obra para vestuarios y/o aseos, incluso montaje e instalación. Incluye: Colocación y fijación de los elementos. Criterio de medición de proyecto: Número de unidades previstas, según Estudio o Estudio Básico de Seguridad y Salud. Criterio de medición de obra: Se medirá el número de unidades realmente colocadas según especificaciones de Estudio o Estudio Básico de Seguridad y Salud.	**1,000**	**812,59**	**812,59**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
DO5005	ud Horno microondas para calentar comidas	1,000	47,51	47,51
	Horno microondas para calentar comidas, de 18 L de capacidad.			
DO5006	ud Radiador infrarrojos de 1000 kw	1,000	29,47	29,47
	Radiador infrarrojos de 1000 kw			
DO5007	ud Pileta corrida construida en obra y dotada con 3 grifos	1,000	95,63	95,63
	Pileta corrida construida en obra y dotada con 3 grifos			
DO5008	ud Acometida de agua y energía eléctrica para vestuarios y aseos	1,000	217,39	217,39
	Acometida de agua para aseos y energía eléctrica para vestuarios y aseos, totalmente terminado y en servicio			
DO5009	ud Recipiente para recogida de basuras	1,000	26,97	26,97
	Recipiente para recogida de basuras			
	TOTAL 05			**4.013,58**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
06	**MEDICINA PREVENTIVA Y PRIMEROS AUXILIOS**			
DO6001	ud Botiquín de obra.	4,000	95,68	382,72
	Botiquín de obra instalado.			
DO6003	ud Reconocimiento médico obligatorio	12,000	102,37	1.228,44
	Ud. Reconocimiento médico obligatorio.			
	TOTAL 06.....			**1.611,16**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
07	**FORM. Y REUN. OBLIGADO CUMPL.**			
DO7001	ud Reunión mensual de Coordinación	5,000	93,55	467,75
	Reunión mensual de Coordinación			
DO7002	h Formación en Seguridad e Higiene en el Trabajo	210,000	30,53	6.411,30
	Costo mensual de formación específica de seguridad y salud en el trabajo.			
DO7003	h Técnico de Seguridad con titulación mínima de grado medio y form	80,000	18,41	1.472,80
	Técnico de Seguridad con titulación de grado medio y formación en Prevención de Riesgos Laborales, como mínimo, de nivel intermedio.			
	TOTAL 07			**8.351,85**
	TOTAL			**24.429,32**

RESUMEN DEL PRESUPUESTO

RESUMEN DE PRESUPUESTO

SEGURIDAD Y SALUD

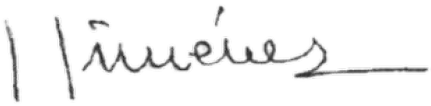
CAPÍTULO	RESUMEN	IMPORTE	%
01	PROTECCIONES PERSONALES	2.101,98	8,60
02	PROTECCIONES COLECTIVAS	7.325,10	29,98
03	EXTINCIÓN DE INCENDIOS	144,30	0,59
04	PROTECCIONES INSTALACIÓN ELÉCTRICA	881,35	3,61
05	INSTALACIONES DE HIGIENE Y BIENESTAR	4.013,58	16,43
06	MEDICINA PREVENTIVA Y PRIMEROS AUXILIOS	1.611,16	6,60
07	FORM. Y REUN. OBLIGADO CUMPL.	8.351,85	34,19
	PRESUPUESTO DE EJECUCIÓN MATERIAL	**24.429,32**	

Asciende el presupuesto a la expresada cantidad de VEINTICUATRO MIL CUATROCIENTOS VEINTINUEVE EUROS con TREINTA Y DOS CÉNTIMOS

, 9 de julio 2020.

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

 **Redactor de proyecto:** Juan Carlos Arroyo Portero ICCP	 **Redactor adjunto:** Jesús Jiménez Cañas ICCP

ANEJO 11 – ESTUDIO DE RESIDUOS DE CONSTRUCCIÓN Y DEMOLICIÓN

ANEJO 11 – ESTUDIO DE RESIDUOS DE CONSTRUCCIÓN Y DEMOLICIÓN

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APÉNDICE 1.- FICHA CÁLCULO RESIDUOS

ANEJO 11 – ESTUDIO DE RESIDUOS DE CONSTRUCCIÓN Y DEMOLICIÓN

1. INTRODUCCIÓN Y ANTECEDENTES

De acuerdo con el RD 105/2008 por el que se regula la gestión de los residuos de construcción y demolición, se redacta el presente Estudio Básico de Gestión de Residuos de la Construcción y Demolición. Dicho estudio está formado por las siguientes partes:

- Identificación de los residuos (según OMMA/304/2002)
- Estimación de la cantidad que se generará durante la ejecución de la obra.
- Medidas de segregación "in situ"
- Previsión de reutilización en la misma obra u otros emplazamientos
- Operaciones de valorización "in situ"
- Destino previsto para los residuos
- Conclusiones

Este estudio servirá como base para la redacción del Plan que desarrollará y complementará el contratista de las obras.

2. DESCRIPCIÓN DE LA OBRA

Las obras proyectadas tienen por objeto la construcción de un nuevo depósito prefabricado, caseta de bombas para la instalación del grupo de bombeo de recirculación, la construcción de una cámara de llaves adosada al nuevo depósito y las instalaciones hidráulicas, eléctricas y de telecontrol. Así mismo, se ha previsto la urbanización de parte de la parcela donde se ubica el proyecto.

Todas las instalaciones se fundamentan en la mejora del funcionamiento de la IDAM de Formentera.

El proyecto comprende las siguientes unidades de obra:

- MOVIMIENTO DE TIERRAS
- DEMOLICIONES Y APEOS
- CIMENTACIONES Y ESTRUCTURAS
- ESTRUCTURAS DE HORMIGÓN
- CUBIERTA
- INSTALACION HIDRÁULICA
- INSTALACION ELÉCTRICA Y DE CONTROL
- INSTALACIÓN DE CLORACIÓN
- CARPINTERÍA
- PRFV
- LINEA DE VIDA
- URBANIZACIÓN
- REPOSICIONES
- GESTIÓN DE RESIDUOS
- SEGURIDAD Y SALUD
- PUESTA EN SERVICIO DEPÓSITO

3. AGENTES QUE INTERVIENEN EN EL PROCESO DE GESTIÓN DE LOS RESIDUOS

3.1 IDENTIFICACIÓN DE LOS AGENTES

3.1.1 Productor de residuos (Promotor).

Se identifica con el titular del bien inmueble en quien reside la decisión última de construir o demoler. Según el artículo 2 "Definiciones" del Real Decreto 105/2008, se pueden presentar tres casos:

1. La persona física o jurídica titular de la licencia urbanística en una obra de construcción o demolición; en aquellas obras que no precisen de licencia urbanística, tendrá la consideración de productor del residuo la persona física o jurídica titular del bien inmueble objeto de una obra de construcción o demolición.
2. La persona física o jurídica que efectúe operaciones de tratamiento, de mezcla o de otro tipo, que ocasionen un cambio de naturaleza o de composición de los residuos.
3. El importador o adquirente en cualquier Estado miembro de la Unión Europea de residuos de construcción y demolición.

El productor de residuos es el promotor de las obras, es decir, la Agencia Balear del Agua y la Calidad Ambiental (ABAQUA).

3.1.2 Poseedor de residuos (Constructor).

El poseedor de residuos es el constructor, no adjudicado durante el proceso de la redacción del presente proyecto.

En la presente fase del proyecto no se ha determinado el agente que actuará como Poseedor de los Residuos, siendo responsabilidad del Productor de los residuos (Promotor) su designación antes del comienzo de las obras.

3.1.3 Gestor de residuos.

El gestor de residuos es la empresa encargada de la obra. Contactará con los gestores autorizados inscritos en el registro de la Comunitat Autònoma de les Illes Balears (CAIB).

Es la persona física o jurídica, o entidad pública o privada, que realice cualquiera de las operaciones que componen la recogida, el almacenamiento, el transporte, la valorización y la eliminación de los residuos, incluida la vigilancia de estas operaciones y la de los vertederos, así como su restauración o gestión ambiental de los residuos, con independencia de ostentar la condición de productor de los mismos. Éste será designado por el Productor de los residuos (Promotor) con anterioridad al comienzo de las obras.

4. NORMATIVA Y LEGISLACIÓN APLICABLE

Es de aplicación el Real Decreto 105/2008, en virtud del artículo 3, por generarse residuos de construcción y demolición definidos en el artículo 3.

No es aplicable al presente estudio la excepción contemplada en el artículo 3.1 del Real Decreto 105/2008, al no generarse los siguientes residuos:

a.- Las tierras y piedras no contaminadas por sustancias peligrosas reutilizadas en la misma obra, en una obra distinta o en una actividad de restauración, acondicionamiento o relleno, siempre y cuando pueda acreditarse de forma fehaciente su destino a reutilización.
b.- Los residuos de industrias extractivas regulados por la Directiva 2006/21/CE, de 15 de marzo.

c.- Los lodos de dragado no peligrosos reubicados en el interior de las aguas superficiales derivados de las actividades de gestión de las aguas y de las vías navegables, de prevención de las inundaciones o de mitigación de los efectos de las inundaciones o las sequías, reguladas por el Texto Refundido de la Ley de Aguas, por la Ley 48/2003, de 26 de noviembre, de régimen económico y de prestación de servicios de los puertos de interés general, y por los tratados internacionales de los que España sea parte.

A aquellos residuos que se generen en la presente obra y estén regulados por legislación específica sobre residuos, cuando estén mezclados con otros residuos de construcción y demolición, les será de aplicación el Real Decreto 105/2008 en los aspectos no contemplados en la legislación específica.

Para la elaboración del presente estudio se ha considerado la normativa siguiente:

4.1 NORMATIVA DE ÁMBITO ESTATAL

- Artículo 45 de la Constitución Española.
- Ley 10/1998 de 21 de abril, de Residuos.
- Plan Nacional de residuos de Construcción y Demolición (PNRCD) 2001-2006, aprobado por acuerdo de Consejos de Ministros, de 1 de junio de 2001.
- Ley 34/2007, de 15 de noviembre, de calidad del aire y protección de la atmósfera.
- Real Decreto 105/2008, de 1 de febrero, por el que se regula la producción y gestión de los residuos de construcción y demolición.
- Orden MAM/304/2002, de 8 de febrero, por la que se publican las operaciones de valorización y eliminación de residuos y la lista europea de residuos.
- Real Decreto 833/1988, de 20 de julio, por el que se aprueba el Reglamento para la ejecución de la Ley 20/1986, básica de residuos tóxicos y peligrosos.
- Real Decreto 952/1997, que modifica el Reglamento para la ejecución de la Ley 20/1986, Básica de Residuos Tóxicos y Peligrosos, aprobado mediante Real Decreto833/1998.
- Real Decreto 1481/2001, de 27 de diciembre, por el que se regula la eliminación de residuos mediante depósito en vertedero.

4.2 NORMATIVA DE ÁMBITO AUTONÓMICO

- Decreto 46/2001, por el que se aprueba el Plà Director Sectorial de Residus sòlids urbans d'Eivissa i Formenetera.
- Decreto 10/2000, por el que se fija provisionalmente y con carácter de urgencia la selección y vertido de los residuos de la construcción y demolición.
- Decreto 61/1999, de 28 de mayo, de aprobación definitiva de la revisión del Plan Director Sectorial de Canteras de las Islas Baleares.
- Orden del 28/02/2000, de medidas transitorias para la autorización de instalación de valorización y eliminación de residuos de construcción y demolición.

5. IDENTIFICACIÓN DE LOS RESIDUOS DE CONSTRUCCIÓN Y DEMOLICIÓN GENERADOS EN LA OBRA, CODIFICADOS SEGÚN LA ORDEN MAM/304/2002

En éste proyecto se contemplan dos tipos de trabajos generadores de residuos, por una parte los residuos generados durante la demolición de previstas en las actuaciones previas (muros, pavimentos existentes, desbroces) y excavaciones. Por otra parte estarían los residuos que se puedan generar en una obra de urbanización de éste tipo.

Todos los posibles residuos de construcción y demolición generados en la obra, se han codificado atendiendo a la Orden MAM 304/2002, de 8 de febrero, por la que se publican las operaciones de valorización y eliminación de residuos, según la Lista Europea de Residuos (LER) aprobada por la decisión 2005/532/CE, dando lugar a los siguientes grupos:

RCD de Nivel I: Tierras y materiales pétreos, no contaminados, procedentes de obras de excavación.

El Real Decreto 105/2008 (artículo 3.1.a), considera como excepción de ser consideradas como residuos las tierras y piedras no contaminadas por sustancias peligrosas, reutilizadas en la misma obra, en una obra distinta o en una actividad de restauración, acondicionamiento o relleno, siempre y cuando pueda acreditarse de forma fehaciente su destino a reutilización.

RCD de Nivel II: Residuos generados principalmente en las actividades propias del sector de la construcción, de la demolición, de la reparación domiciliaria y de la implantación de servicios.

Se ha establecido una clasificación de RCD generados, según los tipos de materiales de los que están compuestos:

IDENTIFICACIÓN DE RESIDUOS A GENERAR - REUTILIZACIÓN, VALORACIÓN Y ELIMINACIÓN				
RCD NIVEL I				
	1. TIERRAS Y PÉTROS DE LA EXCAVACIÓN		**Tratamiento**	**Destino**
X	17 05 04	Tierras y piedras distintas de las especificadas en el código 17 05 03	Sin tratamiento esp.	Restauración /
	17 05 06	Lodos de drenaje distintos de los especificados en el código 17 05 06	Sin tratamiento esp.	Restauración /
	17 05 08	Balasto de vías férreas distinto del especificado en el código 17 05 07	Sin tratamiento esp.	Restauración /
RCD NIVEL II				
	RCD: Naturaleza no pétrea		**Tratamiento**	**Destino**
	1. Asfalto			
	17 03 02	Mezclas bituminosas distintas a las del código 17 03 01	Sin tratamiento esp.	Restauración /
	2. Madera			
X	17 02 01	Madera	Reciclado	Gestor autorizado
	3. Metales			
	17 04 01	Cobre, bronce, latón	Reciclado	Gestor autorizado
	17 04 02	Aluminio	Reciclado	Gestor autorizado
	17 04 03	Plomo	Reciclado	Gestor autorizado
	17 04 04	Zinc	Reciclado	Gestor autorizado
X	17 04 05	Hierro y Acero	Reciclado	Gestor autorizado
	17 04 06	Estaño	Reciclado	Gestor autorizado
X	17 04 07	Metales mezclados	Reciclado	Gestor autorizado
	17 04 11	Cables distintos de los especificados en el código 17 04 10	Reciclado	Gestor autorizado
	4. Papel			
X	20 01 01	Papel	Reciclado	Gestor autorizado
	5. Plástico			
X	17 02 03	Plástico	Reciclado	Gestor autorizado
	6. Vidrio			
	17 02 02	Vidrio	Reciclado	Gestor autorizado
	7. Yeso			
	17 08 02	Materiales de construcción a partir de yeso distintos a los del código 17 08 01	Sin tratamiento esp.	Gestor autorizado
	RCD: Naturaleza pétrea		**Tratamiento**	**Destino**
	1. Arena Grava y otros áridos			
	01 04 08	Residuos de grava y rocas trituradas distintos de los mencionados en el código 01	Reciclado	Planta de reciclaje
	01 04 09	Residuos de arena y arcilla	Reciclado	Planta de reciclaje
	2.			
X	17 01 01	Hormigón	Reciclado / Vertedero	Planta de reciclaje
	3. Ladrillos, azulejos y otros cerámicos			
	17 01 02	Ladrillos	Reciclado	Planta de reciclaje
	17 01 03	Tejas y materiales cerámicos	Reciclado	Planta de reciclaje
X	17 01 07	Mezclas de hormigón, ladrillos, tejas y materiales cerámicos distintas de las	Reciclado / Vertedero	Planta de reciclaje
	4. Piedra			

IDENTIFICACIÓN DE RESIDUOS A GENERAR - REUTILIZACIÓN, VALORACIÓN Y ELIMINACIÓN				
X	17 09 04	RDCs mezclados distintos a los de los códigos 17 09 01, 02 y 03	Reciclado	Planta de reciclaje
	RCD: Potencialmente peligrosos y otros		**Tratamiento**	**Destino**
X	**1. Basuras**			
	20 02 01	Residuos biodegradables	Reciclado / Vertedero	Planta de reciclaje
	20 03 01	Mezcla de residuos municipales	Reciclado / Vertedero	Planta de reciclaje
	2. Potencialmente peligrosos y otros			
	17 01 06	Mezcla de hormigón, ladrillos, tejas y materiales cerámicos con sustancias	Depósito Seguridad	Gestor autorizado
	17 02 04	Madera, vidrio o plástico con sustancias peligrosas o contaminadas por ellas	Tratamiento Fco-Qco	Gestor autorizado
	17 03 01	Mezclas bituminosas que contienen alquitran de hulla	Depósito / Tratamiento	Gestor autorizado
	17 03 03	Alquitrán de hulla y productos alquitranados	Depósito / Tratamiento	Gestor autorizado
	17 04 09	Residuos metálicos contaminados con sustancias peligrosas	Tratamiento Fco-Qco	Gestor autorizado
	17 04 10	Cables que contienen hidrocarburos, alquitran de hulla y otras SP's	Tratamiento Fco-Qco	Gestor autorizado
	17 06 01	Materiales de aislamiento que contienen Amianto	Depósito Seguridad	Gestor autorizado
	17 06 03	Otros materiales de aislamiento que contienen sustancias peligrosas	Depósito Seguridad	Gestor autorizado
	17 06 05	Materiales de construcción que contienen Amianto	Depósito Seguridad	Gestor autorizado
	17 08 01	Materiales de construcción a partir de yeso contaminados con SP's	Tratamiento Fco-Qco	Gestor autorizado
	17 09 01	Residuos de construcción y demolición que contienen mercurio	Depósito Seguridad	Gestor autorizado
	17 09 02	Residuos de construcción y demolición que contienen PCB's	Depósito Seguridad	Gestor autorizado
	17 09 03	Otros residuos de construcción y demolición que contienen SP's	Depósito Seguridad	Gestor autorizado
	17 06 04	Materiales de aislamientos distintos de los 17 06 01 y 03	Reciclado	Gestor autorizado
	17 05 03	Tierras y piedras que contienen SP's	Tratamiento Fco-Qco	Gestor autorizado
	17 05 05	Lodos de drenaje que contienen sustancias peligrosas	Tratamiento Fco-Qco	Gestor autorizado
	17 05 07	Balastro de vías férreas que contienen sustancias peligrosas	Depósito / Tratamiento	Gestor autorizado
X	15 02 02	Absorbentes contaminados (trapos,...)	Depósito / Tratamiento	Gestor autorizado
	13 02 05	Aceites usados (minerales no clorados de motor,...)	Depósito / Tratamiento	Gestor autorizado
	16 01 07	Filtros de aceite	Depósito / Tratamiento	Gestor autorizado
	20 01 21	Tubos fluorescentes	Depósito / Tratamiento	Gestor autorizado
	16 06 04	Pilas alcalinas y salinas	Depósito / Tratamiento	Gestor autorizado
	16 06 03	Pilas botón	Depósito / Tratamiento	Gestor autorizado
X	15 01 10	Envases vacíos de metal o plástico contaminado	Depósito / Tratamiento	Gestor autorizado
X	08 01 11	Sobrantes de pintura o barnices	Depósito / Tratamiento	Gestor autorizado
	14 06 03	Sobrantes de disolventes no halogenados	Depósito / Tratamiento	Gestor autorizado
X	07 07 01	Sobrantes de desencofrantes	Depósito / Tratamiento	Gestor autorizado
	15 01 11	Aerosoles vacios	Depósito / Tratamiento	Gestor autorizado
	16 06 01	Baterías de plomo	Depósito / Tratamiento	Gestor autorizado
	13 07 03	Hidrocarburos con agua	Depósito / Tratamiento	Gestor autorizado
	17 09 04	RDCs mezclados distintos códigos 17 09 01, 02 y 03	Depósito / Tratamiento	Planta de reciclaje

6. ESTIMACIÓN DE RESIDUOS A GENERAR

A continuación, se presenta una estimación de las cantidades, expresadas en toneladas y en metros cúbicos, de los residuos de construcción y demolición que se generarán en la obra, codificados con arreglo a la lista europea de residuos publicada por Orden MAM/304/2002, de 8 de febrero, por la que se publican las operaciones de valorización y eliminación de residuos y la lista europea de residuos.

EVALUACIÓN TEÓRICA DEL PESO POR TIPOLOGIA DE RCD				
RCDs Nivel I				
		Tn	**γaparente**	**V**
		Toneladas brutas de cada tipo de RDC	**Densidad aparente (Tn/m³)**	**m³ Volumen neto de Residuos**
1. TIERRAS Y PÉTROS DE LA EXCAVACIÓN				
Tierras y pétreos procedentes de la excavación estimados directamente desde los datos de proyecto		4995,408	1,6	3.122,13
RCDs Nivel II				
	%	**Tn**	**γaparente**	**V**
	% de peso	**Toneladas de cada tipo de RDC**	**Densidad aparente (Tn/m³)**	**m³ Volumen de Residuos**
RCD: Naturaleza no pétrea				
1. Asfalto	0,58%	0,14	1,4	0,1
2. Madera	58,14%	11,00	1,1	10
3. Metales	29,07%	10,50	2,1	5
4. Papel	2,33%	0,03	0,07	0,4
5. Plástico	8,72%	0,90	0,6	1,5
6. Vidrio	0,58%	0,15	1,5	0,1
7. Yeso	0,58%	0,12	1,2	0,1
TOTAL, estimación	**0,54%**	**22,84**		**17,2**
RCD: Naturaleza pétrea				
2. Hormigón	94,41%	23,65	1,4	16,89
3. Ladrillos, azulejos y otros cerámicos	5,59%	1,05	1,05	1
TOTAL, estimación	**0,57%**	**24,70**		**17,89**
RCD: Potencialmente peligrosos y otros				
1. Basuras	28,57%	0,12	1,5	0,08
2. Potencialmente peligrosos y otros	71,43%	0,20	1	0,20
TOTAL estimación	**0,01%**	**0,32**		**0,28**
TOTAL ESTIMACIÓN RCD's		**5.043,26**		**3157,50**

7. MEDIDAS DE MINIMIZACIÓN Y PREVENCIÓN DE RESIDUOS EN OBRA

En la fase de proyecto se han tenido en cuenta las distintas alternativas compositivas, constructivas y de diseño, optando por aquellas que generan el menor volumen de residuos en la fase de construcción y explotación, facilitando, además, el desmantelamiento de la obra al final de su vida útil con el menor impacto ambiental.

Con el fin de generar menos residuos en la fase de ejecución, el constructor asumirá la responsabilidad de organizar y planificar la obra, en cuanto al tipo de suministro, acopio de materiales y proceso de ejecución.

Como criterio general se adoptarán las siguientes prácticas para la prevención y minimización de los residuos generados en la obra:

1. Conocer los distintos tipos de residuos y su codificación de acuerdo con el Catálogo Europeo de residuos para que correctamente puede dirigirlos a instalaciones autorizadas para su gestión.
2. Conocer los símbolos de peligro que identifican los peligrosos o residuos especiales e incompatibilidad del cuadro entre ellos.
3. Prever la retirada selectiva de residuos peligrosos a fin de evitar la mezcla con los residuos inertes y no peligrosos, o con otros residuos peligrosos incompatibles y asegurar la gestión de residuos peligrosos con gestores autorizados. (Obligatorio)
4. Destinar un espacio de en el recinto de la obra para la correcta clasificación de los residuos, respetando la etapa de separación. (Obligatorio)
5. Señalizar adecuadamente todos los contenedores según el tipo de residuos que pueden admitir. (Obligatorio en el caso de peligrosos o residuos especiales)
6. En el caso de reparaciones o renovaciones donde se detecte la presencia de elementos que contienen amianto. Disponer de los permisos concedidos por la autoridad laboral para cumplir los requisitos ambientales y de salud y de seguridad exigidos por la legislación vigente sobre el manejo y gestión de elementos que contienen amianto. (Obligatorio)
7. Contratar la gestión de residuos con gestores autorizados y rellenar hojas para reflejar las cantidades reales de desechos que salen de la obra. (Obligatorio)
8. Determinar la posible gestión (reutilización, reciclado, otras formas de valorización, o depósito) para cada una de los residuos que se prevé generar, en las proximidades de la obra.
9. La distribución de pequeños recipientes en las áreas de trabajo de obra con el fin de facilitar la segregación de los distintos tipos de residuos.
10. Las zonas de obra destinadas al almacenaje de residuos quedarán convenientemente señalizadas y para cada fracción se dispondrá un cartel señalizador que indique el tipo de residuo que recoge.
11. Todos los envases que lleven residuos deben estar claramente identificados, indicando en todo momento el nombre del residuo, código LER, nombre y dirección del poseedor y el pictograma de peligro en su caso.
12. Los residuos peligrosos se depositarán sobre cubetos de retención apropiados a su volumen; además deben de estar protegidos de la lluvia.
13. Todos los productos envasados que tengan carácter de residuo peligroso deberán estar convenientemente identificados especificando en su etiquetado el nombre del residuo, código LER, nombre y dirección del productor y el pictograma normalizado de peligro.
14. Las zonas de almacenaje para los residuos peligrosos habrán de estar suficientemente separadas de las de los residuos no peligrosos, evitando de esta manera la contaminación de estos últimos.

15. Los residuos se depositarán en el lugar destinados a los mismos conforme se vayan generando.
16. Los residuos se almacenarán en contenedores adecuados tanto en número como en volumen evitando en todo caso la sobrecarga de los contenedores por encima de sus capacidades límite.
17. Los contenedores situados próximos a lugares de acceso público se protegerán fuera de los horarios
18. Se impartirán tareas de formación entre los trabajadores y los subcontratistas para que coloquen los residuos en el recipiente correspondiente (según el tipo de residuos).
19. Se supervisará periódicamente si la clasificación se realiza según las instrucciones.
20. Se intentará comprar la cantidad de materiales para ajustar a los usos (sin excesivos desperdicios) e intentar optimizar la cantidad de materiales utilizados, ajustándolos a los estrictamente necesarios para la ejecución de las obras.
21. Se elegirán materiales y productos orgánicos con certificaciones (garantía de distintivo de calidad ambiental, etc.) que garanticen la menor incidencia ambiental en su ciclo de vida (con contenido reciclados, menor contenido de sustancias peligrosas, etc.)
22. Siempre que sea factible, se comprará materiales a granel, en contenedores o con un tamaño que permita reducir la producción de residuos de embalaje.
23. Se dará preferencia a aquellos proveedores que embalen sus productos con sistemas que tienden a minimizar los residuos de envases o recipientes.
24. Se intentará escoger materiales y productos de conformidad con las prescripciones del proyecto, suministrados por fabricantes que ofrecen garantías que se encargarán de la gestión de los residuos generados en la obra por sus productos o, si esto no es factible, presentación de informes sobre las recomendaciones más adecuadas para la gestión de residuos producidos.
25. ¿Hay espacio suficiente en la obra para acopiar materiales para trabajar garantizando sus propiedades hasta el momento de la aplicación? En caso de respuesta negativa, tiene que seguir las siguientes recomendaciones:
    a. planificar la llegada de los productos de acuerdo a las necesidades de ejecución (just-in-time)
    b. minimizar el tiempo de almacenamiento gestionando los estocajes de manera que se evite la producción de residuos.
    c. Señalizar los materiales almacenados para poder identificarlos correctamente.
26. Se supervisará la correcta carga de palets y carretillas para garantizar que durante el transporte de cargas o nuevos materiales, éstos no estropeen.
27. Tratar de evitar al máximo el número de cortes y recortes. Pare ello se intentará realizar elk trabajo con precisión.
28. Se protegerán los materiales de acabado para evitar su deterioro.
29. Se incluirán en los contratos de suministro en una cláusula de penalización a los proveedores que generan en obra más residuos de los previstos y que pueden imputarse a una mal planificación y gestión.

8. OPERACIONES DE REUTILIZACIÓN, VALORACIÓN O ELIMINACIÓN PARA LOS RESIDUOS GENERADOS DURANTE LA OBRA

El desarrollo de las actividades de valorización de residuos de construcción y demolición, requerirá autorización previa del órgano competente en materia medioambiental de la CC.AA correspondiente o del Ayuntamiento de Formentera, en los términos establecidos por la Ley 10/1998.

La autorización podrá ser otorgada para una varias de las operaciones que se vayan a realizar, y sin perjuicio de las autorizaciones o licencias exigida por cualquier otra normativa aplicable a la actividad. Se otorgará por un plazo de tiempo determinado, y podrá ser renovada por periodos sucesivos.

La autorización sólo se concederá previa inspección de las instalaciones en las que se vaya a desarrollar la actividad y comprobación de la cualificación de los técnicos responsables de su dirección y de que está prevista la adecuada formación profesional del personal encargado de su explotación.

Los áridos reciclados obtenidos como producto de una operación de valorización de residuos de construcción y demolición, deberán cumplir los requisitos técnicos y legales para el uso que se destinen.

La reutilización de las tierras procedentes de la excavación, los residuos minerales o pétreos, los materiales cerámicos, los materiales no pétreos y metálicos, se realizará preferiblemente en obra.

9. MEDIDAS PARA LA SEPARACIÓN DE RESIDUOS

Los residuos de construcción y demolición se separarán en las siguientes fracciones cuando, de forma individualizada para cada una de dichas fracciones, la cantidad prevista de generación para el total de la obra supere las siguientes cantidades:

RESIDUOS	CANTIDAD
Hormigón	80 t
Ladrillos, tejas, cerámicas	40 t
Metal	2 t
Madera	1 t
Plástico	0.5 t
Papel y cartón	0.5 t

Según las cantidades de residuos de construcción y demolición estimadas anteriormente, será necesario separar los residuos de naturaleza pétrea y metálica en un contenedor independiente dentro de la propia obra.

En la tabla siguiente se indica el peso total expresado en toneladas, de los distintos tipos de residuos generados en la obra objeto del presente estudio, y la obligatoriedad o no de su separación in situ.

TIPO DE RESIDUO	Total residuo obra	Umbral según Norma	Separación "in situ"
2. Hormigón	23,65 Tn	80,00 Tn	NO OBLIGATORIO
3. Ladrillos, azulejos y otros cerámicos	1,05 Tn	40,00 Tn	NO OBLIGATORIO
3. Metales	10,50 Tn	2,00 Tn	OBLIGATORIO
2. Madera	11,00 Tn	1,00 Tn	OBLIGATORIO
6. Vidrio	0,15 Tn	1,00 Tn	NO OBLIGATORIO
5. Plástico	0,90 Tn	0,50 Tn	OBLIGATORIO
4. Papel	0,03 Tn	0,50 Tn	NO OBLIGATORIO

Con objeto de conseguir una mejor gestión de los residuos generados en la obra de manera que se facilite su reutilización, reciclaje o valorización y para asegurar las condiciones de higiene y seguridad que se requiere el artículo

5.4 del Real Decreto 105/2008 que regula la producción y gestión de los residuos de construcción y de demolición se tomarán las siguientes medidas:

- Las zonas de obra destinadas al almacenaje de residuos quedarán convenientemente señalizadas y para cada fracción se dispondrá un cartel señalizador que indique el tipo de residuo que recoge.
- Todos los envases que lleven residuos deben estar claramente identificados, indicando en todo momento el nombre del residuo, código LER, nombre y dirección del poseedor y el pictograma de peligro en su caso.
- Los residuos peligrosos se depositarán sobre cubetos de retención apropiados a su volumen; además deben de estar protegidos de la lluvia.
- Todos los productos envasados que tengan carácter de residuo peligroso deberán estar convenientemente identificados especificando en su etiquetado el nombre del residuo, código LER, nombre y dirección del productor y el pictograma normalizado de peligro.
- Las zonas de almacenaje para los residuos peligrosos habrán de estar suficientemente separadas de las de los residuos no peligrosos, evitando de esta manera la contaminación de estos últimos.
- Los residuos se depositarán en el lugar destinados a los mismos conforme se vayan generando.
- Los residuos se almacenarán en contenedores adecuados tanto en número como en volumen evitando en todo caso la sobrecarga de los contenedores por encima de sus capacidades límite.
- Los contenedores situados próximos a lugares de acceso público se protegerán fuera de los horarios de obra con lonas o similares para evitar vertidos descontrolados por parte de terceros que puedan provocar su mezcla o contaminación.
- La separación en fracciones se llevará a cabo preferentemente por el poseedor de residuos de construcción y demolición dentro de la obra.
- Para aquellas obras en la que por falta de espacio no resulte técnicamente viable efectuar la separación de los residuos, esta se podrá encomendar a un gestor de residuos en una instalación de residuos de construcción y demolición externa a la obra.
- Se evitará la contaminación de los residuos pétreos separados con destino a valorización con residuos derivados del yeso que lo contaminen mermando sus prestaciones.
- El órgano competente en materia medioambiental de la comunidad autónoma donde se ubica la obra, de forma excepcional, y siempre que la separación de los residuos no haya sido especificada y presupuestada en el proyecto de obra, podrá eximir al poseedor de los RDC's de la obligación de separación de alguna o de todas las anteriores fracciones.

10. DESTINO PREVISTO PARA LOS RESIDUOS

Se proponen los siguientes destinos para los residuos:

- Materiales pétreos e inertes: a actuaciones de canteras en restauración.
- Resto residuos no peligrosos: a gestor autorizado de residuos.
- Residuos potencialmente peligrosos y otros: a gestor autorizado de residuos.

11. PRESCRIPCIONES TÉCNICAS PARTICULARES EN RELACIÓN CON EL ALMACENAMIENTO, MANEJO, SEPARACIÓN Y OTRAS OPERACIONES DE GESTIÓN DE RCD'S

11.1 OBLIGACIONES AGENTES INTERVINIENTES

- Además de las obligaciones previstas en la normativa aplicable, la persona física o jurídica que ejecute la obra estará obligada a presentar a la propiedad de la misma un plan que refleje cómo llevará a cabo las obligaciones que le incumban en relación con los residuos de construcción y demolición que se vayan a producir en la obra. El plan, una vez aprobado por la dirección facultativa y aceptada por la propiedad, pasará a formar parte de los documentos contractuales de la obra.
- El poseedor de residuos de construcción y demolición, cuando no proceda a gestionarlos por sí mismo, y sin perjuicio de los requerimientos del proyecto aprobado, estará obligado a entregarlos a un gestor de residuos o a participar en un acuerdo voluntario o convenio de colaboración para su gestión. Los residuos de construcción y demolición se destinarán preferentemente, y por este orden, a operaciones de reutilización, reciclado o a otras formas de valorización y en última instancia a depósito en vertedero.
- Según exige el Real Decreto 105/2008, que regula la producción y gestión de los residuos de construcción y de demolición, el poseedor de los residuos estará obligado a sufragar los correspondientes costes de gestión de los residuos.
- El productor de residuos (promotor) habrá de obtener del poseedor (contratista) la documentación acreditativa de que los residuos de construcción y demolición producidos en la obra han sido gestionados en la misma o entregados a una instalación de valorización ó de eliminación para su tratamiento por gestor de residuos autorizado, en los términos regulados en la normativa y, especialmente, en el plan o en sus modificaciones. Esta documentación será conservada durante cinco años.
- En las obras de edificación sujetas a licencia urbanística la legislación autonómica podrá imponer al promotor (productor de residuos) la obligación de constituir una fianza, o garantía financiera equivalente, que asegure el cumplimiento de los requisitos establecidos en dicha licencia en relación con los residuos de construcción y demolición de la obra, cuyo importe se basará en el capítulo específico de gestión de residuos del presupuesto de la obra.
- Se incluirán los criterios medioambientales en el contrato con contratistas, subcontratistas y autónomos, definiendo las responsabilidades en las que incurrirán en el caso de incumplimiento.

11.2 GESTIÓN DE RESIDUOS

- Según requiere la normativa, se prohíbe el depósito en vertedero de residuos de construcción y demolición que no hayan sido sometidos a alguna operación de tratamiento previo.
- El poseedor de los residuos estará obligado, mientras se encuentren en su poder, a mantenerlos en condiciones adecuadas de higiene y seguridad, así como a evitar la mezcla de fracciones ya seleccionadas que impida o dificulte su posterior valorización o eliminación.
- Se debe asegurar en la contratación de la gestión de los residuos, que el destino final o el intermedio son centros con la autorización autonómica del organismo competente en la materia. Se debe contratar sólo transportistas o gestores autorizados por dichos organismos e inscritos en los registros correspondientes.
- Para el caso de los residuos con amianto se cumplirán los preceptos dictados por el RD 396/2006 sobre la manipulación del amianto y sus derivados.

- Las tierras que puedan tener un uso posterior para jardinería o recuperación de suelos degradados, serán retiradas y almacenadas durante el menor tiempo posible, en condiciones de altura no superior a 2 metros.
- El depósito temporal de los residuos se realizará en contenedores adecuados a la naturaleza y al riesgo de los residuos generados.
- Dentro del programa de seguimiento del Plan de Gestión de Residuos se realizarán reuniones periódicas a las que asistirán contratistas, subcontratistas, dirección facultativa y cualquier otro agente afectado. En las mismas se evaluará el cumplimiento de los objetivos previstos, el grado de aplicación del Plan y la documentación generada para la justificación del mismo.
- Se deberá asegurar en la contratación de la gestión de los RCDs, que el destino final (Planta de Reciclaje, Vertedero, Cantera, Incineradora, Centro de Reciclaje de Plásticos/Madera...) sean centros autorizados. Así mismo se deberá contratar sólo transportistas o gestores autorizados e inscritos en los registros correspondientes. Se realizará un estricto control documental, de modo que los transportistas y gestores de RCDs deberán aportar los vales de cada retirada y entrega en destino final.

11.3 SEPARACIÓN

- El deposito temporal de los residuos valorizables que se realice en contenedores o en acopios, se debe señalizar y segregar del resto de residuos de un modo adecuado.
- Los contenedores o envases que almacenen residuos deberán señalizarse correctamente, indicando el tipo de residuo, la peligrosidad, y los datos del poseedor.
- El responsable de la obra al que presta servicio un contenedor de residuos adoptará las medidas necesarias para evitar el depósito de residuos ajenos a la misma. Igualmente, deberá impedir la mezcla de residuos valorizables con aquellos que no lo son.
- El poseedor de los residuos establecerá los medios humanos, técnicos y procedimientos de separación que se dedicarán a cada tipo de residuo generado.
- Los contenedores de los residuos deberán estar pintados en colores que destaquen y contar con una banda de material reflectante. En los mismos deberá figurar, en forma visible y legible, la siguiente información del titular del contenedor: razón social, CIF, teléfono y número de inscripción en el Registro de Transportistas de Residuos
- Cuando se utilicen sacos industriales y otros elementos de contención o recipientes, se dotarán de sistemas (adhesivos, placas, etcétera) que detallen la siguiente información del titular del saco: razón social, CIF, teléfono y número de inscripción en el Registro de Transportistas de Residuos.
- Los residuos generados en las casetas de obra producidos en tareas de oficina, vestuarios, comedores etc. tendrán la consideración de Residuos Sólidos Urbanos y se gestionarán como tales según estipule la normativa reguladora de dichos residuos en la ubicación de la obra,

11.4 DOCUMENTACIÓN

- La entrega de los residuos de construcción y demolición a un gestor por parte del poseedor habrá de constar en documento fehaciente, en el que figure, al menos, la identificación del poseedor y del productor, la obra de procedencia y, en su caso, el número de licencia de la obra, la cantidad, expresada en toneladas o en metros cúbicos, o en ambas unidades cuando sea posible, el tipo de residuos entregados, codificados con arreglo a la lista europea de residuos publicada por Orden MAM/304/2002, de 8 de febrero y la identificación del gestor de las operaciones de destino.

- El poseedor de los residuos estará obligado a entregar al productor los certificados y demás documentación acreditativa de la gestión de los residuos a que se hace referencia en el Real Decreto 105/2008 que regula la producción y gestión de los residuos de construcción y de demolición.
- El poseedor de residuos dispondrá de documentos de aceptación de los residuos realizados por el gestor al que se le vaya a entregar el residuo.
- El gestor de residuos debe extender al poseedor un certificado acreditativo de la gestión de los residuos recibidos, especificando la identificación del poseedor y del productor, la obra de procedencia y, en su caso, el número de licencia de la obra, la cantidad, expresada en toneladas o en metros cúbicos, o en ambas unidades cuando sea posible, y el tipo de residuos entregados, codificados con arreglo a la lista europea de residuos publicada por Orden MAM/304/2002.
- Cuando el gestor al que el poseedor entregue los residuos de construcción y demolición efectúe únicamente operaciones de recogida, almacenamiento, transferencia o transporte, en el documento de entrega deberá figurar también el gestor de valorización o de eliminación ulterior al que se destinan los residuos.
- Según exige la normativa, para el traslado de residuos peligrosos se deberá remitir notificación al órgano competente de la comunidad autónoma en materia medioambiental con al menos diez días de antelación a la fecha de traslado. Si el traslado de los residuos afecta a más de una provincia, dicha notificación se realizará al Ministerio de Medio Ambiente.
- Para el transporte de los residuos peligrosos se completará el Documento de Control y Seguimiento. Este documento se encuentra en el órgano competente en materia medioambiental de la comunidad autónoma.
- El poseedor de residuos facilitará al productor acreditación fehaciente y documental que deje constancia del destino final de los residuos reutilizados. Para ello se entregará certificado con documentación gráfica.

12. VALORACIÓN DEL COSTE DE LA GESTIÓN

VALORACIÓN GESTIÓN DE RESIDUOS								
			Volumen neto de Residuos / Ud	Peso neto de Residuos	Coste unitario			Coste total
			m3	Tn/m	€/m3	€/Tn	€/Ud	€
7.01		RCD NIVEL I - TIERRAS Y PÉTREOS DE EXCAVACIÓN						
14.1	m³	Transporte de tierras con camión a vertedero específico, instalación de tratamiento de residuos de construcción y demolición	3.122,13		10,38			32.407,71
14.2	tn	Coste de vertido por entrega de tierras procedentes de la excavación, en vertedero específico, instalación de tratamiento de residuos	3.122,13	4.995,41				0,00
		Total 7.01						**32.407,71**
7.02		RCD NIVEL II - NO PÉTREA						
14.1	m³	Transporte con camión de mezcla sin clasificar residuos inertes producidos en obras de construcción y/o demolición a vertedero	17,20		10,38			178,54

14.3	tn	Despiece de residuos plásticos voluminosos y otros residuos	17,20		95,76			1.647,07
14.4	tn	Coste de vertido por entrega de mezcla sin clasificar de residuos inertes producidos en obras de construcción y/o demolición	17,20	22,84				0,00
		Total 7.02						**1.825,61**
7.03		**RCD NIVEL III - PÉTREA**						
14.6	tn	Coste de entrega de residuos inertes de hormigones, morteros y prefabricados producidos en obras de construcción	16,89	23,65				0,00
14.5	tn	Coste de vertido por entrega de residuos inertes de ladrillos, tejas y materiales cerámicos, producidos en obras de construcción	1,00	1,05				0,00
14.1	m³	Transporte con camión de mezcla sin clasificar residuos inertes producidos en obras de construcción y/o demolición a vertedero	17,89		10,38			185,70
		Total 7.03						**185,70**
7.04		**RCD NIVEL II - POTENCIALMENTE PELIGROSOS**						
14.7	Ud	Bidón de 200 litros de capacidad para residuos peligrosos, apto para almacenar tierras y piedras que contienen sustancias peligrosas	3,00				166,92	500,76
14.8	Ud	Bidón de 200 litros de capacidad para residuos peligrosos, apto para almacenar envases que contienen restos de sustancias peligrosas	3,00				166,92	500,76
14.9	tn	Transporte de bidón de 200 l con residuos peligrosos	6,00			110,13		660,78
14.10	tn	Coste de vertido de bidón de 200 l con residuos peligrosos	6,00			150,00		900,00
		Total 7.04						**2.562,30**
		TOTAL 10						**36.981,32**

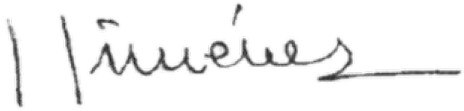
Asciende el importe económico a la cantidad de **36.981,32 €**, TREINTA Y SEIS MIL NOVECIENTOS OCHENTA Y UN EUROS con TREINTA Y DOS CÉNTIMOS.

El contratista posteriormente se podrá ajustar a la realidad de los precios finales de contratación y especificar los costes de gestión de los RCDs de Nivel II por las categorías LER si así lo considerase necesario.

Con el fin de garantizar las obligaciones derivadas de la gestión de los residuos de construcción y demolición según el R.D. 105/2008, las entidades locales podrán exigir el pago de una fianza o garantía financiera equivalente que garantice la correcta gestión de los residuos, previo al otorgamiento de la licencia urbanística. Una vez demostrado, por parte del productor, la correcta gestión de los residuos de construcción se proceda a la devolución de dicha fianza.

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

	
Redactor de proyecto:	**Redactor adjunto:**
Juan Carlos Arroyo Portero	Jesús Jiménez Cañas
ICCP	ICCP

APÉNDICE 1.- FICHA CÁLCULO RESIDUOS

Fitxa per al càlcul del volum i caracterització dels residus de construcció i demolició generats a l'obra #

Projecte:	PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA				
Emplaçament:	Formentera	Municipi:	La Savina	CP:	07870
Promotor:	AGENCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL	CIF:		Q0700507G	

D'acord amb el Pla Director de Gestió de Residus de Construcció, Demolició, Voluminosos i Pneumàtics fora d'Ús (BOIB Núm.141 23-11-2002)

ÍNDEX:

1 **Avaluació del volum i característiques dels residus procedents de DEMOLICIÓ**

- 1 A **Edifici d'habitatges d'obra de fàbrica:**
- 1 B **Edifici d'habitatges d'estructura de formigó convencional:**
- 1 C **Edifici industrial d'obra de fàbrica**
- 1 D **Altres tipologies**

2 **Avaluació del volum i característiques dels residus de CONSTRUCCIÓ**

- 2 A **Residus de Construcció procedents de FONAMENTACIÓ I ESTRUCTURES**
- 2 B **Residus de Construcció procedents TANCAMENTS**
- 2C **Residus de Construcció procedents d'ACABATS**

3 **Avaluació dels residus d'excavació (vials i altres conduccions que generin residus)**

GESTIÓ Residus de Construcció i Demolició:
- S'han de destinar a les PLANTES DE TRACTAMENT DE MAC INSULAR SL
(Empresa concessionària Consell de Mallorca)

4 **Avaluació dels residus INERTS destinats a RESTAURACIÓ DE PEDRERES**

- 4 **Avaluació dels residus d'EXCAVACIÓ:**

Fitxa per al càlcul del volum i caracterització dels residus de construcció i demolició generats a l'obra #

Projecte:	PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA				
Emplaçament:	Formentera	Municipi:	La Savina	CP:	07870
Promotor:	AGENCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL	CIF:			Q0700507G

D'acord amb el Pla Director de Gestió de Residus de Construcció, Demolició, Voluminosos i Pneumàtics fora d'Ús (BOIB Núm.141 23-11-2002)

GESTIÓ Residus d'excavació:

- De les terres i desmunts (no contaminats) procedents d'excavació destinats directament a la restauració de PEDRERES (amb Pla de restauració aprovat)

Autor del projecte:	ROGER TORREGROSA LLORENS	Núm. col.legiat:	32.091	Firma:	

Fitxa per al càlcul del volum i caracterització dels residus de construcció i demolició generats a l'obra #

Projecte:	PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA				
Emplaçament:	Formentera	Municipi:	La Savina	CP:	07870
Promotor:	AGENCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL	CIF:			Q0700507G

D'acord amb el Pla Director de Gestió de Residus de Construcció, Demolició, Voluminosos i Pneumàtics fora d'Ús (BOIB Núm.141 23-11-2002)

1 Avaluació del volum i característiques dels residus procedents de DEMOLICIÓ

1 A Edifici d'habitatges d'obra de fàbrica:

m^2 construïts a demolir **0**

Codi Cer	Residus	I. Volum (m^3/m^2)	I. Pes (t/m^2)	Volum (m^3)	Pes **(t)**
170102	Obra de fàbrica	0,5120	0,5420	0,00	0,00
170101	Formigó i morters	0,0620	0,0840	0,00	0,00
170802	Petris	0,0820	0,0520	0,00	0,00
170407	Metalls	0,0009	0,0040	0,00	0,00
170201	Fustes	0,0663	0,0230	0,00	0,00
170202	Vidres	0,0004	0,0006	0,00	0,00
170203	Plàstics	0,0004	0,0004	0,00	0,00
	Betums	-	-	-	
170904	Altres	0,0080	0,0040	0,00	0,00
	TOTAL:	0,7320	0,7100	0,00	**0,00**

Observacions:

1 B Edifici d'habitatges d'estructura de formigó:

m^2 construïts a demolir **0**

Codi Cer	Residus	I. Volum (m^3/m^2)	I. Pes (t/m^2)	Volum (m^3)	Pes **(t)**
170102	Obra de fàbrica	0,3825	0,3380	0,00	0,00
170101	Formigó i morters	0,5253	0,7110	0,00	0,00
170802	Petris	0,0347	0,0510	0,00	0,00
170407	Metalls	0,0036	0,0160	0,00	0,00
170201	Fustes	0,0047	0,0017	0,00	0,00
170202	Vidres	0,0010	0,0016	0,00	0,00
170203	Plàstics	0,0007	0,0008	0,00	0,00
170302	Betums	0,0012	0,0009	0,00	0,00
170904	Altres	0,0153	0,0090	0,00	0,00
	TOTAL:	0,9690	1,1300	0,00	**0,00**

Observacions:

Fitxa per al càlcul del volum i caracterització dels residus de construcció i demolició generats a l'obra #

Projecte:	PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA				
Emplaçament:	Formentera	Municipi:	La Savina	CP:	07870
Promotor:	AGENCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL	CIF:		Q0700507G	

D'acord amb el Pla Director de Gestió de Residus de Construcció, Demolició, Voluminosos i Pneumàtics fora d'Ús (BOIB Núm.141 23-11-2002)

Fitxa per al càlcul del volum i caracterització dels residus de construcció i demolició generats a l'obra #

Projecte:	PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA				
Emplaçament:	Formentera	Municipi:	La Savina	CP:	07870
Promotor:	AGENCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL	CIF:			Q0700507G

D'acord amb el Pla Director de Gestió de Residus de Construcció, Demolició, Voluminosos i Pneumàtics fora d'Ús (BOIB Núm.141 23-11-2002)

1 C Edifici industrial d'obra de fàbrica

m^2 construïts a demolir: 0

Codi Cer	Residus	I. Volum (m^3/m^2)	I. Pes (t/m^2)	Volum (m^3)	Pes **(t)**
170102	Obra de fàbrica	0,5270	0,5580	0,00	0,00
170101	Formigó i morters	0,2550	0,3450	0,00	0,00
170802	Petris	0,0240	0,0350	0,00	0,00
170407	Metalls	0,0017	0,0078	0,00	0,00
170201	Fustes	0,0644	0,0230	0,00	0,00
170202	Vidres	0,0005	0,0008	0,00	0,00
170203	Plàstics	0,0004	0,0004	0,00	0,00
	Betums	-	-		
170904	Altres	0,0010	0,0060	0,00	0,00
	TOTAL:	0,8740	0,9760	0,00	**0,00**

Observacions: _____

1 D Altres tipologies:

m^2 construïts a demolir: 0

Justificació càlcul: _____

Observacions: _____

Fitxa per al càlcul del volum i caracterització dels residus de construcció i demolició generats a l'obra #

Projecte:	PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA				
Emplaçament:	Formentera	Municipi:	La Savina	CP:	07870
Promotor:	AGENCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL	CIF:			Q0700507G

D'acord amb el Pla Director de Gestió de Residus de Construcció, Demolició, Voluminosos i Pneumàtics fora d'Ús (BOIB Núm.141 23-11-2002)

2 Avaluació del volum i característiques dels residus de CONSTRUCCIÓ

2A Residus de Construcció procedents de FONAMENTACIO D'ESTRUCTURES

m^2 construïts de reformes: 0

Tipologia de l'edifici a construir:
- [ ] Habitatge
- [ ] Local comercial
- [ ] Indústria
- [ ] Altres:_____

Codi Cer	Residus	I. Volum (m^3/m^2)	I. Pes (t/m^2)	Volum (m^3)	Pes (t)
170101	Formigó	0,0038	0,0053	0,00	0,00
170103	Material ceràmic	0,0004	0,0004	0,00	0,00
170407	Metalls barejats	0,0013	0,0005	0,00	0,00
170201	Fusta	0,0095	0,0024	0,00	0,00
170203	Plàstic	0,0019	0,0003	0,00	0,00
150101	env. Paper i cartró	0,0008	0,0001	0,00	0,00
	TOTAL:	0,0177	0,0089	0,00	**0,00**

Observacions: _____

2B Residus de Construcció procedents de TANCAMENTS

m^2 construïts d'obra nova 0

Tipologia de l'edifici a construir:
- [ ] Habitatge
- [ ] Local comercial
- [ ] Indústria
- [ ] Altres:_____

Codi Cer	Residus	I. Volum (m^3/m^2)	I. Pes (t/m^2)	Volum (m^3)	Pes (t)
170101	Formigó	0,0109	0,0153	0,00	0,00
170103	Material ceràmic	0,0327	0,0295	0,00	0,00
170407	Metalls barejats	0,0005	0,0002	0,00	0,00
170201	Fusta	0,0016	0,0004	0,00	0,00
170203	Plàstic	0,0021	0,0003	0,00	0,00
170904	Barrejats	0,0004	0,0002	0,00	0,00
150101	env. Paper i cartró	0,0038	0,0003	0,00	0,00
	TOTAL:	0,0521	0,0461	0,00	**0,00**

Observacions: _____

2C Residus de Construcció procedents d'ACABATS

m^2 construïts d'obra nova 0

Tipologia de l'edifici a construir:
- [ ] Habitatge

Codi Cer	Residus	I. Volum (m^3/m^2)	I. Pes (t/m^2)	Volum (m^3)	Pes (t)
170101	Formigó	0,0113	0,0159	0,00	0,00

Fitxa per al càlcul del volum i caracterització dels residus de construcció i demolició generats a l'obra #

Projecte:	PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA				
Emplaçament:	Formentera	Municipi:	La Savina	CP:	07870
Promotor:	AGENCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL	CIF:		Q0700507G	

D'acord amb el Pla Director de Gestió de Residus de Construcció, Demolició, Voluminosos i Pneumàtics fora d'Ús (BOIB Núm.141 23-11-2002)

- ☐ Local comercial
- ☐ Indústria
- ☐ Altres:_____

170103	Material ceràmic	0,0076	0,0068	0,00		0,00
170802	Petris (guix)	0,0097	0,0039	0,00		0,00
170201	Fusta	0,0034	0,0009	0,00		0,00
170203	Plàstic	0,0063	0,0010	0,00		0,00
170904	Barrejats	0,0004	0,0001	0,00		0,00
150101	env. Paper i cartró	0,0073	0,0005	0,00		0,00
	TOTAL:	0,0460	0,0291	0,00		**0,00**

Observacions: _____

Fitxa per al càlcul del volum i caracterització dels residus de construcció i demolició generats a l'obra #

Projecte:	PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA				
Emplaçament:	Formentera	Municipi:	La Savina	CP:	07870
Promotor:	AGENCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL	CIF:			Q0700507G

D'acord amb el Pla Director de Gestió de Residus de Construcció, Demolició, Voluminosos i Pneumàtics fora d'Ús (BOIB Núm.141 23-11-2002)

3 Avaluació dels residus d'EXCAVACIÓ (Vials i altres conduccions que generin residus)

3 Avaluació dels residus d'EXCAVACIÓ (Vials i altres conduccions que generin residus)

mL de l'obra:	

Codi Cer	Residus	*Volum ($m^{3)}$	Densitat de Ref. (t/m3)	Pes **(t)**
170504	Terres i Pedres (inert)	3122,1300	1,6000	4995,41
170302	Barrejes bituminoses	0,0000	0,7800	0,00
170405	Ferro i acer	0,0000	2,5000	0,00
170203	Plàstics	0,0000	2,5000	0,00
170904	Barrejats de construcció	0,0000	2,5000	0,00
	TOTAL:	3122,1300	9,8800	**4995,41**

* **No hi ha valors de referència perquè depèn de les característiques de l'obra.**
* **El projectista ha d'introduir els valors per realitzar el càlcul del residu generat**

Observacions: _____

Fitxa per al càlcul del volum i caracterització dels residus de construcció i demolició generats a l'obra #

Projecte:	PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA				
Emplaçament:	Formentera	Municipi:	La Savina	CP:	07870
Promotor:	AGENCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL	CIF:			Q0700507G

D'acord amb el Pla Director de Gestió de Residus de Construcció, Demolició, Voluminosos i Pneumàtics fora d'Ús (BOIB Núm.141 23-11-2002)

Gestió Residus de Construcció - demolició:

- S'han de destinar a les PLANTES DE TRACTAMENT DE MAC INSULAR SL

(Empresa concessionària Consell de Mallorca)

- Avaluació del volum i característiques dels residus de construcció i demolició

1	**-RESIDUS DE DEMOLICIÓ**	Volum real total:	0,20
		Pes total:	0,20
2	**-RESIDUS DE CONSTRUCCIÓ**	Volum real total:	35,17
		Pes total:	47,65
3	**-RESIDUS D'EXCAVACIÓ**	Volum real total:	3122,13
		Pes total:	4995,41

- Mesures de reciclatge in situ durant l'execució de l'obra:

\-

TOTAL*: 5043,26

Fiança:	125% x TOTAL* x 0,00 €/t (any 2009)**	**0,00**
Taxa:	import de la fiança x 2% (màx. 36'06€)	**0,00**
	TOTAL A PAGAR:	**0,00** **€**

* Per calcular la fiança

**Actualitzar la tarifa anual. BOIB Núm. 89 16-06-209. T=43,35€/t -densitat: (1-1,2) t/m^{3-}

- Mesures de separació en origen durant l'execució de l'obra:

Fitxa per al càlcul del volum i caracterització dels residus de construcció i demolició generats a l'obra #

Projecte:	PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA				
Emplaçament:	Formentera	Municipi:	La Savina	CP:	07870
Promotor:	AGENCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL	CIF:			Q0700507G

D'acord amb el Pla Director de Gestió de Residus de Construcció, Demolició, Voluminosos i Pneumàtics fora d'Ús (BOIB Núm.141 23-11-2002)

4 Avaluació dels residus INERTS destinats a RESTAURACIÓ DE PEDRERES

4 Avaluació residus d'EXCAVACIÓ:

m3 excavats	0

	Materials:		Kg/m³ RESIDU REAL (Kg/m3)	(m³)	(Kg)
Terrenys natur	Grava i sorra compactada	170504	2.000	0,00	0,00
	Grava i sorra solta	170504	1.700	0,00	0,00
	Argiles	010409	2.100	0,00	0,00
	Altres				0,00
Reblerts:	Terra vegetal	200202	1.700	0,00	0,00
	Terraplè	170504	1.700	0,00	0,00
	Pedraplè	170504	1.800	0,00	0,00
	Altres				0,00
	TOTAL:		11.000	0,00	**0,00**

GESTIO residus INERTS destinats a RESTAURACIO DE PEDRERES

- De les terres i desmunts (no contaminats) procedents d'excavació destinats directament a la restauració de PEDRERES (amb Pla de restauració aprovat)

4 -RESIDUS D'EXCAVACIÓ:

Volum real total: 0,00 m³

Pes total: 0,00 t

- Observacions (reutilitzar a la pròpia obra, altres usos,...)

_____

_____

_____

_____ - 0 t

TOTAL: 0,00 t

Notes: -D'acord al PDSGRCDVPFUM (BOIB Num, 141 23-11-2002):

Fitxa per al càlcul del volum i caracterització dels residus de construcció i demolició generats a l'obra #

Projecte:	PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA				
Emplaçament:	Formentera	Municipi:	La Savina	CP:	07870
Promotor:	AGENCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL	CIF:			Q0700507G

D'acord amb el Pla Director de Gestió de Residus de Construcció, Demolició, Voluminosos i Pneumàtics fora d'Ús (BOIB Núm.141 23-11-2002)

* Per destinar terres i desmunts (no contaminats) directament a la restauració de pedreres, per decisió del promotor i/o constructor, s'ha d'autoritzar per la direcció tècnica de l'obra
* Ha d'estar previst al projecte d'obra o per decisió del seu director. S'ha de realitzar la conseqüent comunicació al Consell de Mallorca

ANEJO 12 – PLAN DE CONTROL DE CALIDAD

ANEJO 12. PLAN DE CONTROL DE CALIDAD

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ANEJO 12. PLAN DE CONTROL DE CALIDAD

1. CONTROL DE RECEPCIÓN EN OBRA DE PRODUCTOS, EQUIPOS Y SISTEMAS

El control de recepción tiene por objeto comprobar que las características técnicas de los productos, equipos y sistemas suministrados satisfacen lo exigido en el proyecto. Este control comprenderá:

a) El control de la documentación de los suministros.

b) El control mediante distintivos de calidad o evaluaciones técnicas de idoneidad.

c) El control mediante ensayos.

1.1 CONTROL DE LA DOCUMENTACIÓN DE LOS SUMINISTROS

Los suministradores entregarán al constructor, quien los facilitará al director de ejecución de la obra, los documentos de identificación del producto exigidos por la normativa de obligado cumplimiento y, en su caso, por el proyecto o por la dirección facultativa. Esta documentación comprenderá, al menos, los siguientes documentos:

a) Los documentos de origen, hoja de suministro y etiquetado.

b) El certificado de garantía del fabricante, firmado por persona física.

c) Los documentos de conformidad o autorizaciones administrativas exigidas reglamentariamente, incluida la documentación correspondiente al marcado CE de los productos de construcción, cuando sea pertinente, de acuerdo con las disposiciones que sean transposición de las Directivas Europeas que afecten a los productos suministrados.

1.2 CONTROL DE RECEPCIÓN MEDIANTE DISTINTIVOS DE CALIDAD Y EVALUACIONES DE IDONEIDAD TÉCNICA

1. El suministrador proporcionará la documentación precisa sobre:
   a) Los distintivos de calidad que ostenten los productos, equipos o sistemas suministrados, que aseguren las características técnicas de los mismos exigidas en el proyecto.
   b) Las evaluaciones técnicas de idoneidad para el uso previsto de productos, equipos y sistemas innovadores.
2. El director de la ejecución de la obra verificará que esta documentación es suficiente para la aceptación de los productos, equipos y sistemas amparados por ella.

1.3 CONTROL DE RECEPCIÓN MEDIANTE ENSAYOS

1. Para verificar el cumplimiento de las exigencias básicas del CTE puede ser necesario, en determinados casos, realizar ensayos y pruebas sobre algunos productos, según lo establecido en la reglamentación vigente, o bien según lo especificado en el proyecto u ordenados por la dirección facultativa.
2. La realización de este control se efectuará de acuerdo con los criterios establecidos en el proyecto o indicados por la dirección facultativa sobre el muestreo del producto, los ensayos a realizar, los criterios de aceptación y rechazo y las acciones a adoptar.

2. CONTROL DE EJECUCIÓN DE LA OBRA

- Durante la construcción, el director de la ejecución de la obra controlará la ejecución de cada unidad de obra verificando su replanteo, los materiales que se utilicen, la correcta ejecución y disposición de los elementos constructivos y de las instalaciones, así como las verificaciones y demás controles a realizar para comprobar su conformidad con lo indicado en el proyecto, la legislación aplicable, las normas de buena práctica constructiva y las instrucciones de la dirección facultativa. En la recepción de la obra ejecutada pueden tenerse en cuenta las certificaciones de conformidad que ostenten los agentes que intervienen, así como las verificaciones que, en su caso, realicen las entidades de control de calidad de la edificación.
- Se comprobará que se han adoptado las medidas necesarias para asegurar la compatibilidad entre los diferentes productos, elementos y sistemas constructivos.
- En el control de ejecución de la obra se adoptarán los métodos y procedimientos que se contemplen en las evaluaciones técnicas de idoneidad para el uso previsto de productos, equipos y sistemas innovadores.

3. CONTROL DE LA OBRA TERMINADA

En la obra terminada, bien sobre el edificio en su conjunto, o bien sobre sus diferentes partes y sus instalaciones, parcial o totalmente terminadas, deben realizarse, además de las que puedan establecerse con carácter voluntario, las comprobaciones y pruebas de servicio previstas en el proyecto u ordenadas por la dirección facultativa y las exigidas por la legislación aplicable.

4. DOCUMENTACIÓN DEL CONTROL DE LA OBRA

El control de calidad de las obras realizado incluirá el control de recepción de productos, los controles de la ejecución y de la obra terminada. Para ello:

- El director de la ejecución de la obra recopilará la documentación del control realizado, verificando que es conforme con lo establecido en el proyecto, sus anejos y modificaciones.
- El constructor recabará de los suministradores de productos y facilitará al director de obra y al director de la ejecución de la obra la documentación de los productos anteriormente señalada, así como sus instrucciones de uso y mantenimiento, y las garantías correspondientes cuando proceda.
- La documentación de calidad preparada por el constructor sobre cada una de las unidades de obra podrá servir, si así lo autorizara el director de la ejecución de la obra, como parte del control de calidad de la obra.

Una vez finalizada la obra, la documentación del seguimiento del control será depositada por el director de la ejecución de la obra en el Colegio Profesional correspondiente o, en su caso, en la Administración Publica competente, que asegure su tutela y se comprometa a emitir certificaciones de su contenido a quienes acrediten un interés legítimo

5. CERTIFICADO FINAL DE OBRA

En el certificado final de obra, el director de la ejecución de la obra certificará haber dirigido la ejecución material de las obras y controlado cuantitativa y cualitativamente la construcción y la calidad de lo edificado de acuerdo con el proyecto, la documentación técnica que lo desarrolla y las normas de la buena construcción.

El director de la obra certificará que la edificación ha sido realizada bajo su dirección, de conformidad con el proyecto objeto de licencia y la documentación técnica que lo complementa, hallándose dispuesta para su adecuada utilización con arreglo a las instrucciones de uso y mantenimiento.

Al certificado final de obra se le unirán como anejos los siguientes documentos:

- Descripción de las modificaciones que, con la conformidad del promotor, se hubiesen introducido durante la obra, haciendo constar su compatibilidad con las condiciones de la licencia; y
- Relación de los controles realizados durante la ejecución de la obra y sus resultados.

6. PLAN DE CONTROL

6.1 CONTROL DE MATERIALES Y DE EJECUCIÓN.

Este apartado contempla los ensayos y determinaciones a realizar a los materiales aprobados por la Dirección Facultativa. Los suministradores presentarán previamente los Documentos de Idoneidad, Sello de Calidad o Ensayos de los materiales para su elección.

En el presente apartado se contempla el Plan de Control de Materiales para las diferentes unidades constructivas.

6.1.1 Forjados, pilares y vigas de hormigón

Condiciones de suministro y recepción

La recepción de los productos, equipos y sistemas se realizará conforme se desarrolla en la Parte Condiciones de recepción de productos. Este control comprende el control de la documentación de los suministros (incluida la correspondiente al marcado CE, cuando sea pertinente), el control mediante distintivos de calidad o evaluaciones técnicas de idoneidad y el control mediante ensayos.

- HORMIGÓN FABRICADO EN CENTRAL DE OBRA U HORMIGÓN PREPARADO:

Control documental:

En la recepción se controlará que cada carga de hormigón vaya acompañada de una hoja de suministro, firmada por persona física, a disposición de la dirección facultativa, y en la que figuren, los datos siguientes:

- Nombre de la central de fabricación de hormigón.
- Número de serie de la hoja de suministro.
- Fecha de entrega.
- Nombre del peticionario y del responsable de la recepción.
- Especificación del hormigón:
- En el caso de que el hormigón se designe por propiedades:
- Designación de acuerdo con el artículo 39.2.
- Contenido de cemento en kilogramos por metro cúbico de hormigón, con una tolerancia de ± 15 kg.
- Relación agua/cemento del hormigón, con una tolerancia de ± 0,02.
- En el caso de que el hormigón se designe por dosificación:
- Contenido de cemento por metro cúbico de hormigón.
- Relación agua/cemento del hormigón, con una tolerancia de ± 0,02.
- Tipo de ambiente de acuerdo con la tabla 8.2.2.
- Tipo, clase, y marca del cemento.
- Consistencia.
- Tamaño máximo del árido.
- Tipo de aditivo, según UNE-EN 934-2:98, si lo hubiere, y en caso contrario, indicación expresa de que no contiene.
- Procedencia y cantidad de adición (cenizas volantes o humo de sílice, artículo 29.2) si la hubiere, y en caso contrario, indicación expresa de que no contiene.
- Designación específica del lugar del suministro (nombre y lugar).
- Cantidad del hormigón que compone la carga, expresada en metros cúbicos de hormigón fresco.
- Identificación del camión hormigonera (o equipo de transporte) y de la persona que proceda a la descarga, según artículo 69.2.9.2.
- Hora límite de uso para el hormigón.

La dirección facultativa podrá eximir de la realización del ensayo de penetración de agua cuando, además, el suministrador presente una documentación que permita el control documental sobre los siguientes puntos:

- Composición de las dosificaciones de hormigón que se va a emplear.
- Identificación de las materias primas.
- Copia del informe con los resultados del ensayo de determinación de profundidad de penetración de agua bajo presión realizados por laboratorio oficial o acreditado, como máximo con 6 meses de antelación.

- Materias primas y dosificaciones empleadas en la fabricación de las probetas utilizadas en los anteriores ensayos, que deberán coincidir con las declaradas por el suministrador para el hormigón empleado en obra.

Ensayos de control del hormigón:

El control de la calidad del hormigón comprenderá el de su resistencia, consistencia y durabilidad:

- Control de la consistencia (artículo 83.2). Se realizará siempre que se fabriquen probetas para controlar la resistencia, en control reducido o cuando lo ordene la dirección facultativa.
- Control de la durabilidad (artículo 85). Se realizará el control documental, a través de las hojas de suministro, de la relación a/c y del contenido de cemento. Si las clases de exposición son III o IV o cuando el ambiente presente cualquier clase de exposición específica, se realizará el control de la penetración de agua. Se realizará siempre que se fabriquen probetas para controlar la resistencia, en control reducido o cuando lo ordene la dirección facultativa.
- Control de la resistencia (artículo 84).

Con independencia de los ensayos previos y característicos (preceptivos si no se dispone de experiencia previa en materiales, dosificación y proceso de ejecución previstos), y de los ensayos de información complementaria, la Instrucción EHE establece con carácter preceptivo el control de la resistencia a lo largo de la ejecución mediante los ensayos de control, indicados en el artículo 88.

Ensayos de control de resistencia:

Tienen por objeto comprobar que la resistencia característica del hormigón de la obra es igual o superior a la de proyecto. El control podrá realizarse según las siguientes modalidades:

- Control a nivel reducido (artículo 88.2).
- Control al 100 por 100, cuando se conozca la resistencia de todas las amasadas (artículo 88.3).
- Control estadístico del hormigón cuando sólo se conozca la resistencia de una fracción de las amasadas que se colocan (artículo 88.4 de la Instrucción EHE). Este tipo de control es de aplicación general a obras de hormigón estructural. Para la realización del control se divide la obra en lotes con unos tamaños máximos en función del tipo de elemento estructural de que se trate. Se determina la resistencia de N amasadas por lote y se obtiene la resistencia característica estimada. Los criterios de aceptación o rechazo del lote se establecen en el artículo 88.5.

- HORMIGÓN NO FABRICADO EN CENTRAL.

En el hormigón no fabricado en central se extremarán las precauciones en la dosificación, fabricación y control.

Control documental:

El constructor mantendrá en obra, a disposición de la dirección facultativa, un libro de registro donde constará:

- La dosificación o dosificaciones nominales a emplear en obra, que deberá ser aceptada expresamente por la dirección facultativa. Así como cualquier corrección realizada durante el proceso, con su correspondiente justificación.
- Relación de proveedores de materias primas para la elaboración del hormigón.
- Descripción de los equipos empleados en la elaboración del hormigón.
- Referencia al documento de calibrado de la balanza de dosificación del cemento.
- Registro del número de amasadas empleadas en cada lote, fechas de hormigonado y resultados de los ensayos realizados, en su caso. En cada registro se indicará el contenido de cemento y la relación agua cemento empleados y estará firmado por persona física.

Ensayos de control del hormigón:

Se realizarán los mismos ensayos que los descritos para el hormigón fabricado en central.

Ensayos previos del hormigón:

Para establecer la dosificación, el fabricante de este tipo de hormigón deberá realizar ensayos previos, según el artículo 86, que serán preceptivos salvo experiencia previa.

Ensayos característicos del hormigón:

Para comprobar, en general antes del comienzo de hormigonado, que la resistencia real del hormigón que se va a colocar en la obra no es inferior a la de proyecto, el fabricante de este tipo de hormigón deberá realizar ensayos, según el artículo 87, que serán preceptivos salvo experiencia previa.

De los materiales constituyentes:

- Cemento (artículos 26 y 81.1 de la Instrucción EHE, Instrucción RC-03).
- Cementos comunes*
- Marcado CE obligatorio desde el 1 de febrero de 2002. Norma de aplicación: UNE-EN 197-1:2000/A1:2005. Cemento. Parte 1: Composición, especificaciones y criterios de conformidad de los cementos comunes. Sistema de evaluación de la conformidad: 1+.
- Cementos de escorias de horno alto de baja resistencia inicial
- Marcado CE obligatorio desde el 1 de febrero de 2006. Norma de aplicación: UNE-EN 197-4:2005 Cemento. Parte 4: Composición, especificaciones y criterios de conformidad de los cementos de escorias de horno alto de baja resistencia inicial. Sistema de evaluación de la conformidad: 1+.
- Cementos de albañilería

- Marcado CE obligatorio desde el 1 de diciembre de 2005. Norma de aplicación: UNE-EN 413-1:2005. Cementos de albañilería. Parte 1: Composición, especificaciones y criterios de conformidad. Sistema de evaluación de la conformidad: 1+.
- Cemento de aluminato cálcico
- Marcado CE obligatorio desde el 1 de agosto de 2007. Norma de aplicación: UNE-EN 14647:2006. Cemento de aluminato cálcico. Composición, especificaciones y criterios de conformidad. Sistema de evaluación de la conformidad: 1+.
- Cementos especiales de muy bajo calor de hidratación
- Marcado CE obligatorio desde el 1 de febrero de 2006. Norma de aplicación: UNE-EN 14216:2005. Cemento. Composición, especificaciones y criterios de conformidad de los cementos especiales de muy bajo calor de hidratación. Sistema de evaluación de la conformidad: 1+.

Se establece la recepción del cemento conforme a la vigente Instrucción para la Recepción de Cementos. El responsable de la recepción del cemento deberá conservar una muestra preventiva por lote durante 100 días.

Control documental:

Cada partida se suministrará con un albarán y documentación anexa, que acredite que está legalmente fabricado y comercializado, de acuerdo con lo establecido en el apartado 9, Suministro e Identificación de la Instrucción RC-03.

Ensayos de control:

Antes de comenzar el hormigonado, o si varían las condiciones de suministro y cuando lo indique la dirección facultativa, se realizarán los ensayos de recepción previstos en la Instrucción RC-03 y los correspondientes a la determinación del ión cloruro, según el artículo 26 de la Instrucción EHE.

Al menos una vez cada tres meses de obra y cuando lo indique la dirección facultativa, se comprobarán: componentes del cemento, principio y fin de fraguado, resistencia a compresión y estabilidad de volumen.

Agua (artículos 27 y 81.2 de la Instrucción EHE):

Cuando no se posean antecedentes de su utilización, o en caso de duda, se realizarán los siguientes ensayos:

Ensayos (según normas UNE): exponente de hidrógeno pH. Sustancias disueltas. Sulfatos. Ion Cloruro. Hidratos de carbono. Sustancias orgánicas solubles en éter.

Áridos (artículo 28 de la Instrucción EHE y ver lo indicado en el capítulo “Zapatas y vigas” del presente anejo, para áridos para hormigón.

Control documental:

Cada carga de árido irá acompañada de una hoja de suministro que estará en todo momento a disposición de la dirección facultativa, y en la que figuren los datos que se indican en el artículo 28.4.

Ensayos de control (según normas UNE):

Terrones de arcilla. Partículas blandas (en árido grueso). Materia que flota en líquido de p.e. = 2. Compuesto de azufre. Materia orgánica (en árido fino). Equivalente de arena. Azul de metileno. Granulometría. Coeficiente de forma. Finos que pasan por el tamiz 0,063 UNE EN 933-2:96. Determinación de cloruros. Además, para firmes rígidos en viales: friabilidad de la arena. Resistencia al desgaste de la grava. Absorción de agua. Estabilidad de los áridos.

Salvo que se disponga de un certificado de idoneidad de los áridos que vayan a utilizarse emitido como máximo un año antes de la fecha de empleo, por un laboratorio oficial o acreditado, deberán realizarse los ensayos indicados.

Otros componentes (artículo 29 de la Instrucción EHE y ver lo enunciado en el capítulo "Zapatas y vigas" del presente anejo).

Control documental:

No podrán utilizarse aditivos que no se suministren correctamente etiquetados y acompañados del certificado de garantía del fabricante, firmado por una persona física.

Cuando se utilicen cenizas volantes o humo de sílice, se exigirá el correspondiente certificado de garantía emitido por un laboratorio oficial u oficialmente acreditado con los resultados de los ensayos prescritos en el artículo 29.2.

Ensayos de control:

Se realizarán los ensayos de aditivos y adiciones indicados en los artículos 29 y 81.4 acerca de su composición química y otras especificaciones.

Antes de comenzar la obra se comprobará en todos los casos el efecto de los aditivos sobre las características de calidad del hormigón. Tal comprobación se realizará mediante los ensayos previos citados en el artículo 86.

Acero en armaduras pasivas:

Control documental.

Aceros certificados (con distintivo reconocido o CC-EHE según artículo 1):

Cada partida de acero irá acompañada de:

- Acreditación de que está en posesión del mismo.
- Certificado específico de adherencia, en el caso de barras y alambres corrugados;

- Certificado de garantía del fabricante, firmado por persona física, en el que se indiquen los valores límites de las diferentes características expresadas en los artículos 31.2 (barras corrugadas), 31.3 (mallas electrosoldadas) y 31.4 (armaduras básicas electrosoldadas en celosía) que justifiquen que el acero cumple las exigencias contenidas en la Instrucción EHE.

Aceros no certificados (sin distintivo reconocido o CC-EHE según artículo 1):

Cada partida de acero irá acompañada de:

- Resultados de los ensayos correspondientes a la composición química, características mecánicas y geométricas, efectuados por un organismo de los citados en el artículo 1º de la Instrucción EHE;
- Certificado específico de adherencia, en el caso de barras y alambres corrugados.
- CC-EHE, que justifiquen que el acero cumple las exigencias establecidas en los artículos 31.2, 31.3 y 31.4, según el caso.

Ensayos de control.

Se tomarán muestras de los aceros para su control según lo especificado en el artículo 90, estableciéndose los siguientes niveles de control:

Control a nivel reducido, sólo para aceros certificados.

Se comprobará sobre cada diámetro: que la sección equivalente cumple lo especificado en el artículo 31.1, realizándose dos verificaciones en cada partida; no formación de grietas o fisuras en las zonas de doblado y ganchos de anclaje, mediante inspección en obra. Las condiciones de aceptación o rechazo se establecen en el artículo 90.5.

Control a nivel normal:

Las armaduras se dividirán en lotes que correspondan a un mismo suministrador, designación y serie. Se definen las siguientes series:

- Serie fina: diámetros inferiores o iguales 10 mm.
- Serie media: diámetros de 12 a 25 mm.
- Serie gruesa: diámetros superiores a 25 mm.

El tamaño máximo del lote será de 40 t para acero certificado y de 20 t para acero no certificado.

Se comprobará sobre una probeta de cada diámetro, tipo de acero y suministrador en dos ocasiones:

- Límite elástico, carga de rotura y alargamiento en rotura.
- Por cada lote, en dos probetas:

Se comprobará que la sección equivalente cumple lo especificado en el artículo 31.1,

Se comprobarán las características geométricas de los resaltos, según el artículo 31.2,

Se realizará el ensayo de doblado-desdoblado indicado en el artículo 31.2 y 31.3.

En el caso de existir empalmes por soldadura se comprobará la soldabilidad (artículo 90.4).

Las condiciones de aceptación o rechazo se establecen en el artículo 90.5.

Elementos resistentes de los forjados:

- Vigas y vigutas prefabricadas de hormigón, u hormigón y arcilla cocida.

Según la Instrucción EFHE, para elementos resistentes se comprobará que:

- Las viguetas o losas alveolares pretensadas llevan marcas que permitan la identificación del fabricante, tipo de elemento, fecha de fabricación y longitud del elemento, y que dichas marcas coinciden con los datos que deben figurar en la hoja de suministro; las características geométricas y de armado del elemento resistente cumplen las condiciones reflejadas en la Autorización de Uso y coinciden con las establecidas en los planos de los forjados del proyecto de ejecución del edificio;

Piezas prefabricadas para entrevigado:

En cuanto al control y aceptación de este tipo de piezas, se cumplirá que toda pieza de entrevigado sea capaz de soportar una carga característica de 1 kN, repartida uniformemente en una placa de 200 x 75 x 25 mm, situada en la zona más desfavorable de la pieza.

En piezas de entrevigado cerámicas, el valor medio de la expansión por humedad, determinado según UNE 67036:99, no será mayor que 0,55 mm/m, y no debe superarse en ninguna de las mediciones individuales el valor de 0,65 mm/m. Las piezas de entrevigado que superen el valor límite de expansión total podrán utilizarse, no obstante, siempre que el valor medio de la expansión potencial, según la UNE 67036:99, determinado previamente a su puesta en obra, no sea mayor que 0,55 mm/m.

En cada suministro que llegue a la obra de piezas de entrevigado se realizarán las comprobaciones siguientes:

- Que las piezas están legalmente fabricadas y comercializadas;
- Que el sistema dispone de Autorización de uso en vigor, justificada documentalmente por el fabricante, de acuerdo con la Instrucción EFHE, y que las condiciones allí reflejadas coinciden con las características geométricas de la pieza de entrevigado. Esta comprobación no será necesaria en el caso de productos que posean un distintivo de calidad reconocido oficialmente.

CONTROL DE EJECUCIÓN

Se seguirán las prescripciones del capítulo XVII de la Instrucción EHE. Para la realización del control de la ejecución se acogerá el control de ejecución a nivel intenso de acuerdo al anejo de estructuras del presente proyecto.

Las comprobaciones generales que deben efectuarse durante la ejecución se realizarán en lotes de 250 m2 de forjado y son:

Comprobaciones de replanteo y geométricas: 1 cada 250 m2

Cotas, niveles y geometría.

Tolerancias admisibles.

Espesor mínimo de la losa superior hormigonada en obra, excepto en los forjados con losas alveolares pretensadas en las que pueden no disponerse ésta, será de: 40 mm sobre viguetas; 40 mm sobre piezas de entrevigado de arcilla cocida o de hormigón y losas alveolares pretensadas; 50 mm sobre piezas de entrevigado de otro tipo; 50 mm sobre piezas de entrevigado en el caso de zonas con aceleración sísmica de cálculo mayor que 0,16 g.

En el caso de forjados de viguetas sin armaduras transversales de conexión con el hormigón vertida en obra, el perfil de la pieza de entrevigado dejará a ambos lados de la cara superior de la vigueta un paso de 30 mm, como mínimo.

Cimbras y andamiajes: se inspeccionarán la totalidad de unidades de 3000 m3 de cimbra cada 250m2.

Existencia de cálculo, en los casos necesarios.

Comprobación de planos.

Comprobación de cotas y tolerancias.

Revisión del montaje.

Armaduras: 5 controles de las armaduras de 1 nivel de forjado

Tipo, diámetro y posición.

Corte y doblado.

Almacenamiento.

Tolerancias de colocación.

Recubrimientos y separación entre armaduras. Utilización de separadores y distanciadores.

Estado de vainas, anclajes y empalmes y accesorios.

-Encofrados: 3 controles del encofrado de un nivel de apuntalamiento por planta cada 250m2

Estanquidad, rigidez y textura.

Tolerancias.

Posibilidad de limpieza, incluidos fondos.

Geometría y contraflechas.

Transporte, vertido y compactación: mínimo 5 inspecciones de 120m3 cada 250m2

Tiempos de transporte.

Condiciones de vertido: método, secuencia, altura máxima, etc.

Hormigonado con viento, tiempo frío, tiempo caluroso o lluvia.

Compactación del hormigón.

Acabado de superficies.

Juntas de trabajo, contracción o dilatación: se inspeccionarán 3 juntas elaboradas en la misma jornada cada 250 m2.

Disposición y tratamiento de juntas de trabajo y contracción.

Limpieza de las superficies de contacto.

Tiempo de espera.

Armaduras de conexión.

Posición, inclinación y distancia.

Dimensiones y sellado, en los casos que proceda.

Curado: 5 inspecciones de 150 m2 de superficie de hormigón cada 250m2 de forjado.

Método aplicado.

Plazos de curado.

Protección de superficies.

Desmoldeado y descimbrado: Desmoldeo: 5 controles de 1 nivel de apuntalamiento por planta cada 250m2 de forjado; Descimbrado: 3 controles de 3000 m3 de cimbra cada 250m2 de forjado.

Control de la resistencia del hormigón antes del tesado.

Control de sobrecargas de construcción.

Comprobación de plazos de descimbrado.

Reparación de defectos.

Tolerancias y dimensiones finales:

Comprobación dimensional.

Reparación de defectos y limpieza de superficies.

Específicas para forjados de edificación: 1 cada 250 m2

Comprobación de la Autorización de Uso vigente.

Dimensiones de macizados, ábacos y capiteles.

Condiciones de enlace de los nervios.

Comprobación geométrica del perímetro crítico de rasante.

Espesor de la losa superior.

Canto total.

Huecos: posición, dimensiones y solución estructural.

Armaduras de reparto.

Separadores.

Moldes: 3 controles de un nivel de apuntalamiento por planta cada 250m2 de forjado.

Limpieza y desencofrantes.

Colocación.

Curado: 5 controles 150m2 de superficie de hormigón cada 250m2 de forjado.

Ciclo térmico.

Protección de piezas.

Desmoldeo y almacenamiento: 5 controles en un nivel de apuntalamiento por planta cada 250m2 de forjado.

Levantamiento de piezas.

Almacenamiento en fábrica.

Transporte a obra y montaje:

Elementos de suspensión y cuelgue.

Situación durante el transporte.

Operaciones de carga y descarga.

Métodos de montaje.

Almacenamiento en obra.

Comprobación del montaje.

Las comprobaciones que deben efectuarse para forjados unidireccionales de hormigón estructural realizados con elementos prefabricados durante la ejecución son:

- Los acopios cumplirán las especificaciones del artículo 25.
- Las viguetas o losas alveolares pretensadas no presentan daños que afecten a su capacidad resistente.
- Los enlaces o apoyos en las viguetas o losas alveolares pretensadas son correctos.
- La ejecución de los apuntalados es correcta, con especial atención a la distancia entre sopandas, diámetros y resistencia de los puntales.
- La colocación de viguetas coincide con la posición prevista en los planos.
- La longitud y diámetro de las armaduras colocadas en obra son las indicadas en los planos.
- La posición y fijación de las armaduras se realiza mediante la utilización de los separadores adecuados.
- Las disposiciones constructivas son las previstas en el proyecto.
- Se realiza la limpieza y regado de las superficies antes del vertido del hormigón en obra.
- El espesor de la losa superior hormigonada en obra coincide con los prescritos.
- La compactación y curado del hormigón son correctos.
- Se cumplen las condiciones para proceder al desapuntalado.
- Las tolerancias son las que figuran en el proyecto.
- Cuando en el proyecto se hayan utilizado coeficientes diferentes de los de la Instrucción EHE que permite el artículo 6, se comprobará que cumplen las condiciones que se establecen en éste.

Ensayos y pruebas

Según el artículo 99 de la Instrucción EHE, de las estructuras proyectadas y construidas con arreglo a dicha Instrucción, en las que los materiales y la ejecución hayan alcanzado la calidad prevista, comprobada mediante los controles preceptivos, sólo necesitan someterse a ensayos de información y en particular a pruebas de carga, las incluidas en los supuestos que se relacionan a continuación:

- Cuando así lo dispongan las Instrucciones, Reglamentos específicos de un tipo de estructura o el proyecto.

- Cuando debido al carácter particular de la estructura convenga comprobar que la misma reúne ciertas condiciones específicas. En este caso el proyecto establecerá los ensayos oportunos que se deben realizar, indicando con toda precisión la forma de realizarlos y el modo de interpretar los resultados.
- Cuando a juicio de la dirección facultativa existan dudas razonables sobre la seguridad, funcionalidad o durabilidad de la estructura.
- Cuando se realicen pruebas de carga, estas no deberán realizarse antes de que el hormigón haya alcanzado la resistencia de proyecto.

6.1.2 Vigas y pilares metálicos

Características y recepción de los productos que se incorporan a las unidades de obra

Formación de elementos estructurales con perfiles normalizados de acero, utilizados directamente o formando piezas compuestas.

Condiciones de suministro y recepción

La recepción de los productos, equipos y sistemas comprende el control de la documentación de los suministros (incluida la del marcado CE cuando sea pertinente), el control mediante distintivos de calidad o evaluaciones técnicas de idoneidad y el control mediante ensayos.

Aceros en chapas y perfiles.

- Acero para el armado de hormigón. Acero soldable para armaduras de hormigón armado. Será de aplicación lo expuesto en el apartado “Losas de cimentación” de este anejo.
- Perfiles huecos para construcción acabados en caliente, de acero no aleado de grano fino
- Marcado CE obligatorio a partir del 1 de febrero de 2008. UNE-EN 10210-1:2007. Perfiles huecos para construcción acabados en caliente, de acero no aleado de grano fino. Parte 1: Condiciones técnicas de suministro. Sistema de evaluación de la conformidad: 2+.
- Perfiles huecos para construcción conformados en frío de acero no aleado y de grano fino
- Marcado CE obligatorio a partir del 1 de febrero de 2008. UNE-EN 10219-1:2007. Perfiles huecos para construcción soldados, conformados en frío de acero no aleado y de grano fino. Parte 1: Condiciones técnicas de suministro. Sistema de evaluación de la conformidad: 2+.

Los elementos estructurales pueden estar constituidos por los aceros establecidos por las normas UNE EN 10025:2006 (chapas y perfiles), UNE EN 10210-1:1994 (tubos acabados en caliente) y UNE EN 10219-1:1998 (tubos conformados en frío).

Los tipos de acero podrán ser S235, S275 y S355; para los de UNE EN 10025:2006 y otras se admite también el tipo S450; según el CTE DB SE A, tabla 4.1, se establecen sus características mecánicas. Estos aceros podrán ser de los grados JR, J0 y J2; para el S355 se admite también el grado K2.

Si se emplean otros aceros en proyecto, para garantizar su ductilidad, deberá comprobarse:

- La relación entre la tensión de rotura y la de límite elástico no será inferior a 1,20,
- El alargamiento en rotura de una probeta de sección inicial S0 medido sobre una longitud 5,65 $\sqrt{S_0}$ será superior al 15%, la deformación correspondiente a la tensión de rotura debe superar al menos un 20% la correspondiente al límite elástico.

Para comprobar la ductilidad en cualquier otro caso no incluido en los anteriores, deberá demostrarse que la temperatura de transición (la mínima a la que la resistencia a rotura dúctil supera a la frágil) es menor que la mínima de aquellas a las que va a estar sometida la estructura.

Todos los aceros relacionados son soldables y únicamente se requiere la adopción de precauciones en el caso de uniones especiales (entre chapas de gran espesor, de espesores muy desiguales, en condiciones difíciles de ejecución, etc.).

Si el material va a sufrir durante la fabricación algún proceso capaz de modificar su estructura metalográfica (deformación con llama, tratamiento térmico específico, etc.) se deben definir los requisitos adicionales pertinentes.

Materiales de aportación. Las características mecánicas de los materiales de aportación serán en todos los casos superiores a las del metal base.

En aceros de resistencia mejorada a la corrosión atmosférica, la resistencia a la corrosión del material de aportación debe ser equivalente a la del material base; cuando se suelden este tipo de aceros el valor del carbono equivalente no debe exceder de 0,54.

Los productos especificados por UNE EN 10025:2006 deben suministrarse con inspección y ensayos, específicos (sobre los productos suministrados) o no específicos (no necesariamente sobre los productos suministrados), que garanticen su conformidad con el pedido y con la norma. El comprador debe especificar al fabricante el tipo de documento de inspección requerido conforme a UNE EN 10204:2006 (tabla A.1). Los productos deben marcarse de manera legible utilizando métodos tales como la pintura, el troquelado, el marcado con láser, el código de barras o mediante etiquetas adhesivas permanentes o etiquetas fijas con los siguientes datos: el tipo, la calidad y, si fuera aplicable, la condición de suministro mediante su designación abreviada (N, conformado de normalización; M, conformado termomecánico); el tipo de marcado puede especificarse en el momento de efectuar el pedido.

Los productos especificados por UNE EN 10210 y UNE EN 10219 deben ser suministrados después de haber superado los ensayos e inspecciones no específicos recogidos en EN 10021:1994 con una testificación de inspección conforme a la norma UNE EN 10204, salvo exigencias contrarias del comprador en el momento de hacer el pedido. Cada perfil hueco debe ser marcado por un procedimiento adecuado y duradero, como la aplicación de pintura, punzonado o una etiqueta adhesiva en la que se indique la designación abreviada (tipo y

grado de acero) y el nombre del fabricante; cuando los productos se suministran en paquetes, el marcado puede ser indicado en una etiqueta fijada sólidamente al paquete.

Para todos los productos se verificarán las siguientes ***condiciones técnicas generales de suministro***, según UNE EN 10021:

- Si se suministran a través de un transformador o intermediario, se deberá remitir al comprador, sin ningún cambio, la documentación del fabricante como se indica en UNE EN 10204, acompañada de los medios oportunos para identificar el producto, de forma que se pueda establecer la trazabilidad entre la documentación y los productos; si el transformador o intermediario ha modificado en cualquier forma las condiciones o las dimensiones del producto, debe facilitar un documento adicional de conformidad con las nuevas condiciones.
- Al hacer el pedido, el comprador deberá establecer que tipo de documento solicita, si es que requiere alguno y, en consecuencia, indicar el tipo de inspección: específica o no específica en base a una inspección no específica, el comprador puede solicitar al fabricante que le facilite una testificación de conformidad con el pedido o una testificación de inspección; si se solicita una testificación de inspección, deberá indicar las características del producto cuyos resultados de los ensayos deben recogerse en este tipo de documento, en el caso de que los detalles no estén recogidos en la norma del producto.
- Si el comprador solicita que la conformidad de los productos se compruebe mediante una inspección específica, en el pedido se concretará cual es el tipo de documento requerido: un certificado de inspección tipo 3.1 ó 3.2 según la norma UNE EN 10204, y si no está definido en la norma del producto: la frecuencia de los ensayos, los requisitos para el muestreo y la preparación de las muestras y probetas, los métodos de ensayo y, si procede, la identificación de las unidades de inspección

El ***proceso de control*** de esta fase debe contemplar los siguientes aspectos:

- En los materiales cubiertos por marcas, sellos o certificaciones de conformidad reconocidos por las Administraciones Públicas competentes, este control puede limitarse a un certificado expedido por el fabricante que establezca de forma inequívoca la traza que permita relacionar cada elemento de la estructura con el certificado de origen que lo avala.
- Si no se incluye una declaración del suministrador de que los productos o materiales cumplen con el Pliego de Condiciones del proyecto, se tratarán como productos o materiales no conformes.
- Cuando en la documentación del proyecto se especifiquen características no avaladas por el certificado de origen del material (por ejemplo, el valor máximo del límite elástico en el caso de cálculo en capacidad), se establecerá un procedimiento de control mediante ensayos.

- Cuando se empleen materiales que por su carácter singular no queden cubiertos por una norma nacional específica a la que referir la certificación (arandelas deformables, tornillos sin cabeza, conectadores, etc.) se podrán utilizar normas o recomendaciones de prestigio reconocido.
- Cuando haya que verificar las tolerancias dimensionales de los perfiles comerciales se tendrán en cuenta las siguientes normas:

serie IPN: UNE EN 10024:1995

series IPE y HE: UNE EN 10034:1994

serie UPN: UNE 36522:2001

series L y LD: UNE EN 10056-1:1999 (medidas) y UNE EN 10056-2:1994 (tolerancias)

tubos: UNE EN 10219:1998 (parte 1: condiciones de suministro; parte 2: tolerancias)

chapas: EN 10029:1991

Control de ejecución

El nivel de control de ejecución se realiza a nivel normal:

Se desarrollará según las dos etapas siguientes:

-**Control de calidad de la fabricación**:

Según el CTE DB SE A, la documentación de fabricación será elaborada por el taller y deberá contener, al menos, una memoria de fabricación, los planos de taller y un plan de puntos de inspección. Esta documentación debe ser revisada y aprobada por la dirección facultativa verificando su coherencia con la especificada en la documentación general del proyecto, la compatibilidad entre los distintos procedimientos de fabricación, y entre éstos y los materiales empleados. Se comprobará que cada operación se realiza en el orden y con las herramientas especificadas, el personal encargado de cada operación posee la cualificación adecuada, y se mantiene el adecuado sistema de trazado que permita identificar el origen de cada incumplimiento

Soldaduras: se inspeccionará visualmente toda la longitud de todas las soldaduras comprobando su presencia y situación, tamaño y posición, superficies y formas, y detectando defectos de superficie y salpicaduras; se indicará si deben realizarse o no ensayos no destructivos, especificando, en su caso, la localización de las soldaduras a inspeccionar y los métodos a emplear; según el CTE DB SE A apartado 10.8.4.2, podrán ser (partículas magnéticas según UNE EN 1290:1998, líquidos penetrantes según UNE 14612:1980, ultrasonidos según UNE EN 1714:1998, ensayos radiográficos según UNE EN 1435:1998); el alcance de esta inspección se realizará de acuerdo con el artículo 10.8.4.1, teniendo en cuenta, además, que la corrección en distorsiones no conformes obliga a inspeccionar las soldaduras situadas en esa zona; se deben especificar los criterios de aceptación de las

soldaduras, debiendo cumplir las soldaduras reparadas los mismos requisitos que las originales; para ello se puede tomar como referencia UNE EN ISO 5817:2004, que define tres niveles de calidad, B, C y D.

Uniones mecánicas: todas las uniones mecánicas, pretensadas o sin pretensar tras el apriete inicial, y las superficies de rozamiento se comprobarán visualmente; la unión debe rehacerse si se exceden los criterios de aceptación establecidos para los espesores de chapa, otras disconformidades podrán corregirse, debiendo volverse a inspeccionar tras el arreglo; según el CTE DB SE A, apartado 10.8.5.1, en uniones con tornillos pretensados se realizarán las inspecciones adicionales indicadas en dicho apartado; si no es posible efectuar ensayos de los elementos de fijación tras completar la unión, se inspeccionarán los métodos de trabajo; se especificarán los requisitos para los ensayos de procedimiento sobre el pretensado de tornillos. Previamente a aplicar el tratamiento de protección en las uniones mecánicas, se realizará una inspección visual de la superficie para comprobar que se cumplen los requisitos del fabricante del recubrimiento; el espesor del recubrimiento se comprobará, al menos, en cuatro lugares del 10% de los componentes tratados, según uno de los métodos de UNE EN ISO 2808:2000, el espesor medio debe ser superior al requerido y no habrá más de una lectura por componente inferior al espesor normal y siempre superior al 80% del nominal; los componentes no conformes se tratarán y ensayarán de nuevo

Control de calidad del montaje:

Según el CTE DB SE A, apartado 12.5.1, la documentación de montaje será elaborada por el montador y debe contener, al menos, una memoria de montaje, los planos de montaje y un plan de puntos de inspección según las especificaciones de dicho apartado. Esta documentación debe ser revisada y aprobada por la dirección facultativa verificando su coherencia con la especificada en la documentación general del proyecto, y que las tolerancias de posicionamiento de cada componente son coherentes con el sistema general de tolerancias. Durante el proceso de montaje se comprobará que cada operación se realiza en el orden y con las herramientas especificadas, que el personal encargado de cada operación posee la cualificación adecuada, y se mantiene un sistema de trazado que permite identificar el origen de cada incumplimiento.

Ensayos y pruebas

Las actividades y ensayos de los aceros y productos incluidos en el control de materiales, pueden ser realizados por laboratorios oficiales o privados; los laboratorios privados, deberán estar acreditados para los correspondientes ensayos conforme a los criterios del Real Decreto 2200/1995, de 20 de diciembre, o estar incluidos en el registro general establecido por el Real Decreto 1230/1989, de 13 de octubre.

Previamente al inicio de las actividades de control de la obra, el laboratorio o la entidad de control de calidad deberán presentar a la dirección facultativa para su aprobación un plan de control o, en su caso, un plan de inspección de la obra que contemple, como mínimo, los siguientes aspectos:

- Identificación de materiales y actividades objeto de control y relación de actuaciones a efectuar durante el mismo (tipo de ensayo, inspecciones, etc.).
- Previsión de medios materiales y humanos destinados al control con indicación, en su caso, de actividades a subcontratar.
- Programación inicial del control, en función del programa previsible para la ejecución de la obra.
- Planificación del seguimiento del plan de autocontrol del constructor, en el caso de la entidad de control que efectúe el control externo de la ejecución.
- Designación de la persona responsable por parte del organismo de control.
- Sistemas de documentación del control a emplear durante la obra.

El plan de control deberá prever el establecimiento de los oportunos lotes, tanto a efectos del control de materiales como de los productos o de la ejecución, contemplando tanto el montaje en taller o en la propia obra.

6.1.3 Pintura Intumescente.

Características y recepción de los productos que se incorporan a las unidades de obra

Revestimiento continuo con pinturas de elementos de estructura, previa preparación de la superficie o no con imprimación, situados al interior o al exterior, que sirven como elemento protector.

Condiciones de suministro y recepción

La recepción de los productos, equipos y sistemas comprende el control de la documentación de los suministros (incluida la del marcado CE cuando sea pertinente), el control mediante distintivos de calidad o evaluaciones técnicas de idoneidad y el control mediante ensayos.

Pinturas y barnices: constituirán mano de fondo o de acabado de la superficie a revestir.

Estarán compuestos de:

- Medio de disolución: disolvente orgánico (pinturas bituminosas, pinturas intumescentes, pinturas ignífugas, etc.).
- En la recepción de cada pintura se comprobará, el etiquetado de los envases, en donde deberán aparecer: las instrucciones de uso, la capacidad del envase, el sello del fabricante.
- Los materiales protectores deben almacenarse y utilizarse de acuerdo con las instrucciones del fabricante y su aplicación se realizará dentro del periodo de vida útil del producto y en el tiempo indicado para su aplicación, de modo que la protección quede totalmente terminada en dichos plazos, según el CTE DB SE A apartado 3 durabilidad.
- Las pinturas se almacenarán de manera que no soporten temperaturas superiores a 40ºC, y no se utilizarán una vez transcurrido su plazo de caducidad, que se estima en un año.

– Los envases se mezclarán en el momento de abrirlos, no se batirá, sino que se removerá.

Control de ejecución

Se visitará tres veces la obra controlando los espesores de pinturas sobre estructuras metálicas.

Se comprobará que se ha ejecutado correctamente la preparación del soporte (imprimación selladora, anticorrosivo, etc.), así como la aplicación del número de manos de pintura necesarios.

6.2 PLAN DE ENSAYOS

6.2.1 CONDUCCIONES

6.2.1.1 Rellenos en zanja

Serán objeto de control los siguientes puntos:

- Control de los materiales.
- Control de la extensión.
- Control de la compactación.

6.2.1.1.1 Control de los materiales

El objeto es comprobar que el material a utilizar cumple lo establecido en los Pliegos de Prescripciones Técnicas, tanto en el lugar de origen como en el de empleo, para evitar las alteraciones que puedan producirse como consecuencia de las operaciones de extracción, carga, transporte y descarga.

6.2.1.1.2 Control de la extensión

Se vigilará y comprobará que la extensión de las capas cumple las condiciones de los Pliegos de Prescripciones Técnicas y Planos del Proyecto.

6.2.1.1.3 Control de la compactación

Se comprobará que la compactación cumple las condiciones de densidad establecidas en el Pliego de Prescripciones Técnicas del Proyecto.

Normativa	Número	Ensayo	Cadencia	
			m2	m3
UNE 103.101	1	Ensayos para determinar las propiedades geométricas de los áridos. Parte 1: Determinación de la granulometría de las partículas. Métodos del tamizado.	--	1.000
UNE 103.103	1	Determinación del límite líquido de un suelo por el método del aparato de Casagrande	--	1.000
UNE 103.104	1	Determinación del límite plástico de un suelo		
NLT 117/72	1	Determinación del contenido de materia orgánica oxidable de un suelo por el métododel permanganato potásico	--	1.000
UNE 103.501	1	Ensayo de compactación. Próctor modificado	--	1.000
UNE 103.502	1	Método de ensayo para determinar en laboratorio el índice C.B.R. de un suelo	--	1.000

NLT 114	1	Determinación del contenido de sales solubles de los suelos	--	1.000
ASTM-D 3017	1	Determinación de la densidad y humedad "in situ" por isótopos radiactivos	--	70
UNE 103.109	1	Equivalente de Arena	--	1.000
UNE EN 1428	1	Contenido de Humedad Secado Estufa	--	1.000
NLT 115	1	Contenido en yeso	--	1.000

6.2.2 HORMIGONES

De cara a la valoración de ensayos a realizar en el hormigón, cabe realizar las siguientes consideraciones. Para el caso de hormigones fabricados en central, que además posean un Sello de Calidad oficialmente reconocido, se reducirá el muestreo al 50%. Para hormigones fabricados en obra se exigirá la realización de ensayos al 100 % de los lotes, incluso al árido recibido en su lugar de procedencia.

6.2.2.1 Control en lugar de procedencia

Se realizarán los ensayos siguientes antes de comenzar la obra, siempre que varíen las condiciones de suministro o cuando lo estime la Dirección de Obra. Dado el volumen de hormigones en obra, se ha considerado necesario realizar un ensayo de los que se enumeran a continuación.

Normativa	Número	Ensayo	Cadencia	
			m2	m3
UNE-EN 933-1	1	Ensayos para determinar las propiedades geométricas de los áridos. Parte 1: Determinación de la granulometría de las partículas. Métodos del tamizado.	--	--
UNE 7.133	1	Determinación de terrones de arcilla en áridos para la fabricación de morteros y hormigones.	--	--
UNE 7.134	1	Determinación de partículas blandas en áridos gruesos para hormigones.	--	--
UNE-EN 1744-1	1	Ensayos para determinar las propiedades químicas de los áridos. Parte 1: Análisis químico.	--	--
UNE 146.507	1	Ensayos de áridos. Determinación de la reactividad potencial de los áridos.	--	--
UNE EN 1.367	1	Ensayos para determinar las propiedades térmicas y de alteración de los áridos. Parte 2: Ensayo de sulfato de magnesio.	--	--
UNE-EN 933-1	1	Ensayos para determinar las propiedades geométricas de los áridos. Parte 1: Determinación de la granulometría de las partículas. Métodos del tamizado.	--	--
UNE-EN 933-8	1	Ensayos para determinar las propiedades geométricas de los áridos. Parte 8: Evaluación de los finos. Ensayo del equivalente de arena.	--	--
UNE-EN 1.097-2	1	Ensayos para determinar las propiedades mecánicas y físicas de los áridos. Parte 2: Métodos para la determinación de la resistencia a la fragmentación.	--	--
UNE-EN 12350-2	6	Ensayos de hormigón fresco. Parte 2: Ensayo de asentamiento.	--	--
UNE-EN 12.390-3	1	Ensayos de hormigón endurecido. Parte 3: Determinación de la resistencia a compresión de probetas.	--	--

6.2.2.2 Control de la ejecución

A efectos de control se dividirá la obra en partes sucesivas no inferiores a 100 m3 o a un número de amasadas de

Se realizará el control determinando la resistencia de un lote de 6 probetas tomadas de una misma amasada por cada 100 m3 de hormigón ó 25 amasadas.

En la siguiente tabla se pueden consultar los criterios para la determinación de lotes de estudio. Se ha tenido en cuenta el caso más desfavorable teniendo en cuenta que el hormigón fabricado no tuviera D.O.R

TIPO DE ELEMENTO			
	PILAS, PILOTES, MUROS PORTANTES	VIGAS, FORJADOS, MUROS DE CONTENCIÓN	ZAPATAS, BLOQUES
Volumen (m^3)	100	100	100
Tiempo máximo (semanas)	2	2	1
Superficie construida (m^2)	500	1.000	-
Nº de plantas	2	2	-

Se determina en función del volumen de hormigón los siguientes ensayos:

- **DEPOSITO PREFABRICADO (CIMENTACIÓN)**
  - VOLUMEN ESTIMADO = 252 m³
  - Nº DE LOTES = 3
  - RESISTENCIA DEL HORMIGÓN = 25-30 MPa
  - Nº AMASADAS CONTROLADAS (3 X LOTE) = 9
  - Nº CONTROLES A REALIZAR = 27 (3 PROBETAS POR AMASADA CON ROTURA A 28 d)
- **CASETA DE BOMBAS (CIMENTACIÓN + MUROS):**
  - VOLUMEN ESTIMADO = 30,58 m³
  - Nº DE LOTES = 1
  - RESISTENCIA DEL HORMIGÓN = 25-30 MPa
  - Nº AMASADAS CONTROLADAS = 2
  - Nº CONTROLES A REALIZAR = 6 (3 PROBETAS POR AMASADA CON ROTURA A 28 d)
- **CASETA DE BOMBAS (LOSA CUBIERTA):**
  - VOLUMEN ESTIMADO = 10,50 m³
  - Nº DE LOTES = 1
  - RESISTENCIA DEL HORMIGÓN = 30 MPa
  - Nº AMASADAS CONTROLADAS = 2
  - Nº CONTROLES A REALIZAR = 6 (3 PROBETAS POR AMASADA CON ROTURA A 28 d)
- **CASETA DE LLAVES (CIMENTACIÓN + MUROS):**
  - VOLUMEN ESTIMADO = 16,90 m³
  - Nº DE LOTES = 1

- RESISTENCIA DEL HORMIGÓN = 25-30 MPa
- Nº AMASADAS CONTROLADAS = 2
- Nº CONTROLES A REALIZAR = 6 (3 PROBETAS POR AMASADA CON ROTURA A 28 d)

- **CASETA DE LLAVES (LOSA CUBIERTA):**
  - VOLUMEN ESTIMADO = 3,00 m³
  - Nº DE LOTES = 1
  - RESISTENCIA DEL HORMIGÓN = 30 MPa
  - Nº AMASADAS CONTROLADAS = 2
  - Nº CONTROLES A REALIZAR = 6 (3 PROBETAS POR AMASADA CON ROTURA A 28 d)

Las probetas se fabricarán, conservarán y romperán conforme a lo establecido en las normas:

Normativa	Número	Ensayo	Cadencia	
			m2	m3
UNE-EN 12350-2	1	Ensayos de hormigón fresco. Parte 2: Ensayo de asentamiento.	--	100
UNE-EN 12.390-3	1	Ensayos de hormigón endurecido. Parte 3: Determinación de la resistencia a compresiónde probetas.	--	100

6.2.3 ACEROS

La conformidad del acero cuando éste disponga de marcado CE, se comprobará mediante la verificación documental de que los valores declarados en los documentos que acompañan al citado marcado CE permiten deducir el cumplimiento de las especificaciones contempladas en el proyecto y en el artículo 32 de la EHE-08.

Mientras no esté vigente el marcado CE para los aceros corrugados destinados a la elaboración de armaduras para hormigón armado, deberán ser conformes con dicha instrucción, así como con la norma UNE-EN 10.080. La demostración de dicha conformidad, de acuerdo con lo indicado en 88.5.2 de la EHE-08, se podrá efectuar mediante:

- la posesión de un distintivo de calidad con un reconocimiento oficial en vigor, conforme se establece en el Anejo 19 de la EHE-08.
- la realización de ensayos de comprobación durante la recepción.

para suministros de menos de 300 t:

- se procederá a la división del suministro en lotes, correspondientes cada uno a un mismo suministrador, fabricante, designación y serie, siendo su cantidad máxima de 40 toneladas.

Para cada lote, se tomarán dos probetas sobre las que se efectuarán los siguientes ensayos:

- Comprobar que la sección equivalente cumple lo especificado en el artículo 32.1.

- Comprobar que las características geométricas están comprendidas entre los límites admisibles establecidos en el certificado específico de adherencia según el artículo 32.2, o alternativamente, que cumplen el correspondiente índice de corruga.
- Realizar el ensayo de doblado-desdoblado o, alternativamente, el ensayo de doblado simple indicado en 32.2, comprobando la ausencia de grietas después del ensayo.

Además, se comprobará, al menos en una probeta de cada diámetro, tipo de acero empleado y fabricante, que el límite elástico, la carga de rotura, la relación entre ambos, el alargamiento de rotura y el alargamiento bajo carga máxima, cumplen las especificaciones del artículo 32 de la EHE-08.

Normativa	Número	Ensayo	Cadencia	
			m2	m3
UNE 7474-92 UNE 36068-94 UNE 36068-96"	2	Ensayo completo de barra de acero realizando ensayos de tracción, límite elástico, alargamiento de rotura, doblado, doblado/desdoblado y características geométricas	--	--

6.2.4 TUBOS DE PE-AD

Serán objeto de control los siguientes puntos:

- Prueba de estanqueidad
- Control de la soldadura a tope

6.2.4.1 Prueba de la estanqueidad

Se realizarán los ensayos de prueba de estanqueidad, a criterio del Director Facultativo. Después de efectuarse la prueba correspondiente en presencia del representante del Ingeniero Director, y no antes, se procederá a la botadura de la tubería.

6.2.4.2 Control de la soldadura a tope

Se realizarán los ensayos de control de la soldadura a tope, a criterio del Director Facultativo. Después de efectuarse la prueba correspondiente en presencia del representante del Ingeniero Director, y no antes, se procederá a la botadura de la tubería.

CONTROL DE LA SOLDADURA A TOPE				
Normativa	Número	Ensayo	Cadencia	
			m2	m3
UNE 13953:2011/ISO 1395:2001	1	Resistencia a tracción y tipo de rotura de unionessoldadas a tope.	--	--

6.3 CONTROL FINAL DE OBRA

Como última fase de todos los controles especificados en el apartado anterior y como parte de los controles finales de recepción, se realizará un seguimiento de las prescripciones sobre verificaciones en el edificio terminado.

6.3.1 Verificaciones y pruebas de servicio para comprobar las prestaciones finales del edificio.

Se realizará una inspección visual del conjunto de la estructura y de cada elemento a medida que van entrando en carga, verificando que no se producen deformaciones o grietas inesperadas en alguna parte de ella.

En el caso de que se aprecie algún problema, o si especifica en el Pliego de Condiciones, se pueden realizar pruebas de carga para evaluar la seguridad de la estructura, toda o parte de ella; en estos ensayos, salvo que se cuestione la seguridad de la estructura, no deben sobrepasarse las acciones de servicio, se realizarán de acuerdo con un Plan de Ensayos que evalúe la viabilidad de la prueba, por una organización con experiencia en este tipo de trabajos, dirigida por un técnico competente, que debe recoger los siguientes aspectos (adaptados de la EHE):

- Viabilidad y finalidad de la prueba.
- Magnitudes que deben medirse y localización de los puntos de medida.
- Procedimientos de medida.
- Escalones de carga y descarga.
- Medidas de seguridad.
- Condiciones para las que el ensayo resulta satisfactorio.

Estos ensayos tienen su aplicación fundamental en elementos sometidos a flexión.

7. PROGRAMA DE PUNTOS DE INSPECCIÓN

El Programa de Puntos de Inspección (P.P.I.) para cada equipo que se entregará a la Dirección Facultativa para su aprobación, recogerá, de forma cronológica, las distintas operaciones o fases que deben de controlarse por la inspección.

Comprenden los P.P.I. tanto las fases y operaciones de fabricación como las posteriores de marcado, embalaje y envío a obra.

Las fases de fabricación serán en cada operación supervisadas por el fabricante/contratista, siendo presenciada por la inspección cuando así incida por su importancia en el criterio de calidad que con anterioridad se ha establecido.

Al ser sometido los P.P.I. a la consideración de la Dirección Facultativa, se establecerán los puntos de espera y a presenciar que se fijarán e indicarán en el recuadro correspondiente de la operación del P.P.I.

El Departamento de Calidad del Contratista notificará a la Dirección Facultativa la disponibilidad de la inspección con el tiempo que se haya acordado, por si desea o no presenciar la fase así dispuesta. El contratista presenciará e inspeccionará este proceso dando el visto bueno si procede y autorizando la continuidad de la fabricación, firmando y sellando ésta en el recuadro correspondiente

El resultado final del seguimiento del P.P.I. reflejará el exacto cumplimiento del nivel de calidad preestablecido.

Debidamente firmado y cumplimentado será certificado por el responsable del Control de Calidad del Contratista o de la ECA, adjuntándose la totalidad del P.P.I. como un documento más del dossier final de control de calidad, que se entregará a la Dirección Facultativa al concluir la fase de aprovisionamiento de que consta el suministro de equipos.

8. ENSAYOS A REALIZAR Y VALORACIÓN

El control de calidad a realizar durante el desarrollo de las obras, se centrará en el control de los materiales prefabricados que conforman la mayor parte del proyecto.

Aún así, se determina la necesidad de la realización de los siguientes ensayos:

8.1 RELLENOS EN ZANJA

TIPO:	ENSAYOS PARA MOVIMIENTO DE TIERRA					
UNIDAD:	RELLENOS PROCEDENTES DE LA EXCAVACIÓN					
Medición =	683,2 m3					
CLASE DE ENSAYO	NORMA	FRECUENCIA 1 CADA		Nº ENSA	PRECIO UNITARIO	IMPORTE
IDENTIFICACIÓN DE SUELOS						
Proctor modificado	UNE 103501:94	1.000	m³	1	153,40 €	153,40 €
		1/origen				
Granulometría de suelos por tamizado	UNE 103101:95	1.000	m³	1	59,00 €	59,00 €
		1/origen				
Ensayo equivalente de arena	UNE 103109	1.000	m³	1	103,25 €	103,25 €
		1/origen				
Límites de Atterberg	UNE 103103:94,	1.000	m³	1	67,85 €	67,85 €
		1/origen				
Contenido de humedad secado estufa	UNE-EN 1428	1.000	m³	1	103,25 €	103,25 €
		1/origen				
Índice CBR	UNE 103502:95	1.000	m³	1	150,45 €	150,45 €
		1/origen				
Sales solubles	NLT-114	1.000	m³	1	106,20 €	106,20 €
		1/origen				
Contenido en yeso	NLT-115	1.000	m³	1	106,20 €	106,20 €
		1/origen				
Contenido en materia orgánica	NLT 117/72	1.000	m³	1	64,90 €	64,90 €
		1/origen				
Hinchamiento libre en edómetro	UNE 103601:96	450	m³	2	144,55 €	289,10 €
		1/origen				
CONTROL COMPACTACIÓN						
Densidad "in situ" método isótopos radiactivos	ASTM D-3017	70	m³	10	147,50 €	1.475,00 €
		cada cruce				
		1/origen				
					IMPORTE TOTAL	2.678,60 €

8.2 RELLENOS ARENA COMÚN

TIPO:	ENSAYOS PARA MOVIMIENTO DE TIERRA					
UNIDAD:	RELLENO ARENA COMÚN (APOYO TUBERÍAS)					
Medición =	128,78 m3					
CLASE DE ENSAYO	NORMA	FRECUENCIA 1 CADA		Nº ENSAYOS	PRECIO UNITARIO	IMPORTE
IDENTIFICACIÓN DE SUELOS						
Granulometría de suelos por tamizado	UNE 103101:95	400	m³	1	59,00 €	59,00 €
		1/origen				
Ensayo Equivalente de Arena	UNE 103109	400	m³	1	103,25 €	103,25 €
		1/origen				
Contenido en materia orgánica	NLT 117/72	400	m³	1	64,90 €	64,90 €
		1/origen				
					IMPORTE TOTAL	227,15 €

8.3 HORMIGONES

De cara a la valoración de ensayos a realizar en el hormigón, cabe realizar las siguientes consideraciones. Para el caso de hormigones fabricados en central, que además posean un Sello de Calidad oficialmente reconocido, se reducirá el muestreo al 50%. Para hormigones fabricados en obra se exigirá la realización de ensayos al 100 % de los lotes, incluso al árido recibido en su lugar de procedencia.

TIPO:	ENSAYOS PARA ESTRUCTURAS					
UNIDAD:	HORMIGÓN ESTRUCTURAL					
Medición =	312,98 m3					
CLASE DE ENSAYO	NORMA	FRECUENCIA 1 CADA		Nº ENSAYOS	PRECIO UNITARIO	IMPORTE
Granulometría de las partículas por tamizado	UNE-EN 933-1:98	100	m³	4	61,95 €	247,80 €
Determinación de terrones de arcilla enáridos para la fabricación de morteros y hormigones	UNE 7133	100	m³	4	112,96 €	451,82 €
Determinación de partículas blandas en áridos gruesos para hormigones	UNE 7134	100	m³	4	677,79 €	2.711,17 €
Ensayos para determinar las propiedades térmicas y de alteración de los áridos. Parte 2:	UNE-EN 1367	100	m³	4	490,11 €	1.960,45 €
Ensayos para determinar las propiedades geométricas de los áridos. Parte 8: Evaluación de los finos. Ensayo del equivalente de arena.	UNE-EN 933-1	100	m³	4	140,18 €	560,74 €
Ensayos para determinar las propiedades mecánicas y físicas de los áridos. Parte 2:	UNE-EN 1097-2:99	100	m³	4	344,86 €	1.379,42 €
Curado y ensayo a tracción indirecta (Brasileño) de una probeta cilíndrica de hormigón endurecido	UNE 83-306	100	m³	4	191,75 €	767,00 €
Consistencia medida con el cono de Abrams	UNE 83-313	100	m³	4	44,25 €	177,00 €
Determinación de partículas blandas en áridos gruesos para hormigones	UNE 7134	100	m³	4	677,79 €	2.711,17 €
					IMPORTE TOTAL	10.966,57 €

8.4 ACEROS

Se prevé la realización de dos ensayos completos (varios diámetros en obra), siendo el Director de Obra quien determine la idoneidad de realizar ensayos complementarios:

TIPO:	ENSAYOS PARA ESTRUCTURAS					
UNIDAD:	ACERO CORRUGADO					
Medición =	51,36 t					
CLASE DE ENSAYO	**NORMA**	**FRECUENCIA 1 CADA**		**Nº ENSAYOS**	**PRECIO UNITARIO**	**IMPORTE**
Ensayo completo de barra de acero realizando ensayos de tracción, límite elástico, alargamiento de rotura, doblado, doblado/desdoblado y características geométricas	UNE 7474-92 UNE 36068-94 UNE 36068-96	40	t	2	442,50 €	885,00 €
					IMPORTE TOTAL	**885,00 €**

8.5 ACERO INOXIDABLE CALDERERÍA

TIPO:	ENSAYOS PARA CALDERERÍA					
UNIDAD:	ACERO INOXIDABLE					
Medición =	15 ud					
CLASE DE ENSAYO	**NORMA**	**FRECUENCIA 1 CADA**		**Nº ENSAYOS**	**PRECIO UNITARIO**	**IMPORTE**
Ensayo por líquidos penetrantes	UNE-EN 3452-1:2013	30%	soldaduras	5	60,11 €	**300,53 €**
					IMPORTE TOTAL	**300,53 €**

8.6 TUBOS PE-AD

Serán objeto de control los siguientes puntos:

- Prueba de estanqueidad
- Control de la soldadura a tope

8.6.1 Prueba de la estanqueidad

Se realizarán los ensayos de prueba de estanqueidad, a criterio del Director Facultativo. Después de efectuarse la prueba correspondiente en presencia del representante del Ingeniero Director, y no antes, se procederá a la puesta en servicio de la instalación.

El precio de las pruebas a realizar en los tramos de tubería a instalar se encuentra incluido en el precio de suministro e instalación de las tuberías.

8.6.2 Control de la soldadura a tope

Se realizarán los ensayos de control de la soldadura a tope, a criterio del Director Facultativo. Después de efectuarse la prueba correspondiente en presencia del representante del Ingeniero Director, y no antes, se procederá a la botadura de la tubería.

TIPO:	ENSAYOS PARA CONDUCCIONES PLÁSTICAS					
UNIDAD:	TUBERÍAS PEAD					
Medición =	387,95 ml					
CLASE DE ENSAYO	NORMA	FRECUENCIA 1 CADA		Nº ENSAYOS	PRECIO UNITARIO	IMPORTE
Resistencia a tracción y tipo de rotura de uniones soldadas a tope.	UNE 13953:2011/ISO 1395:2001	500	ml	1	722,75 €	722,75 €
					IMPORTE TOTAL	722,75 €

9. CONCLUSIONES

Valorados los ensayos previstos a realizar durante la ejecución de las obras (con un monto total de 15.780,60 €) y teniendo en cuenta que muchos de los materiales a ejecutar serán elementos prefabricados, se hará un control documental exhaustivo, tanto de los controles de calidad realizados en origen para los prefabricados de hormigón, como los certificados de calidad de los materiales puestos en obra. Por lo tanto, no se prevé que el control de calidad llevado a cabo, tanto en la puesta en obra de hormigones como en el control del tendido e instalación de tuberías, instalaciones eléctricas y puesta en marcha del grupo de bombeo, supere el 1% del Presupuesto de Ejecución Material de la Obra (16.054,55 €), por lo tanto:

El contratista estará obligado a sufragar los gastos de ensayos, análisis y pruebas que estimase oportuno el Director, hasta un máximo del 1% del Presupuesto de la obra, cláusula 38 del Pliego de Cláusulas Administrativas Generales (D.3854/1970), en adelante PCAG. Las pruebas de presión y estanqueidad de las tuberías de abastecimiento y saneamiento, no se computarán a los efectos de cálculo del 1% anteriormente mencionado, al estar incluidas expresamente en la unidad de obra correspondiente.

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

Redactor de proyecto: Juan Carlos Arroyo Portero ICCP	**Redactor adjunto:** Jesús Jiménez Cañas ICCP

ANEJO 13 – JUSTIFICACIÓN DE PRECIOS

ANEJO 13. JUSTIFICACIÓN DE PRECIOS

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ANEJO 13. JUSTIFICACIÓN DE PRECIOS

1. INTRODUCCIÓN

En cumplimiento del Real Decreto Legislativo 3/2011, de 11 de noviembre, por el que se aprueba el texto refundido de la Ley de Contratos del Sector Público, se redacta el presente Anejo en el que se justifica el importe de los precios unitarios que figurarán en los Cuadros de Precios.

1.1 COSTES DIRECTOS

La obtención de los precios unitarios tanto de la mano de obra, como de los materiales y maquinaria ha sido obtenida a partir de bases de precios como la del COAAT Mallorca y el generador de precios de la construcción de CYPE Ingenieros SA en su versión de abril 2017.

1.2 COSTES INDIRECTOS DE LAS PARTIDAS

La normativa aplicable es el actual Reglamento general de la Ley de Contratos de las Administraciones Públicas aprobado por el Real Decreto 1098/2001, de 12 de octubre.

De acuerdo con lo anterior, el cálculo de los precios de las distintas unidades de obra, se basa en la determinación de los costes directos e indirectos precisos para su ejecución aplicando la fórmula:

$$Pn = \left(\frac{1+K}{100}\right) * Cn$$

Donde:

- Pn: Precio de ejecución material de la unidad correspondiente, en euros.
- Cn: Coste directo de la unidad, en euros.
- K: Porcentaje correspondiente a los “Costes Indirectos”

El valor de K se obtiene como suma de K1 y K2, siendo K1 el porcentaje correspondiente a imprevistos (1% por tratarse de obra terrestre) según lo dispuesto en Reglamento general de la Ley de Contratos de las Administraciones Públicas aprobado por el Real Decreto 1098/2001, de 12 de Octubre, y K2 el porcentaje de la relación entre costes indirectos y directos = Ci/Cd x 100, que se calcula a continuación, es un 4%, entonces resulta que: K = 1 + 4 = 5, siendo este el porcentaje de “Costes Indirectos” que se aplica a todas las unidades.

1.3 JUSTIFICACIÓN DE LOS COSTES INDIRECTOS

A. INSTALACIONES, INDEMNIZACIONES POR DAÑOR A EQUIPOS, MATERIAL DE TALLER Y HERRAMIENTAS

INSTALACIONES, INDEMNIZACIONES Y HERRAMIENTAS	COSTE OBRA (€)
Parte proporcional del montaje y amortización de edificios desmontables para almacén general, oficinas, taller, laboratorio, comunicaciones telefónicas, aseos, vestuarios, depósitos de gasolina y gasoil (recuperables), grupo electrógeno o transformador (recuperables), etc.	6.985,72 €
Daños ocasionados en servicios existentes en el interior de la IDAM.	1.222,56 €
Amortización y arreglo de aparatos topográficos y material de campo	407,50 €
Materiales y herramientas para taller y laboratorio, engrase y demás gastos de sostenimiento, consumo de energía, inclusive para alumbrado general, semáforos y señalización provisional, etc	2.095,82 €

B. PERSONAL TÉCNICO DEL CONTRATISTA CON DEDICACIÓN INDICADA (DURACIÓN 5 MESES)

PERSONAL TÉCNICO	DEDICACIÓN %	CATEGORIA PROFESIONAL	SALARIO ANUAL	COSTE OBRA (€)
1 INGENIERO DE CAMINOS, CANALES Y PUERTOS	75	TECNICO SUPERIOR	56.876,09	17.773,77
1 TOPÓGRAFO	50	TECNICO MEDIO	44.188,72	9.205,98
1 ENCARGADO	100	TECNICO NO TITULADO	34.825,30	14.510,54

Por lo tanto, tenemos los siguientes costes indirectos:

- GRUPO A: 10.711,60 €
- GRUPO B: 41.490,29 €
- **TOTAL (A+B): 52.201,89 €**

Teniendo en cuenta la formulación descrita anteriormente, el valor K2 adopta un valor de:

- **K2 = 52.201,89 € / 1.554.300,65 x 100 = 3,35 % con lo que se adopta un valor del 4%**

Resultando un valor de K (K1 + K2) del 5%

A continuación, se presentan en el Apéndice 1:

- Cuadro de mano de obra
- Cuadro de materiales
- Cuadro de maquinaria
- Precios Descompuestos

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

Redactor de proyecto: Juan Carlos Arroyo Portero ICCP	**Redactor adjunto:** Jesús Jiménez Cañas ICCP

APÉNDICE 1. JUSTIFICACIÓN DE PRECIOS

CUADRO DE MANO DE OBRA

MANO DE OBRA (PRESUPUESTO)

CÓDIGO	RESUMEN	CANTIDAD	UD.	PRECIO/UD.	IMPORTE
mo003	Oficial 1ª electricista.	170,017	h	30,93	5.258,63
mo004	Ayudante electricista.	161,328	h	26,75	4.315,52
mo005	Especialista en la puesta en marcha de instalaciones.	67,645	h	37,22	2.517,75
mo018	Oficial 1ª cerrajero.	11,383	h	30,93	352,09
mo019	Ayudante cerrajero	0,200	h	26,75	5,35
mo020	Oficial 1ª construcción.	563,504	h	25,59	14.420,07
mo021	Peón ordinario construcción.	3.272,585	h	20,60	67.415,26
mo022	Peón Especialista	83,501	h	26,75	2.233,66
mo032	Oficial 1ª aplicador de productos impermeabilizantes.	267,470	h	25,21	6.742,92
mo033	Ayudante aplicador de productos impermeabilizantes.	322,050	h	20,99	6.759,83
mo041	Oficial 1ª construcción de obra civil.	635,114	h	25,59	16.252,57
mo042	Oficial 1º encofrador	134,147	h	25,59	3.432,81
mo043	Ayudante encofrador	137,967	h	21,31	2.940,07
mo050	Oficial 1º montador	147,617	h	30,93	4.565,79
mo051	Ayudante montador	139,617	h	21,31	2.975,24
mo052	Oficial 1ª solador alicatador	142,800	h	25,59	3.654,25
mo053	Ayudante solador alicatador	142,800	h	21,31	3.043,07
mo060	Oficial 1ª ferrallista.	625,847	h	25,59	16.015,42
mo061	Ayudante ferrallista.	673,950	h	21,31	14.361,87
mo080	Oficial 1ª fontanero calefactor	34,000	h	30,93	1.051,62
mo081	Ayudante fontanero	34,000	h	26,75	909,50
mo090	Cuadrilla montaje	682,102	h	90,00	61.389,18
	Grupo mo0				**240.612,47**
	TOTAL.....				**240.612,47**

CUADRO DE MATERIALES

MATERIALES (PRESUPUESTO)

CÓDIGO	RESUMEN	CANTIDAD	UD.	PRECIO/UD.	IMPORTE
006.4P4030A	industrial (4P), sensibilidad 30 o 300 mA	1,000	Ud	468,54	468,54
	Grupo 006				**468,54**
04.01.01.07	Malla electrosoldada #200x200x6	601,650	m²	3,73	2.244,15
04.01.02.04	Pilar prefabricado de hormigón	15,000	Ud	1.335,48	20.032,20
04.01.03.03	Placa alveolar pretensada de 25 cm de canto	573,000	m²	121,68	69.722,64
04.01.04.03	Viga de hormigón armado semiprefabricadas JR50/40	84,000	m	567,71	47.687,64
04.01.05.02	Módulo de muro prefabricado	48,000	Ud	3.170,84	152.200,32
	Grupo 04				**291.886,95**
06.01.06	Bomba modelo NSCF 125-315/220/L45VCC4 sobre bancada	3,000	Ud	25.670,79	77.012,37
	Grupo 06				**77.012,37**
P715	Fuente de alimentación ABL-7RM2401.	1,000	Ud	67,87	67,87
	Grupo P71				**67,87**
TSC230V	Transformador separador de circuitos 230 V	1,000	Ud	59,55	59,55
	Grupo TSC				**59,55**
mt006.2P2530A	indstrial (2P), sensibilidad 30 mA	3,000	Ud	266,96	800,88
mt006.4P4030A	industrial (4P), sensibilidad 30 mA	2,000	Ud	468,54	937,08
mt010geo01	Geotextil no tejido compuesto	749,700	m²	2,25	1.686,83
mt01ara030	Arena de 0 a 5 mm de diámetro, para relleno de zanjas.	270,438	t	18,00	4.867,88
mt01ara031	Arena de río 0/6 mm	83,575	m3	17,41	1.455,04
mt01ara032	Gravilla machaqueo 20/40 mm	9,876	m³	33,33	329,17
mt01bald001	Baldosín catalán 14x28 cm	785,400	m²	11,50	9.032,10
mt01cem001	Cemento CEM II/B-P 32,5 N sacos	9,228	t	101,50	936,69
mt01var010	Cinta plastificada	751,520	m	0,14	105,21
mt02ara032	Piedra en Rama de tamaño máximo 30 cm	318,000	m³	125,00	39.750,00
mt04lvc010c	Ladrillo cerámico hueco doble, para revestir, 24x11,5x9 cm, para uso en fábrica protegida (pieza P), densidad 780 kg/m³, según U	2.142,000	Ud	0,22	471,24
mt08aaa010a	Agua.	128,030	m³	1,50	192,05
mt08adb010a	Aditivo plastificante-aireante para hormigones celulares.	321,300	kg	4,25	1.365,53
mt08cem011a	Cemento Portland CEM II/B-L 32,5 R, color gris, en sacos, según UNE-EN 197-1.	32.130,000	kg	0,10	3.213,00
mt08dba010b	Agente desmoldeante, a base de aceites especiales, emulsionable en agua para encofrados metálicos, fenólicos o de madera.	4,051	l	1,98	8,02
mt08dba011b	Fleje para encofrado metálico	15,840	m	0,32	5,07
mt08eme070b	Paneles metálicos modulares, para encofrar muros de hormigón de entre 3 y 6 m de altura.	0,723	m²	200,00	144,68
mt08eme071b	Encofrado panel metálico 5/10 m2 50 posturas	31,680	m²	2,87	90,92
mt08eme075g	Estructura soporte de sistema de encofrado vertical, para muros de hormigón a una cara, de entre 3 y 6 m de altura, formada por	0,517	Ud	412,72	213,25
mt08grg010c	Bidón de 200 litros de capacidad, apto para almacenar residuos peligrosos.	6,000	Ud	153,62	921,72
mt08var050	Alambre galvanizado para atar, de 1,30 mm de diámetro.	240,515	kg	2,23	536,35
mt08var204	Pasamuros de PVC para paso de los tensores del encofrado, de varios diámetros y longitudes.	41,336	Ud	1,35	55,80
mt09hip040a	Fibras de Polipropileno, según UNE-EN 14889-2, color gris, compuesto de cemento, áridos de silice, aditivos orgánicos y pigmento	435,000	kg	10,25	4.458,75
mt09mif010ca	Mortero industrial para albañilería, de cemento, color gris, categoría M-5 (resistencia a compresión 5 N/mm²), suministrado en s	27,679	t	33,86	937,22
mt09mif010cb	Mortero industrial para albañilería, de cemento, color gris, categoría M-5 (resistencia a compresión 5 N/mm²),según UNE-EN 998-2	10,222	t	30,98	316,67
mt09wnc011cb	Mortero decorativo de rodadura para pavimento de hormigón, color gris	2.325,000	kg	1,50	3.487,50
mt09wnc020f	Desmoldeante en polvo, color burdeos, aplicado en pavimentos continuos de hormigón impreso, compuesto de cargas, pigmentos y adi	10,000	kg	4,85	48,50
mt09wnc030a	Resina impermeabilizante, para el curado y sellado de pavimentos continuos de hormigón impreso, compuesta de resina sintética en	12,500	kg	6,10	76,25
	Grupo mt0				**76.443,40**
mt1000M	Tornilleria inoxidable, juntas y material auxiliar	42,120	ud	10,00	421,20
mt10ace011ncb	Malla electrosoldada #200x200x8 mm - 4 kg/m2	8,383	m²	6,49	54,41
mt10ala010a	Alambre recocido de 1,3mm	13,502	kg	1,07	14,45
mt10ala011a	Puntas 20x100 mm	1,584	kg	8,04	12,74
mt10haf011ncb	Hormigón HA-30/B/20/IV	165,701	m³	262,73	43.534,49
mt10haf011ncc	Hormigón HA-25/B/20/IIa	133,888	m³	252,78	33.844,21
mt10haf011ncd	Hormigón HA-30/B/20/IIIa	54,338	m³	262,73	14.276,09
mt10haf011nce	Hormigón HA-40/B/20/IV central	3,000	m³	299,48	898,44
mt10hmf011fb	Hormigón de limpieza HM-15/B/20, fabricado en central.	11,130	m³	209,00	2.326,17
mt10hmf011fc	Hormigón HM-20/B/IIa, fabricado en central.	706,227	m³	244,03	172.340,45
mt15map010e	Impermeabilizante líquido elástico monocomponente, Aquaflex Roof Premium "MAPEI SPAIN", de color Gris, con muy bajo contenido de	1.071,000	kg	12,00	12.852,00
mt15sja100	Cartucho de masilla de silicona neutra.	1,277	Ud	3,13	4,00
mt18072	Conmutador CM de 2 posiciones y posición 0	3,000	Ud	13,36	40,08
mt18073	Conmutador CM de 3 posiciones y posición 0	1,000	Ud	14,81	14,81
	Grupo mt1				**280.633,54**
mt26btr030a	Celosía de lamas fijas de alumino, con plegadura sencilla en los bordes, incluso soportes del mismo material y patilla	36,490	m²	97,38	3.553,40

MATERIALES (PRESUPUESTO)

CÓDIGO	RESUMEN	CANTIDAD	UD.	PRECIO/UD.	IMPORTE
mt280pn10	Tubo PEAD DN280 PN10	94,500	m	33,93	3.206,39
	Grupo mt2				**6.759,79**
mt33gbg107a	Interruptor unipolar (1P) estanco, con grado de protección IP55 según IEC 60439, monobloc, de superficie, gama básica, intensida	2,000	Ud	8,78	17,56
mt34aem020b	Luminaria de emergencia estanca, con tubo lineal fluorescente, 8 W - G5, flujo luminoso 240 lúmenes, carcasa de 405x134x134 mm,	2,000	Ud	125,27	250,54
mt34ode100jdj	Luminaria, de 666x170x100 mm, para 2 lámparas fluorescentes TL de 18 W, con cuerpo de poliéster reforzado con fibra de vidrio	4,000	Ud	36,34	145,36
mt34tuf010k	Tubo fluorescente TL de 18 W.	8,000	Ud	7,21	57,68
mt35aia070aa	Tubo curvable, suministrado en rollo, de polietileno de doble pared (interior lisa y exterior corrugada), de color naranja, de 4	312,000	m	0,95	296,40
mt35aia070ac	Tubo curvable, suministrado en rollo, de polietileno de doble pared (interior lisa y exterior corrugada), de color naranja, de 6	280,000	m	1,25	350,00
mt35aia070af	Tubo curvable, suministrado en rollo, de polietileno de doble pared (interior lisa y exterior corrugada), de color naranja, de 1	312,000	m	2,75	858,00
mt35amc175ff	Arrancador suave, para motor asíncrono trifásico de rotor de jaula de ardilla de 30 kW, de intensidad nominal 57 A	3,000	Ud	581,88	1.745,64
mt35amc551gg	Interruptor-seccionador con mando rotativo, tetrapolar (4P), intensidad nominal 125 A, según UNE-EN 60947-3.	2,000	Ud	247,36	494,72
mt35arg100a	Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 30x30x30 cm de medidas interiores, con pared	19,000	Ud	15,25	289,75
mt35arg100g	Arqueta de Conexión Eléctrica, prefabrica de hormigón, sin fondo, registrable de 80x80x100	8,000	Ud	149,49	1.195,92
mt35arg105a	Tapa-marco de hormigón armado aligerado, de 39,5x38,5 cm, para arqueta de conexión eléctrica, capaz de so	19,000	Ud	17,26	327,94
mt35arg105e	Marco de chapa galvanizada y tapa de hormigón armado aligerado, de 89x88,5 cm	8,000	Ud	120,96	967,68
mt35ase500a	Relé diferencial electrónico, modelo Vigirex RH99M 56173 "SCHNEIDER ELECTRIC",	4,000	Ud	464,72	1.858,88
mt35ase520h	Transformador toroidal cerrado para relé diferencial, de 50 mm de diámetro útil para el paso de cables, tipo PA50, modelo 50438	4,000	Ud	161,07	644,28
mt35cgm032c	Telerruptor de 2 módulos, tetrapolar (4P), de 16 A incluso accesorios de montaje, según UNE-EN 60669-1 y UNE-EN 60669-2-2.	1,000	Ud	94,26	94,26
mt35cun030G	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	280,000	m	5,31	1.486,80
mt35cun030N	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	90,000	m	47,54	4.278,60
mt35cun030P	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	14,000	m	2,92	40,88
mt35cun030R	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	80,000	m	6,64	531,20
mt35cun030S	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	5,000	m	11,19	55,95
mt35cun030T	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	27,000	m	17,72	478,44
mt35cun030w	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	36,000	m	1,77	63,72
mt35cun040af	Cable unipolar H07V-K, siendo su tensión asignada de 450/750 V, reacción al fuego clase Eca según UNE-EN 50575, con conductor mu	280,000	m	3,48	974,40
mt35cun210a	Cable bus rígido, apantallado, de 4 hilos, de 0,8 mm² de sección por hilo	100,000	m	0,80	80,00
mt35gee007kev	Interruptor automático magnetotérmico compacto, poder de corte 6 kA, curva C, tetrapolar (4P), intensidad nominal 16 A, EPC 64 C	4,000	Ud	129,07	516,28
mt35gee008tf	Interruptor automático magnetotérmico compacto, poder de corte 6 kA, curva C, bipolar (1P+1P), intensidad nominal 6-16 A, EPC 61	8,000	Ud	50,53	404,24
mt35gee010Bmq2	Interruptor automático magnetotérmico, poder de corte 10 kA, curva C, tetrapolar (4P), intensidad nominal 50 A, EP64C50 "GENERAL	1,000	Ud	332,70	332,70
mt35gee010Bnr2	Interruptor automático magnetotérmico, poder de corte 10 kA, curva C, tetrapolar (4P), intensidad nominal 63 A, EP64C63 "GENERAL	3,000	Ud	352,81	1.058,43
mt35gee101uu	Interruptor automático en caja moldeada, tetrapolar (4P), intensidad nominal 125 A, poder de corte 36 kA a 400 V, FD80S 432973 "	1,000	Ud	605,73	605,73
mt35pci020tj	Condensador para 25 kVAr de potencia reactiva, alimentación trifásica a 400 V de tensión y 50 Hz de frecuencia, modelo ACM-30-44	1,000	Ud	710,29	710,29
mt35tta010	Arqueta de polipropileno para toma de tierra, de 300x300 mm, con tapa de registro.	8,000	Ud	74,00	592,00
mt35tta030	Puente para comprobación de puesta a tierra de la instalación eléctrica.	8,000	Ud	46,00	368,00
mt35tta040	Grapa abarcón para conexión de pica.	10,000	Ud	1,00	10,00
mt35tta060	Saco de 5 kg de sales minerales para la mejora de la conductividad de puestas a tierra.	3,330	Ud	3,50	11,66
mt35ttc010b	Conductor de cobre desnudo, de 35 mm².	24,500	m	2,81	68,85
mt35tte010b	Electrodo para red de toma de tierra cobreado con 300 µm, fabricado en acero, de 15 mm de diámetro y 2 m de longitud.	12,000	Ud	18,00	216,00
mt35www010	Material auxiliar para instalaciones eléctricas.	31,200	Ud	1,48	46,18
mt35www020	Material auxiliar para instalaciones de toma de tierra.	9,800	Ud	1,15	11,27
mt35www030	Cinta de señalización de polietileno, de 150 mm de anchura, color amarillo, con la inscripción "¡ATENCIÓN! DEBAJO HAY CABLES ELÉ	280,000	m	0,25	70,00
mt36tie010ac	Tubo de PVC, serie B, de 32 mm de diámetro y 3 mm de espesor, con extremo abocardado, según UNE-EN 1329-1, con el precio increme	31,000	m	1,49	46,19
	Grupo mt3				**22.652,42**
mt40www021	Material auxiliar para despiece de residuos	17,200	Ud	50,00	860,00
mt47adm015a	Imprimación bicomponente a base de resina epoxi en dispersión acuosa, Mapecoat I 600 W "MAPEI SPAIN".	285,600	kg	27,99	7.993,94
mt48adm015a	Mortero Impermeabilizante Semiflexible de un componente, Sika MonoTop-107 Seal	4.366,400	Kg	2,30	10.042,72

MATERIALES (PRESUPUESTO)

CÓDIGO	RESUMEN	CANTIDAD	UD.	PRECIO/UD.	IMPORTE
	Grupo mt4				**18.896,66**
mt51cpd020c	Corte en húmedo con sierra con disco diamantado, en paramento vertical prefabricad	1,600	m	600,00	960,00
	Grupo mt5				**960,00**
mtA9L16294	Protec sobretensiones transitorias, tipo II iQuick PRD40r 3P+N A9L16294, interruptor integrado	1,000	Ud	663,32	663,32
mtArmamar	Armario IP65 mural	2,000	Ud	600,00	1.200,00
	Grupo mtA				**1.863,32**
mtBF44210.	Acero inox AISI 316L varios DN	170,000	kg	21,50	3.655,00
mtBJ71Z001.	Depósito hipoclorito 1000 L con cubeto	1,000	u	1.273,55	1.273,55
mtBNN4U001	Bomba dosificadora	1,000	u	866,01	866,01
mtBNN4U003	Analizador cloro	1,000	u	4.850,41	4.850,41
mtBNN4U005	Instalación eléctrica hipoclorito	1,000	u	1.579,20	1.579,20
mtBNN4U006	Bomba centrifuga para muestras	1,000	u	606,21	606,21
mtBNN4U007	Material auxiliar	1,000	u	1.273,55	1.273,55
	Grupo mtB				**14.103,93**
mtIDF-008	Poste Diasafe / Punto de anclaje (7,00 kg) EN795:2012 Inox304 y fibra de vidrio	18,000	Ud	264,00	4.752,00
mtIDF-010	Plato de curva para poste Diasafe (0,50 kg) EN 795C Inox304	4,000	Ud	247,50	990,00
	Grupo mtI				**5.742,00**
mtLDV-006	Cable de Ø 8 mm construcción 7 x 7 (0,25 kg) Resistencia 40kN Inox 316	65,000	m	10,00	650,00
mtLDV-007-ES	Placa de identificación y advertencia obligatoria EN795-C:2012 en Español	1,000	Ud	25,00	25,00
mtLDV-008	Tubo para emplomar longitud 100 mm Inox 304	2,000	Ud	43,00	86,00
mtLDV-100	Anclaje DiaSafe para línea de vida horizontal Inox 316	18,000	Ud	247,50	4.455,00
mtLDV-108	Tope fijo para anclaje Diasafe y anclaje TEVO	2,000	Ud	148,50	297,00
	Grupo mtL				**5.513,00**
mtP01AF040	Zahorra artificial huso Z-3 DA<25	260,440	t	35,00	9.115,40
mtP715	Fuente de alimentación ABL-7RM2401.	1,000	Ud	67,87	67,87
mtPEQMAT	pequeño material	1,000	ud	152,83	152,83
mtPILOTO	piloto verde/rojo	6,000	Ud	10,24	61,44
mtPLC	Hermes TCR200 Telecontrol y datalogger GSM/GPRS MODBUS	1,000	Ud	431,69	431,69
	Grupo mtP				**9.829,23**
mtRS_711-6121	Contactor ABB AF38-30-00-13 1SBL297001R1300	3,000	Ud	98,88	296,64
	Grupo mtR				**296,64**
mtSUPmot	Relé vigilante fase temperatura y tensión motor RM35TM250MW	3,000	Ud	205,93	617,79
mtSUPtri	Relé vigilante multifunción trifásico RM35TF30	1,000	Ud	164,24	164,24
	Grupo mtS				**782,03**
mtTC.MONOF	Toma de corriente 2P+TT	2,000	u	43,70	87,40
mtTC.TRIF	Toma corriente 3P+N+TT	2,000	u	75,28	150,56
mtTEMP2F	Temporizador bifunción	1,000	Ud	39,91	39,91
mtTSC230V	Transformador separador de circuitos 230 V	1,000	Ud	59,55	59,55
mtTT2P	Termostato de 2 posiciones para accionamiento de ventilador y resistencia calefactora.	1,000	ud	66,22	66,22
	Grupo mtT				**403,64**
mtVEN_REJ	Ventilador alimentado y rejilla de extracción y termostato de activación mecanizados sobre puerta de armario	1,000	ud	152,83	152,83
	Grupo mtV				**152,83**
mtachidxn07mg	Bomba Achique DXN07M/G	2,000	Ud	692,00	1.384,00
mtactele200	Actuador eléctrico 400V-50 Hz 125-200	3,000	Ud	3.552,00	10.656,00
mtactele400	Actuador eléctrico 400V-50 Hz 250-400	5,000	Ud	6.331,68	31.658,40
	Grupo mta				**43.698,40**
mtb500s	Acero corrugado B-500-S/SD	51.367,734	kg	1,85	95.030,31
mtbaliza700	Baliza circula D150 mm y altura de 700 mm LED 15 W	20,000	Ud	378,12	7.562,40
mtbrida225	Brida AISI 316L DN225 esp 30 mm + tornillería A4	1,000	Ud	577,50	577,50
mtbrida280	Brida AISI 316L DN280 esp 30 mm + tornillería A4	1,000	Ud	695,00	695,00
mtbrida315	Brida AISI 316L DN315 esp 30 mm + tornillería A4	3,000	ud	814,00	2.442,00
mtbrida400	Brida AISI 316L DN400 esp 30 mm + tornillería A4	1,000	ud	1.017,00	1.017,00
	Grupo mtb				**107.324,21**
mtcav125	Carrete antivibratorio DN125	3,000	u	182,00	546,00
mtcdes125	Carrete desmontaje DN125	3,000	Ud	259,00	777,00
mtcdes150	Carrete desmontaje DN150	3,000	u	295,20	885,60
mtcdes225	Carrete desmontaje DN225	2,000	u	583,00	1.166,00
mtcdes280	Carrete desmontaje DN280	2,000	u	693,00	1.386,00
mtch230v	Contador horario para panel 230 V	3,000	Ud	27,26	81,78

MATERIALES (PRESUPUESTO)

CÓDIGO	RESUMEN	CANTIDAD	UD.	PRECIO/UD.	IMPORTE
mtcontaeven	Contador multifunción totalizador horas y eventos montaje en panel	3,000	ud	286,62	859,86
mtcuadropot	Cuadro de potencia para bomba	3,000	ud	1.738,00	5.214,00
	Grupo mtc				**10.916,24**
mtdes315	Carrete desmontaje DN315	2,000	Ud	889,00	1.778,00
mtduchaseg	Ducha de seguridad	1,000	ud	2.241,44	2.241,44
	Grupo mtd				**4.019,44**
mte315pn10	Tubo PEAD DN315 PN10	235,200	m	100,19	23.564,69
mte400pn10	Tubo PEAD DN400 PN10	68,250	m	141,92	9.686,04
mtesp225	Piezas especiales DN225 PN10	0,600	Ud	175,25	105,15
mtesp280	Piezas especiales DN280 PN10	1,800	Ud	185,90	334,62
mtesp315	Piezas especiales DN315 PN10	4,480	Ud	218,00	976,64
mtesp400	Piezas especiales DN400 PN10	1,300	Ud	233,20	303,16
mtex901	EasyLogic PM2220, Power & Energy meter, up to 15th H, LCD, RS485, RJ45, modelo METSEPM2220R	2,000	Ud	381,63	763,26
	Grupo mte				**35.733,56**
mtilint	Iluminación interior 13W	1,000	ud	22,41	22,41
mtinox316kg	Acero inox AISI 316L varios DN	1.217,090	kg	21,50	26.167,44
	Grupo mti				**26.189,85**
mtjuntahidro	Perfil hidroexpansivo a base de caucho natural reticulado	3,000		7,58	22,74
	Grupo mtj				**22,74**
mtm13cp100	Puntal telescópico normal 1,40 m	0,480	u	15,48	7,43
mtmattins	Material de instrumentación y control de niveles	1,000		5.469,06	5.469,06
mtmaxsealflex	Mortero Impermeabilizante Maxsela Flex "DRIZORO"	1,500	kg	5,25	7,88
	Grupo mtm				**5.484,37**
mtp05w095	Plancha aluminio 0,66 mm	45,129	m2	25,45	1.148,53
mtp12at03cab	Puerta practicable Al lac.blanco 90x200 cm	1,000		513,17	513,17
mtp12pw010	Premarco aluminio	5,200	m	9,35	48,62
mtp26uub150	Unión brida-enchufe fundición dúctil D=150 mm	3,000	Ud	135,00	405,00
mtp26uub300	Unión brida-enchufe fundición dúctil D=300 mm	4,000	Ud	370,00	1.480,00
mtp26uub400	Unión brida-enchufe fundición dúctil D=400 mm	1,000	Ud	518,00	518,00
mtp26uug150	Goma plana D=150 mm	6,000	Ud	11,53	69,18
mtp26uug300	Goma Plana D=300 mm	8,000	Ud	32,28	258,24
mtp26uug400	Goma Plana D=400 mm	2,000	Ud	45,19	90,38
mtp26uul150	Unión brida-liso fundición dúctil D=150 mm	3,000	Ud	125,00	375,00
mtp26uul300	Unión brida-liso fundición dúctil D=300 mm	4,000	Ud	350,00	1.400,00
mtp26uul400	Unión brida-liso fundición dúctil D=400 mm	1,000	Ud	490,00	490,00
mtpe225pn10	Tubo PEAD DN225 PN10	31,500	m	22,85	719,78
	Grupo mtp				**7.515,90**
mtrc55	Resistencia calefactora 50W	1,000	ud	96,79	96,79
mtrele2nanc	Relé miniatura 2 NANC 12A, 230V, con led indicador	15,000	Ud	5,47	82,05
	Grupo mtr				**178,84**
mtsepa40	Separador 30/40/50 mm	2.405,154	ud	0,20	481,03
mtsikamonotop412	Mortero Reparación SIKA Monotop 412-S	175,000	kg	1,85	323,75
	Grupo mts				**804,78**
mtvalret125	Valvula de retencio disco partido DN125	3,000	Ud	508,00	1.524,00
mtvm150	Válvula mariposa, bridas, DN150	3,000	Ud	1.920,10	5.760,30
mtvm300	Válvula mariposa, bridas, DN300	4,000	Ud	3.423,60	13.694,40
mtvm400	Válvula mariposa, bridas, DN400	1,000	Ud	5.020,80	5.020,80
mtvmar125	Válvula mariposa DN125 manual	3,000	Ud	1.240,00	3.720,00
mtvmar200	Válvula mariposa DN200 manual	1,000	Ud	1.979,00	1.979,00
	Grupo mtv				**31.698,50**
prfv01_cub	escalera prfv acceso cubierta	1,000	ud	5.665,00	5.665,00
prfv02_dep	escalera prfv acceso deposito	1,000	ud	5.098,50	5.098,50
prfv04_bom	escalera prfv acceso cuarto bombas	1,000	ud	1.457,50	1.457,50
prfv05_baran	barandilla prfv cubierta	1,000	ud	2.640,00	2.640,00
prfv_tap1	tapa prfv acceo deposito	1,000	ud	1.045,00	1.045,00
	Grupo prf				**15.906,00**
	TOTAL				**1.104.020,54**

CUADRO DE MAQUINARIA

MAQUINARIA (PRESUPUESTO)

CÓDIGO	RESUMEN	CANTIDAD	UD.	PRECIO/UD.	IMPORTE
P01	Medios auxiliares para transbordo de material	176,154	Ud	95,25	16.778,67
	Grupo P01				**16.778,67**
mq01carg010a	Camión volquete 8 m3 de carga	2,576	h	46,00	118,48
mq01comp010a	Aguja neumática s/compresor D=80 mm	58,349	h	1,64	95,69
mq01exn020b	Retroexcavadora hidráulica sobre neumáticos, de 115 kW.	1,932	h	54,36	105,01
mq01exn050c	Retroexcavadora sobre neumáticos 85kW con martillo rompedor	659,004	h	72,80	47.975,49
mq01pan010a	Pala cargadora sobre neumáticas de 120 kW/1,9 m³	64,650	h	45,06	2.913,13
mq01ret020b	Retrocargadora sobre neumáticos, de 70 kW.	99,578	h	40,90	4.072,72
mq02cia020j	Camión cisterna, de 8 m³ de capacidad.	7,268	h	44,89	326,26
mq02comp010a	Compresor portátil diesel media presión 5 m3/min 7 bar	58,349	h	7,10	414,28
mq02rod010d	Bandeja vibrante de guiado manual, de 300 kg y 70 cm de anchura	102,480	h	7,16	733,76
mq02rop020	Pisón vibrante de guiado manual, de 80 kg, con placa de 30x30 cm, tipo rana.	24,424	h	3,92	95,74
mq04cab010c	Camion basculante de 12t de carga, de 162 kW	10,248	h	44,89	460,03
mq04cab010e	Camión basculante de 20 t de carga, de 213 kW.	650,387	h	47,98	31.205,58
mq04cag010c	Camión con grúa de hasta 12 Tn	125,037	h	58,55	7.320,92
mq04cag010d	Camión con grúa de hasta 16 Tn	14,115	h	65,50	924,53
mq04dua020b	Dumper de descarga frontal de 2 t de carga útil.	71,560	h	10,38	742,79
mq06cel010	Equipo para fabricación y bombeo de hormigón celular a base de cemento y aditivo plastificante-aireante, de 12 m³/h.	37,128	h	25,08	931,17
mq06vib020	Regla vibrante de 3 m	155,000	h	5,84	905,20
mq07gte010d	Grúa telescopica autopropulsada de 180 t	218,589	h	215,00	46.996,64
mq09010001	Grupo electrógeno diesel de 14 KVA	8,180	H	10,28	84,09
mq09130151	Grupo de soldadura para tubos	8,180	H	26,47	216,52
mq09sie010	Motosierra a gasolina, de 50 cm de espada y 2 kW de potencia	86,200	h	3,36	289,63
	Grupo mq0				**146.927,66**
mqa057050	Grua torre 40 m Flecha 1000 kg	45,470	h	24,25	1.102,64
	Grupo mqa				**1.102,64**
mqbasculante	Camión basculante 6x4 de 20 t	46,033	h	51,37	2.364,70
	Grupo mqb				**2.364,70**
mqcisterna01	Cisterna agua s/camión 10.000 l	4,353	h	45,58	198,40
	Grupo mqc				**198,40**
mqgruatorre	Grúa torre automontante 20 t/m	11,923	h	23,76	283,28
	Grupo mqg				**283,28**
mqm06cm040	Compresor portátil diesel media presión 10 m3/min 7 bar	18,720	h	13,43	251,41
mqm06mp110	Martillo manual perforador neumatico 20 kg	18,720	h	4,57	85,55
mqm13b010	Equipo metálico para apeos	26,030	u	1,94	50,50
mqmotoniv01	Motoniveladora de 200 cv	3,265	h	102,55	334,78
	Grupo mqm				**722,24**
mqrodillo01	Rodillo compactador mixto 7000 kg a=168cm	20,676	h	66,95	1.384,24
	Grupo mqr				**1.384,24**
	TOTAL				**169.761,83**

PRECIOS DESCOMPUESTOS

CUADRO DE DESCOMPUESTOS

CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
14.1		**m³**	**CARGA Y TRANSPORTE**			
mq04cab010e	0,206	h	Camión basculante de 20 t de carga, de 213 kW.	47,98	9,88	
%0500	0,099	%	Costes indirectos	5,00	0,50	
			COSTE UNITARIO TOTAL			**10,38**
14.3		**m³**	**DESPIECE DE RESIDUOS PLÁSTICOS VOLUMINOSOS Y OTROS RESIDUOS**			
mo021	2,000	h	Peón ordinario construcción.	20,60	41,20	
mt40www021	1,000	Ud	Material auxiliar para despiece de residuos	50,00	50,00	
%0500	0,912	%	Costes indirectos	5,00	4,56	
			COSTE UNITARIO TOTAL			**95,76**
14.7		**Ud**	**BIDON 200L RESIDUOS PELIGROSOS TIERRAS**			
mo022	0,200	h	Peón Especialista	26,75	5,35	
mt08grg010c	1,000	Ud	Bidón de 200 litros de capacidad, apto para almacenar residuos peligrosos.	153,62	153,62	
%0500	1,590	%	Costes indirectos	5,00	7,95	
			COSTE UNITARIO TOTAL			**166,92**
14.8		**Ud**	**BIDÓN 200L RESIDUOS PELIGROSOS ENVASES**			
mo022	0,200	h	Peón Especialista	26,75	5,35	
mt08grg010c	1,000	Ud	Bidón de 200 litros de capacidad, apto para almacenar residuos peligrosos.	153,62	153,62	
%0500	1,590	%	Costes indirectos	5,00	7,95	
			COSTE UNITARIO TOTAL			**166,92**
14.9		**Ud**	**CARGA Y TRANSPORTE BIDÓN 200L RESIDUOS PELIGROSOS**			
maot08grg020c	1,000	Ud	Transporte de bidón de 200 litros de capacidad, apto para almacenar residuos peligrosos, a vertedero específico, instalación de	104,88	104,88	
%0500	1,049	%	Costes indirectos	5,00	5,25	
			COSTE UNITARIO TOTAL			**110,13**
ACCEININS		**PA**	**Accesorios de Instrumentación**			
mo080	12,000	h	Oficial 1ª fontanero calefactor	30,93	371,16	
mo081	12,000	h	Ayudante fontanero	26,75	321,00	
mtmattins	1,000		Material de instrumentación y control de niveles	5.469,06	5.469,06	
%0500	61,612	%	Costes indirectos	5,00	308,06	
			COSTE UNITARIO TOTAL			**6.469,28**
ACERA050		**m2**	**Pavimento continuo de hormigón impreso**			
mo041	0,500	h	Oficial 1ª construcción de obra civil.	25,59	12,80	
mo021	0,500	h	Peón ordinario construcción.	20,60	10,30	
mq06vib020	0,200	h	Regla vibrante de 3 m	5,84	1,17	
mt10hmf011fc	0,160	m³	Hormigón HM-20/B/IIa, fabricado en central.	244,03	39,04	
mt09wnc020f	0,200	kg	Desmoldeante en polvo, color burdeos, aplicado en pavimentos continuos de hormigón impreso, compuesto de cargas, pigmentos y adi	4,85	0,97	
mt09wnc011cb	3,000	kg	Mortero decorativo de rodadura para pavimento de hormigón, color gris	1,50	4,50	
mt09wnc030a	0,250	kg	Resina impermeabilizante, para el curado y sellado de pavimentos continuos de hormigón impreso, compuesta de resina sintética en	6,10	1,53	
%0500	0,703	%	Costes indirectos	5,00	3,52	
			COSTE UNITARIO TOTAL			**73,83**
ACHIQUE		**Ud**	**Bomba de achique**			
mo003	2,000	h	Oficial 1ª electricista.	30,93	61,86	
mo004	2,000	h	Ayudante electricista.	26,75	53,50	
mtachidxn07mg	1,000	Ud	Bomba Achique DXN07M/G	692,00	692,00	
%0500	8,074	%	Costes indirectos	5,00	40,37	
			COSTE UNITARIO TOTAL			**847,73**
AISI316BRIDA225		**Ud**	**Conjunto brida AISI 316L para portabrida 225**			
mo050	0,450	h	Oficial 1º montador	30,93	13,92	
mo051	0,450	h	Ayudante montador	21,31	9,59	
mtbrida225	1,000	Ud	Brida AISI 316L DN225 esp 30 mm + tornillería A4	577,50	577,50	
%0500	6,010	%	Costes indirectos	5,00	30,05	
			COSTE UNITARIO TOTAL			**631,06**
AISI316BRIDA280		**Ud**	**Conjunto brida AISI 316L para portabrida 280**			
mo050	0,450	h	Oficial 1º montador	30,93	13,92	
mo051	0,450	h	Ayudante montador	21,31	9,59	
mtbrida280	1,000	Ud	Brida AISI 316L DN280 esp 30 mm + tornillería A4	695,00	695,00	
%0500	7,185	%	Costes indirectos	5,00	35,93	
			COSTE UNITARIO TOTAL			**754,44**
AISI316BRIDA315		**Ud**	**Conjunto brida AISI 316L para portabrida 315**			
mo050	0,450	h	Oficial 1º montador	30,93	13,92	
mo051	0,450	h	Ayudante montador	21,31	9,59	
mtbrida315	1,000	ud	Brida AISI 316L DN315 esp 30 mm + tornillería A4	814,00	814,00	
%0500	8,375	%	Costes indirectos	5,00	41,88	
			COSTE UNITARIO TOTAL			**879,39**
AISI316BRIDA400		**Ud**	**Conjunto brida AISI 316L para portabrida 400**			
mo050	0,450	h	Oficial 1º montador	30,93	13,92	

CUADRO DE DESCOMPUESTOS

CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
mo051	0,450	h	Ayudante montador	21,31	9,59	
mtbrida400	1,000	ud	Brida AISI 316L DN400 esp 30 mm + tornillería A4	1.017,00	1.017,00	
%0500	10,405	%	Costes indirectos	5,00	52,03	
			COSTE UNITARIO TOTAL			**1.092,54**
APERHUECO		**Ud**	**Apertura y refuerzo de muro de hormigón armado**			
mo032	0,200	h	Oficial 1ª aplicador de productos impermeabilizantes.	25,21	5,04	
mo033	0,200	h	Ayudante aplicador de productos impermeabilizantes.	20,99	4,20	
mo021	2,000	h	Peón ordinario construcción.	20,60	41,20	
mt51cpd020c	1,600	m	Corte en húmedo con sierra con disco diamantado, en paramento vertical prefabricad	600,00	960,00	
mt10ace011ncb	1,250	m²	Malla electrosoldada #200x200x8 mm - 4 kg/m2	6,49	8,11	
mtsikamonotop412	175,000	kg	Mortero Reparación SIKA Monotop 412-S	1,85	323,75	
mt08aaa010a	0,100	m³	Agua.	1,50	0,15	
mtmaxsealflex	1,500	kg	Mortero Impermeabilizante Maxsela Flex "DRIZORO"	5,25	7,88	
mtjuntahidro	3,000		Perfil hidroexpansivo a base de caucho natural reticulado	7,58	22,74	
%0500	13,731	%	Costes indirectos	5,00	68,66	
			COSTE UNITARIO TOTAL			**1.441,73**
ARQ8080100		**Ud**	**Arqueta de conexión eléctrica 80x80x100 cm, dimensiones interiores de Hormigón Prefabricado**			
mo041	0,650	h	Oficial 1ª construcción de obra civil.	25,59	16,63	
mo022	0,650	h	Peón Especialista	26,75	17,39	
mt35arg100g	1,000	Ud	Arqueta de Conexión Eléctrica, prefabrica de hormigón, sin fondo, registrable de 80x80x100	149,49	149,49	
mt35arg105e	1,000	Ud	Marco de chapa galvanizada y tapa de hormigón armado aligerado, de 89x88,5 cm	120,96	120,96	
mt01ara032	0,500	m³	Gravilla machaqueo 20/40 mm	33,33	16,67	
mq01ret020b	0,050	h	Retrocargadora sobre neumáticos, de 70 kW.	40,90	2,05	
%0500	3,232	%	Costes indirectos	5,00	16,16	
			COSTE UNITARIO TOTAL			**339,35**
BALIZA700		**Ud**	**Baliza LED exteriores**			
mo041	0,500	h	Oficial 1ª construcción de obra civil.	25,59	12,80	
mo021	0,500	h	Peón ordinario construcción.	20,60	10,30	
mo003	0,500	h	Oficial 1ª electricista.	30,93	15,47	
mo004	0,500	h	Ayudante electricista.	26,75	13,38	
mtbaliza700	1,000	Ud	Baliza circula D150 mm y altura de 700 mm LED 15 W	378,12	378,12	
mt10hmf011fc	0,030	m³	Hormigón HM-20/B/IIa, fabricado en central.	244,03	7,32	
%0500	4,374	%	Costes indirectos	5,00	21,87	
			COSTE UNITARIO TOTAL			**459,26**
CALDINOX		**Ud**	**Calderería de acero inoxidable 316L**			
mo050	8,000	h	Oficial 1º montador	30,93	247,44	
mtinox316kg	957,090	kg	Acero inox AISI 316L varios DN	21,50	20.577,44	
mq04cag010c	6,000	h	Camión con grúa de hasta 12 Tn	58,55	351,30	
%1000M	211,762	%	Tornilleria inoxidable, juntas y material auxiliar	10,00	2.117,62	
%0500	232,938	%	Costes indirectos	5,00	1.164,69	
			COSTE UNITARIO TOTAL			**24.458,49**
CARRANTIVIB		**Ud**	**Carrete antivibratorio DN125**			
mo050	0,350	h	Oficial 1º montador	30,93	10,83	
mo051	0,350	h	Ayudante montador	21,31	7,46	
mtcav125	1,000	u	Carrete antivibratorio DN125	182,00	182,00	
%1000M	2,003	%	Tornilleria inoxidable, juntas y material auxiliar	10,00	20,03	
%0500	2,203	%	Costes indirectos	5,00	11,02	
			COSTE UNITARIO TOTAL			**231,34**
CARRETE125		**Ud**	**Carrete de desmontaje DN125 PN10 BB L<500 mm**			
mo050	0,350	h	Oficial 1º montador	30,93	10,83	
mo051	0,350	h	Ayudante montador	21,31	7,46	
mtcdes125	1,000	Ud	Carrete desmontaje DN125	259,00	259,00	
%1000M	2,773	%	Tornilleria inoxidable, juntas y material auxiliar	10,00	27,73	
%0500	3,050	%	Costes indirectos	5,00	15,25	
			COSTE UNITARIO TOTAL			**320,27**
CARRETE150		**Ud**	**Carrete de desmontaje DN150 PN10 BB L<500 mm**			
mo050	0,350	h	Oficial 1º montador	30,93	10,83	
mo051	0,350	h	Ayudante montador	21,31	7,46	
mtcdes150	1,000	u	Carrete desmontaje DN150	295,20	295,20	
%1000M	3,135	%	Tornilleria inoxidable, juntas y material auxiliar	10,00	31,35	
%0500	3,448	%	Costes indirectos	5,00	17,24	
			COSTE UNITARIO TOTAL			**362,08**
CARRETE225		**Ud**	**Carrete de desmontaje DN225 PN10 BB L<500 mm**			
mo050	0,350	h	Oficial 1º montador	30,93	10,83	
mo051	0,350	h	Ayudante montador	21,31	7,46	
mtcdes225	1,000	u	Carrete desmontaje DN225	583,00	583,00	
%1000M	6,013	%	Tornilleria inoxidable, juntas y material auxiliar	10,00	60,13	
%0500	6,614	%	Costes indirectos	5,00	33,07	

CUADRO DE DESCOMPUESTOS

CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
			COSTE UNITARIO TOTAL			**694,49**
CARRETE280		**Ud**	**Carrete de desmontaje DN280 PN10 BB L<500 mm**			
mo050	0,350	h	Oficial 1º montador	30,93	10,83	
mo051	0,350	h	Ayudante montador	21,31	7,46	
mtcdes280	1,000	u	Carrete desmontaje DN280	693,00	693,00	
%1000M	7,113	%	Tornilleria inoxidable, juntas y material auxiliar	10,00	71,13	
%0500	7,824	%	Costes indirectos	5,00	39,12	
			COSTE UNITARIO TOTAL			**821,54**
CARRETE315		**Ud**	**Carrete de desmontaje DN315 PN10 BB L<500 mm**			
mo050	0,350	h	Oficial 1º montador	30,93	10,83	
mo051	0,350	h	Ayudante montador	21,31	7,46	
mtdes315	1,000	Ud	Carrete desmontaje DN315	889,00	889,00	
%1000M	9,073	%	Tornilleria inoxidable, juntas y material auxiliar	10,00	90,73	
%0500	9,980	%	Costes indirectos	5,00	49,90	
			COSTE UNITARIO TOTAL			**1.047,92**
CHH010		**m3**	**Hormigón ciclópeo**			
mo020	0,330	h	Oficial 1ª construcción.	25,59	8,44	
mo021	0,330	h	Peón ordinario construcción.	20,60	6,80	
mt10hmf011fc	0,600	m³	Hormigón HM-20/B/IIa, fabricado en central.	244,03	146,42	
mt02ara032	0,400	m³	Piedra en Rama de tamaño máximo 30 cm	125,00	50,00	
%0500	2,117	%	Costes indirectos	5,00	10,59	
			COSTE UNITARIO TOTAL			**222,25**
CUADROB		**Ud**	**Cuadro de bombas y gestión**			
mo090	16,000	h	Cuadrilla montaje	90,00	1.440,00	
mt35amc551gg	1,000	Ud	Interruptor-seccionador con mando rotativo, tetrapolar (4P), intensidad nominal 125 A, según UNE-EN 60947-3.	247,36	247,36	
mt35gee010Bnr2	3,000	Ud	Interruptor automático magnetotérmico, poder de corte 10 kA, curva C, tetrapolar (4P), intensidad nominal 63 A, EP64C63 "GENERAL	352,81	1.058,43	
mt35gee010Bmq2	1,000	Ud	Interruptor automático magnetotérmico, poder de corte 10 kA, curva C, tetrapolar (4P), intensidad nominal 50 A, EP64C50 "GENERAL	332,70	332,70	
mt35gee007kev	3,000	Ud	Interruptor automático magnetotérmico compacto, poder de corte 6 kA, curva C, tetrapolar (4P), intensidad nominal 16 A, EPC 64 C	129,07	387,21	
mt35gee008tf	6,000	Ud	Interruptor automático magnetotérmico compacto, poder de corte 6 kA, curva C, bipolar (1P+1P), intensidad nominal 6-16 A, EPC 61	50,53	303,18	
mt35ase500a	3,000	Ud	Relé diferencial electrónico, modelo Vigirex RH99M 56173 "SCHNEIDER ELECTRIC",	464,72	1.394,16	
mt35ase520h	3,000	Ud	Transformador toroidal cerrado para relé diferencial, de 50 mm de diámetro útil para el paso de cables, tipo PA50, modelo 50438	161,07	483,21	
mt006.4P4030A	2,000	Ud	industrial (4P), sensibilidad 30 mA	468,54	937,08	
mt006.2P2530A	3,000	Ud	indstrial (2P), sensibilidad 30 mA	266,96	800,88	
mtRS_711-6121	3,000	Ud	Contactor ABB AF38-30-00-13 1SBL297001R1300	98,88	296,64	
mt35amc175ff	3,000	Ud	Arrancador suave, para motor asíncrono trifásico de rotor de jaula de ardilla de 30 kW, de intensidad nominal 57 A	581,88	1.745,64	
mtA9L16294	1,000	Ud	Protec sobretensiones transitorias, tipo II iQuick PRD40r 3P+N A9L16294, interruptor integrado	663,32	663,32	
mtex901	2,000	Ud	EasyLogic PM2220, Power & Energy meter, up to 15th H, LCD, RS485, RJ45, modelo METSEPM2220R	381,63	763,26	
mt35cgm032c	1,000	Ud	Telerruptor de 2 módulos, tetrapolar (4P), de 16 A incluso accesorios de montaje, según UNE-EN 60669-1 y UNE-EN 60669-2-2.	94,26	94,26	
mtArmamar	1,000	Ud	Armario IP65 mural	600,00	600,00	
mtPILOTO	6,000	Ud	piloto verde/rojo	10,24	61,44	
mtrele2nanc	15,000	Ud	Relé miniatura 2 NANC 12A, 230V, con led indicador	5,47	82,05	
mt18072	3,000	Ud	Conmutador CM de 2 posiciones y posición 0	13,36	40,08	
mt18073	1,000	Ud	Conmutador CM de 3 posiciones y posición 0	14,81	14,81	
mtTEMP2F	1,000	Ud	Temporizador bifunción	39,91	39,91	
mtcontaeven	3,000	ud	Contador multifunción totalizador horas y eventos montaje en panel	286,62	859,86	
mtch230v	3,000	Ud	Contador horario para panel 230 V	27,26	81,78	
mtTSC230V	1,000	Ud	Transformador separador de circuitos 230 V	59,55	59,55	
mtP715	1,000	Ud	Fuente de alimentación ABL-7RM2401.	67,87	67,87	
mtPLC	1,000	Ud	Hermes TCR200 Telecontrol y datalogger GSM/GPRS MODBUS	431,69	431,69	
mtSUPmot	3,000	Ud	Relé vigilante fase temperatura y tensión motor RM35TM250MW	205,93	617,79	
mtSUPtri	1,000	Ud	Relé vigilante multifunción trifásico RM35TF30	164,24	164,24	
mtTT2P	1,000	ud	Termostato de 2 posiciones para accionamiento de ventilador y resistencia calefactora.	66,22	66,22	
mtrc55	1,000	ud	Resistencia calefactora 50W	96,79	96,79	
mtilint	1,000	ud	Iluminación interior 13W	22,41	22,41	
mtVEN_REJ	1,000	ud	Ventilador alimentado y rejilla de extracción y termostato de activación mecanizados sobre puerta de armario	152,83	152,83	
%03011000	144,067	%	Pequeño material y otros accesorios	10,00	1.440,67	
%0500	158,473	%	Costes indirectos	5,00	792,37	
			COSTE UNITARIO TOTAL			**16.639,69**
CUADROC		**Ud**	**Cuadro cámara de válvulas**			
mo090	2,000	h	Cuadrilla montaje	90,00	180,00	
mt35amc551gg	1,000	Ud	Interruptor-seccionador con mando rotativo, tetrapolar (4P), intensidad nominal 125 A, según UNE-EN 60947-3.	247,36	247,36	

CUADRO DE DESCOMPUESTOS

CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
mt35gee007kev	1,000	Ud	Interruptor automático magnetotérmico compacto, poder de corte 6 kA, curva C, tetrapolar (4P), intensidad nominal 16 A, EPC 64 C	129,07	129,07	
mt35gee008tf	2,000	Ud	Interruptor automático magnetotérmico compacto, poder de corte 6 kA, curva C, bipolar (1P+1P), intensidad nominal 6-16 A, EPC 61	50,53	101,06	
006.4P4030A	1,000	Ud	industrial (4P), sensibilidad 30 o 300 mA	468,54	468,54	
mtArmamar	1,000	Ud	Armario IP65 mural	600,00	600,00	
TSC230V	1,000	Ud	Transformador separador de circuitos 230 V	59,55	59,55	
P715	1,000	Ud	Fuente de alimentación ABL-7RM2401.	67,87	67,87	
%03011000	18,535	%	Pequeño material y otros accesorios	10,00	185,35	
%0500	20,388	%	Costes indirectos	5,00	101,94	
			COSTE UNITARIO TOTAL			**2.140,74**
CUADROmodif		**Ud**	**Modificación cuadro**			
mo090	16,000	h	Cuadrilla montaje	90,00	1.440,00	
mt35gee101uu	1,000	Ud	Interruptor automático en caja moldeada, tetrapolar (4P), intensidad nominal 125 A, poder de corte 36 kA a 400 V, FD80S 432973 "	605,73	605,73	
mt35ase500a	1,000	Ud	Relé diferencial electrónico, modelo Vigirex RH99M 56173 "SCHNEIDER ELECTRIC",	464,72	464,72	
mt35ase520h	1,000	Ud	Transformador toroidal cerrado para relé diferencial, de 50 mm de diámetro útil para el paso de cables, tipo PA50, modelo 50438	161,07	161,07	
%0500	26,715	%	Costes indirectos	5,00	133,58	
			COSTE UNITARIO TOTAL			**2.805,10**
DEP_HIPO		**Ud**	**Depósito hipoclorito**			
mo080	3,000	h	Oficial 1ª fontanero calefactor	30,93	92,79	
mo081	3,000	h	Ayudante fontanero	26,75	80,25	
mtBJ71Z001.	1,000	u	Depósito hipoclorito 1000 L con cubeto	1.273,55	1.273,55	
%0500	14,466	%	Costes indirectos	5,00	72,33	
			COSTE UNITARIO TOTAL			**1.518,92**
DUCHA_SEG		**Ud**	**Ducha de seguridad**			
mo080	3,000	h	Oficial 1ª fontanero calefactor	30,93	92,79	
mo081	3,000	h	Ayudante fontanero	26,75	80,25	
mtPEQMAT	1,000	ud	pequeño material	152,83	152,83	
mtduchaseg	1,000	ud	Ducha de seguridad	2.241,44	2.241,44	
%0500	25,673	%	Costes indirectos	5,00	128,37	
			COSTE UNITARIO TOTAL			**2.695,68**
E01AA020		**m2**	**Apeo de estructura hasta 6 m**			
mo090	1,500	h	Cuadrilla montaje	90,00	135,00	
mqm13b010	1,000	u	Equipo metálico para apeos	1,94	1,94	
%0500	1,369	%	Costes indirectos	5,00	6,85	
			COSTE UNITARIO TOTAL			**143,79**
E01DSB100		**m2**	**Demolición de muro de hormigón armado**			
mo021	1,500	h	Peón ordinario construcción.	20,60	30,90	
mo022	1,500	h	Peón Especialista	26,75	40,13	
mqm06cm040	1,500	h	Compresor portátil diesel media presión 10 m3/min 7 bar	13,43	20,15	
mqm06mp110	1,500	h	Martillo manual perforador neumatico 20 kg	4,57	6,86	
%0500	0,980	%	Costes indirectos	5,00	4,90	
			COSTE UNITARIO TOTAL			**102,94**
E01DSB101		**m3**	**Desmontaje de muro de mampostería**			
mo041	8,320	h	Oficial 1ª construcción de obra civil.	25,59	212,91	
mo021	0,800	h	Peón ordinario construcción.	20,60	16,48	
mqm06cm040	0,800	h	Compresor portátil diesel media presión 10 m3/min 7 bar	13,43	10,74	
mqm06mp110	0,800	h	Martillo manual perforador neumatico 20 kg	4,57	3,66	
%0500	2,438	%	Costes indirectos	5,00	12,19	
			COSTE UNITARIO TOTAL			**255,98**
E01DSB102			**Muro de mampostería con material reutilizado**			
mo041	4,500	h	Oficial 1ª construcción de obra civil.	25,59	115,16	
mo021	5,190	h	Peón ordinario construcción.	20,60	106,91	
mt08aaa010a	0,117	m³	Agua.	1,50	0,18	
mt09mif010cb	0,649	t	Mortero industrial para albañilería, de cemento, color gris, categoría M-5 (resistencia a compresión 5 N/mm²),según UNE-EN 998-2	30,98	20,11	
%0500	2,424	%	Costes indirectos	5,00	12,12	
			COSTE UNITARIO TOTAL			**254,48**
E02AM010		**m²**	**Desbroce, limpieza y acondicionamiento del terreno**			
mo021	0,067	h	Peón ordinario construcción.	20,60	1,38	
mq09sie010	0,020	h	Motosierra a gasolina, de 50 cm de espada y 2 kW de potencia	3,36	0,07	
mq01pan010a	0,015	h	Pala cargadora sobre neumáticas de 120 kW/1,9 m³	45,06	0,68	
%0500	0,021	%	Costes indirectos	5,00	0,11	
			COSTE UNITARIO TOTAL			**2,24**
E02CMA080		**m³**	**Excavación en zanja o pozo en cualquier tipo de terreno**			
mo021	0,833	h	Peón ordinario construcción.	20,60	17,16	
mo020	0,100	h	Oficial 1ª construcción.	25,59	2,56	
mq01ret020b	0,045	h	Retrocargadora sobre neumáticos, de 70 kW.	40,90	1,84	

CUADRO DE DESCOMPUESTOS

CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
mq01exn050c	0,300	h	Retroexcavadora sobre neumáticos 85kW con martillo rompedor	72,80	21,84	
%0500	0,434	%	Costes indirectos	5,00	2,17	
			COSTE UNITARIO TOTAL			**45,57**
E02CMA081		**m³**	**Excavación manual en zanja**			
mo021	3,150	h	Peón ordinario construcción.	20,60	64,89	
%0500	0,649	%	Costes indirectos	5,00	3,25	
			COSTE UNITARIO TOTAL			**68,14**
E04AB041		**kg**	**Acero corrugado elaborado B500SD**			
mo060	0,013	h	Oficial 1ª ferrallista.	25,59	0,33	
mo061	0,014	h	Ayudante ferrallista.	21,31	0,30	
mtb500s	1,050	kg	Acero corrugado B-500-S/SD	1,85	1,94	
mt08var050	0,005	kg	Alambre galvanizado para atar, de 1,30 mm de diámetro.	2,23	0,01	
mtsepa40	0,050	ud	Separador 30/40/50 mm	0,20	0,01	
%0500	0,026	%	Costes indirectos	5,00	0,13	
			COSTE UNITARIO TOTAL			**2,72**
E04MEF011		**m²**	**Encofrado recto vertical en muros**			
mo042	0,625	h	Oficial 1º encofrador	25,59	15,99	
mo043	0,685	h	Ayudante encofrador	21,31	14,60	
mq04cag010c	0,325	h	Camión con grúa de hasta 12 Tn	58,55	19,03	
mt10ala010a	0,100	kg	Alambre recocido de 1,3mm	1,07	0,11	
mt08eme070b	0,007	m²	Paneles metálicos modulares, para encofrar muros de hormigón de entre 3 y 6 m de altura.	200,00	1,40	
mt08eme075g	0,005	Ud	Estructura soporte de sistema de encofrado vertical, para muros de hormigón a una cara, de entre 3 y 6 m de altura, formada por	412,72	2,06	
mt08dba010b	0,030	l	Agente desmoldeante, a base de aceites especiales, emulsionable en agua para encofrados metálicos, fenólicos o de madera.	1,98	0,06	
mt08var204	0,400	Ud	Pasamuros de PVC para paso de los tensores del encofrado, de varios diámetros y longitudes.	1,35	0,54	
mqa057050	0,440	h	Grua torre 40 m Flecha 1000 kg	24,25	10,67	
%0500	0,645	%	Costes indirectos	5,00	3,23	
			COSTE UNITARIO TOTAL			**67,69**
E04MEF012		**m²**	**Encofrado metálico para losa de cimentación**			
mo042	0,250	h	Oficial 1º encofrador	25,59	6,40	
mo043	0,250	h	Ayudante encofrador	21,31	5,33	
mq04cag010c	0,325	h	Camión con grúa de hasta 12 Tn	58,55	19,03	
mt08eme071b	1,000	m²	Encofrado panel metálico 5/10 m2 50 posturas	2,87	2,87	
mt08dba010b	0,030	l	Agente desmoldeante, a base de aceites especiales, emulsionable en agua para encofrados metálicos, fenólicos o de madera.	1,98	0,06	
mt08dba011b	0,500	m	Fleje para encofrado metálico	0,32	0,16	
mt10ala011a	0,050	kg	Puntas 20x100 mm	8,04	0,40	
mt10ala010a	0,100	kg	Alambre recocido de 1,3mm	1,07	0,11	
%0500	0,344	%	Costes indirectos	5,00	1,72	
			COSTE UNITARIO TOTAL			**36,08**
E09CP021		**m²**	**Recrecido para formación de pendientes**			
mo032	0,095	h	Oficial 1ª aplicador de productos impermeabilizantes.	25,21	2,39	
mo033	0,095	h	Ayudante aplicador de productos impermeabilizantes.	20,99	1,99	
mt04lvc010c	3,000	Ud	Ladrillo cerámico hueco doble, para revestir, 24x11,5x9 cm, para uso en fábrica protegida (pieza P), densidad 780 kg/m³, según U	0,22	0,66	
mt08cem011a	45,000	kg	Cemento Portland CEM II/B-L 32,5 R, color gris, en sacos, según UNE-EN 197-1.	0,10	4,50	
mt08adb010a	0,450	kg	Aditivo plastificante-aireante para hormigones celulares.	4,25	1,91	
mt08aaa010a	0,067	m³	Agua.	1,50	0,10	
mt09mif010ca	0,038	t	Mortero industrial para albañilería, de cemento, color gris, categoría M-5 (resistencia a compresión 5 N/mm²), suministrado en s	33,86	1,29	
mq06cel010	0,052	h	Equipo para fabricación y bombeo de hormigón celular a base de cemento y aditivo plastificante-aireante, de 12 m³/h.	25,08	1,30	
%0500	0,141	%	Costes indirectos	5,00	0,71	
			COSTE UNITARIO TOTAL			**14,85**
E11ECB011		**m²**	**Solado baldosín catalán**			
mo052	0,200	h	Oficial 1ª solador alicatador	25,59	5,12	
mo053	0,200	h	Ayudante solador alicatador	21,31	4,26	
mt01ara031	0,020	m3	Arena de río 0/6 mm	17,41	0,35	
mt01bald001	1,100	m²	Baldosín catalán 14x28 cm	11,50	12,65	
mtA02A021	0,050	m³	MORTERO CEMENTO M-5 ELAB. A MANO SEMISECO	59,14	2,96	
mtA01L020	0,001	m³	LECHADA CEMENTO CEM II/B-P 32,5 N	65,02	0,07	
%0500	0,254	%	Costes indirectos	5,00	1,27	
			COSTE UNITARIO TOTAL			**26,68**
E14AP03cab		**ud**	**Puerta practicable**			
mo018	0,400	h	Oficial 1ª cerrajero.	30,93	12,37	
mo019	0,200	h	Ayudante cerrajero	26,75	5,35	
mtp12pw010	5,200	m	Premarco aluminio	9,35	48,62	
mtp12at03cab	1,000		Puerta practicable Al lac.blanco 90x200 cm	513,17	513,17	
%0500	5,795	%	Costes indirectos	5,00	28,98	

CUADRO DE DESCOMPUESTOS

CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
			COSTE UNITARIO TOTAL			**608,49**
GEO200		**m²**	**Geotextil 200 gr/m2**			
mo020	0,050	h	Oficial 1ª construcción.	25,59	1,28	
mt010geo01	1,050	m²	Geotextil no tejido compuesto	2,25	2,36	
%0500	0,036	%	Costes indirectos	5,00	0,18	
			COSTE UNITARIO TOTAL			**3,82**
GRUPBOMB		**Ud**	**Bombeo de superficie de eje horizontal**			
mo050	5,500	h	Oficial 1º montador	30,93	170,12	
mo051	5,500	h	Ayudante montador	21,31	117,21	
mo003	5,500	h	Oficial 1ª electricista.	30,93	170,12	
mo004	5,500	h	Ayudante electricista.	26,75	147,13	
mq04cag010c	2,000	h	Camión con grúa de hasta 12 Tn	58,55	117,10	
06.01.06	1,000	Ud	Bomba modelo NSCF 125-315/220/L45VCC4 sobre bancada	25.670,79	25.670,79	
mtcuadropot	1,000	ud	Cuadro de potencia para bomba	1.738,00	1.738,00	
%0500	281,305	%	Costes indirectos	5,00	1.406,53	
			COSTE UNITARIO TOTAL			**29.537,00**
IEH010		**m**	**Cable unipolar H07V-K, 450/750 V, Eca, cobre clase 5 (-K) de 16 mm² de sección, con aislamiento de PVC (V)**			
mo003	0,073	h	Oficial 1ª electricista.	30,93	2,26	
mo004	0,073	h	Ayudante electricista.	26,75	1,95	
mt35cun040af	1,000	m	Cable unipolar H07V-K, siendo su tensión asignada de 450/750 V, reacción al fuego clase Eca según UNE-EN 50575, con conductor mu	3,48	3,48	
%0500	0,077	%	Costes indirectos	5,00	0,39	
			COSTE UNITARIO TOTAL			**8,08**
IEH0121		**m**	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 4x50 mm² de sección**			
mo003	0,073	h	Oficial 1ª electricista.	30,93	2,26	
mo004	0,073	h	Ayudante electricista.	26,75	1,95	
mt35cun030N	1,000	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	47,54	47,54	
%0500	0,518	%	Costes indirectos	5,00	2,59	
			COSTE UNITARIO TOTAL			**54,34**
IEH0121b		**m**	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 5G16 mm² de sección**			
mo003	0,073	h	Oficial 1ª electricista.	30,93	2,26	
mo004	0,073	h	Ayudante electricista.	26,75	1,95	
mt35cun030T	1,000	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	17,72	17,72	
%0500	0,219	%	Costes indirectos	5,00	1,10	
			COSTE UNITARIO TOTAL			**23,03**
IEH012c		**m**	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 5G10 mm² de sección, con aislamiento de polietileno reticulado (R)**			
mo003	0,073	h	Oficial 1ª electricista.	30,93	2,26	
mo004	0,073	h	Ayudante electricista.	26,75	1,95	
mt35cun030S	1,000	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	11,19	11,19	
%0500	0,154	%	Costes indirectos	5,00	0,77	
			COSTE UNITARIO TOTAL			**16,17**
IEH012d		**m**	**Cable multipolar RV-K, 0,6/1 kV, Eca,cobre clase 5 (-K) de 5G2,5 mm² de sección, con aislamiento de polietileno reticulado (R)**			
mo003	0,073	h	Oficial 1ª electricista.	30,93	2,26	
mo004	0,073	h	Ayudante electricista.	26,75	1,95	
mt35cun030P	1,000	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	2,92	2,92	
%0500	0,071	%	Costes indirectos	5,00	0,36	
			COSTE UNITARIO TOTAL			**7,49**
IEH012e		**m**	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 3G2,5 mm² de sección, con aislamiento de polietileno reticulado (R)**			
mo003	0,073	h	Oficial 1ª electricista.	30,93	2,26	
mo004	0,073	h	Ayudante electricista.	26,75	1,95	
mt35cun030w	1,000	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	1,77	1,77	
%0500	0,060	%	Costes indirectos	5,00	0,30	
			COSTE UNITARIO TOTAL			**6,28**
IEH012f		**m**	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 4x6 mm² de sección, con aislamiento de polietileno reticulado (R)**			
mo003	0,073	h	Oficial 1ª electricista.	30,93	2,26	
mo004	0,073	h	Ayudante electricista.	26,75	1,95	
mt35cun030G	1,000	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	5,31	5,31	
%0500	0,095	%	Costes indirectos	5,00	0,48	
			COSTE UNITARIO TOTAL			**10,00**

CUADRO DE DESCOMPUESTOS

CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
IEH012g		**m**	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 5G6 mm² de sección, con aislamiento de polietileno reticulado (R)**			
mo003	0,073	h	Oficial 1ª electricista.	30,93	2,26	
mo004	0,073	h	Ayudante electricista.	26,75	1,95	
mt35cun030R	1,000	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca según UNE-EN 50575, con conductor de	6,64	6,64	
%0500	0,109	%	Costes indirectos	5,00	0,55	
			COSTE UNITARIO TOTAL			**11,40**
IEL010		**m**	**Línea colocada bajo tubo protector de polietileno de doble pared, de 110 mm de diámetro.**			
mo020	0,072	h	Oficial 1ª construcción.	25,59	1,84	
mo021	0,072	h	Peón ordinario construcción.	20,60	1,48	
mo003	0,110	h	Oficial 1ª electricista.	30,93	3,40	
mo004	0,096	h	Ayudante electricista.	26,75	2,57	
mq04dua020b	0,010	h	Dumper de descarga frontal de 2 t de carga útil.	10,38	0,10	
mq02rop020	0,074	h	Pisón vibrante de guiado manual, de 80 kg, con placa de 30x30 cm, tipo rana.	3,92	0,29	
mq02cia020j	0,001	h	Camión cisterna, de 8 m³ de capacidad.	44,89	0,04	
mt01ara031	0,099	m3	Arena de río 0/6 mm	17,41	1,72	
mt35aia070af	2,000	m	Tubo curvable, suministrado en rollo, de polietileno de doble pared (interior lisa y exterior corrugada), de color naranja, de 1	2,75	5,50	
mt35aia070aa	2,000	m	Tubo curvable, suministrado en rollo, de polietileno de doble pared (interior lisa y exterior corrugada), de color naranja, de 4	0,95	1,90	
mt35www010	0,200	Ud	Material auxiliar para instalaciones eléctricas.	1,48	0,30	
%0500	0,191	%	Costes indirectos	5,00	0,96	
			COSTE UNITARIO TOTAL			**20,10**
IEM026		**Ud**	**Interruptor unipolar (1P) estanco, con grado de protección IP55, monobloc, gama básica, intensidad asignada 10 AX**			
mo003	0,282	h	Oficial 1ª electricista.	30,93	8,72	
mt33gbg107a	1,000	Ud	Interruptor unipolar (1P) estanco, con grado de protección IP55 según IEC 60439, monobloc, de superficie, gama básica, intensida	8,78	8,78	
%0500	0,175	%	Costes indirectos	5,00	0,88	
			COSTE UNITARIO TOTAL			**18,38**
IEO010		**m**	**Canalización de tubo de PVC, serie B, de 32 mm de diámetro, para instalación fija en superficie**			
mo003	0,053	h	Oficial 1ª electricista.	30,93	1,64	
mo004	0,056	h	Ayudante electricista.	26,75	1,50	
mt36tie010ac	1,000	m	Tubo de PVC, serie B, de 32 mm de diámetro y 3 mm de espesor, con extremo abocardado, según UNE-EN 1329-1, con el precio increme	1,49	1,49	
%0500	0,046	%	Costes indirectos	5,00	0,23	
			COSTE UNITARIO TOTAL			**4,86**
IEO010b		**m**	**Canalización de tubo curvable, de polietileno de doble pared, de 63 mm de diámetro, para canalización enterrada**			
mo041	0,052	h	Oficial 1ª construcción de obra civil.	25,59	1,33	
mo003	0,052	h	Oficial 1ª electricista.	30,93	1,61	
mo004	0,052	h	Ayudante electricista.	26,75	1,39	
mt01ara031	0,061	m3	Arena de río 0/6 mm	17,41	1,06	
mt35aia070ac	1,000	m	Tubo curvable, suministrado en rollo, de polietileno de doble pared (interior lisa y exterior corrugada), de color naranja, de 6	1,25	1,25	
mt35www030	1,000	m	Cinta de señalización de polietileno, de 150 mm de anchura, color amarillo, con la inscripción "¡ATENCIÓN! DEBAJO HAY CABLES ELÉ	0,25	0,25	
mq04dua020b	0,006	h	Dumper de descarga frontal de 2 t de carga útil.	10,38	0,06	
mq02rop020	0,046	h	Pisón vibrante de guiado manual, de 80 kg, con placa de 30x30 cm, tipo rana.	3,92	0,18	
mq02cia020j	0,001	h	Camión cisterna, de 8 m³ de capacidad.	44,89	0,04	
%0500	0,072	%	Costes indirectos	5,00	0,36	
			COSTE UNITARIO TOTAL			**7,53**
IEP021		**Ud**	**Toma de tierra con dos picas de acero cobreado de 2 m de longitud cada una.**			
mo003	0,300	h	Oficial 1ª electricista.	30,93	9,28	
mo004	0,300	h	Ayudante electricista.	26,75	8,03	
mt35tte010b	3,000	Ud	Electrodo para red de toma de tierra cobreado con 300 µm, fabricado en acero, de 15 mm de diámetro y 2 m de longitud.	18,00	54,00	
mt35ttc010b	2,500	m	Conductor de cobre desnudo, de 35 mm².	2,81	7,03	
mt35tta040	2,000	Ud	Grapa abarcón para conexión de pica.	1,00	2,00	
mt35tta010	1,000	Ud	Arqueta de polipropileno para toma de tierra, de 300x300 mm, con tapa de registro.	74,00	74,00	
mt35tta030	1,000	Ud	Puente para comprobación de puesta a tierra de la instalación eléctrica.	46,00	46,00	
mt35tta060	0,666	Ud	Saco de 5 kg de sales minerales para la mejora de la conductividad de puestas a tierra.	3,50	2,33	
mt35www020	1,000	Ud	Material auxiliar para instalaciones de toma de tierra.	1,15	1,15	
mq01ret020b	0,021	h	Retrocargadora sobre neumáticos, de 70 kW.	40,90	0,86	
%0500	2,047	%	Costes indirectos	5,00	10,24	
			COSTE UNITARIO TOTAL			**214,92**
IEP021b		**Ud**	**Toma de tierra con una pica de acero cobreado de 2 m de longitud.**			
mo003	0,300	h	Oficial 1ª electricista.	30,93	9,28	
mo004	0,300	h	Ayudante electricista.	26,75	8,03	

CUADRO DE DESCOMPUESTOS

CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
mt35tte010b	1,000	Ud	Electrodo para red de toma de tierra cobreado con 300 µm, fabricado en acero, de 15 mm de diámetro y 2 m de longitud.	18,00	18,00	
mt35ttc010b	0,250	m	Conductor de cobre desnudo, de 35 mm².	2,81	0,70	
mt35tta040	1,000	Ud	Grapa abarcón para conexión de pica.	1,00	1,00	
mt35tta010	1,000	Ud	Arqueta de polipropileno para toma de tierra, de 300x300 mm, con tapa de registro.	74,00	74,00	
mt35tta030	1,000	Ud	Puente para comprobación de puesta a tierra de la instalación eléctrica.	46,00	46,00	
mt35tta060	0,333	Ud	Saco de 5 kg de sales minerales para la mejora de la conductividad de puestas a tierra.	3,50	1,17	
mt35www020	1,000	Ud	Material auxiliar para instalaciones de toma de tierra.	1,15	1,15	
%0500	1,593	%	Costes indirectos	5,00	7,97	
			COSTE UNITARIO TOTAL			**167,30**
IEP025		**m**	**Conductor de tierra de cobre 35 mm2**			
mo003	0,113	h	Oficial 1ª electricista.	30,93	3,50	
mt35ttc010b	1,000	m	Conductor de cobre desnudo, de 35 mm².	2,81	2,81	
mt35www020	0,100	Ud	Material auxiliar para instalaciones de toma de tierra.	1,15	0,12	
%0500	0,064	%	Costes indirectos	5,00	0,32	
			COSTE UNITARIO TOTAL			**6,75**
IEQ010		**Ud**	**Condensador para 25 kVAr de potencia reactiva, alimentación trifásica a 400 V de tensión y 50 Hz de frecuencia, modelo ACM-30-44**			
mo003	2,255	h	Oficial 1ª electricista.	30,93	69,75	
mo004	2,255	h	Ayudante electricista.	26,75	60,32	
mt35pci020tj	1,000	Ud	Condensador para 25 kVAr de potencia reactiva, alimentación trifásica a 400 V de tensión y 50 Hz de frecuencia, modelo ACM-30-44	710,29	710,29	
%0500	8,404	%	Costes indirectos	5,00	42,02	
			COSTE UNITARIO TOTAL			**882,38**
III010		**Ud**	**Luminaria, de 666x170x100 mm, para 2 lámparas fluorescentes TL de 18 W, con cuerpo de poliéster reforzado con fibra de vidrio**			
mt34ode100jdj	1,000	Ud	Luminaria, de 666x170x100 mm, para 2 lámparas fluorescentes TL de 18 W, con cuerpo de poliéster reforzado con fibra de vidrio	36,34	36,34	
mt34tuf010k	2,000	Ud	Tubo fluorescente TL de 18 W.	7,21	14,42	
mo003	0,338	h	Oficial 1ª electricista.	30,93	10,45	
mo004	0,338	h	Ayudante electricista.	26,75	9,04	
%0500	0,703	%	Costes indirectos	5,00	3,52	
			COSTE UNITARIO TOTAL			**73,77**
INST_CLORACION		**Ud**	**Instrumentación de la postcloración**			
mo080	16,000	h	Oficial 1ª fontanero calefactor	30,93	494,88	
mo081	16,000	h	Ayudante fontanero	26,75	428,00	
mtBNN4U001	1,000	u	Bomba dosificadora	866,01	866,01	
mtBNN4U003	1,000	u	Analizador cloro	4.850,41	4.850,41	
mtBNN4U005	1,000	u	Instalación eléctrica hipoclorito	1.579,20	1.579,20	
mtBNN4U006	1,000	u	Bomba centrifuga para muestras	606,21	606,21	
mtBNN4U007	1,000	u	Material auxiliar	1.273,55	1.273,55	
%0500	100,983	%	Costes indirectos	5,00	504,92	
			COSTE UNITARIO TOTAL			**10.603,18**
IOA010		**Ud**	**Luminaria de emergencia estanca, con tubo lineal fluorescente, 8 W - G5, flujo luminoso 240 lúmenes, carcasa de 405x134x134 mm,**			
mo003	0,225	h	Oficial 1ª electricista.	30,93	6,96	
mo004	0,225	h	Ayudante electricista.	26,75	6,02	
mt34aem020b	1,000	Ud	Luminaria de emergencia estanca, con tubo lineal fluorescente, 8 W - G5, flujo luminoso 240 lúmenes, carcasa de 405x134x134 mm,	125,27	125,27	
%0500	1,383	%	Costes indirectos	5,00	6,92	
			COSTE UNITARIO TOTAL			**145,17**
IVN100		**m²**	**Reja de ventilación para pared**			
mo018	0,301	h	Oficial 1ª cerrajero.	30,93	9,31	
mo022	0,200	h	Peón Especialista	26,75	5,35	
mt26btr030a	1,000	m²	Celosía de lamas fijas de alumino, con plegadura sencilla en los bordes, incluso soportes del mismo material y patilla	97,38	97,38	
mt15sja100	0,035	Ud	Cartucho de masilla de silicona neutra.	3,13	0,11	
mt09mif010ca	0,015	t	Mortero industrial para albañilería, de cemento, color gris, categoría M-5 (resistencia a compresión 5 N/mm²), suministrado en s	33,86	0,51	
mt08aaa010a	0,006	m³	Agua.	1,50	0,01	
%0500	1,127	%	Costes indirectos	5,00	5,64	
			COSTE UNITARIO TOTAL			**118,31**
LEGALELEC		**PA**	**Legalizaciones eléctricas**			
			Sin descomposición			
			COSTE UNITARIO TOTAL			**4.000,00**
LINEAVIDA		**Ud**	**Línea de vida horizontal**			
mo050	8,000	h	Oficial 1º montador	30,93	247,44	
mo051	8,000	h	Ayudante montador	21,31	170,48	
mtLDV-008	2,000	Ud	Tubo para emplomar longitud 100 mm Inox 304	43,00	86,00	
mtLDV-108	2,000	Ud	Tope fijo para anclaje Diasafe y anclaje TEVO	148,50	297,00	

CUADRO DE DESCOMPUESTOS

CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
mtLDV-100	18,000	Ud	Anclaje DiaSafe para línea de vida horizontal Inox 316	247,50	4.455,00	
mtIDF-010	4,000	Ud	Plato de curva para poste Diasafe (0,50 kg) EN 795C Inox304	247,50	990,00	
mtIDF-008	18,000	Ud	Poste Diasafe / Punto de anclaje (7,00 kg) EN795:2012 Inox304 y fibra de vidrio	264,00	4.752,00	
mtLDV-006	65,000	m	Cable de Ø 8 mm construcción 7 x 7 (0,25 kg) Resistencia 40kN Inox 316	10,00	650,00	
mtLDV-007-ES	1,000	Ud	Placa de identificación y advertencia obligatoria EN795-C:2012 en Español	25,00	25,00	
%0500	116,729	%	Costes indirectos	5,00	583,65	
			COSTE UNITARIO TOTAL			**12.256,57**
MIMC010		**Ud**	**Comunicación señales con planta + Integración con el SCADA existente y puesta en marcha**			
mo003	33,823	h	Oficial 1ª electricista.	30,93	1.046,15	
mo004	33,823	h	Ayudante electricista.	26,75	904,77	
mo005	67,645	h	Especialista en la puesta en marcha de instalaciones.	37,22	2.517,75	
mt35cun210a	100,000	m	Cable bus rígido, apantallado, de 4 hilos, de 0,8 mm² de sección por hilo	0,80	80,00	
%03011000	45,487	%	Pequeño material y otros accesorios	10,00	454,87	
%0500	50,035	%	Costes indirectos	5,00	250,18	
			COSTE UNITARIO TOTAL			**5.253,72**
PASMUR280		**Ud**	**Pasamuros estanco DN280 con portabrida**			
mo042	0,750	h	Oficial 1º encofrador	25,59	19,19	
mtBF44210.	25,000	kg	Acero inox AISI 316L varios DN	21,50	537,50	
mt1000M	1,000	ud	Tornilleria inoxidable, juntas y material auxiliar	10,00	10,00	
%0500	5,667	%	Costes indirectos	5,00	28,34	
			COSTE UNITARIO TOTAL			**595,03**
PASMUR315		**Ud**	**Pasamuros estanco DN315 con portabrida**			
mo042	0,750	h	Oficial 1º encofrador	25,59	19,19	
mtBF44210.	30,000	kg	Acero inox AISI 316L varios DN	21,50	645,00	
mt1000M	1,000	ud	Tornilleria inoxidable, juntas y material auxiliar	10,00	10,00	
%0500	6,742	%	Costes indirectos	5,00	33,71	
			COSTE UNITARIO TOTAL			**707,90**
PAVHORMFIB		**m2**	**Pavimento continuo de hormigón en masa con fibras**			
mo041	0,500	h	Oficial 1ª construcción de obra civil.	25,59	12,80	
mo021	0,500	h	Peón ordinario construcción.	20,60	10,30	
mq06vib020	0,200	h	Regla vibrante de 3 m	5,84	1,17	
mt10hmf011fc	0,190	m³	Hormigón HM-20/B/IIa, fabricado en central.	244,03	46,37	
mt09hip040a	0,600	kg	Fibras de Polipropileno, según UNE-EN 14889-2, color gris, compuesto de cemento, áridos de silice, aditivos orgánicos y pigmento	10,25	6,15	
mt09wnc011cb	3,000	kg	Mortero decorativo de rodadura para pavimento de hormigón, color gris	1,50	4,50	
%0500	0,813	%	Costes indirectos	5,00	4,07	
			COSTE UNITARIO TOTAL			**85,36**
PLETINAALM		**m**	**Pletina plegada de aluminio vierteaguas**			
mo020	0,215	h	Oficial 1ª construcción.	25,59	5,50	
mtp05w095	0,350	m2	Plancha aluminio 0,66 mm	25,45	8,91	
%0500	0,144	%	Costes indirectos	5,00	0,72	
			COSTE UNITARIO TOTAL			**15,13**
PRFV01		**Ud**	**Escalera PRFV acceso lateral a depósito**			
mo050	10,000	h	Oficial 1º montador	30,93	309,30	
mo051	10,000	h	Ayudante montador	21,31	213,10	
mq04cag010d	4,000	h	Camión con grúa de hasta 16 Tn	65,50	262,00	
prfv01_cub	1,000	ud	escalera prfv acceso cubierta	5.665,00	5.665,00	
%0500	64,494	%	Costes indirectos	5,00	322,47	
			COSTE UNITARIO TOTAL			**6.771,87**
PRFV02		**Ud**	**Escalera PRFV acceso a depósito**			
mo050	8,000	h	Oficial 1º montador	30,93	247,44	
mo051	8,000	h	Ayudante montador	21,31	170,48	
mq04cag010d	3,000	h	Camión con grúa de hasta 16 Tn	65,50	196,50	
prfv02_dep	1,000	ud	escalera prfv acceso deposito	5.098,50	5.098,50	
%0500	57,129	%	Costes indirectos	5,00	285,65	
			COSTE UNITARIO TOTAL			**5.998,57**
PRFV04		**Ud**	**Escalera PRFV acceso a cámara de llaves**			
mo050	5,000	h	Oficial 1º montador	30,93	154,65	
mo051	5,000	h	Ayudante montador	21,31	106,55	
mq04cag010d	2,000	h	Camión con grúa de hasta 16 Tn	65,50	131,00	
prfv04_bom	1,000	ud	escalera prfv acceso cuarto bombas	1.457,50	1.457,50	
%0500	18,497	%	Costes indirectos	5,00	92,49	
			COSTE UNITARIO TOTAL			**1.942,19**
PRFV05		**Ud**	**Barandilla de cubierta**			
mo050	3,500	h	Oficial 1º montador	30,93	108,26	
mo051	3,500	h	Ayudante montador	21,31	74,59	
mq04cag010d	1,500	h	Camión con grúa de hasta 16 Tn	65,50	98,25	
prfv05_baran	1,000	ud	barandilla prfv cubierta	2.640,00	2.640,00	
%0500	29,211	%	Costes indirectos	5,00	146,06	

CUADRO DE DESCOMPUESTOS

CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
			COSTE UNITARIO TOTAL			**3.067,16**
PRFV06		**Ud**	**Tapas de registro**			
mo050	2,000	h	Oficial 1º montador	30,93	61,86	
mo051	2,000	h	Ayudante montador	21,31	42,62	
mq04cag010d	0,750	h	Camión con grúa de hasta 16 Tn	65,50	49,13	
prfv_tap1	1,000	ud	tapa prfv acceo deposito	1.045,00	1.045,00	
%0500	11,986	%	Costes indirectos	5,00	59,93	
			COSTE UNITARIO TOTAL			**1.258,54**
REVESIMP		**m²**	**Revestimiento interior con mortero impermeabilizante**			
mo032	0,150	h	Oficial 1ª aplicador de productos impermeabilizantes.	25,21	3,78	
mo033	0,200	h	Ayudante aplicador de productos impermeabilizantes.	20,99	4,20	
mt48adm015a	4,000	Kg	Mortero Impermeabilizante Semiflexible de un componente, Sika MonoTop-107 Seal	2,30	9,20	
%0500	0,172	%	Costes indirectos	5,00	0,86	
			COSTE UNITARIO TOTAL			**18,04**
REVESIMP1		**m²**	**Impermeabilización Líquida Cubierta AQUAFLEX ROOF PREMIUM**			
mo032	0,050	h	Oficial 1ª aplicador de productos impermeabilizantes.	25,21	1,26	
mo033	0,050	h	Ayudante aplicador de productos impermeabilizantes.	20,99	1,05	
mt47adm015a	0,400	kg	Imprimación bicomponente a base de resina epoxi en dispersión acuosa, Mapecoat I 600 W "MAPEI SPAIN".	27,99	11,20	
mt15map010e	1,500	kg	Impermeabilizante líquido elástico monocomponente, Aquaflex Roof Premium "MAPEI SPAIN", de color Gris, con muy bajo contenido de	12,00	18,00	
%0500	0,315	%	Costes indirectos	5,00	1,58	
			COSTE UNITARIO TOTAL			**33,09**
SAN1402003		**PA**	**Puesta en servicio, limpieza y desinfección depósito**			
			Sin descomposición			
			COSTE UNITARIO TOTAL			**3.500,00**
SOPINOXTUB		**Ud**	**Soporte de acero para tuberías**			
mo050	2,500	h	Oficial 1º montador	30,93	77,33	
mo051	2,500	h	Ayudante montador	21,31	53,28	
mtinox316kg	65,000	kg	Acero inox AISI 316L varios DN	21,50	1.397,50	
%1000M	15,281	%	Tornilleria inoxidable, juntas y material auxiliar	10,00	152,81	
%0500	16,809	%	Costes indirectos	5,00	84,05	
			COSTE UNITARIO TOTAL			**1.764,97**
SYSPRES		**Ud**	**Seguridad y salud**			
			Sin descomposición			
			COSTE UNITARIO TOTAL			**24.429,32**
TOMACOR2P		**Ud**	**Toma de corriente 2P+T/16A**			
mo003	1,000	h	Oficial 1ª electricista.	30,93	30,93	
mtTC.MONOF	1,000	u	Toma de corriente 2P+TT	43,70	43,70	
%0500	0,746	%	Costes indirectos	5,00	3,73	
			COSTE UNITARIO TOTAL			**78,36**
TOMACORR3P		**Ud**	**Toma de corriente 3P+N+T/32A**			
mo003	1,000	h	Oficial 1ª electricista.	30,93	30,93	
mtTC.TRIF	1,000	u	Toma corriente 3P+N+TT	75,28	75,28	
%0500	1,062	%	Costes indirectos	5,00	5,31	
			COSTE UNITARIO TOTAL			**111,52**
TUBPEAD225		**m**	**Tubería PEAD DN225 PN10**			
mo050	0,113	h	Oficial 1º montador	30,93	3,50	
mo051	0,113	h	Ayudante montador	21,31	2,41	
mq09010001	0,020	H	Grupo electrógeno diesel de 14 KVA	10,28	0,21	
mq09130151	0,020	H	Grupo de soldadura para tubos	26,47	0,53	
mq04cag010c	0,025	h	Camión con grúa de hasta 12 Tn	58,55	1,46	
mtpe225pn10	1,050	m	Tubo PEAD DN225 PN10	22,85	23,99	
mtesp225	0,020	Ud	Piezas especiales DN225 PN10	175,25	3,51	
%0500	0,356	%	Costes indirectos	5,00	1,78	
			COSTE UNITARIO TOTAL			**37,39**
TUBPEAD280		**m**	**Tubería PEAD DN280 PN10**			
mo050	0,113	h	Oficial 1º montador	30,93	3,50	
mo051	0,113	h	Ayudante montador	21,31	2,41	
mq09010001	0,020	H	Grupo electrógeno diesel de 14 KVA	10,28	0,21	
mq09130151	0,020	H	Grupo de soldadura para tubos	26,47	0,53	
mq04cag010c	0,025	h	Camión con grúa de hasta 12 Tn	58,55	1,46	
mt280pn10	1,050	m	Tubo PEAD DN280 PN10	33,93	35,63	
mtesp280	0,020	Ud	Piezas especiales DN280 PN10	185,90	3,72	
%0500	0,475	%	Costes indirectos	5,00	2,38	
			COSTE UNITARIO TOTAL			**49,84**
TUBPEAD315		**m**	**Tubería PEAD DN315 PN10**			
mo050	0,113	h	Oficial 1º montador	30,93	3,50	

CUADRO DE DESCOMPUESTOS

CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
mo051	0,113	h	Ayudante montador	21,31	2,41	
mq09010001	0,020	H	Grupo electrógeno diesel de 14 KVA	10,28	0,21	
mq09130151	0,020	H	Grupo de soldadura para tubos	26,47	0,53	
mq04cag010c	0,025	h	Camión con grúa de hasta 12 Tn	58,55	1,46	
mte315pn10	1,050	m	Tubo PEAD DN315 PN10	100,19	105,20	
mtesp315	0,020	Ud	Piezas especiales DN315 PN10	218,00	4,36	
%0500	1,177	%	Costes indirectos	5,00	5,89	
			COSTE UNITARIO TOTAL			**123,56**
TUBPEAD400		**m**	**Tubería PEAD DN400 PN10**			
mo050	0,113	h	Oficial 1º montador	30,93	3,50	
mo051	0,113	h	Ayudante montador	21,31	2,41	
mq09010001	0,020	H	Grupo electrógeno diesel de 14 KVA	10,28	0,21	
mq09130151	0,020	H	Grupo de soldadura para tubos	26,47	0,53	
mq04cag010c	0,025	h	Camión con grúa de hasta 12 Tn	58,55	1,46	
mte400pn10	1,050	m	Tubo PEAD DN400 PN10	141,92	149,02	
mtesp400	0,020	Ud	Piezas especiales DN400 PN10	233,20	4,66	
%0950	1,618	%	Medios auxiliares	9,50	15,37	
			COSTE UNITARIO TOTAL			**177,16**
U01RM021		**m³**	**Relleno de zanjas con material procendente de la excavación**			
mo020	0,010	h	Oficial 1ª construcción.	25,59	0,26	
mo021	0,240	h	Peón ordinario construcción.	20,60	4,94	
mq04dua020b	0,100	h	Dumper de descarga frontal de 2 t de carga útil.	10,38	1,04	
mq02rod010d	0,150	h	Bandeja vibrante de guiado manual, de 300 kg y 70 cm de anchura	7,16	1,07	
mq02cia020j	0,010	h	Camión cisterna, de 8 m³ de capacidad.	44,89	0,45	
mq04cab010c	0,015	h	Camion basculante de 12t de carga, de 162 kW	44,89	0,67	
mt01var010	1,100	m	Cinta plastificada	0,14	0,15	
mt08aaa010a	0,100	m³	Agua.	1,50	0,15	
%0500	0,087	%	Costes indirectos	5,00	0,44	
			COSTE UNITARIO TOTAL			**9,17**
U01RM022		**m³**	**Relleno de zanjas con arena común**			
mo041	0,050	h	Oficial 1ª construcción de obra civil.	25,59	1,28	
mo022	0,412	h	Peón Especialista	26,75	11,02	
mq01carg010a	0,020	h	Camión volquete 8 m3 de carga	46,00	0,92	
mq01exn020b	0,015	h	Retroexcavadora hidráulica sobre neumáticos, de 115 kW.	54,36	0,82	
mt01ara030	2,100	t	Arena de 0 a 5 mm de diámetro, para relleno de zanjas.	18,00	37,80	
%0500	0,518	%	Costes indirectos	5,00	2,59	
			COSTE UNITARIO TOTAL			**54,43**
U01RM023		**m3**	**Relleno con material procedente de la excavación**			
mo021	0,085	h	Peón ordinario construcción.	20,60	1,75	
mqmotoniv01	0,015	h	Motoniveladora de 200 cv	102,55	1,54	
mqrodillo01	0,095	h	Rodillo compactador mixto 7000 kg a=168cm	66,95	6,36	
mqcisterna01	0,020	h	Cisterna agua s/camión 10.000 l	45,58	0,91	
mqbasculante	0,120	h	Camión basculante 6x4 de 20 t	51,37	6,16	
%0500	0,167	%	Costes indirectos	5,00	0,84	
			COSTE UNITARIO TOTAL			**17,56**
U02HC011		**m³**	**Hormigón HM-15/B/20 en limpiezas, rellenos y protecciones**			
mo042	0,150	h	Oficial 1º encofrador	25,59	3,84	
mo043	0,350	h	Ayudante encofrador	21,31	7,46	
mq04cag010c	0,350	h	Camión con grúa de hasta 12 Tn	58,55	20,49	
mt10hmf011fb	1,050	m³	Hormigón de limpieza HM-15/B/20, fabricado en central.	209,00	219,45	
%0500	2,512	%	Costes indirectos	5,00	12,56	
			COSTE UNITARIO TOTAL			**263,80**
U05LAH020		**m³**	**Hormigón HM-20/B/20/IIa para limpieza y nivelación**			
mo042	0,140	h	Oficial 1º encofrador	25,59	3,58	
mo043	0,140	h	Ayudante encofrador	21,31	2,98	
mq04cag010c	0,140	h	Camión con grúa de hasta 12 Tn	58,55	8,20	
mt10hmf011fc	1,050	m³	Hormigón HM-20/B/IIa, fabricado en central.	244,03	256,23	
%0500	2,710	%	Costes indirectos	5,00	13,55	
			COSTE UNITARIO TOTAL			**284,54**
U05LAH022		**m³**	**Hormigón HA-30/B/20/IV para losas**			
mo042	0,130	h	Oficial 1º encofrador	25,59	3,33	
mo043	0,130	h	Ayudante encofrador	21,31	2,77	
mq04cag010c	0,130	h	Camión con grúa de hasta 12 Tn	58,55	7,61	
mq01comp010a	0,170	h	Aguja neumática s/compresor D=80 mm	1,64	0,28	
mq02comp010a	0,170	h	Compresor portátil diesel media presión 5 m3/min 7 bar	7,10	1,21	
mt10haf011ncb	1,050	m³	Hormigón HA-30/B/20/IV	262,73	275,87	
%0500	2,911	%	Costes indirectos	5,00	14,56	
			COSTE UNITARIO TOTAL			**305,63**
U05LAH023		**m³**	**Hormigón HA-25/B/20/IIa para losas**			
mo042	0,130	h	Oficial 1º encofrador	25,59	3,33	
mo043	0,130	h	Ayudante encofrador	21,31	2,77	
mq04cag010c	0,130	h	Camión con grúa de hasta 12 Tn	58,55	7,61	

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CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
mq01comp010a	0,170	h	Aguja neumática s/compresor D=80 mm	1,64	0,28	
mq02comp010a	0,170	h	Compresor portátil diesel media presión 5 m3/min 7 bar	7,10	1,21	
mt10haf011ncc	1,050	m³	Hormigón HA-25/B/20/IIa	252,78	265,42	
%0500	2,806	%	Costes indirectos	5,00	14,03	
			COSTE UNITARIO TOTAL			**294,65**
U05LAH024		**m³**	**Hormigón HA-25/B/20/IIa para cimentación**			
mo042	0,150	h	Oficial 1º encofrador	25,59	3,84	
mo043	0,150	h	Ayudante encofrador	21,31	3,20	
mqgruatorre	0,250	h	Grúa torre automontante 20 t/m	23,76	5,94	
mq01comp010a	0,250	h	Aguja neumática s/compresor D=80 mm	1,64	0,41	
mq02comp010a	0,250	h	Compresor portátil diesel media presión 5 m3/min 7 bar	7,10	1,78	
mt10haf011ncc	1,050	m³	Hormigón HA-25/B/20/IIa	252,78	265,42	
%0500	2,806	%	Costes indirectos	5,00	14,03	
			COSTE UNITARIO TOTAL			**294,62**
U05LAH025		**m²**	**Solera HA-25/B/20/IIa**			
mo060	0,090	h	Oficial 1ª ferrallista.	25,59	2,30	
mo061	0,090	h	Ayudante ferrallista.	21,31	1,92	
mo022	0,200	h	Peón Especialista	26,75	5,35	
mo042	0,150	h	Oficial 1º encofrador	25,59	3,84	
mo043	0,150	h	Ayudante encofrador	21,31	3,20	
mq04cag010c	0,150	h	Camión con grúa de hasta 12 Tn	58,55	8,78	
mq01comp010a	0,150	h	Aguja neumática s/compresor D=80 mm	1,64	0,25	
mq02comp010a	0,150	h	Compresor portátil diesel media presión 5 m3/min 7 bar	7,10	1,07	
mt10ace011ncb	1,267	m²	Malla electrosoldada #200x200x8 mm - 4 kg/m2	6,49	8,22	
mt01ara032	0,200	m³	Gravilla machaqueo 20/40 mm	33,33	6,67	
mt10haf011ncc	0,200	m³	Hormigón HA-25/B/20/IIa	252,78	50,56	
%0500	0,922	%	Costes indirectos	5,00	4,61	
			COSTE UNITARIO TOTAL			**96,77**
U05LAH026		**m³**	**Hormigón HA-30/B/IIIa alzado muros**			
mo042	0,100	h	Oficial 1º encofrador	25,59	2,56	
mo043	0,100	h	Ayudante encofrador	21,31	2,13	
mq04cag010c	0,170	h	Camión con grúa de hasta 12 Tn	58,55	9,95	
mq01comp010a	0,120	h	Aguja neumática s/compresor D=80 mm	1,64	0,20	
mq02comp010a	0,120	h	Compresor portátil diesel media presión 5 m3/min 7 bar	7,10	0,85	
mt10haf011ncd	1,050	m³	Hormigón HA-30/B/20/IIIa	262,73	275,87	
%0500	2,916	%	Costes indirectos	5,00	14,58	
			COSTE UNITARIO TOTAL			**306,14**
U05LAH027		**m³**	**Capa de compresión en forjado**			
mo042	0,150	h	Oficial 1º encofrador	25,59	3,84	
mo043	0,150	h	Ayudante encofrador	21,31	3,20	
mq04cag010d	0,100	h	Camión con grúa de hasta 16 Tn	65,50	6,55	
mq01comp010a	0,150	h	Aguja neumática s/compresor D=80 mm	1,64	0,25	
mq02comp010a	0,150	h	Compresor portátil diesel media presión 5 m3/min 7 bar	7,10	1,07	
mt10haf011ncc	1,050	m³	Hormigón HA-25/B/20/IIa	252,78	265,42	
04.01.01.07	21,000	m²	Malla electrosoldada #200x200x6	3,73	78,33	
%0500	3,587	%	Costes indirectos	5,00	17,94	
			COSTE UNITARIO TOTAL			**376,60**
U05LAH0282		**Ud**	**Pilar prefabricado de hormigón**			
mo090	2,807	h	Cuadrilla montaje	90,00	252,63	
mq07gte010d	1,007	h	Grúa telescopica autopropulsada de 180 t	215,00	216,51	
P01	0,833	Ud	Medios auxiliares para transbordo de material	95,25	79,34	
04.01.02.04	1,000	Ud	Pilar prefabricado de hormigón	1.335,48	1.335,48	
mt10haf011nce	0,200	m³	Hormigón HA-40/B/20/IV central	299,48	59,90	
%0500	19,439	%	Costes indirectos	5,00	97,20	
			COSTE UNITARIO TOTAL			**2.041,06**
U05LAH0292		**m²**	**Forjado de placa alveolar**			
mo090	0,256	h	Cuadrilla montaje	90,00	23,04	
mq07gte010d	0,092	h	Grúa telescopica autopropulsada de 180 t	215,00	19,78	
P01	0,075	Ud	Medios auxiliares para transbordo de material	95,25	7,14	
04.01.03.03	1,000	m²	Placa alveolar pretensada de 25 cm de canto	121,68	121,68	
mtb500s	1,500	kg	Acero corrugado B-500-S/SD	1,85	2,78	
%0500	1,744	%	Costes indirectos	5,00	8,72	
			COSTE UNITARIO TOTAL			**183,14**
U05LAH0302		**Ud**	**Muro prefabricado nervado**			
mo090	6,666	h	Cuadrilla montaje	90,00	599,94	
mq07gte010d	2,392	h	Grúa telescopica autopropulsada de 180 t	215,00	514,28	
P01	1,914	Ud	Medios auxiliares para transbordo de material	95,25	182,31	
04.01.05.02	1,000	Ud	Módulo de muro prefabricado	3.170,84	3.170,84	
mtm13cp100	0,010	u	Puntal telescópico normal 1,40 m	15,48	0,15	
%0500	44,675	%	Costes indirectos	5,00	223,38	
			COSTE UNITARIO TOTAL			**4.690,90**
U05LAH0312		**m**	**Jácenas prefabricadas de hormigón**			

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CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
mo090	1,194	h	Cuadrilla montaje	90,00	107,46	
mq07gte010d	0,428	h	Grúa telescopica autopropulsada de 180 t	215,00	92,02	
P01	0,343	Ud	Medios auxiliares para transbordo de material	95,25	32,67	
04.01.04.03	1,000	m	Viga de hormigón armado semiprefabricadas JR50/40	567,71	567,71	
%0500	7,999	%	Costes indirectos	5,00	40,00	
			COSTE UNITARIO TOTAL			**839,86**
U05LAH032		**m³**	**Hormigón HA-30/B/20/IIIa para losas**			
mo042	0,100	h	Oficial 1º encofrador	25,59	2,56	
mo043	0,100	h	Ayudante encofrador	21,31	2,13	
mq04cag010c	0,170	h	Camión con grúa de hasta 12 Tn	58,55	9,95	
mq01comp010a	0,100	h	Aguja neumática s/compresor D=80 mm	1,64	0,16	
mq02comp010a	0,100	h	Compresor portátil diesel media presión 5 m3/min 7 bar	7,10	0,71	
mt10haf011ncd	1,050	m³	Hormigón HA-30/B/20/IIIa	262,73	275,87	
%0500	2,914	%	Costes indirectos	5,00	14,57	
			COSTE UNITARIO TOTAL			**305,95**
UIA011		**ud**	**Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 30x30x30 cm de medidas interiores**			
mo041	0,500	h	Oficial 1ª construcción de obra civil.	25,59	12,80	
mo022	0,500	h	Peón Especialista	26,75	13,38	
mt35arg100a	1,000	Ud	Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 30x30x30 cm de medidas interiores, con pared	15,25	15,25	
mt35arg105a	1,000	Ud	Tapa-marco de hormigón armado aligerado, de 39,5x38,5 cm, para arqueta de conexión eléctrica, capaz de so	17,26	17,26	
mt01ara032	0,250	m³	Gravilla machaqueo 20/40 mm	33,33	8,33	
mq01ret020b	0,015	h	Retrocargadora sobre neumáticos, de 70 kW.	40,90	0,61	
%0500	0,676	%	Costes indirectos	5,00	3,38	
			COSTE UNITARIO TOTAL			**71,01**
VALMAP125		**Ud**	**Válvula mariposa DN125 manual**			
mo050	1,200	h	Oficial 1º montador	30,93	37,12	
mo051	1,200	h	Ayudante montador	21,31	25,57	
mtvmar125	1,000	Ud	Válvula mariposa DN125 manual	1.240,00	1.240,00	
mt1000M	9,030	ud	Tornilleria inoxidable, juntas y material auxiliar	10,00	90,30	
%0500	13,930	%	Costes indirectos	5,00	69,65	
			COSTE UNITARIO TOTAL			**1.462,64**
VALMAP150		**Ud**	**Válvula mariposa DN150 excéntrica automatizada**			
mo050	1,200	h	Oficial 1º montador	30,93	37,12	
mo051	1,200	h	Ayudante montador	21,31	25,57	
mtvm150	1,000	Ud	Válvula mariposa, bridas, DN150	1.920,10	1.920,10	
mtactele200	1,000	Ud	Actuador eléctrico 400V-50 Hz 125-200	3.552,00	3.552,00	
mtp26uub150	1,000	Ud	Unión brida-enchufe fundición dúctil D=150 mm	135,00	135,00	
mtp26uul150	1,000	Ud	Unión brida-liso fundición dúctil D=150 mm	125,00	125,00	
mtp26uug150	2,000	Ud	Goma plana D=150 mm	11,53	23,06	
%0500	58,179	%	Costes indirectos	5,00	290,90	
			COSTE UNITARIO TOTAL			**6.108,75**
VALMAP200		**Ud**	**Válvula mariposa DN200 manual**			
mo050	1,200	h	Oficial 1º montador	30,93	37,12	
mo051	1,200	h	Ayudante montador	21,31	25,57	
mtvmar200	1,000	Ud	Válvula mariposa DN200 manual	1.979,00	1.979,00	
mt1000M	9,030	ud	Tornilleria inoxidable, juntas y material auxiliar	10,00	90,30	
%0500	21,320	%	Costes indirectos	5,00	106,60	
			COSTE UNITARIO TOTAL			**2.238,59**
VALMAP300		**Ud**	**Válvula mariposa DN300 excéntrica automatizada**			
mo050	2,600	h	Oficial 1º montador	30,93	80,42	
mo051	2,600	h	Ayudante montador	21,31	55,41	
mq04cag010c	1,500	h	Camión con grúa de hasta 12 Tn	58,55	87,83	
mtvm300	1,000	Ud	Válvula mariposa, bridas, DN300	3.423,60	3.423,60	
mtactele400	1,000	Ud	Actuador eléctrico 400V-50 Hz 250-400	6.331,68	6.331,68	
mtp26uub300	1,000	Ud	Unión brida-enchufe fundición dúctil D=300 mm	370,00	370,00	
mtp26uul300	1,000	Ud	Unión brida-liso fundición dúctil D=300 mm	350,00	350,00	
mtp26uug300	2,000	Ud	Goma Plana D=300 mm	32,28	64,56	
%0500	107,635	%	Costes indirectos	5,00	538,18	
			COSTE UNITARIO TOTAL			**11.301,68**
VALMAP400		**Ud**	**Válvula mariposa DN400 excéntrica automatizada**			
mo050	2,600	h	Oficial 1º montador	30,93	80,42	
mo051	2,600	h	Ayudante montador	21,31	55,41	
mq04cag010c	1,500	h	Camión con grúa de hasta 12 Tn	58,55	87,83	
mtvm400	1,000	Ud	Válvula mariposa, bridas, DN400	5.020,80	5.020,80	
mtactele400	1,000	Ud	Actuador eléctrico 400V-50 Hz 250-400	6.331,68	6.331,68	
mtp26uub400	1,000	Ud	Unión brida-enchufe fundición dúctil D=400 mm	518,00	518,00	
mtp26uul400	1,000	Ud	Unión brida-liso fundición dúctil D=400 mm	490,00	490,00	
mtp26uug400	2,000	Ud	Goma Plana D=400 mm	45,19	90,38	
%0500	126,745	%	Costes indirectos	5,00	633,73	

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CÓDIGO	CANTIDAD	UD.	RESUMEN	PRECIO	SUBTOTAL	IMPORTE
			COSTE UNITARIO TOTAL			**13.308,25**
VALRET		**Ud**	**Válvula de retención de disco partido DN125**			
mo050	0,350	h	Oficial 1º montador	30,93	10,83	
mo051	0,350	h	Ayudante montador	21,31	7,46	
mtvalret125	1,000	Ud	Valvula de retencio disco partido DN125	508,00	508,00	
%1000M	5,263	%	Tornilleria inoxidable, juntas y material auxiliar	10,00	52,63	
%0500	5,789	%	Costes indirectos	5,00	28,95	
			COSTE UNITARIO TOTAL			**607,87**
ZAHZ325		**m3**	**Relleno con zahorras**			
mo021	0,085	h	Peón ordinario construcción.	20,60	1,75	
mqmotoniv01	0,015	h	Motoniveladora de 200 cv	102,55	1,54	
mqrodillo01	0,095	h	Rodillo compactador mixto 7000 kg a=168cm	66,95	6,36	
mqcisterna01	0,020	h	Cisterna agua s/camión 10.000 l	45,58	0,91	
mqbasculante	0,250	h	Camión basculante 6x4 de 20 t	51,37	12,84	
mtP01AF040	1,700	t	Zahorra artificial huso Z-3 DA<25	35,00	59,50	
%0500	0,829	%	Costes indirectos	5,00	4,15	
			COSTE UNITARIO TOTAL			**87,05**

ANEJO 14 – EXPROPIACIONES

ANEJO 14. EXPROPIACIONES

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ANEJO 14. EXPROPIACIONES

1. INTRODUCCIÓN

El presente anejo tiene por objeto recoger todos los trabajos que servirán de base para el expediente de expropiación de todos los bienes y derechos que serán afectados por las obras del nuevo depósito de agua desalada de la IDAM en la Avinguda de Ca Marí, Formentera (Islas Baleares), anexo al existente y la ampliación de la caseta de bombas.

Los trabajos han consistido en la definición de las líneas de expropiación total, de servidumbre y de ocupación temporal. Definida la afección parcelaria se han calculado las áreas ocupadas según el tipo de actuación (expropiación, servidumbres y ocupación temporal) y las características del suelo.

2. CRITERIOS DE EXPROPIACIÓN

Se establecen tres tipos de expropiación a realizar: expropiación definitiva (superficie de cesión del nuevo depósito prefabricado proyectado e instalaciones asociadas), servidumbres, que incluye las servidumbres de las conducciones / tuberías de conexión entre los dos depósitos, nueva impulsión desde bombeo al nuevo depósito, nueva recirculación, etc. y, por último, las superficies de ocupación temporal.

2.1 EXPROPIACIÓN

- Se expropia el pleno dominio de la superficie ocupada por el nuevo depósito prefabricado de agua desalada de Formentera, así como la superficie ocupada por la nueva cámara de llaves y la nueva zona urbanizada que rodea al depósito.

También se incluye como zona a expropiar:

- Resto de suelos perimetrales que comprenden: una franja alrededor del nuevo depósito y de la nueva cámara de llaves que incluye la superficie que separa al futuro depósito del límite de la parcela del depósito existente, la superficie que resta entre los elementos proyectados y el límite norte de parcela donde se emplazan y una franja restante de terreno al este, oeste y al sur del nuevo depósito prefabricado de agua desalada y de la nueva zona urbanizada proyectada.

2.2 SERVIDUMBRES

Se definen como imposición de servidumbre las franjas de terrenos sobre los que es imprescindible imponer una serie de gravámenes al objeto de limitar el ejercicio del pleno dominio del terreno en beneficio de compatibilizar su uso con el de la infraestructura proyectada o las instalaciones derivadas de su ejecución.

Estas franjas de terreno adicionales a la expropiación tienen una anchura variable, en función de la naturaleza u objeto de la correspondiente servidumbre:

- **Servidumbre de paso:** se consideraría la superficie que ocupa el camino de acceso al nuevo depósito prefabricado. En el caso que nos ocupa no se diferencia dicha servidumbre de paso, ya que el acceso se realizará desde la parcela de la IDAM existente, dando continuidad a un tramo pavimentado que constituye el actual acceso a la IDAM actual y que se prolongará hacia la parcela adyacente donde se prevé emplazar el nuevo depósito de agua desalada de Formentera. La superficie necesaria para ejecutar el acceso (rampa) se contabiliza ya como superficie a expropiar de forma definitiva.
- **Servidumbre de acueducto:** para todas las conducciones previstas de conexión entre depósitos, impulsión desde bombeo, nuevo suministro enterrado, nueva conexión con depósito prefabricado, etc. necesarias para el funcionamiento del nuevo depósito se consideran las siguientes superficies:
    - Tuberías / conducciones: se ha considerado una servidumbre de 1 m de ancho a cada lado del eje de las tuberías.

Esta servidumbre que se establece estará sujeta a las siguientes limitaciones:

- Prohibición de efectuar trabajos de arada o similares a una profundidad superior a cincuenta centímetros, así como de plantar árboles o arbustos a una distancia inferior a tres metros a contar desde el eje de la tubería.
- Prohibición de realizar cualquier tipo de obras, edificación o efectuar acto alguno que pudiera dañar o perturbar el buen funcionamiento de las instalaciones a una distancia inferior a doce metros del eje de trazado, a uno y otro lado del mismo. Esta distancia podrá reducirse siempre que se solicite expresamente y se cumplan las condiciones que en cada caso fije el órgano competente de la Administración.
- Libre acceso del personal y equipos necesarios para poder mantener, reparar o renovar las instalaciones con pago, en su caso, de los daños que se ocasionen.
- Posibilidad de instalar los hitos de señalización o delimitación, así como de realizar las obras superficiales o subterráneas que sean necesarias para la ejecución o funcionamiento de las instalaciones.

2.3 OCUPACIÓN TEMPORAL

Se definen de este modo aquellas franjas de terrenos que resultan estrictamente necesarios ocupar, para llevar a cabo, la correcta ejecución de las obras durante el tiempo de ejecución.

Dichas zonas de ocupación temporal, las constituyen principalmente zonas de acopio de tierra vegetal, desvíos provisionales, instalaciones de obra; y por un espacio de tiempo determinado, generalmente coincidente con el periodo de finalización de ejecución de estas.

Esta expropiación temporal que se establece estará sujeta a las mismas limitaciones que la servidumbre de paso, durante la ejecución de las obras. Se establecen las siguientes ocupaciones temporales:

- Conducciones: se ha considerado una servidumbre de 3 m de ancho a cada lado del eje de las tuberías.

Las instalaciones de obra provisionales, servicios higiénicos, comedor, vestuarios y aseos, ocuparan una superficie de forma temporal. Dicha superficie no se ha tenido en cuenta en la valoración económica, ya que o bien ocupará la parte de la parcela a expropiar o bien ocupará alguna propiedad de la administración (en este último caso será preceptivo realizar la tramitación pertinente para la solicitud de ocupación de los terrenos ocupados por dichas instalaciones a la Administración titular).

2.4 ACCESO A LA NUEVA INFRAESTRUCTURA PROYECTADA

Se prevé la ejecución de una rampa de acceso que conecte el tramo pavimentado de la parcela donde se localizan las actuales instalaciones de la desaladora de agua de mar de Formentera (IDAM) con la parcela donde se prevé el emplazamiento del nuevo depósito prefabricado proyectado (parcela adyacente a la anterior). La superficie necesaria para ejecutar el acceso se contabiliza dentro del ámbito de zona urbanizada y que está previsto expropiar de forma definitiva. Es por este motivo que no se contabiliza como nueva superficie a expropiar ya que está incluida dentro de la zona de la parcela de referencia con afección expropiatoria.

3. DEFINICIÓN DE LAS PARCELAS AFECTADAS

Para la obtención de las lindes entre las diversas parcelas, delimitación de la tipología del suelo (rústico o urbano, etc.) y línea de separación entre los diversos polígonos se ha contado con la siguiente cartografía:

- Imágenes obtenidas de la página web del IDEIB (Infraestructura de Dades Espacials de les Illes Balears). Conselleria, Territori, Energía i Mobilitat
- Planos catastrales de la sede electrónica de la Dirección General del Catastro.

Para la identificación de la parcela nos hemos servido de dichos planos. Una vez determinada la parcela se ha insertado el trazado de la conducción proyectada, destacando en color la parcela susceptible de expropiación.

Se adjunta la documentación gráfica indicada en el *Apéndice 1. Planos de expropiaciones.*

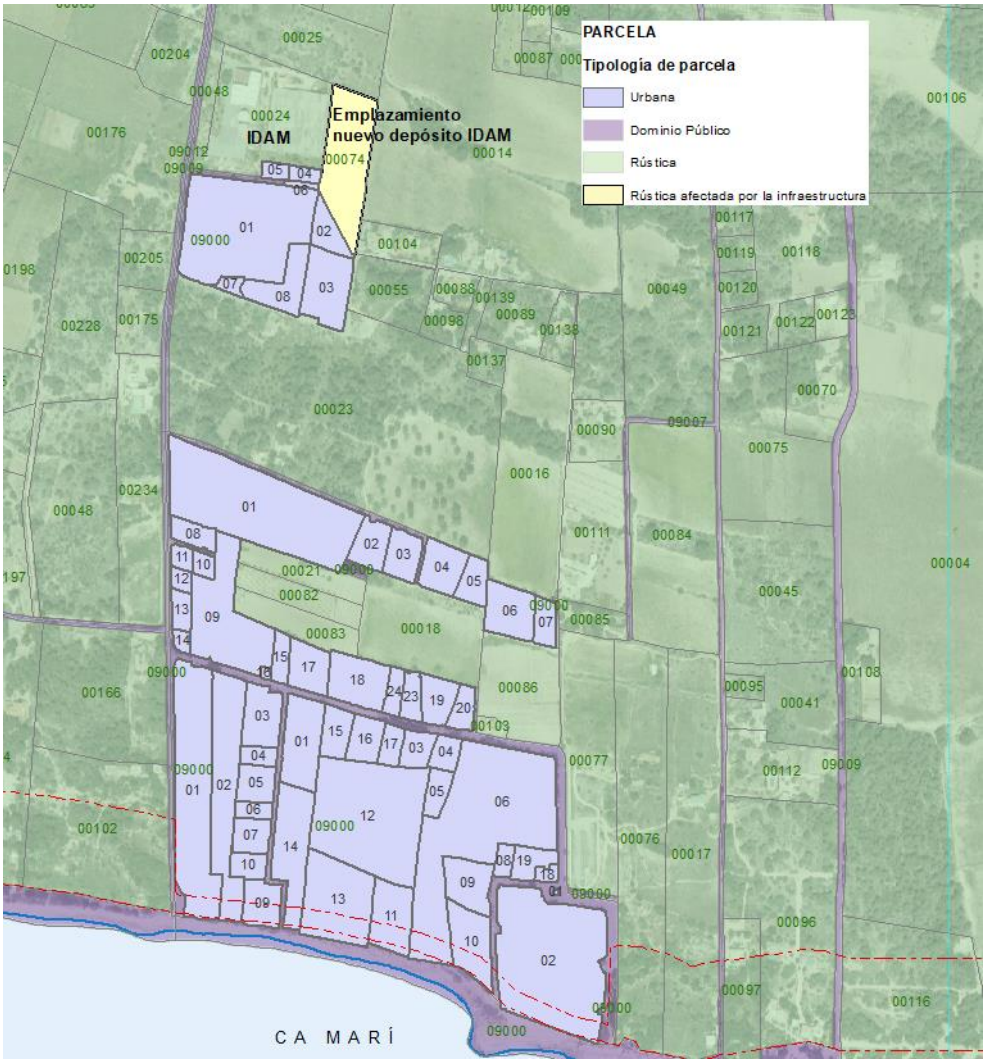


Imagen 1. Detalle tipologías de parcela y número de parcela ámbito de proyecto con afección parcelaria. Fuente: Elaboración propia a partir catastro.

4. VALORACIÓN

A efectos de cálculo del valor de los terrenos que será necesario expropiar para la ejecución del presente proyecto, se han tenido en cuenta los antecedentes de actuaciones similares efectuadas en la zona.

Como criterio de valoración de estas afecciones sobre el terreno, se ha partido del precio de expropiación total de terreno, considerando el valor de la servidumbre como el 50% del valor de la expropiación total y el valor de la ocupación temporal como el 10% de la misma. Destacar que se trata de una valoración económica orientativa, y que será en última instancia, la Conselleria de Medi Ambient i Territori del Govern Balear, quien defina los criterios.

Para el tipo de suelos presentes en el área, los valores son los siguientes:

CLASE DE TERRENO	CLASE DE CULTIVO	VALOR TERRENO RÚSTICO (€/m2)		
		DEFINITIVA	SERVIDUMBRE (50%)	TEMPORAL (10%)
Rústico	C – Labor o labradío secano	13,75	6,88	1,38

Tabla 2. Coste m² según tipo de expropiación. Fuente: propia.

A continuación, se presenta una tabla resumen obtenida del *Apéndice 2. Parcelas afectadas y valoración de las afecciones* en la que se refleja el coste total que supondrían las expropiaciones necesarias para la implantación del nuevo depósito de agua desalada de Formentera:

CONDUCCIÓN AGUA DESALADA (NUEVO SUMINISTRO ENTERRADO)			
Nº PARCELA	VALORACIÓN EXPROPIACIONES TERRENO (€)		
	TEMPORAL	SERVIDUMBRE	TOTAL
74	242,55	404,25	646,8
NUEVO DEPÓSITO DE AGUA DESALADA			
Nº PARCELA	VALORACIÓN EXPROPIACIONES TERRENO (€)		
	SUPERFICIE (m2)	Definitiva	TOTAL
74	696,94	13,75	9.582,93
NUEVA CÁMARA DE LLAVES			
Nº PARCELA	VALORACIÓN EXPROPIACIONES TERRENO (€)		
	SUPERFICIE (m2)	Definitiva	TOTAL
74	47,28	13,75	650,10
NUEVA ZONA URBANIZADA (entorno depósito)			
Nº PARCELA	VALORACIÓN EXPROPIACIONES TERRENO (€)		
	SUPERFICIE (m2)	Definitiva	TOTAL
74	649,72	13,75	8.933,65
SUPERFICIE DEL PERÍMETRO NUEVO DEPÓSITO Y DE LA CÁMARA DE LLAVES			
Nº PARCELA	VALORACIÓN EXPROPIACIONES TERRENO (€)		
	SUPERFICIE (m2)	Definitiva	TOTAL
74	1.184,17	13,75	16.282,34

Tabla 3. Coste total de expropiación de terrenos. Fuente: Propia.

La construcción del nuevo depósito prefabricado y la nueva cámara de llaves, así como el camino de acceso al conjunto y la franja perimetral hace necesaria la expropiación de terrenos de forma definitiva. Dicho depósito prefabricado, cámara de llaves, etc. se situará en suelo rústico, en la parcela 74, de labor o labradío secano. En lo que al camino de acceso respecta, la superficie a expropiar se encuentra íntegramente en la parcela 74.

Se debe tener presente que las afecciones expropiatorias del resto de conducciones se emplazan en el ámbito perimetral del nuevo depósito de agua desalada de Formentera ya contabilizado como superficie a expropiar de la parcela 74 de forma definitiva.

Se estima que el coste de expropiación total del presente proyecto es de:

	NUEVO DEPÓSITO PREFABRICADO	CÁMARA DE LLAVES	ZONA URBANIZADA (pavimentada entorno)	RESTO ÁMBITO PERIMETRAL	CONDUCCIÓN DE AGUA DESALADA ENTERRADA	TOTAL
COSTE EXPROPIACIONES	9.582,93 €	650,10 €	8.933,65 €	16.282,34 €	646,80 €	36.095,81 €

Tabla 4. Coste total expropiaciones para la ejecución de la obra proyectada. Fuente: propia.

**Incluye acceso a la nueva infraestructura y superficie perimetral donde se emplazan también tuberías, etc.*

5. FICHA CATASTRAL

En el *Apéndice 3. Fichas Catastrales* se adjunta la ficha catastral de la finca afectada, obtenidas de la Sede Electrónica del Catastro.


CONSULTA DESCRIPTIVA Y GRÁFICA
DE DATOS CATASTRALES DE BIEN INMUEBLE
Referencia catastral: 07024A008000740000PX

DATOS DESCRIPTIVOS DEL INMUEBLE

Localización:
Polígono 8 Parcela 74
VENDA DES CA MARI I MIGJORN. FORMENTERA [ILLES BALEARS]

Clase: RÚSTICO
Uso principal: Agrario
Superficie construida:
Año construcción:

Cultivo

Subparcela	Cultivo/aprovechamiento	Intensidad Productiva	Superficie m²
0	C- Labor o Labradío secano	03	6.139

PARCELA

Superficie gráfica: 7.147 m2
Participación del inmueble: 100,00 %
Tipo:

Imagen 5. Detalle Ficha Catastral. Fuente: Sede Electrónica Catastro

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

Redactor de proyecto: Juan Carlos Arroyo Portero ICCP	**Redactor adjunto:** Jesús Jiménez Cañas ICCP

APÉNDICE 1 – PLANOS DE EXPROPIACIONES

CONDUCCIÓN AGUA DESALADA (NUEVO SUMINISTRO ENTERRADO) **

Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	LONGITUD (m) **	SUPERFICIE TERRENO A EXPROPIAR (m2) TEMPORAL	SUPERFICIE TERRENO A EXPROPIAR (m2) SERVIDUMBRE	VALORACIÓN EXPROPIACIONES TERRENO (€) TEMPORAL	VALORACIÓN EXPROPIACIONES TERRENO (€) SERVIDUMBRE	VALORACIÓN EXPROPIACIONES TERRENO (€) TOTAL
1	Formentera	8	74	0	Venda des ca Marrí Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradio secano	03	29,40	176,40	58,80	242,55	404,25	646,80

** Hay un tramo de 24,2 metros de dicha conducción que discurre dentro de la superficie del entorno del nuevo depósito que se prevé expropiar de forma definitiva (por lo que a estos 12m no se le aplican las exprop. Temporales y de servidumbre)
La longitud total de la conducción de agua desalada del nuevo suministro enterrado es de 54,1 m

TOTAL 646,80 €

NUEVO DEPÓSITO DE AGUA DESALADA

Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marrí Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradio secano	03	696,94	9.582,93
													TOTAL	9.582,93

NUEVA CÁMARA DE LLAVES

Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marrí Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradio secano	03	47,28	650,10
													TOTAL	650,10

ZONA URBANIZADA (entorno nuevo depósito)

Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marrí Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradio secano	03	649,72	8.933,65
													TOTAL	8.933,65

SUPERFICIE RESTANTE FRANJA PERIMETRAL (entorno nuevo depósito) **

Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marrí Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradio secano	03	1.184,17	16.282,34
													TOTAL	16.282,34

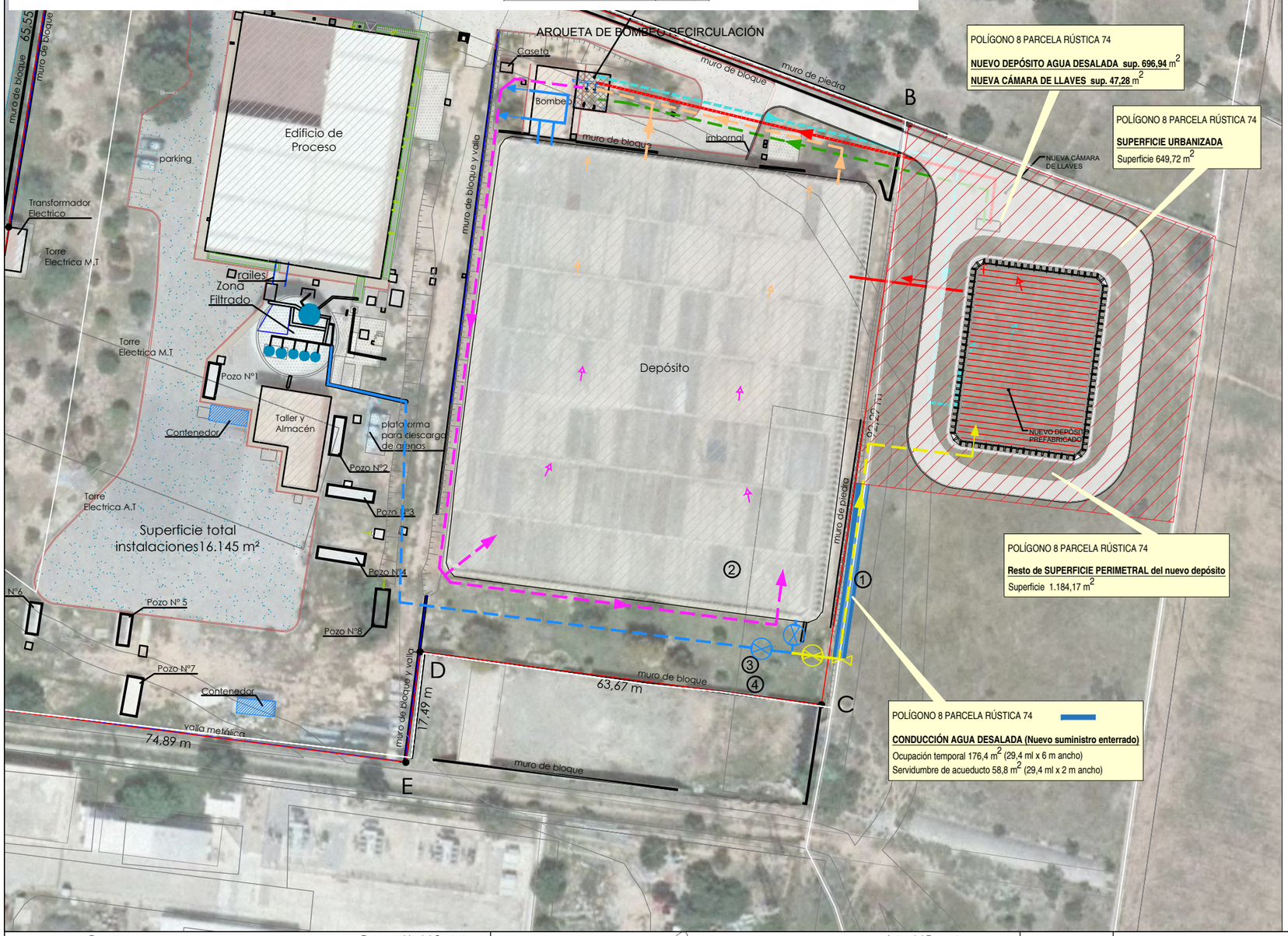
*** Incluye franja perimetral que separa los dos depósitos y donde se prevé también la localización de diferentes conducciones o tuberías de conexión entre los dos depósitos, así como la franja de parcela que queda comprendida entre el nuevo depósito y el otro límite de parcela.*

TOTAL VALORACIÓN ESTIMADA EXPROPIACIÓN 36.095,81

LEYENDA

- P1 — EXISTENTE ENTERRADO
- P1 — EXISTENTE VISTO
- P2 — NUEVO SUMINISTRO VISTO
- P2 — NUEVO SUMINISTRO ENTERRADO
- P2 — NUEVO REBOSE
- P2 — NUEVA CONEXIÓN DEPOSITO PREF.-IMPULSIÓN EXISTENTE
- P1 — ASPIRACIÓN RECIRCULACIÓN
- P1 — IMPULSIÓN RECIRCULACIÓN
- P2 — RECIRCULACIÓN DEPÓSITO PREF.
- P2 — IMPULSIÓN DESDE BOMBEO

NOTA:
P1: PROYECTO ORIGINAL
P2: PROYECTO DEPÓSITO PREFABRICADO
ORDEN DE EJECUCIÓN:
P2 --> P1



LEYENDA

- Límite de parcela
- Vértices de parcela
- Mapa Topográfico Balear 2008

CARACTERÍSTICAS DEL LEVANTAMIENTO

Toma de datos de campo: Enero 2021
Sistema geodésico ref. ETRS89 - Proyección UTM Huso 31 S
Referencia 'Red de estaciones permanentes GNSS' del Instituto Geográfico Nacional (IGN).
Planimetría georreferenciada según Real Decreto 1071/2007, de 27 de julio
Fotografía únicamente con carácter orientativo

CUADRO DE MEDICIONES

LADO EST	LADO PV	RUMBO	DISTANCIA	V	COORDENADAS X	COORDENADAS Y
				A	366,361.72	4,283,916.92
A	B	S 69°41'16.45" E	139.78	B	366,492.81	4,283,868.39
B	C	S 08°35'15.83" O	92.29	C	366,479.03	4,283,777.14
C	D	N 82°30'30.01" O	63.67	D	366,415.91	4,283,785.44
D	E	S 07°22'34.48" O	17.49	E	366,413.66	4,283,768.09
E	F	N 82°38'18.66" O	74.89	F	366,339.39	4,283,777.69
F	G	N 09°01'00.15" E	75.46	G	366,351.21	4,283,852.21
G	A	N 09°13'31.17" E	65.55	A	366,361.72	4,283,916.92

SUPERFICIE = 16.145 m2

N
O E
S

Sist. coord.: ETRS89 - Proyección UTM - HUSO 31

CONSELLERIA MEDI AMBIENT I TERRITORI
AGÈNCIA BALEAR AIGUA I QUALITAT AMBIENTAL

Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)

Responsable del Contrato: Guillem Rosselló Alcina

calter ingeniería de estructuras

Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

Situación: FORMENTERA

Título del Proyecto:
PROYECTO EJECUCIÓN
DEPÓSITO PREFABRICADO
DE LA DESALADORA DE FORMENTERA

Título del Plano:
UBICACIÓN - PLANTA GENERAL
ESTADO FUTURO EXPROPIACIONES

Escala: 1/750

Clave: A14 EXPROPIACIONES

Fecha: JUNIO 2021

Núm. Plano: 1

Núm. Hoja: 1 de 1

APÉNDICE 2 – PARCELA AFECTADA Y VALORIZACIÓN DE LAS AFECCIONES

CONDUCCIÓN AGUA DESALADA (NUEVO SUMINISTRO ENTERRADO) **														SUPERFICIE TERRENO A EXPROPIAR (m2)		VALORACIÓN EXPROPIACIONES TERRENO (€)		
Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	LONGITUD (m) **	TEMPORAL	SERVIDUMBRE	TEMPORAL	SERVIDUMBRE	TOTAL
1	Formentera	8	74	0	Venda des ca Marí i Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradío secano	03	29,40	176,40	58,80	242,55	404,25	646,80

** Hay un tramo de 24,2 metros de dicha conducción que discurre dentro de la superficie del entorno del nuevo depósito que se prevé expropiar de forma definitiva (por lo que a estos 12m no se le aplican las exprop. Temporales y de servidumbre)
La longitud total de la conducción de agua desalada del nuevo suministro enterrado es de 54,1 m

TOTAL	646,80 €

NUEVO DEPÓSITO DE AGUA DESALADA														
Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marí i Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradío secano	03	696,94	9.582,93

TOTAL	9.582,93

NUEVA CÁMARA DE LLAVES														
Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marí i Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradío secano	03	47,28	650,10

TOTAL	650,10

ZONA URBANIZADA (entorno nuevo depósito)														
Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marí i Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradío secano	03	649,72	8.933,65

TOTAL	8.933,65

SUPERFICIE RESTANTE FRANJA PERIMETRAL (entorno nuevo depósito) **														
Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marí i Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradío secano	03	1.184,17	16.282,34

*** Incluye franja perimetral que separa los dos depósitos y donde se prevé también la localización de diferentes conducciones o tuberías de conexión entre los dos depósitos, así como la franja de parcela que queda comprendida entre el nuevo depósito y el otro límite de parcela.*

TOTAL	16.282,34

TOTAL VALORACIÓN ESTIMADA EXPROPIACIÓN	36.095,81

APÉNDICE 3 – FICHAS CATASTRALES

GOBIERNO DE ESPAÑA
MINISTERIO DE HACIENDA
SECRETARÍA DE ESTADO DE HACIENDA
DIRECCIÓN GENERAL DEL CATASTRO

CONSULTA DESCRIPTIVA Y GRÁFICA DE DATOS CATASTRALES DE BIEN INMUEBLE

Referencia catastral: 07024A008000740000PX

DATOS DESCRIPTIVOS DEL INMUEBLE

Localización:

Polígono 8 Parcela 74

VENDA DES CA MARI I MIGJORN. FORMENTERA [ILLES BALEARS]

Clase: RÚSTICO

Uso principal: Agrario

Superficie construida:

Año construcción:

Cultivo

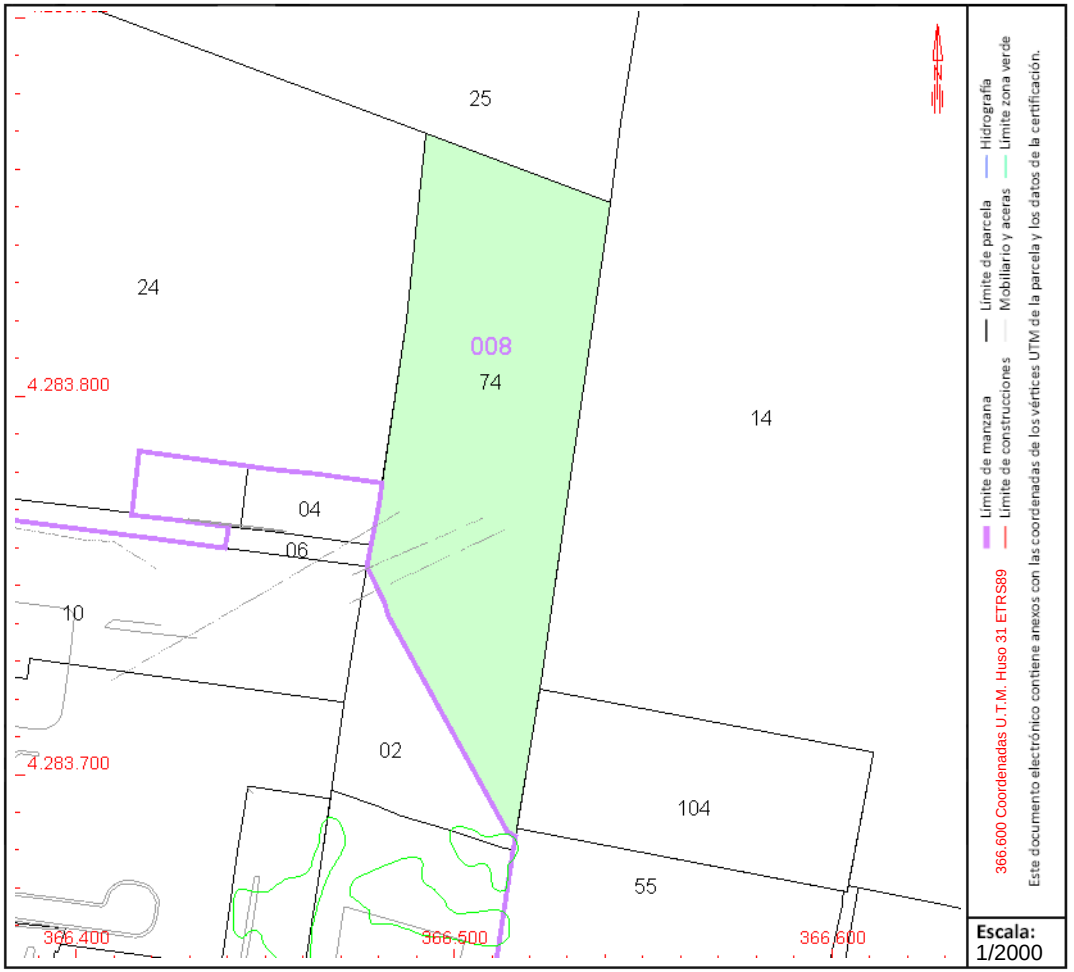
Subparcela	Cultivo/aprovechamiento	Intensidad Productiva	Superficie m²
0	C- Labor o Labradío secano	03	6.139

PARCELA

Superficie gráfica: 7.147 m2

Participación del inmueble: 100,00 %

Tipo:



Este documento no es una certificación catastral, pero sus datos pueden ser verificados a través del "Acceso a datos catastrales no protegidos de la SEC"

Jueves , 22 de Julio de 2021

ANEJO 15 – PRESUPUESTO PARA CONOCIMIENTO DE LA ADMINISTRACIÓN

ANEJO 15. PRESUPUESTO PARA CONOCIMIENTO DE LA ADMINISTRACIÓN

ÍNDICE

1. INTRODUCCIÓN 2
2. PRESUPUESTO PARA CONOCIMIENTO DE LA ADMINISTRACIÓN 2

ANEJO 15. PRESUPUESTO PARA CONOCIMIENTO DE LA ADMINISTRACIÓN

1. INTRODUCCIÓN

En el presente anejo se detalla, para conocimiento de la Administración, el presupuesto de las obras de "PROYECTO DE EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA".

2. PRESUPUESTO PARA CONOCIMIENTO DE LA ADMINISTRACIÓN

RESUMEN PRESUPUESTO GENERAL DE OBRA

C01	MOVIMIENTO DE TIERRAS	7,73%	125.975,20 €
C02	DEMOLICIONES Y APEOS	0,50%	8.194,54 €
C03	CIMENTACIONES Y CONTENCIONES	26,01%	423.937,33 €
C04	ESTRUCTURAS DE HORMIGÓN	28,80%	469.366,11 €
C05	CUBIERTA	3,56%	57.957,02 €
C06	INSTALACIÓN HIDRÁULICA	16,59%	270.364,88 €
C07	INSTALACIÓN ELÉCTRICA Y DE CONTROL	3,81%	62.105,24 €
C08	INSTALACIÓN DE LA CLORACIÓN	0,91%	14.817,78 €
C09	CARPINTERÍA	0,30%	4.925,62 €
C10	PRFV	1,17%	19.038,33 €
C11	LÍNEA DE VIDA	0,75%	12.256,57 €
C12	URBANIZACIÓN	5,47%	89.230,33 €
C13	REPOSICIONES	0,42%	6.804,34 €
C14	GESTIÓN DE RESIDUOS	2,27%	36.981,32 €
C15	SEGURIDAD Y SALUD	1,50%	24.429,32 €
C16	PUESTA EN SERVICIO DEPÓSITO	0,21%	3.500,00 €

PRESUPUESTO DE EJECUCIÓN MATERIAL			**1.629.883,93 €**
GASTOS GENERALES		13,00%	211.884,91
BENEFICIO INDUSTRIAL		6,00%	97.793,04
	Suma		**309.677,95 €**
PRESUPUESTO DE CONTRATA			**1.939.561,88 €**
	IVA	21,00%	407.307,99
PRESUPUESTO BASE DE LICITACIÓN CON IVA			**2.346.869,87 €**
EXPROPIACIONES			36.095,81
PROTECCIÓN PATRIMONIO HISTÓRICO ILLES BALEARS		1,50%	29.093,43
PRESUPUESTO PARA CONOCIMIENTO DE LA ADMINISTRACIÓN			**2.412.059,11 €**

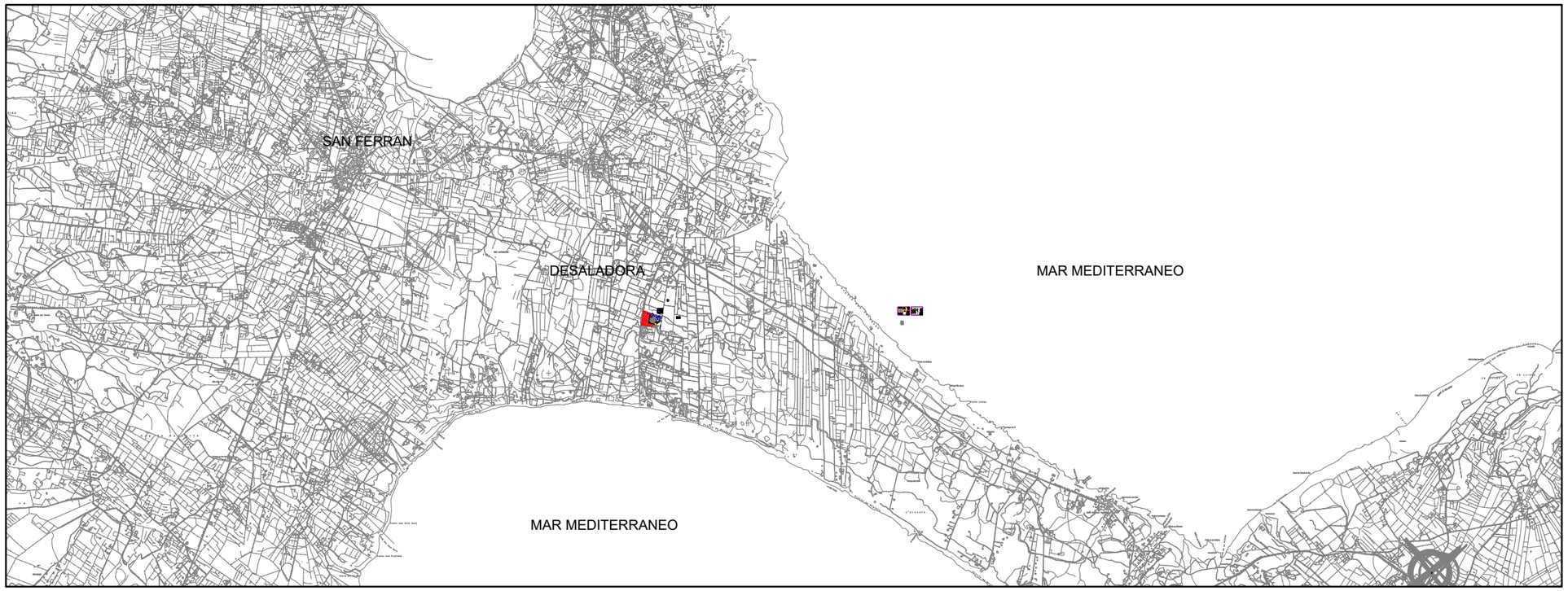
DOCUMENTO II: PLANOS

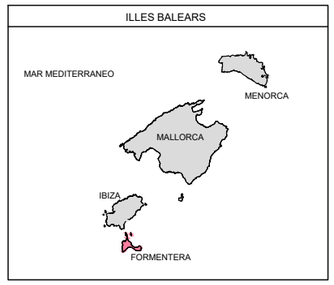
ÍNDICE GENERAL PLANOS

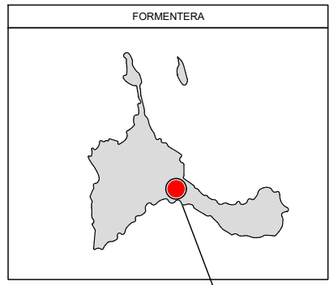
1.SITUACIÓN Y EMPLAZAMIENTO.
2.UBICACIÓN. PLANTA GENERAL ACTUAL
3.TOPOGRAFÍA. PLANTA GENERAL ACTUAL
4.ESTRUCTURAS - DEFINICIÓN GEOMÉTRICA
5.ESTRUCTURAS - SECCIONES
6.ESTRUCTURAS – ALZADOS
7.ESTRUCTURAS – ARMADOS Y DETALLES
7.1. CIMENTACIÓN. BASE DE APOYO DEPÓSITO
7.2. CIMENTACIÓN. ARM. SUPERIOR-INFERIOR DIR. X
7.3. CIMENTACIÓN. ARM. SUPERIOR-INFERIOR DIR. Y
7.4. PLANTA MÓDULOS DEPÓSITO
7.5. PLANTA CUBIERTA DEPÓSITO
7.6. DETALLES
8.ESTRUCTURAS – CÁMARA DE LLAVES
9.ESTRUCTURAS – CÁMARA DE BOMBEO
10.MEJORA DEL TERRENO – HORMIGÓN CICLÓPEO
11.ESQUEMA GENERAL
12.RECIRCULACIÓN – PLANTA GENERAL Y DISTRIBUCIÓN DE TUBERÍAS
13.RECIRCULACIÓN – ALZADOS Y DETALLES
14.TRASVASE ENTRE DEPÓSITOS
15.CÁMARA DE BOMBEO – ACTUAL Y FUTURO
16.CÁMARA DE LLAVES
17.CUBIERTA
17.1. DETALLES DE CUBIERTA: FORMACIÓN DE PENDIENTES
17.2. DETALLES DE CUBIERTA: ANCLAJE LÍNEA DE VIDA
17.3. DETALLES DE CUBIERTA: NUEVO ACCESO A INTERIOR DE DEPÓSITO
18.INSTALACIÓN ELÉCTRICA
18.1. INSTALACIÓN ELÉCTRICA: CANALIZACIONES
18.2. INSTALACIÓN ELÉCTRICA: ESQUEMA UNIFILAR
19. CLORACIÓN
20. URBANIZACIÓN DE LA PARCELA
21. EXPROPIACIONES

PLANOS

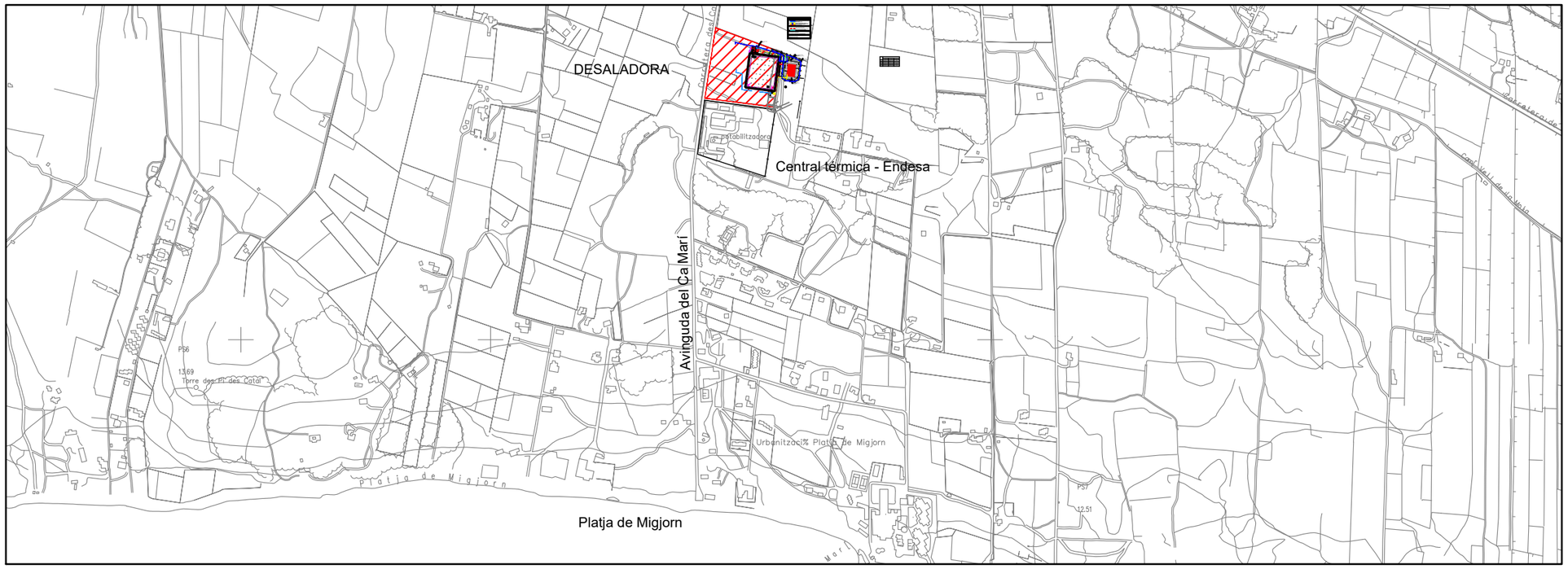
SITUACIÓN. ESCALA 1/50.000



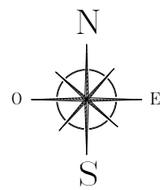




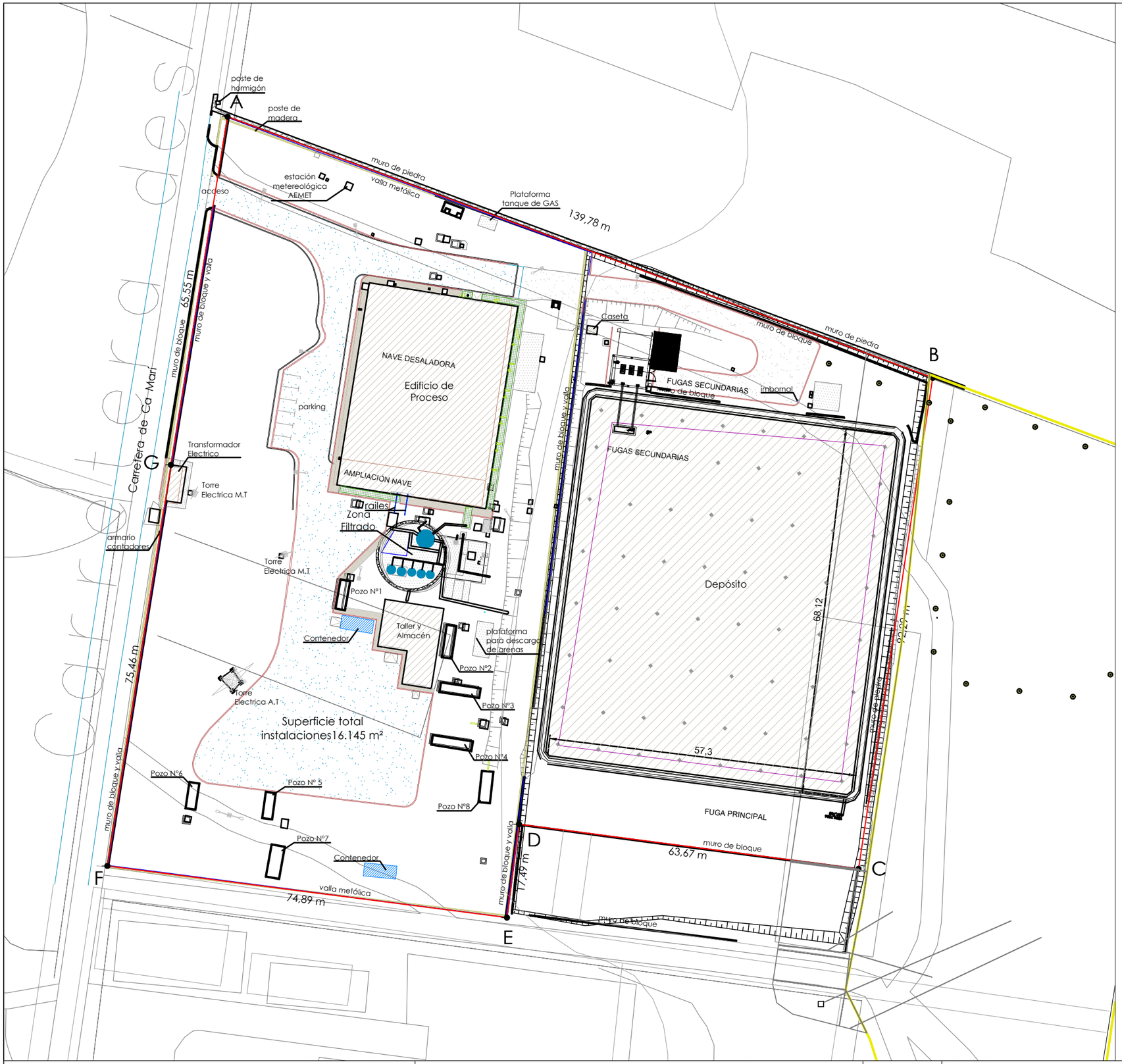
EMPLAZAMIENTO. ESCALA 1/10.000



Sist. coord.: ETRS89 - Proyección UTM - HUSO 31



Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Firmado por ****2877** JUAN CARLOS ARROYO (R: ****2467*) el día 24/07/2023 con un	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: SITUACIÓN Y EMPLAZAMIENTO	Escala: VARIAS	Clave: Fecha: 05.07.2023	Núm. Plano: 01 Núm. Hoja: 1 de 1



LEYENDA

- Límite de parcela
- Vértices de parcela
- Mapa Topográfico Balear 2008

CARACTERÍSTICAS DEL LEVANTAMIENTO

Toma de datos de campo: Enero 2021

Sistema geodésico ref. ETRS89 - Proyección UTM Huso 31 S

Referencia 'Red de estaciones permanentes GNSS' del Instituto Geográfico Nacional (IGN).

Planimetría georreferenciada según Real Decreto 1071/2007, de 27 de julio

Fotografía únicamente con carácter orientativo

CUADRO DE MEDICIONES

LADO EST	LADO PV	RUMBO	DISTANCIA	V	COORDENADAS X	COORDENADAS Y
				A	366,361.72	4,283,916.92
A	B	S 69°41'16.45" E	139.78	B	366,492.81	4,283,868.39
B	C	S 08°35'15.83" O	92.29	C	366,479.03	4,283,777.14
C	D	N 82°30'30.01" O	63.67	D	366,415.91	4,283,785.44
D	E	S 07°22'34.48" O	17.49	E	366,413.66	4,283,768.09
E	F	N 82°38'18.66" O	74.89	F	366,339.39	4,283,777.69
F	G	N 09°01'00.15" E	75.46	G	366,351.21	4,283,852.21
G	A	N 09°13'31.17" E	65.55	A	366,361.72	4,283,916.92

SUPERFICIE = 16.145 m2

N
O E
S

Sist. coord.: ETRS89 - Proyección UTM - HUSO 31

GOVERN DE LES ILLES BALEARS
CONSELLERIA D'MEDI AMBIENT I TERRITORI
AGÈNCIA BALEAR DE L'AIGUA I QUALITAT AMBIENTAL

Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)

Responsable del Contrato:
Guillem Rosselló Alcina

calter ingeniería de estructuras

Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

Situación:
FORMENTERA

Título del Proyecto:
PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

Título del Plano:
UBICACIÓN - PLANTA GENERAL ACTUAL

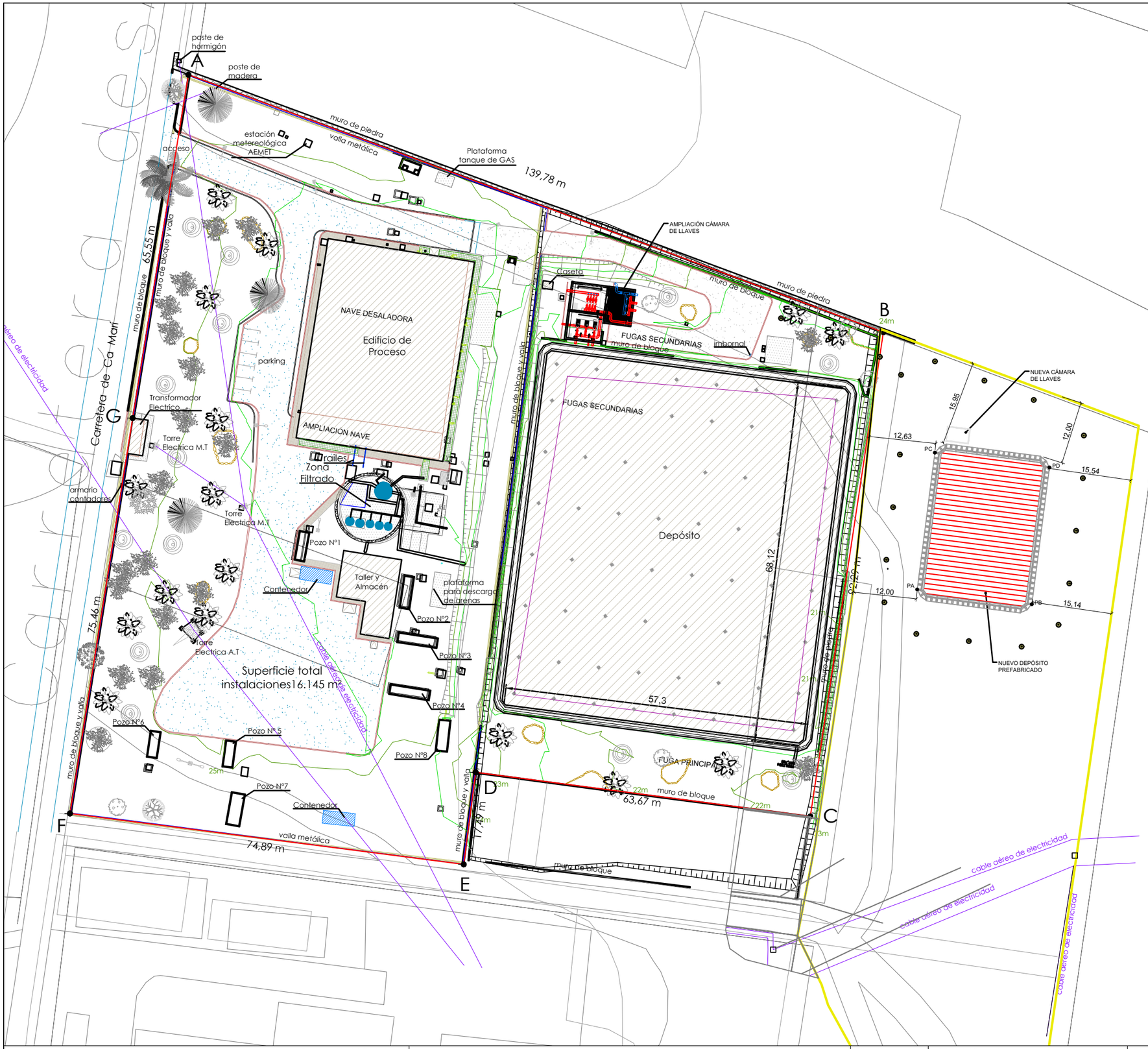
Escala:
1/750

Clave:

Fecha:
05.07.2023

Núm. Plano:
02

Núm. Hoja:
1 de 1



LEYENDA DE VEGETACIÓN

Baladre	Algarrobo	Pino
Genérico 1	Genérico 2	Higuera
Ficus	Sabina	Palmera

CARACTERÍSTICAS DEL LEVANTAMIENTO

Toma de datos de campo: Enero 2021

Sistema geodésico ref. ETRS89 - Proyección UTM Huso 31 S

Referencia 'Red de estaciones permanentes GNSS' del Instituto Geográfico Nacional (IGN).

Planimetría georreferenciada según Real Decreto 1071/2007, de 27 de julio

Fotografía únicamente con carácter orientativo

LEYENDA

- Límite de parcela
- Límite de Parcela Depósito Prefabricado
- Mapa Topográfico Balear 2008
- Línea Cable Aréo de Electricidad
- Valla Metálica
- Curvas de nivel
- Talud
- Muro de piedra
- Arqueta
- Farola
- Torre Electrica
- Poste de Madera
- Pavimento Hormigonado
- Pavimento Asfaltado
- Acera
- Imbornal
- Plataformas de Hormigón

V	COORDENADAS		
	X	Y	Z
PA	366499.190	4283819.901	23.40
PB	366520.811	4283817.112	23.40
PC	366502.517	4283845.688	23.40
PD	366524.135	4283842.899	23.40

N
O E
S

Sist. coord.: ETRS89 - Proyección UTM - HUSO 31

G CONSELLERIA O MEDI AMBIENT I TERRITORI B AGÈNCIA BALEAR D'AIGUA I QUALITAT AMBIENTAL

Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)

Responsable del Contrato:
Guillem Rosselló Alcina

calter ingeniería de estructuras

Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

Situación:
FORMENTERA

Título del Proyecto:
PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

Título del Plano:
TOPOGRAFÍA - PLANTA GENERAL ACTUAL

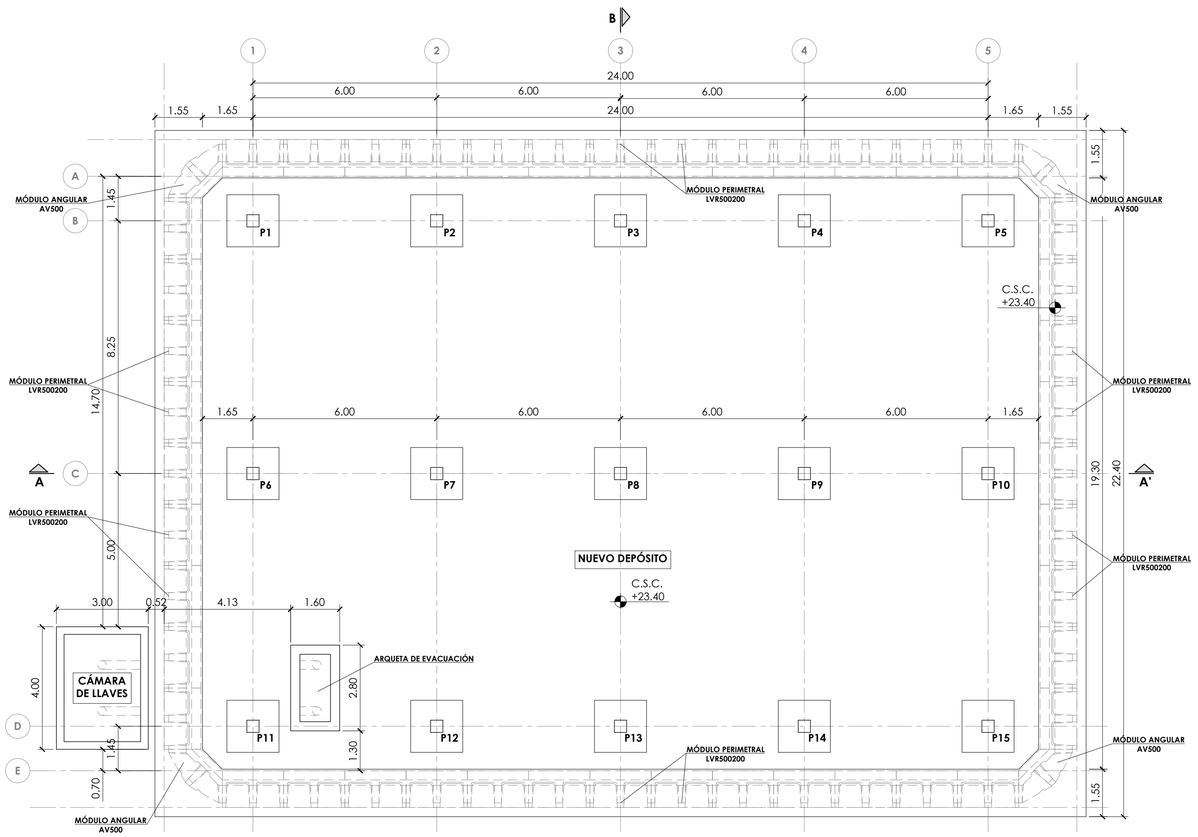
Escala:
1/750

Clave:

Fecha:
05.07.2023

Núm. Plano:
03

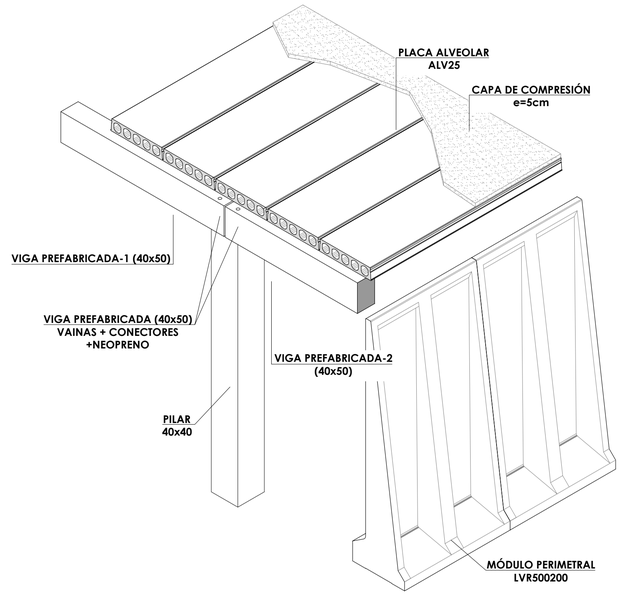
Núm. Hoja:
1 de 1



PLANTA DEFINICIÓN GEOMETRICA DEPÓSITO

ESCALA 1:100

COTAS EN METROS



CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

MATERIALES	CALIDAD	NIVEL DE CONTROL	COEFICIENTE PONDERACIÓN
HORMIGÓN DE LIMPIEZA Y NIVELACIÓN	HL-15	NO ESTRUCTURAL	
HORMIGÓN DE LOSA DE FONDO	HA-30/B/20/IV	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE MUROS	HA-40/B/20/IV	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE CAPA DE COMPRESIÓN FORJADOS Y ZAPATAS	HA-25/B/20/IIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE PILARES	HA-40/B/20/IV	ESTADÍSTICO	Yc=1.50
COEFICIENTES PARCIALES DE SEGURIDAD APLICABLES PARA ESTADOS LÍMITES ÚLTIMOS			γ_G =1.35 γ_Q *=1.50 γ_A =1.50

NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08

*ACERO CON LÍMITE ELÁSTICO MÍNIMO GARANTIZADO

NOTAS GENERALES:

1. TODOS LOS DATOS RELATIVOS A LA GEOMETRÍA DE ESTE PROYECTO (COTAS, HUECOS, PENDIENTES, E.T.C.) SE TOMARÁN DE LOS PLANOS DE ARQUITECTURA. LOS VALORES QUE FIGUREN EN LOS PLANOS DE ESTRUCTURA SE COMPROBARÁN CON LOS PLANOS DE REPLANTEO, QUEDANDO A JUICIO DEL DIRECTOR DE OBRA EL POSIBLE RECÁLCULO DE LAS ZONAS NO COINCIDENTES.

2. DOSIFICACIÓN DE LOS HORMIGONES:

- INDEPENDIENTEMENTE DE LA RESISTENCIA CARACTERÍSTICA DEL PROYECTO, EL HORMIGÓN DEBERÁ CUMPLIR CON LOS REQUISITOS DE LIMITACIÓN DEL CONTENIDO DE AGUA Y CEMENTO INDICADOS EN LAS TABLAS 37.3.2.a Y 37.3.2.b DE LA INSTRUCCIÓN EHE:

CLASE EXPOSICIÓN	MÁX. RELACIÓN AGUA/CEMENTO	MÍNIMO CONTENIDO CEMENTO (kg/m³)	TIPO DE CEMENTO
IIa	0.60	275	CEM I
IV	0.50	325	CEM III/A

3. TABLA DE LONGITUDES DE SOLAPO Y ANCLAJE.

	SOLAPO (Ls) (cm)		ANCLAJE (Lb) (cm)	
Ø	Ls_I	Ls_{II}	Lb_I	Lb_{II}
6	30	50	15	25
8	40	60	20	30
10	50	80	25	40
12	60	90	30	45
16	80	120	40	60
20	120	170	60	85
25	190	270	95	135
32	310	440	155	220

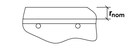
LOS SUBÍNDICES I Y II EN LAS LONGITUDES DE SOLAPO Y ANCLAJE DE LAS TABLAS SE REFIEREN A LA POSICIÓN DE LA BARRA, A ANCLAR O SOLAPAR, EN LA PIEZA RESPECTO A LA DIRECCIÓN DEL HORMIGONADO.

LA INSTRUCCIÓN EHE DEFINE:

a) POSICIÓN I, DE ADHERENCIA BUENA, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO FORMAN CON LA HORIZONTAL UN ÁNGULO COMPRENDIDO ENTRE 45°Y 90° O QUE EN EL CASO DE FORMAR UN ÁNGULO INFERIOR A 45°, ESTÁN SITUADAS EN LA MITAD INFERIOR DE LA SECCIÓN O A UNA DISTANCIA IGUAL O MAYOR A 30 cm DE LA CARA SUPERIOR DE UNA CAPA DE HORMIGONADO.

b) POSICIÓN II, DE ADHERENCIA DEFICIENTE, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO NO SE ENCUENTRAN EN NINGUNO DE LOS CASOS ANTERIORES.

4. RECUBRIMIENTOS NOMINALES (r_{nom})

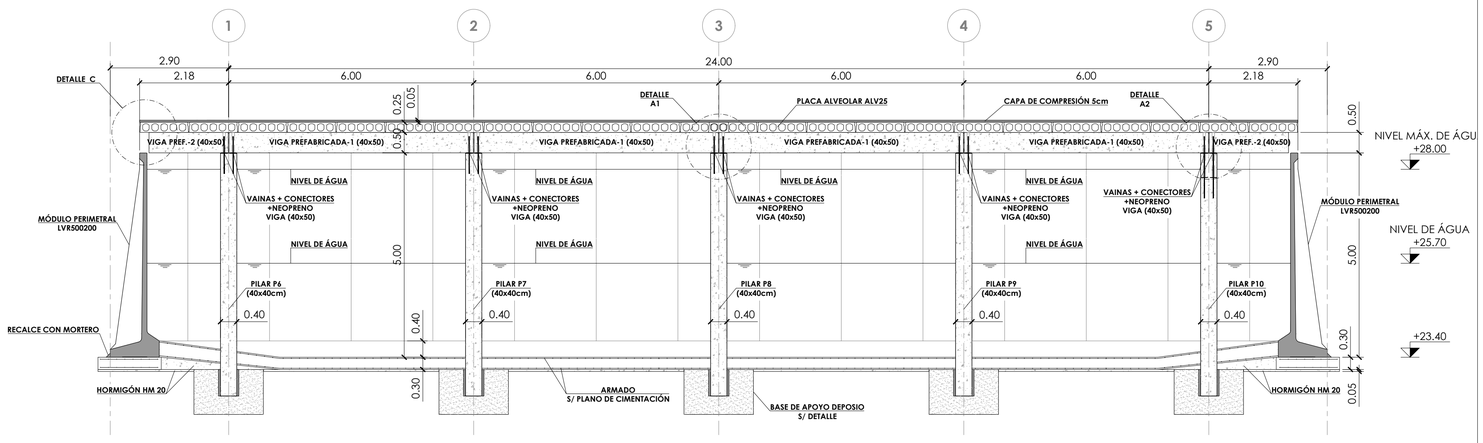


PREFABRICADOS r nom = 5.0 cm.

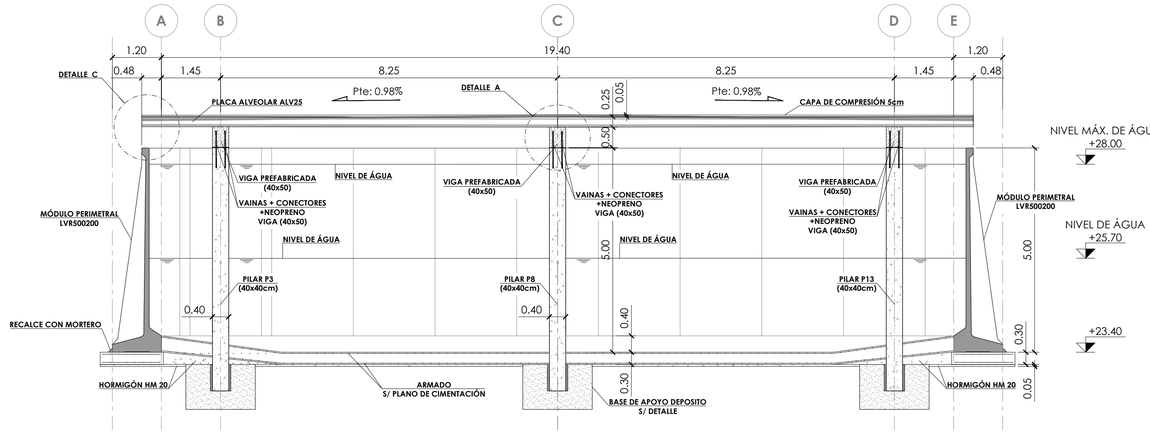
CAPA COMPRESIÓN FORJADOS r nom = 3.5 cm.

5. NO SE ADMITIRÁ LA REDUCCIÓN DE SOLAPOS POR EXCESO DE ARMADURA.

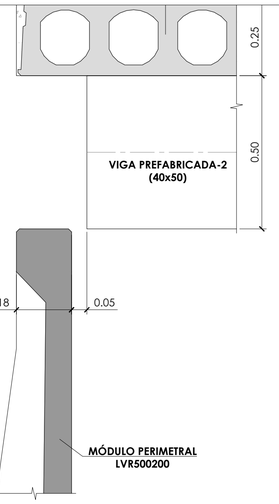
Promotor: GOVERN DE LES ILLES BALEARS. Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA). Conselleria de Medi Ambient i Territori. Responsable del Contrato: Guillem Rosselló Alcina		Título del Proyecto: PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	
		Autor del Proyecto: Juan Carlos Arroyo Portero ICCP, Jesús Jiménez Cañas ICCP	
Título del Plano: DEFINICION GEOMETRICA	Situación: FORMENTERA	Escala: IND.	Fecha: 05.07.2023
		Núm. Plano: 4.1	Núm. Hoja: 1 DE 1



SECCIÓN A-A'
ESCALA 1:75
COTAS EN METROS



SECCIÓN B-B'
ESCALA 1:75
COTAS EN METROS



DETALLE C: REMATE PERIMETRAL
ESCALA 1:10
COTAS EN METROS

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

MATERIALES	CALIDAD	NIVEL DE CONTROL	COEFICIENTE PONDERACIÓN
HORMIGÓN DE LIMPIEZA Y NIVELACIÓN	HL-15	NO ESTRUCTURAL	
HORMIGÓN DE LOSA DE FONDO	HA-30/B/20/IV	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE MUROS	HA-40/B/20/IV	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE CAPA DE COMPRESIÓN FORJADOS Y ZAPATAS	HA-25/B/20/IIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE PILARES	HA-40/B/20/IV	ESTADÍSTICO	Yc=1.50
COEFICIENTES PARCIALES DE SEGURIDAD APLICABLES PARA ESTADOS LÍMITES ÚLTIMOS			γ_G =1.35 γ_Q =1.50 γ_A =1.50

NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08

*ACERO CON LÍMITE ELÁSTICO MÍNIMO GARANTIZADO

NOTAS GENERALES:

1. TODOS LOS DATOS RELATIVOS A LA GEOMETRÍA DE ESTE PROYECTO (COTAS, HUECOS, PENDIENTES, E.T.C.) SE TOMARÁN DE LOS PLANOS DE ARQUITECTURA. LOS VALORES QUE FIGUREN EN LOS PLANOS DE ESTRUCTURA SE COMPROBARÁN CON LOS PLANOS DE REPLANTEO, QUEDANDO A JUICIO DEL DIRECTOR DE OBRA EL POSIBLE RECÁLCULO DE LAS ZONAS NO COINCIDENTES.

2. DOSIFICACIÓN DE LOS HORMIGONES:
- INDEPENDIENTEMENTE DE LA RESISTENCIA CARACTERÍSTICA DEL PROYECTO, EL HORMIGÓN DEBERÁ CUMPLIR CON LOS REQUISITOS DE LIMITACIÓN DEL CONTENIDO DE AGUA Y CEMENTO INDICADOS EN LAS TABLAS 37.3.2.a Y 37.3.2.b DE LA INSTRUCCIÓN EHE:

CLASE EXPOSICIÓN	MÁX. RELACIÓN AGUA/CEMENTO	MÍNIMO CONTENIDO CEMENTO (kg/m³)	TIPO DE CEMENTO
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3. TABLA DE LONGITUDES DE SOLAPO Y ANCLAJE.

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10	50	80	25	40
12	60	90	30	45
16	80	120	40	60
20	120	170	60	85
25	190	270	95	135
32	310	440	155	220

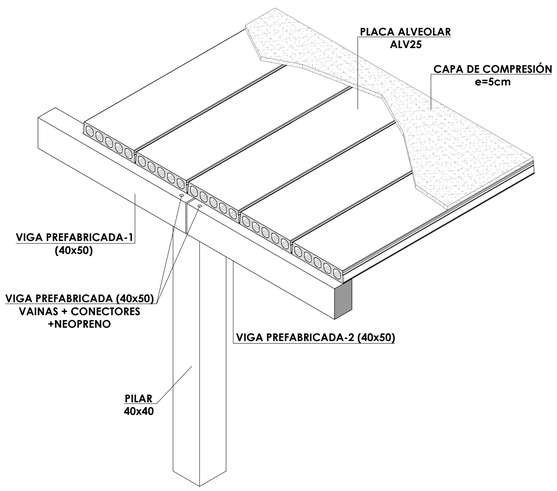
LOS SUBÍNDICES I Y II EN LAS LONGITUDES DE SOLAPO Y ANCLAJE DE LAS TABLAS SE REFIEREN A LA POSICIÓN DE LA BARRA, A ANCLAR O SOLAPAR, EN LA PIEZA RESPECTO A LA DIRECCIÓN DEL HORMIGONADO.

LA INSTRUCCIÓN EHE DEFINE:
a) POSICIÓN I, DE ADHERENCIA BUENA, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO FORMAN CON LA HORIZONTAL UN ÁNGULO COMPRENDIDO ENTRE 45°Y 90° O QUE EN EL CASO DE FORMAR UN ÁNGULO INFERIOR A 45°, ESTÁN SITUADAS EN LA MITAD INFERIOR DE LA SECCIÓN O A UNA DISTANCIA IGUAL O MAYOR A 30 cm DE LA CARA SUPERIOR DE UNA CAPA DE HORMIGONADO.
b) POSICIÓN II, DE ADHERENCIA DEFICIENTE, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO NO SE ENCUENTRAN EN NINGUNO DE LOS CASOS ANTERIORES.

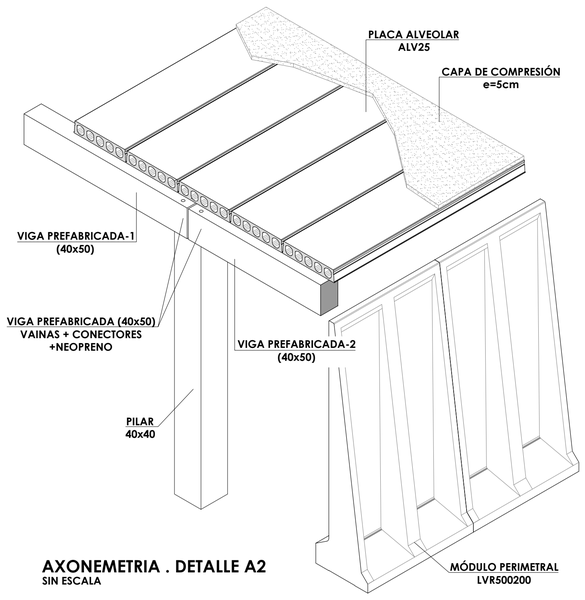
4. RECUBRIMIENTOS NOMINALES (r_{nom})

PREFABRICADOS r_{nom} = 5.0 cm.
CAPA COMPRESIÓN FORJADOS r_{nom} = 3.5 cm.

5. NO SE ADMITIRÁ LA REDUCCIÓN DE SOLAPOS POR EXCESO DE ARMADURA.



AXONEMETRIA . DETALLE A1
SIN ESCALA



AXONEMETRIA . DETALLE A2
SIN ESCALA

Promotor: GOVERN DE LES ILLES BALEARS Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA) Responsable del Contrato: Guillem Rosselló Alcina	Título del Proyecto: PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA Autor del Proyecto: Juan Carlos Arroyo Portero ICCP Jesús Jiménez Cañas ICCP
Título del Plano: SECCIONES	Situación: FORMENTERA
Escala: 1:75	Clave:
Fecha: 05.07.2023	Núm. Plano: 5.1 Núm. Hoja: 1 DE 1

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

MATERIALES	CALIDAD	NIVEL DE CONTROL	COEFICIENTE PONDERACIÓN
HORMIGÓN DE LIMPIEZA Y NIVELACIÓN	HL-15	NO ESTRUCTURAL	
HORMIGÓN DE LOSA DE FONDO	HA-30/B/20/IV	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE MUROS	HA-40/B/20/IV	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE CAPA DE COMPRESIÓN FORJADOS Y ZAPATAS	HA-25/B/20/IIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE PILARES	HA-40/B/20/IV	ESTADÍSTICO	Yc=1.50
COEFICIENTES PARCIALES DE SEGURIDAD APLICABLES PARA ESTADOS LÍMITES ÚLTIMOS			γ_G =1.35 γ_Q *=1.50 γ_R =1.50

NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08

*ACERO CON LÍMITE ELÁSTICO MÍNIMO GARANTIZADO

NOTAS GENERALES:

1. TODOS LOS DATOS RELATIVOS A LA GEOMETRÍA DE ESTE PROYECTO (COTAS, HUECOS, PENDIENTES, E.T.C.) SE TOMARÁN DE LOS PLANOS DE ARQUITECTURA. LOS VALORES QUE FIGUREN EN LOS PLANOS DE ESTRUCTURA SE COMPROBARÁN CON LOS PLANOS DE REPLANTEO, QUEDANDO A JUICIO DEL DIRECTOR DE OBRA EL POSIBLE RECÁLCULO DE LAS ZONAS NO COINCIDENTES.

2. DOSIFICACIÓN DE LOS HORMIGONES:
- INDEPENDIENTEMENTE DE LA RESISTENCIA CARACTERÍSTICA DEL PROYECTO, EL HORMIGÓN DEBERÁ CUMPLIR CON LOS REQUISITOS DE LIMITACIÓN DEL CONTENIDO DE AGUA Y CEMENTO INDICADOS EN LAS TABLAS 37.3.2.a Y 37.3.2.b DE LA INSTRUCCIÓN EHE:

CLASE EXPOSICIÓN	MÁX. RELACIÓN AGUA/CEMENTO	MÍNIMO CONTENIDO CEMENTO (kg/m³)	TIPO DE CEMENTO
IIa	0.60	275	CEM I
IV	0.50	325	CEM III/A

3. TABLA DE LONGITUDES DE SOLAPO Y ANCLAJE.

	SOLAPO (Ls) (cm)		ANCLAJE (Lb) (cm)	
Ø	Ls_I	Ls_{II}	Lb_I	Lb_{II}
6	30	50	15	25
8	40	60	20	30
10	50	80	25	40
12	60	90	30	45
16	80	120	40	60
20	120	170	60	85
25	190	270	95	135
32	310	440	155	220

LOS SUBÍNDICES I Y II EN LAS LONGITUDES DE SOLAPO Y ANCLAJE DE LAS TABLAS SE REFIEREN A LA POSICIÓN DE LA BARRA, A ANCLAR O SOLAPAR, EN LA PIEZA RESPECTO A LA DIRECCIÓN DEL HORMIGONADO.

LA INSTRUCCIÓN EHE DEFINE:

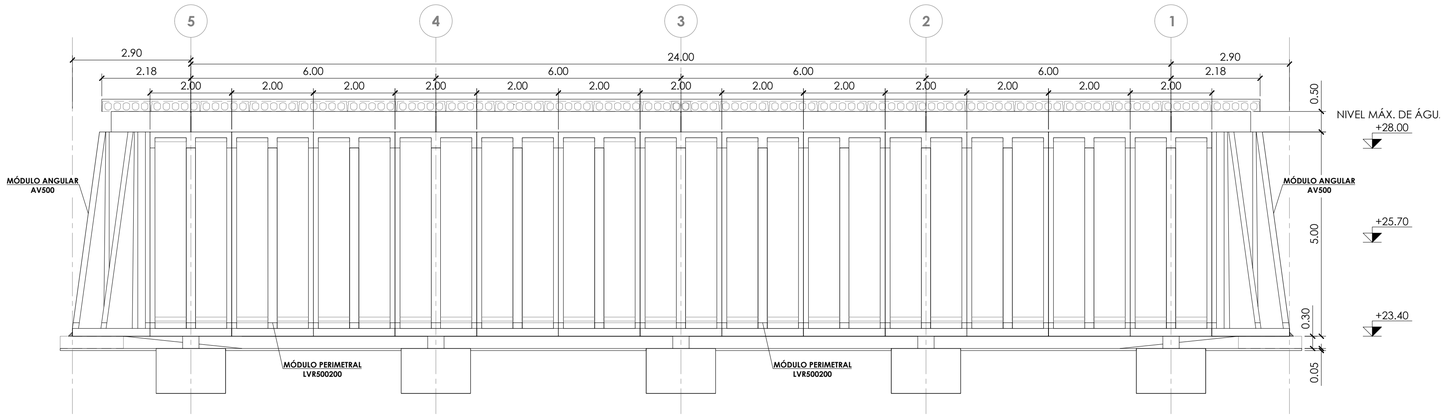
a) POSICIÓN I, DE ADHERENCIA BUENA, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO FORMAN CON LA HORIZONTAL UN ÁNGULO COMPRENDIDO ENTRE 45°Y 90° O QUE EN EL CASO DE FORMAR UN ÁNGULO INFERIOR A 45°, ESTÁN SITUADAS EN LA MITAD INFERIOR DE LA SECCIÓN O A UNA DISTANCIA IGUAL O MAYOR A 30 cm DE LA CARA SUPERIOR DE UNA CAPA DE HORMIGONADO.

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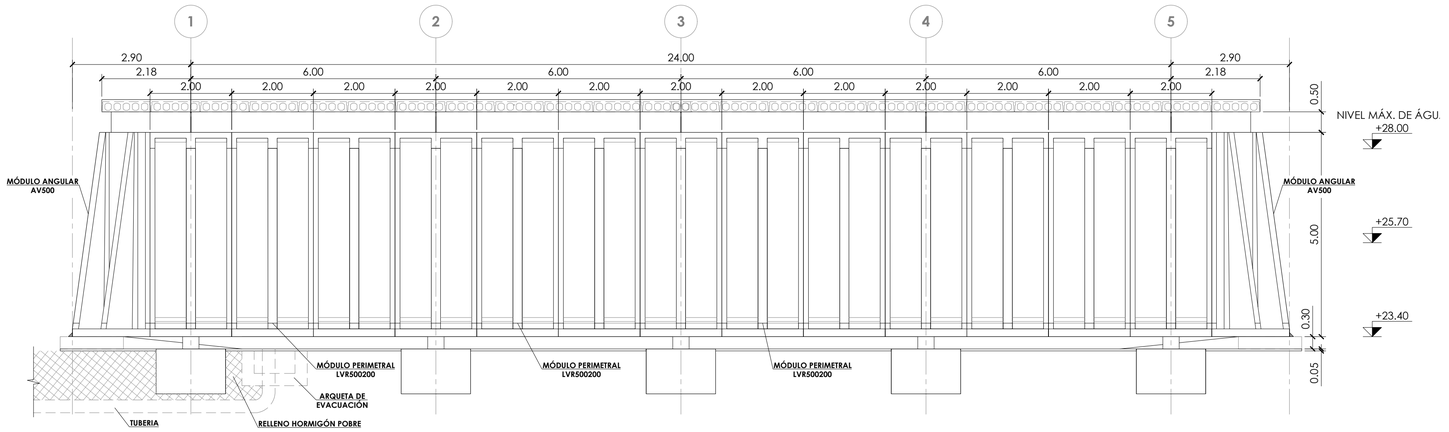
4. RECUBRIMIENTOS NOMINALES (r_{nom})

PREFABRICADOS r_{nom} = 5.0 cm.
CAPA COMPRESIÓN FORJADOS r_{nom} = 3.5 cm.

5. NO SE ADMITIRÁ LA REDUCCIÓN DE SOLAPOS POR EXCESO DE ARMADURA.



ALZADO MURO VISTO POR EJE-A
ESCALA 1:75
COTAS EN METROS



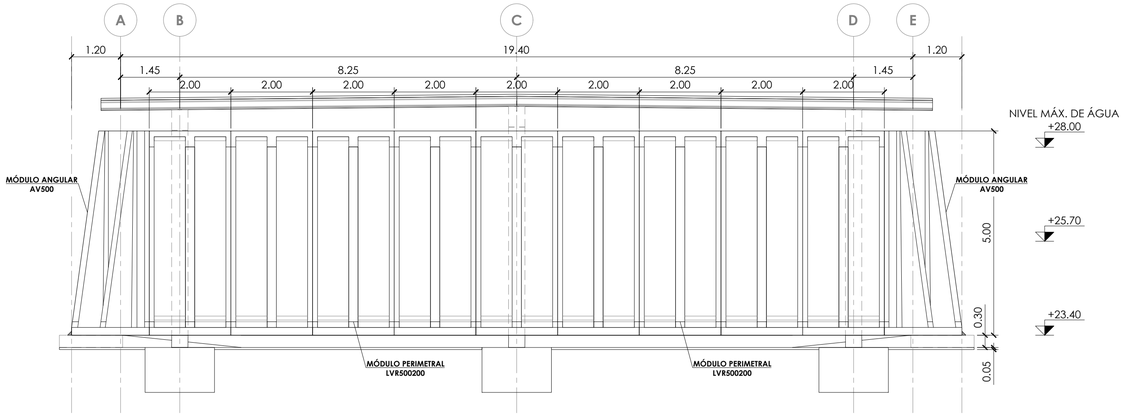
ALZADO MURO VISTO POR EJE-E
ESCALA 1:75
COTAS EN METROS

Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina

Título del Proyecto:
PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

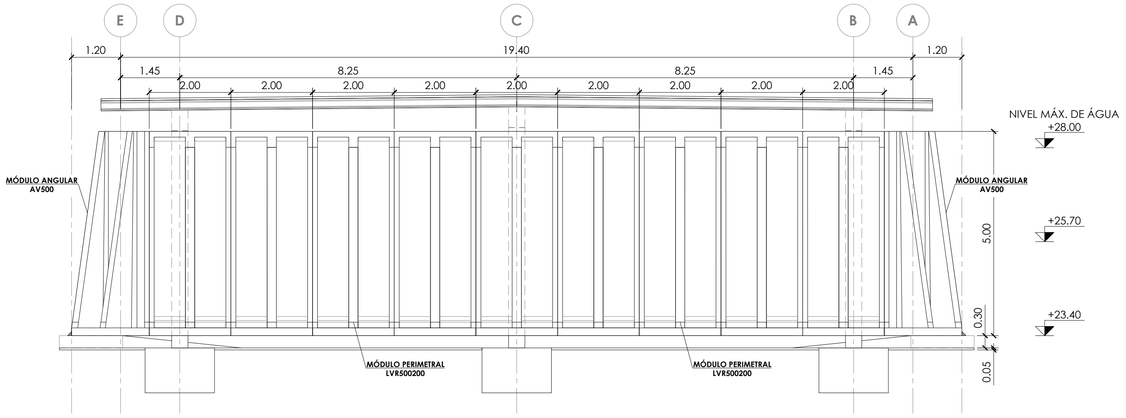
Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

Título del Plano: ALZADOS I
Situación: FORMENTERA
Escala: 1:75
Fecha: 05.07.2023
Num. Plano: 6.1
Num. Hoja: 1 DE 2



ALZADO MURO VISTO POR EJE-1

ESCALA 1:75
COTAS EN METROS



ALZADO MURO VISTO POR EJE-5

ESCALA 1:75
COTAS EN METROS

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

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NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08

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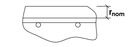
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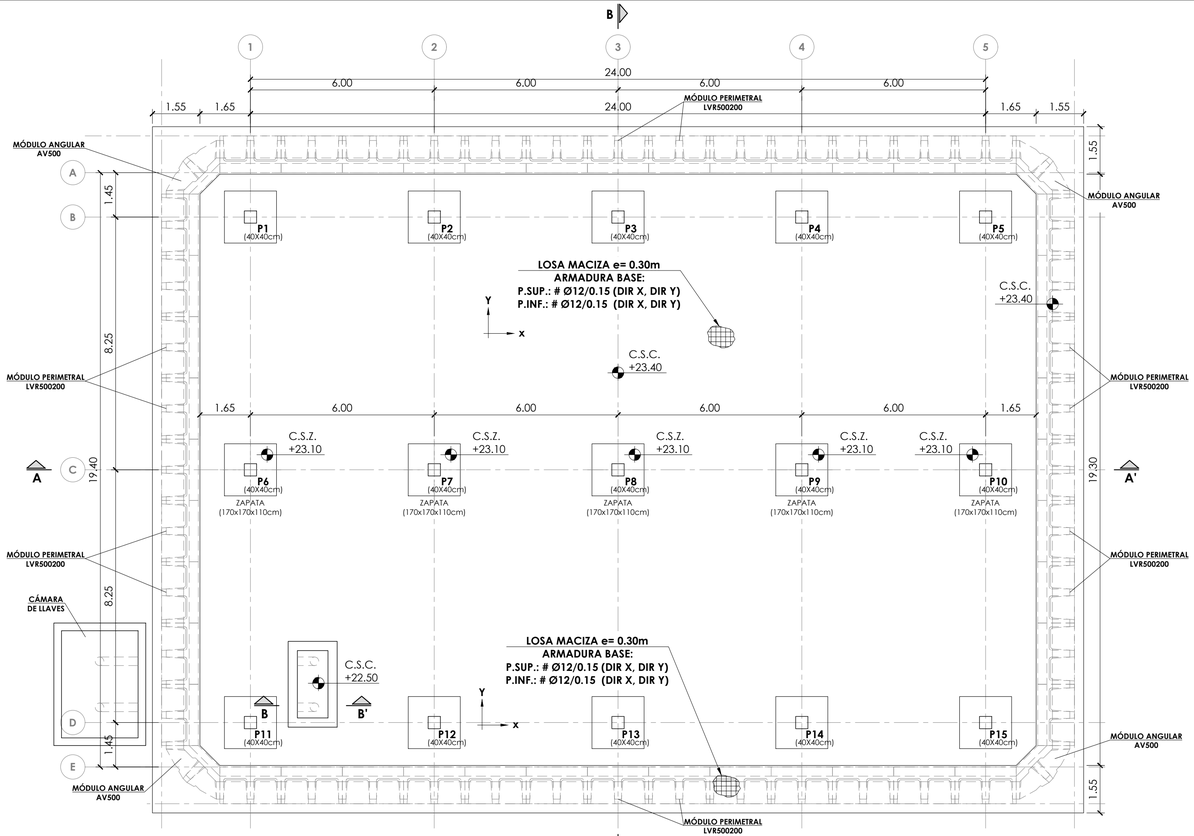
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Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina

Título del Proyecto:
PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

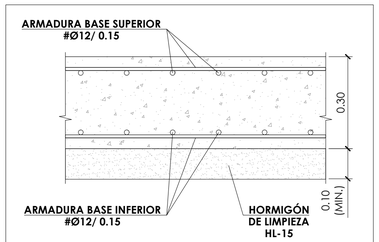
Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

Título del Plano:	Situación:	Escala:	Clave:	Núm. Plano:
ALZADOS II	FORMENTERA	1:100	Fecha: 05.07.2023	6.2
				Núm. Hoja: 2 DE 2



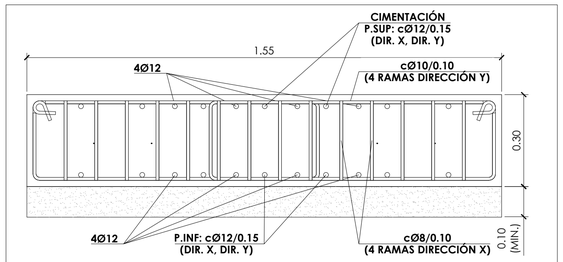
PLANTA CIMENTACIÓN. BASE DE APOYO DEPÓSITO

ESCALA 1:100
COTAS EN METROS



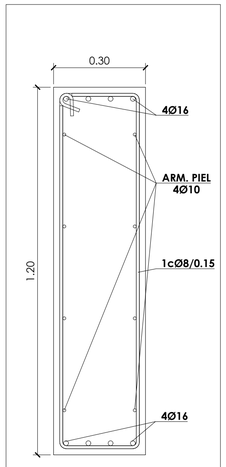
DETALLE GENERAL ARMADO DE LOSA MACIZA (H= 0.30m)

ESCALA 1:10
COTAS EN METROS



DETALLE LOSA CIMENTACIÓN BASE MUROS

ESCALA 1:10
COTAS EN METROS



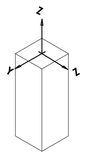
ZUNCHO Z-1 (30x120)

ESCALA 1:10
COTAS EN METROS

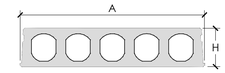
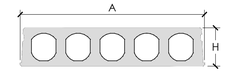
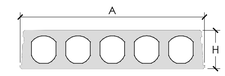
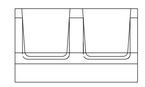
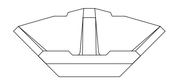
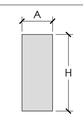
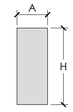
CUADRO DE ZAPATAS AISLADAS

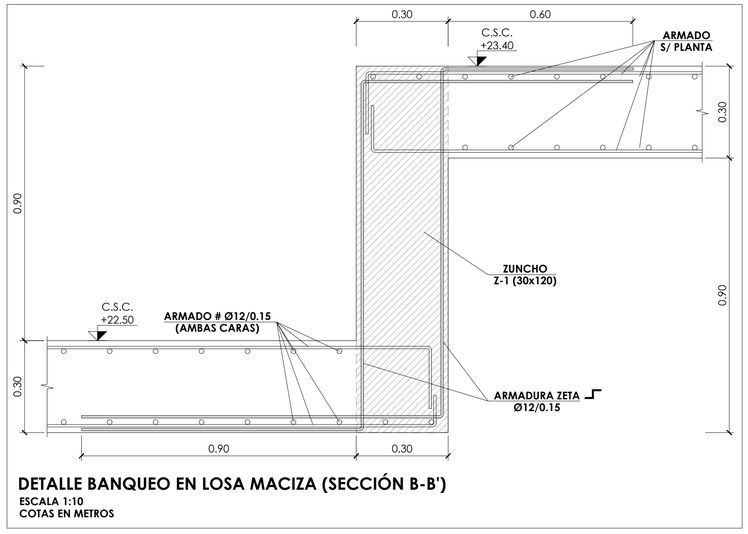
TIPO	REFERENCIAS	AxBxH (cm)	ARMADO INF	ARMADO SUP	REFUERZO INF	REFUERZO SUP
T-1	P1-P2-P3-P4-P5-P6-P7 P8-P9-P10-P11-P12-P13 P14-P15	170x170x110	Ø20/0.10 (DIRECCIÓN X) Ø16/0.10 (DIRECCIÓN Y)	#Ø16/0.15	---	---

ESFUERZOS PILARES	N_{max} ELU (kN)	ELU M_{1maxY} PIE PILAR (mkN)	ELU M_{1maxY} CABEZA PILAR (mkN)	ELU M_{2maxY} PIE PILAR (mkN)	ELU M_{2maxY} CABEZA PILAR (mkN)	ELU M_{1maxZ} PIE PILAR (mkN)	ELU M_{1maxZ} CABEZA PILAR (mkN)	ELU M_{2maxZ} PIE PILAR (mkN)	ELU M_{2maxZ} CABEZA PILAR (mkN)
P1	-882,2	0,0114	0,003	-0,0079	$-0,9297.10^{-3}$	94,5	-52,9	-9,39	-176
P2	-854,5	0,0098	0,0017	-0,007	$-0,9108.10^{-3}$	9,99	---	-37,8	---
P3	-932,2	0,004	$0,161.10^{-3}$	-0,0108	-0,0082	4,99	---	-42,9	---
P4	-843,3	0,0028	-0,0029	-0,0269	-0,0065	0,102	---	-47,7	---
P5	-917,9	-0,0019	0,0081	-0,0191	$-0,88.10^{-3}$	-35,3	195	-141,8	70,6
P6	-710,2	0,355	0,028	-0,456	-0,035	69,1	-47,4	3,90	-128,9
P7	-676,7	0,256	0,0124	-0,396	-0,003	11,5	---	-19,2	---
P8	-742,8	0,196	---	-0,28	---	6,49	---	-24,2	---
P9	-675,8	0,0856	0,008	-0,167	0,003	-21,8	---	-28,9	---
P10	-738,3	0,0162	0,0261	-0,05	---	---	133,8	-93,3	49,1
P11	-558,7	-3,21	1,76	-21,2	0,82	66,4	-38,7	-5,93	-121,9
P12	-546,1	-1,06	-0,36	-11,9	-1,28	9,66	---	-21,7	---
P13	-593,4	-0,333	0,14	-13,3	-0,263	4,91	---	-26,2	---
P14	-534,5	-0,702	1,32	-12,2	0,10	---	---	-30,7	---
P15	-600,2	6,03	---	-10,3	-8,00	-21,9	114,3	-78,8	44,9



EJES ESFUERZOS PILARES

MARCA	FORMA PIEZA	CANTIDAD	A [m]	H [m]	PESO
PLACA ALV25 [TIPO 1]		42	1.20	0.25	320 kgm^2
PLACA ALV25 [TIPO 2]		4	1.20	0.25	320 kgm^2
PLACA ALV25 [TIPO 3]		2	0.76	0.25	320 kgm^2
MÓDULO PERIMETRAL LVR500200		44	---	---	6700 Kg
MÓDULO ANGULAR AV500		4	---	---	6700 Kg
VIGA 40x50 [TIPO 1]		12	0.40	0.50	---
VIGA 40x50 [TIPO 2]		6	0.40	0.50	---



DETALLE BANQUEO EN LOSA MACIZA (SECCIÓN B-B')

ESCALA 1:10
COTAS EN METROS

ESFUERZOS PLACA ALVEOLAR	M_{1max} ELU (mkN)	$M_{t max}$ ELU (mkN)	V_{max} ELU (kN)	N_{max} ELU (kN)
ALV25	137,1	-100,3	83,6	---

ESFUERZOS VIGAS	M_{1max} ELU (mkN)	$M_{t max}$ ELU (mkN)	V_{max} ELU (kN)	N_{max} ELU (kN)
40x50	505,6	-213,6	-387,1	1002
40X50	255,1	-443,4	-403,4	1002

ESFUERZOS MUROS (MÓDULO 2m)	M_T ELU (mkN)	N ELU (kN)
M1 (MÓDULO 2m)	-396,6	-60,6

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

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- INDEPENDIENTEMENTE DE LA RESISTENCIA CARACTERÍSTICA DEL PROYECTO, EL HORMIGÓN DEBERÁ CUMPLIR CON LOS REQUISITOS DE LIMITACIÓN DEL CONTENIDO DE AGUA Y CEMENTO INDICADOS EN LAS TABLAS 37.3.2.a Y 37.3.2.b DE LA INSTRUCCIÓN EHE:

CLASE EXPOSICIÓN	MÁX. RELACIÓN AGUA/CEMENTO	MÍNIMO CONTENIDO CEMENTO (kg/m^3)	TIPO DE CEMENTO
IIa	0.60	275	CEM I
IV	0.50	325	CEM III/A

3. TABLA DE LONGITUDES DE SOLAPO Y ANCLAJE.

	SOLAPO (Ls) (cm)		ANCLAJE (Lb) (cm)	
Ø	Ls_I	Ls_{II}	Lb_I	Lb_{II}
6	30	50	15	25
8	40	60	20	30
10	50	80	25	40
12	60	90	30	45
16	80	120	40	60
20	120	170	60	85
25	190	270	95	135
32	310	440	155	220

LOS SUBÍNDICES I Y II EN LAS LONGITUDES DE SOLAPO Y ANCLAJE DE LAS TABLAS SE REFIEREN A LA POSICIÓN DE LA BARRA, A ANCLAR O SOLAPAR, EN LA PIEZA RESPECTO A LA DIRECCIÓN DEL HORMIGONADO.

LA INSTRUCCIÓN EHE DEFINE:
a) POSICIÓN I, DE ADHERENCIA BUENA, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO FORMAN CON LA HORIZONTAL UN ÁNGULO COMPRENDIDO ENTRE 45°Y 90° O QUE EN EL CASO DE FORMAR UN ÁNGULO INFERIOR A 45°, ESTÁN SITUADAS EN LA MITAD INFERIOR DE LA SECCIÓN O A UNA DISTANCIA IGUAL O MAYOR A 30 cm DE LA CARA SUPERIOR DE UNA CAPA DE HORMIGONADO.
b) POSICIÓN II, DE ADHERENCIA DEFICIENTE, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO NO SE ENCUENTRAN EN NINGUNO DE LOS CASOS ANTERIORES.

4. RECUBRIMIENTOS NOMINALES (r_{nom})



PREFABRICADOS r nom = 5.0 cm.
CAPA COMPRESIÓN FORJADOS r nom = 3.5 cm.

5. NO SE ADMITIRÁ LA REDUCCIÓN DE SOLAPOS POR EXCESO DE ARMADURA.

CUADRO DE CARGAS — DEPÓSITO

PESO PROPIO (γ)	=	S/TABLA
CAPA DE COMPRESIÓN	=	1.25 KN/m^2
FORMACIÓN DE PENDIENTES	=	1.00 KN/m^2
PANELES SOLARES	=	1.00 KN/m^2
IMPERMEABILIZACIÓN Y SOLADO	=	1.50 KN/m^2
SOBRECARGA DE USO	=	1.00 KN/m^2

NOTAS CIMENTACIÓN SUPERFICIAL

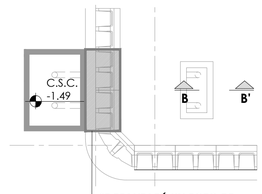
1.- LOS PARÁMETROS GEOTÉCNICOS DE CÁLCULO ADOPTADOS PARA EL DIMENSIONAMIENTO DE LA CIMENTACIÓN, SE HAN ADOPTADO A PARTIR DEL INFORME GEOTÉCNICO, SIENDO:

CIMENTACIÓN SUPERFICIAL
TENSIÓN ADMISIBLE σ = 250 KN/m^2

2.- EN EL CASO DE QUE EL TALUD REALIZADO NO SEA SUFICIENTE PARA ALCANZAR UNA ALTURA MÍNIMA DE 1,80M BAJO LA COTA ACTUAL DEL TERRENO, SE REALIZARÁ UN POZO DE CIMENTACIÓN HASTA ALCANZAR EL NIVEL DE CALIZA BLANCA.

NOTA:

C.S.C. COTA CARA SUPERIOR CIMENTACIÓN
C.S.Z. COTA SUPERIOR DE ZAPATA



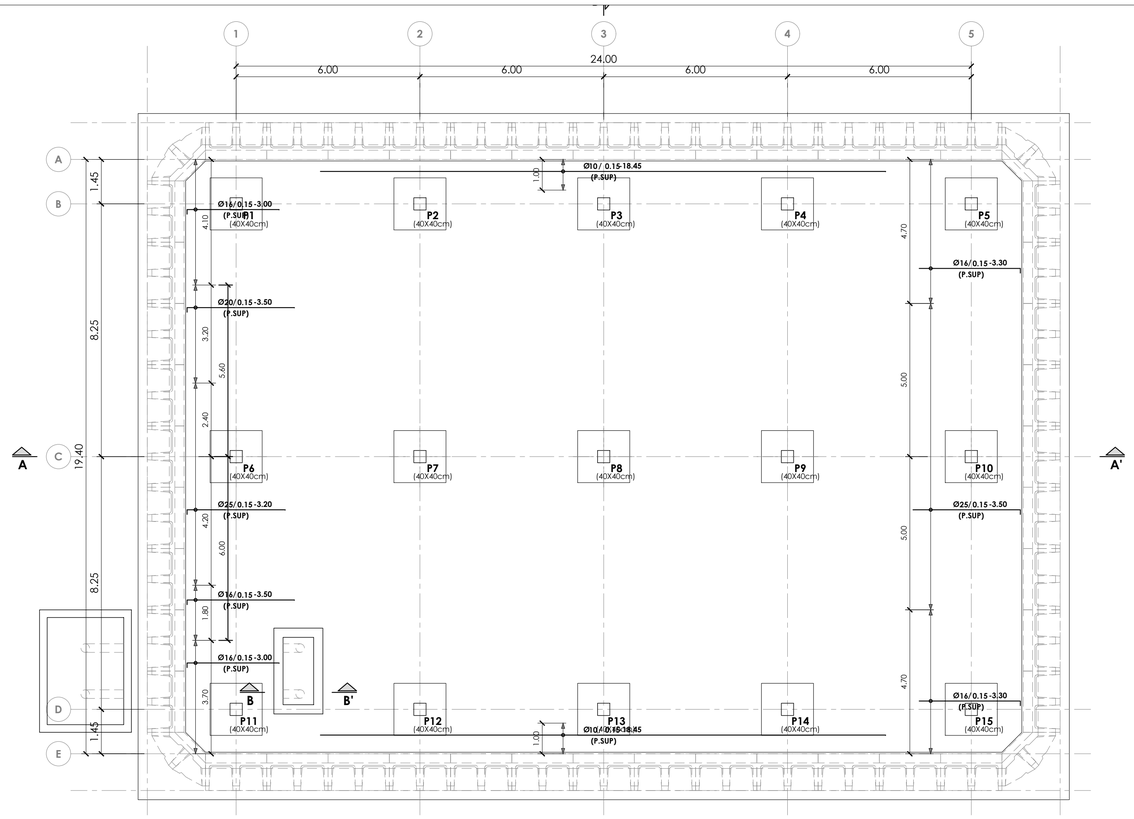
SE REALIZARÁ UN POZO DE CIMENTACIÓN EN LA ZONA SOMBREADA DE PROFUNDIDAD 1.10m HASTA ALCANZAR LA COTA DE LA CARA INFERIOR DE LA LOSA DE CIMENTACIÓN DE LA CÁMARA DE LLAVES

Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina

Título del Proyecto:
PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

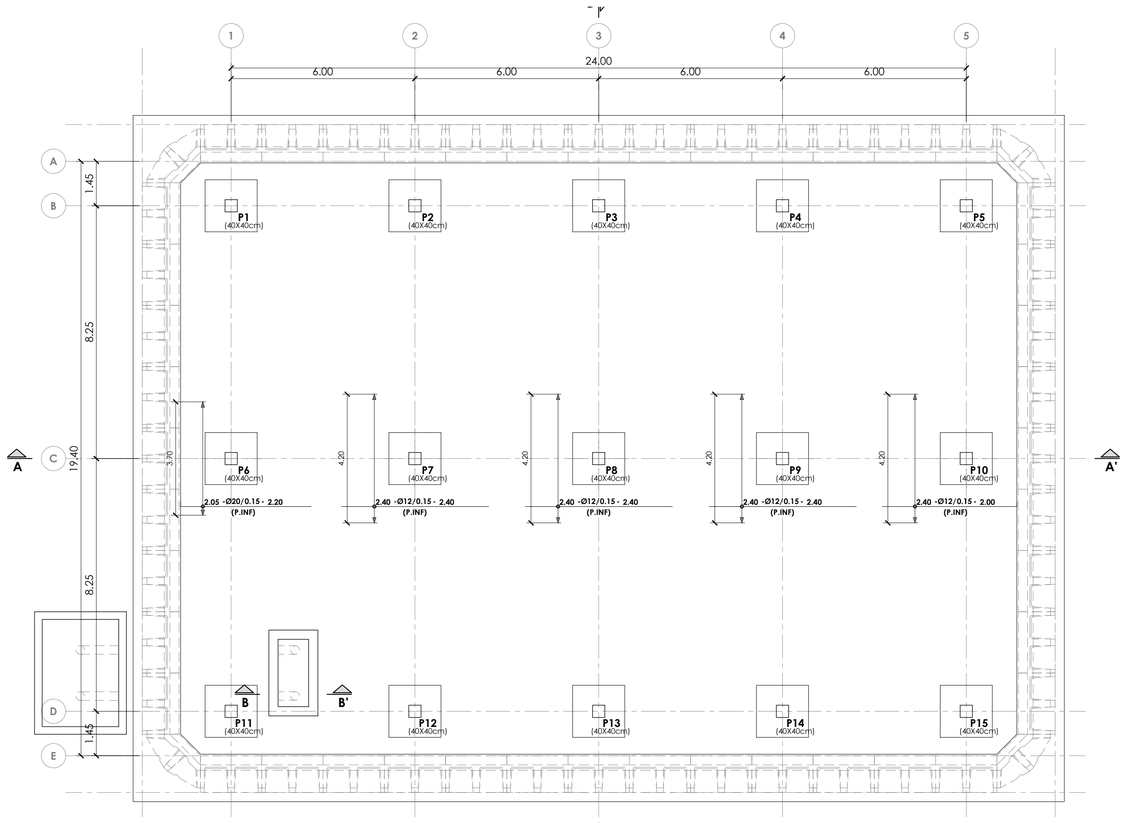
Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

Título del Plano:	Situación:	Escala:	Num. Plano:
CIMENTACIÓN. BASE APOYO DEPÓSITO	FORMENTERA	IND.	7.1
		Fecha: 05.07.2023	Num. Hoja: 1 DE 6



PLANTA CIMENTACIÓN. ARMADO SUPERIOR DIRECCIÓN X

ESCALA 1:100
COTAS EN METROS



PLANTA CIMENTACIÓN. ARMADO INFERIOR DIRECCIÓN X

ESCALA 1:100
COTAS EN METROS

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

MATERIALES	CALIDAD	NIVEL DE CONTROL	COEFICIENTE PONDERACIÓN
HORMIGÓN DE LIMPIEZA Y NIVELACIÓN	HL-15	NO ESTRUCTURAL	
HORMIGÓN DE LOSA DE FONDO	HA-30/B/20/IV	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE MUROS	HA-40/B/20/IV	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE CAPA DE COMPRESIÓN FORJADOS Y ZAPATAS	HA-25/B/20/IIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE PILARES	HA-40/B/20/IV	ESTADÍSTICO	Yc=1.50
COEFICIENTES PARCIALES DE SEGURIDAD APLICABLES PARA ESTADOS LÍMITES ÚLTIMOS			γ_G =1.35 γ_Q *=1.50 γ_A =1.50

NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08

*ACERO CON LÍMITE ELÁSTICO MÍNIMO GARANTIZADO

NOTAS GENERALES:

1. TODOS LOS DATOS RELATIVOS A LA GEOMETRÍA DE ESTE PROYECTO (COTAS, HUECOS, PENDIENTES, E.T.C.) SE TOMARÁN DE LOS PLANOS DE ARQUITECTURA. LOS VALORES QUE FIGUREN EN LOS PLANOS DE ESTRUCTURA SE COMPROBARÁN CON LOS PLANOS DE REPLANTEO, QUEDANDO A JUICIO DEL DIRECTOR DE OBRA EL POSIBLE RECÁLCULO DE LAS ZONAS NO COINCIDENTES.

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- INDEPENDIENTEMENTE DE LA RESISTENCIA CARACTERÍSTICA DEL PROYECTO, EL HORMIGÓN DEBERÁ CUMPLIR CON LOS REQUISITOS DE LIMITACIÓN DEL CONTENIDO DE AGUA Y CEMENTO INDICADOS EN LAS TABLAS 37.3.2.a Y 37.3.2.b DE LA INSTRUCCIÓN EHE:

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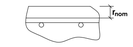
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4. RECUBRIMIENTOS NOMINALES (r_{nom})



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5. NO SE ADMITIRÁ LA REDUCCIÓN DE SOLAPOS POR EXCESO DE ARMADURA.

NOTA DISPOSICIÓN DE ARMADURAS

(P.SUP.) ⟶ PARAMENTO SUPERIOR
(P.INF.) ⟶ PARAMENTO INFERIOR

1.- TODAS LAS DIMENSIONES DE LAS BARRAS ACOTADAS EN LAS PLANTAS DE ARMADURA DIRECCIÓN X E Y SE REFIEREN A LA LONGITUD DE CADA RAMA DE LA ARMADURA, SIN CONTAR LAS PATILLAS QUE SERÁN SIEMPRE DE 0.40 m.

Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina

Título del Proyecto:
PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

Título del Plano:
CIMENTACIÓN. ARM. SUPERIOR-INFERIOR DIR. X FORMENTERA

Situación:

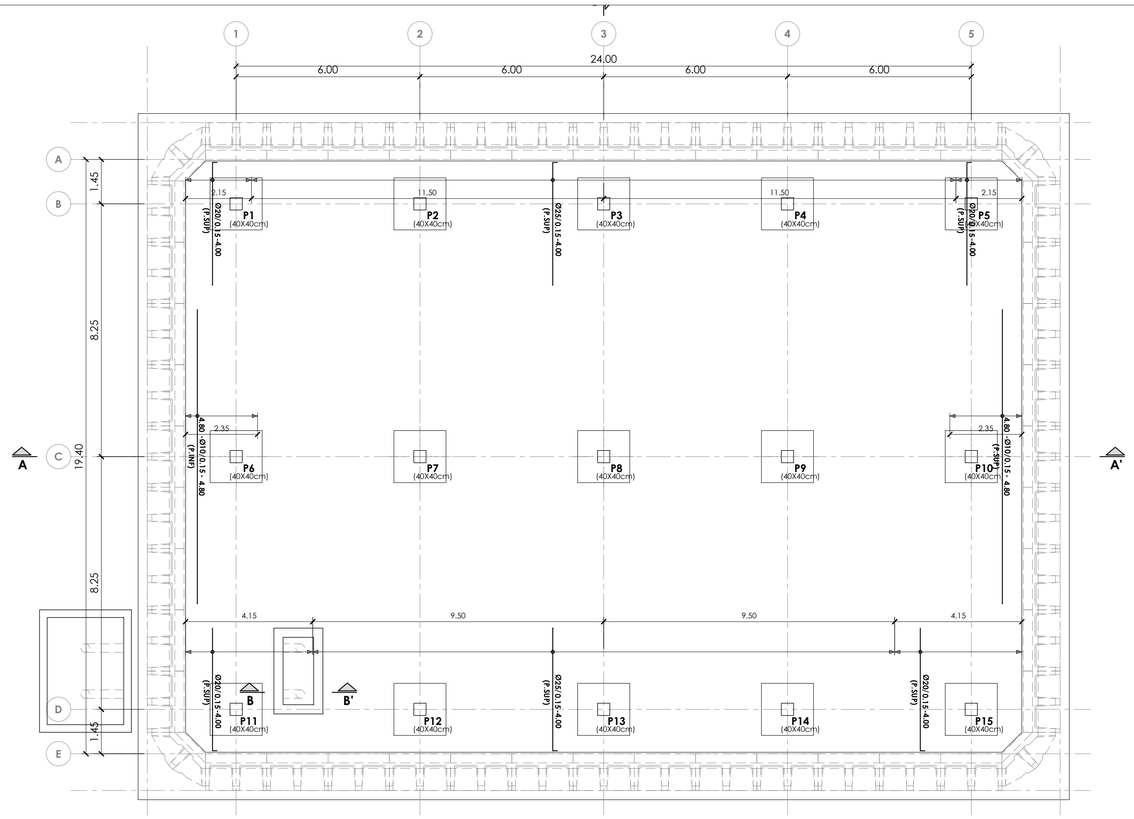
Escala:
IND.

Clave:

Fecha:
05.07.2023

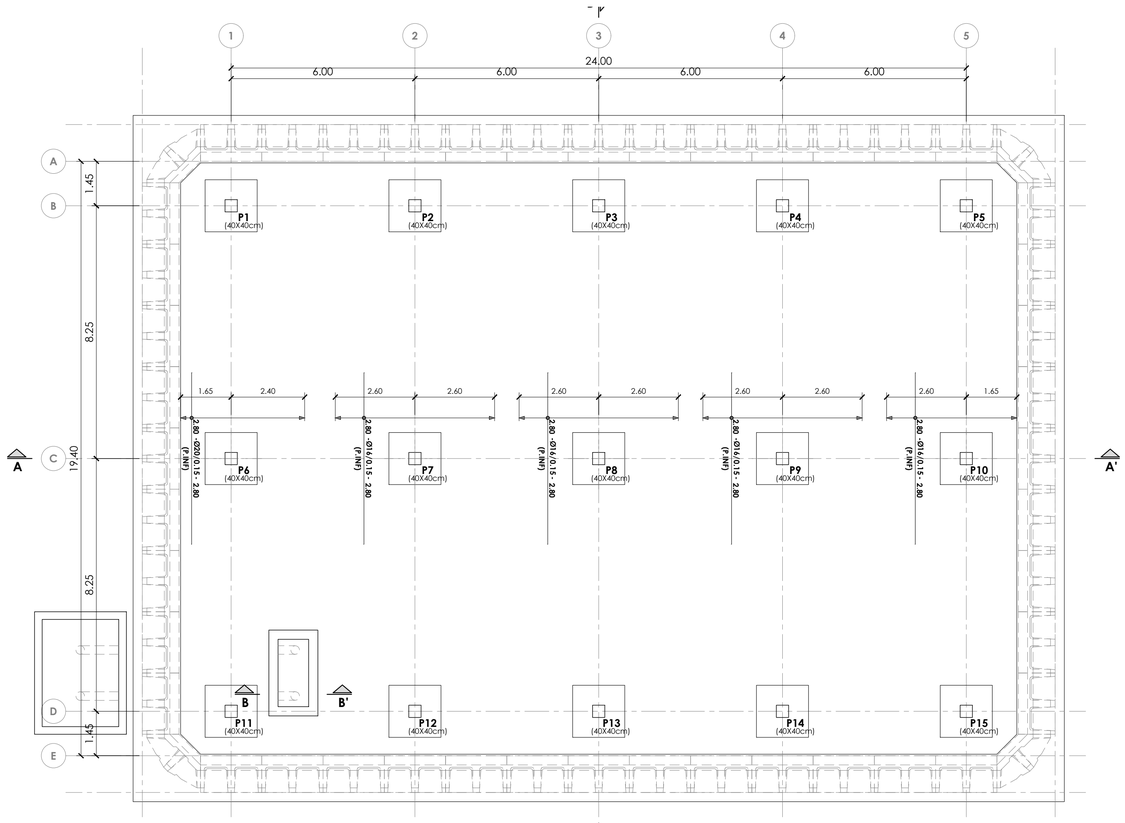
Núm. Plano:
7.2

Núm. Hoja:
2 DE 6



PLANTA CIMENTACIÓN. ARMADO SUPERIOR DIRECCIÓN Y

ESCALA 1:100
COTAS EN METROS



PLANTA CIMENTACIÓN. ARMADO INFERIOR DIRECCIÓN Y

ESCALA 1:100
COTAS EN METROS

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

MATERIALES	CALIDAD	NIVEL DE CONTROL	COEFICIENTE PONDERACIÓN
HORMIGÓN DE LIMPIEZA Y NIVELACIÓN	HL-15	NO ESTRUCTURAL	
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COEFICIENTES PARCIALES DE SEGURIDAD APLICABLES PARA ESTADOS LÍMITES ÚLTIMOS			γ_G =1.35 γ_Q *=1.50 γ_A =1.50

NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08

*ACERO CON LÍMITE ELÁSTICO MÍNIMO GARANTIZADO

NOTAS GENERALES:

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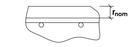
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NOTA DISPOSICIÓN DE ARMADURAS

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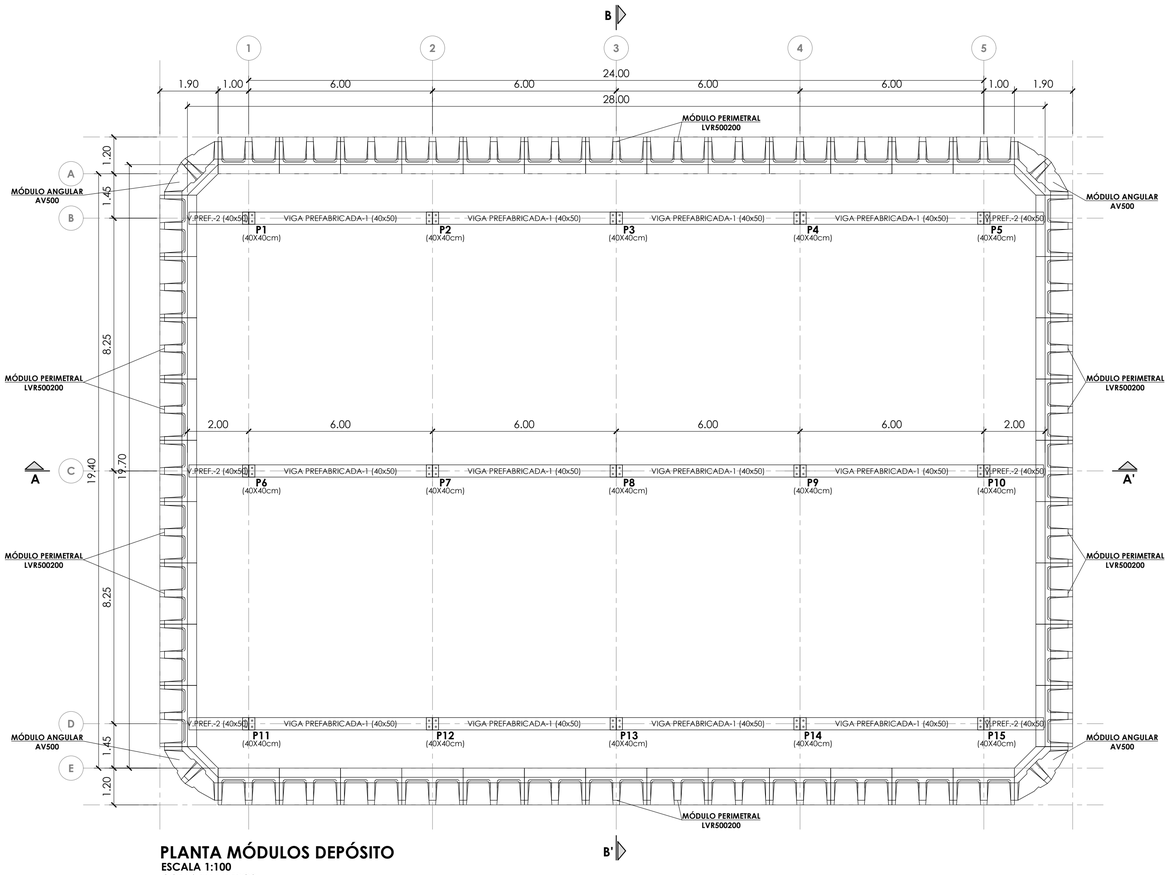
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Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina

Título del Proyecto:
PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

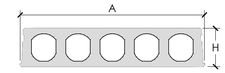
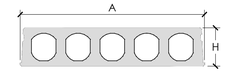
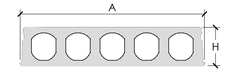
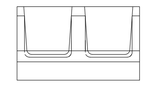
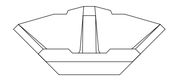
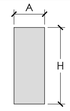
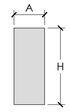
Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

Título del Plano: CIMENTACIÓN. ARM. SUPERIOR-INFERIOR DIR. Y
Situación: FORMENTERA
Escala: IND.
Fecha: 05.07.2023
Núm. Plano: 7.3
Núm. Hoja: 3 DE 6



PLANTA MÓDULOS DEPÓSITO

ESCALA 1:100
COTAS EN METROS

MARCA	FORMA PIEZA	CANTIDAD	A [m]	H [m]	PESO
PLACA ALV25 [TIPO 1]		42	1.20	0.25	320 kgm^2
PLACA ALV25 [TIPO 2]		4	1.20	0.25	320 kgm^2
PLACA ALV25 [TIPO 3]		2	0.76	0.25	320 kgm^2
MÓDULO PERIMETRAL LVR500200		44	---	---	6700 Kg
MÓDULO ANGULAR AV500		4	---	---	6700 Kg
VIGA 40x50 [TIPO 1]		12	0.40	0.50	---
VIGA 40x50 [TIPO 2]		6	0.40	0.50	---

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

MATERIALES	CALIDAD	NIVEL DE CONTROL	COEFICIENTE PONDERACIÓN
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NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08

*ACERO CON LÍMITE ELÁSTICO MÍNIMO GARANTIZADO

NOTAS GENERALES:

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2. DOSIFICACIÓN DE LOS HORMIGONES:
- INDEPENDIENTEMENTE DE LA RESISTENCIA CARACTERÍSTICA DEL PROYECTO, EL HORMIGÓN DEBERÁ CUMPLIR CON LOS REQUISITOS DE LIMITACIÓN DEL CONTENIDO DE AGUA Y CEMENTO INDICADOS EN LAS TABLAS 37.3.2.a Y 37.3.2.b DE LA INSTRUCCIÓN EHE:

CLASE EXPOSICIÓN	MÁX. RELACIÓN AGUA/CEMENTO	MÍNIMO CONTENIDO CEMENTO (kg/m^3)	TIPO DE CEMENTO
IIa	0.60	275	CEM I
IV	0.50	325	CEM III/A

3. TABLA DE LONGITUDES DE SOLAPO Y ANCLAJE.

	SOLAPO (Ls) (cm)		ANCLAJE (Lb) (cm)	
Ø	Ls_I	Ls_{II}	Lb_I	Lb_{II}
6	30	50	15	25
8	40	60	20	30
10	50	80	25	40
12	60	90	30	45
16	80	120	40	60
20	120	170	60	85
25	190	270	95	135
32	310	440	155	220

LOS SUBÍNDICES I Y II EN LAS LONGITUDES DE SOLAPO Y ANCLAJE DE LAS TABLAS SE REFIEREN A LA POSICIÓN DE LA BARRA, A ANCLAR O SOLAPAR, EN LA PIEZA RESPECTO A LA DIRECCIÓN DEL HORMIGONADO.

LA INSTRUCCIÓN EHE DEFINE:
a) POSICIÓN I, DE ADHERENCIA BUENA, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO FORMAN CON LA HORIZONTAL UN ÁNGULO COMPRENDIDO ENTRE 45°Y 90° O QUE EN EL CASO DE FORMAR UN ÁNGULO INFERIOR A 45°, ESTÁN SITUADAS EN LA MITAD INFERIOR DE LA SECCIÓN O A UNA DISTANCIA IGUAL O MAYOR A 30 cm DE LA CARA SUPERIOR DE UNA CAPA DE HORMIGONADO.
b) POSICIÓN II, DE ADHERENCIA DEFICIENTE, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO NO SE ENCUENTRAN EN NINGUNO DE LOS CASOS ANTERIORES.

4. RECUBRIMIENTOS NOMINALES (r_{nom})



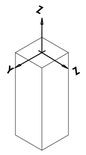
PREFABRICADOS r nom = 5.0 cm.
CAPA COMPRESIÓN FORJADOS r nom = 3.5 cm.

5. NO SE ADMITIRÁ LA REDUCCIÓN DE SOLAPOS POR EXCESO DE ARMADURA.

CUADRO DE CARGAS — DEPÓSITO

PESO PROPIO (γ)	=	S/TABLA
CAPA DE COMPRESIÓN	=	1.25 KN/m^2
FORMACIÓN DE PENDIENTES	=	1.00 KN/m^2
PANELES SOLARES	=	1.00 KN/m^2
IMPERMEABILIZACIÓN Y SOLADO	=	1.50 KN/m^2
SOBRECARGA DE USO	=	1.00 KN/m^2

ESFUERZOS PILARES	N_{max} ELU (kN)	ELU M_{1maxY} PIE PILAR (mkN)	ELU M_{1maxY} CABEZA PILAR (mkN)	ELU M_{2maxY} PIE PILAR (mkN)	ELU M_{2maxY} CABEZA PILAR (mkN)	ELU M_{1maxZ} PIE PILAR (mkN)	ELU M_{1maxZ} CABEZA PILAR (mkN)	ELU M_{2maxZ} PIE PILAR (mkN)	ELU M_{2maxZ} CABEZA PILAR (mkN)
P1	-882,2	0,0114	0,003	-0,0079	-0,9297.10^{-3}	94,5	-52,9	-9,39	-176
P2	-854,5	0,0098	0,0017	-0,007	-0,9108.10^{-3}	9,99	---	-37,8	---
P3	-932,2	0,004	0,161.10^{-3}	-0,0108	-0,0082	4,99	---	-42,9	---
P4	-843,3	0,0028	-0,0029	-0,0269	-0,0065	0,102	---	-47,7	---
P5	-917,9	-0,0019	0,0081	-0,0191	-0,88.10^{-3}	-35,3	195	-141,8	70,6
P6	-710,2	0,355	0,028	-0,456	-0,035	69,1	-47,4	3,90	-128,9
P7	-676,7	0,256	0,0124	-0,396	-0,003	11,5	---	-19,2	---
P8	-742,8	0,196	---	-0,28	---	6,49	---	-24,2	---
P9	-675,8	0,0856	0,008	-0,167	0,003	-21,8	---	-28,9	---
P10	-738,3	0,0162	0,0261	-0,05	---	---	133,8	-93,3	49,1
P11	-558,7	-3,21	1,76	-21,2	0,82	66,4	-38,7	-5,93	-121,9
P12	-546,1	-1,06	-0,36	-11,9	-1,28	9,66	---	-21,7	---
P13	-593,4	-0,333	0,14	-13,3	-0,263	4,91	---	-26,2	---
P14	-534,5	-0,702	1,32	-12,2	0,10	---	---	-30,7	---
P15	-600,2	6,03	---	-10,3	-8,00	-21,9	114,3	-78,8	44,9



EJES ESFUERZOS PILARES

ESFUERZOS PLACA ALVEOLAR	M_{1max} ELU (mkN)	M_{-max} ELU (mkN)	V_{max} ELU (kN)	N_{max} ELU (kN)
ALV25	137,1	-100,3	83,6	---

ESFUERZOS VIGAS	M_{1max} ELU (mkN)	M_{-max} ELU (mkN)	V_{max} ELU (kN)	N_{max} ELU (kN)
40x50	505,6	-213,6	-387,1	1002
40X50	255,1	-443,4	-403,4	1002

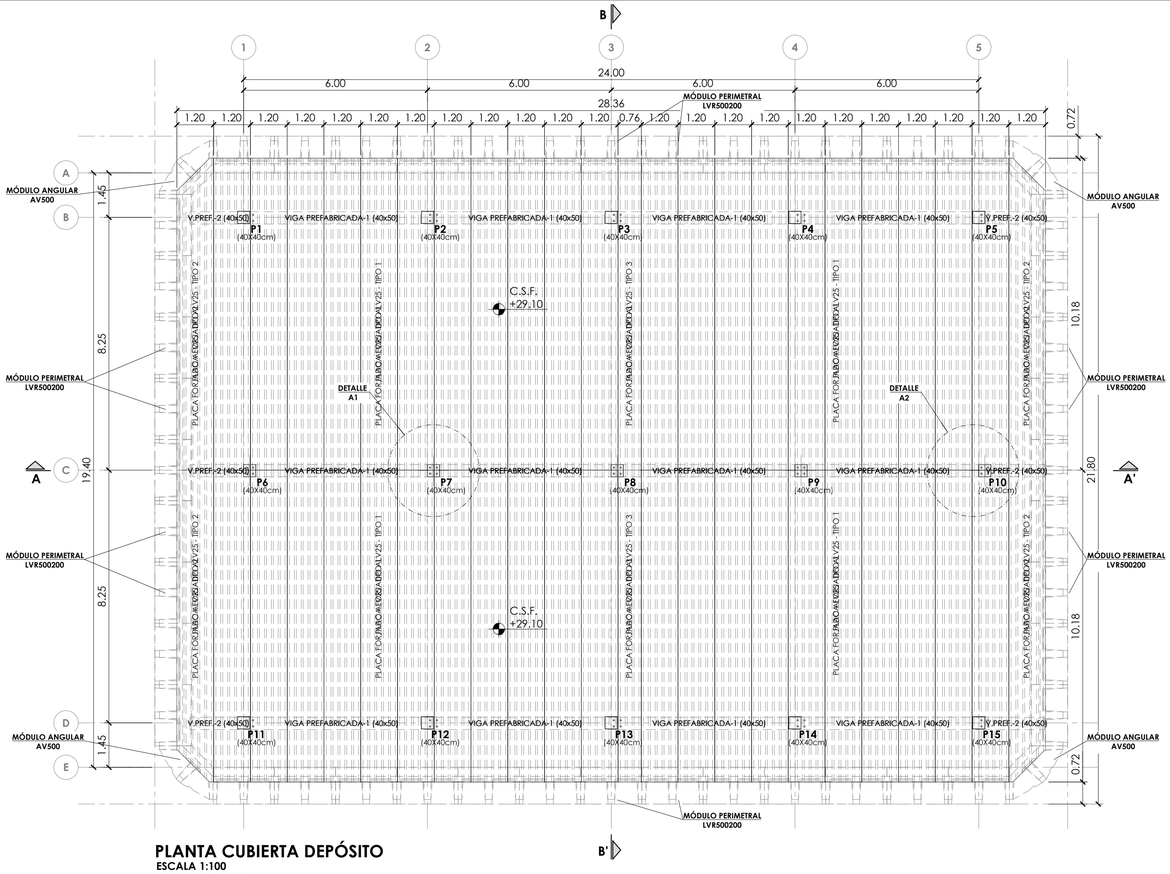
ESFUERZOS MUROS (MÓDULO 2m)	M_Y ELU (mkN)	N ELU (kN)
M1 (MÓDULO 2m)	-396,6	-60,6

Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina

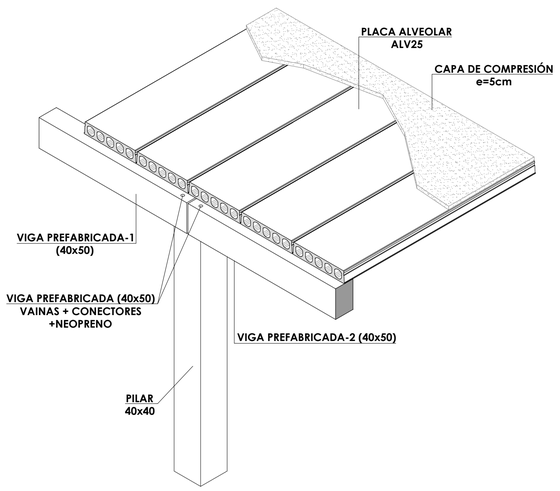
Título del Proyecto:
PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

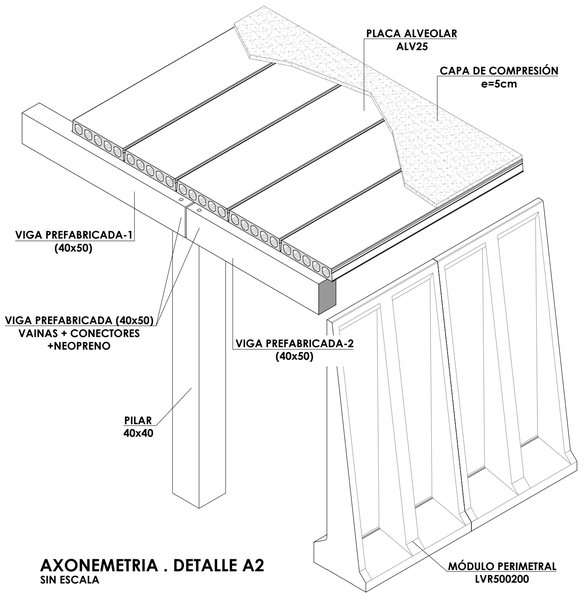
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		Fecha: 05.07.2023		Núm. Hoja: 4 DE 6



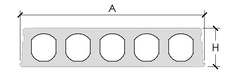
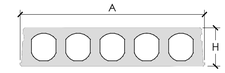
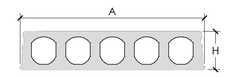
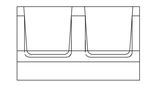
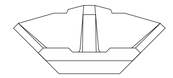
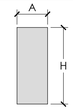
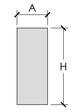
PLANTA CUBIERTA DEPÓSITO
ESCALA 1:100
COTAS EN METROS

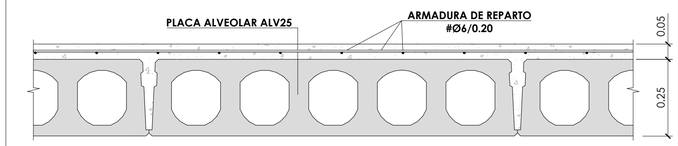


AXONEMETRIA . DETALLE A1
SIN ESCALA



AXONEMETRIA . DETALLE A2
SIN ESCALA

MARCA	FORMA PIEZA	CANTIDAD	A [m]	H [m]	PESO
PLACA ALV25 [TIPO 1]		42	1.20	0.25	320 kgm^2
PLACA ALV25 [TIPO 2]		4	1.20	0.25	320 kgm^2
PLACA ALV25 [TIPO 3]		2	0.76	0.25	320 kgm^2
MÓDULO PERIMETRAL LVR500200		44	---	---	6700 Kg
MÓDULO ANGULAR AV500		4	---	---	6700 Kg
VIGA 40x50 [TIPO 1]		12	0.40	0.50	---
VIGA 40x50 [TIPO 2]		6	0.40	0.50	---



DETALLE GENERAL FORJADO CON PLACA ALVEOLAR ALV25 (H= 25+5)
ESCALA 1:10
COTAS EN METROS

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

MATERIALES	CALIDAD	NIVEL DE CONTROL	COEFICIENTE PONDERACIÓN
HORMIGÓN DE LIMPIEZA Y NIVELACIÓN	HL-15	NO ESTRUCTURAL	
HORMIGÓN DE LOSA DE FONDO	HA-30/B/20/IV	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE MUROS	HA-40/B/20/IV	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE CAPA DE COMPRESIÓN FORJADOS Y ZAPATAS	HA-25/B/20/IIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE PILARES	HA-40/B/20/IV	ESTADÍSTICO	Yc=1.50
COEFICIENTES PARCIALES DE SEGURIDAD APLICABLES PARA ESTADOS LÍMITES ÚLTIMOS			γ_G =1.35 γ_Q *=1.50 γ_A =1.50

NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08

*ACERO CON LÍMITE ELÁSTICO MÍNIMO GARANTIZADO

NOTAS GENERALES:

1. TODOS LOS DATOS RELATIVOS A LA GEOMETRÍA DE ESTE PROYECTO (COTAS, HUECOS, PENDIENTES, E.T.C.) SE TOMARÁN DE LOS PLANOS DE ARQUITECTURA. LOS VALORES QUE FIGUREN EN LOS PLANOS DE ESTRUCTURA SE COMPROBARÁN CON LOS PLANOS DE REPLANTEO, QUEDANDO A JUICIO DEL DIRECTOR DE OBRA EL POSIBLE RECÁLCULO DE LAS ZONAS NO COINCIDENTES.

2. DOSIFICACIÓN DE LOS HORMIGONES:
- INDEPENDIENTEMENTE DE LA RESISTENCIA CARACTERÍSTICA DEL PROYECTO, EL HORMIGÓN DEBERÁ CUMPLIR CON LOS REQUISITOS DE LIMITACIÓN DEL CONTENIDO DE AGUA Y CEMENTO INDICADOS EN LAS TABLAS 37.3.2.a Y 37.3.2.b DE LA INSTRUCCIÓN EHE:

CLASE EXPOSICIÓN	MÁX. RELACIÓN AGUA/CEMENTO	MÍNIMO CONTENIDO CEMENTO (kg/m^3)	TIPO DE CEMENTO
IIa	0.60	275	CEM I
IV	0.50	325	CEM III/A

3. TABLA DE LONGITUDES DE SOLAPO Y ANCLAJE.

	SOLAPO (Ls) (cm)		ANCLAJE (Lb) (cm)	
Ø	Ls_I	Ls_{II}	Lb_I	Lb_{II}
6	30	50	15	25
8	40	60	20	30
10	50	80	25	40
12	60	90	30	45
16	80	120	40	60
20	120	170	60	85
25	190	270	95	135
32	310	440	155	220

LOS SUBÍNDICES I Y II EN LAS LONGITUDES DE SOLAPO Y ANCLAJE DE LAS TABLAS SE REFIEREN A LA POSICIÓN DE LA BARRA, A ANCLAR O SOLAPAR, EN LA PIEZA RESPECTO A LA DIRECCIÓN DEL HORMIGONADO.

LA INSTRUCCIÓN EHE DEFINE:
- **a) POSICIÓN I, DE ADHERENCIA BUENA, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO FORMAN CON LA HORIZONTAL UN ÁNGULO COMPRENDIDO ENTRE 45°Y 90° O QUE EN EL CASO DE FORMAR UN ÁNGULO INFERIOR A 45°, ESTÁN SITUADAS EN LA MITAD INFERIOR DE LA SECCIÓN O A UNA DISTANCIA IGUAL O MAYOR A 30 cm DE LA CARA SUPERIOR DE UNA CAPA DE HORMIGONADO.**
- **b) POSICIÓN II, DE ADHERENCIA DEFICIENTE, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO NO SE ENCUENTRAN EN NINGUNO DE LOS CASOS ANTERIORES.**

4. RECUBRIMIENTOS NOMINALES (r_{nom})



PREFABRICADOS r_{nom} = 5.0 cm.
CAPA COMPRESIÓN FORJADOS r_{nom} = 3.5 cm.

5. NO SE ADMITIRÁ LA REDUCCIÓN DE SOLAPOS POR EXCESO DE ARMADURA.

CUADRO DE CARGAS — DEPÓSITO

PESO PROPIO (γ)	=	S/TABLA
CAPA DE COMPRESIÓN	=	1.25 KN/m^2
FORMACIÓN DE PENDIENTES	=	1.00 KN/m^2
PANELES SOLARES	=	1.00 KN/m^2
IMPERMEABILIZACIÓN Y SOLADO	=	1.50 KN/m^2
SOBRECARGA DE USO	=	1.00 KN/m^2

NOTA:

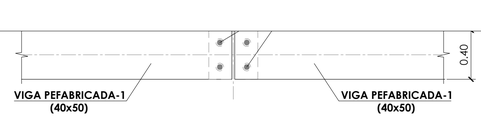
C.S.F. COTA SUPERIOR DE FORJADO

Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina

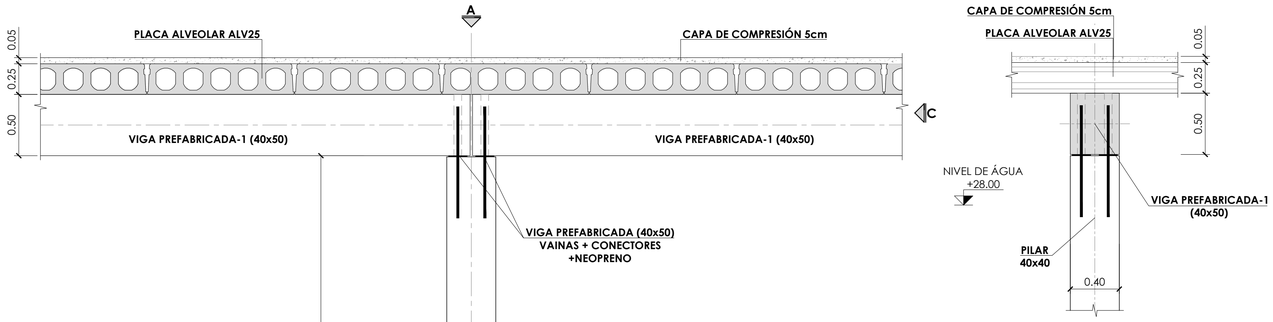
Título del Proyecto:
PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

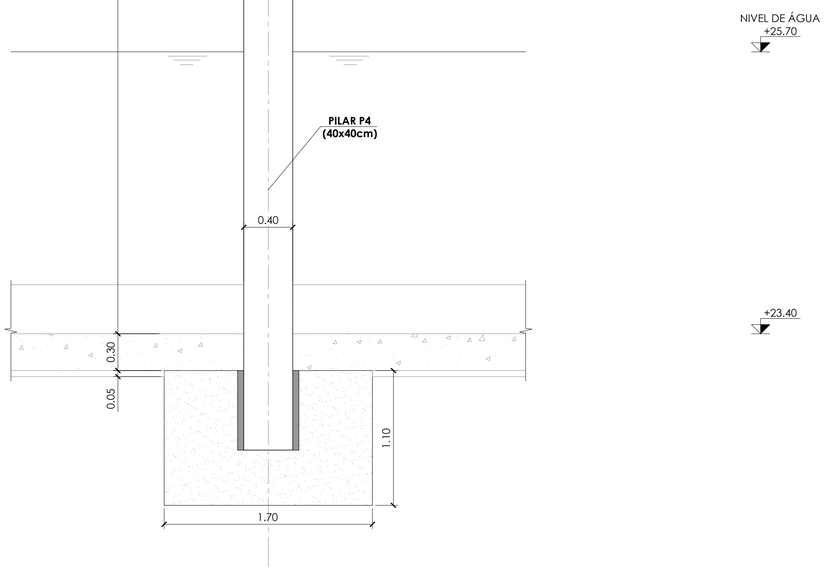
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PLANTA CUBIERTA DEPÓSITO	FORMENTERA	IND.	Fecha: 05.07.2023	7.5
				Núm. Hoja: 5 DE 6



DETALLE A1 - VISTA A

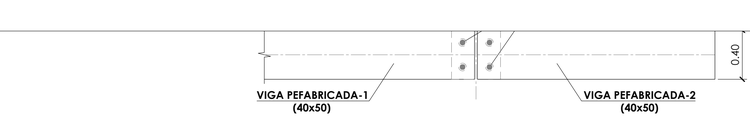


DETALLE A1 - VISTA C

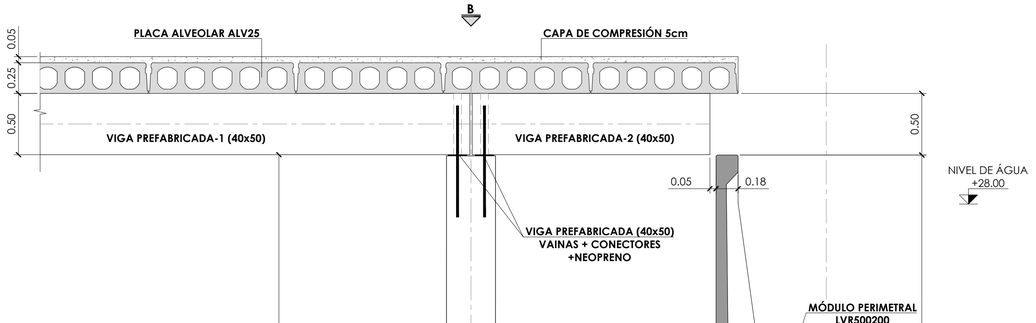


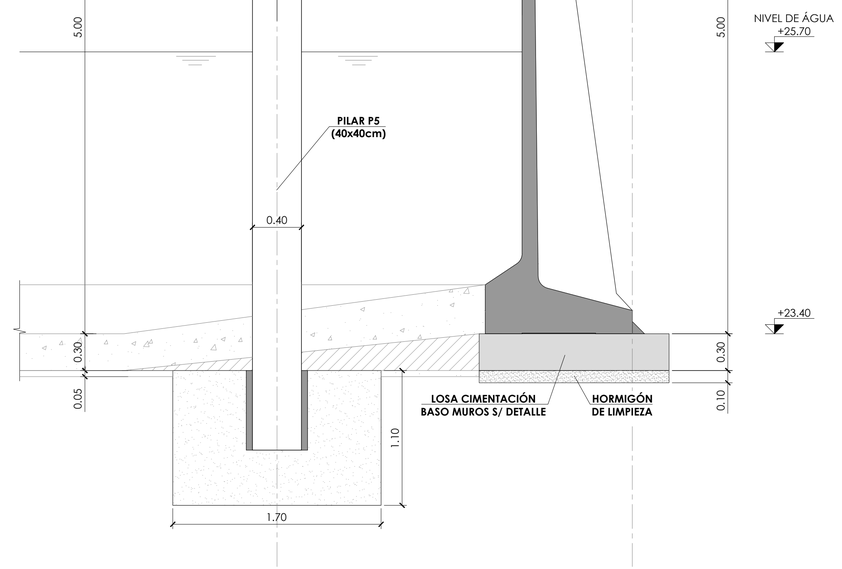
DETALLE A1. APOYO VIGAS (40x70) SOBRE PILAR (40x40) CON PLACA ALVEOLAR ALV25

ESCALA 1:25
COTAS EN METROS



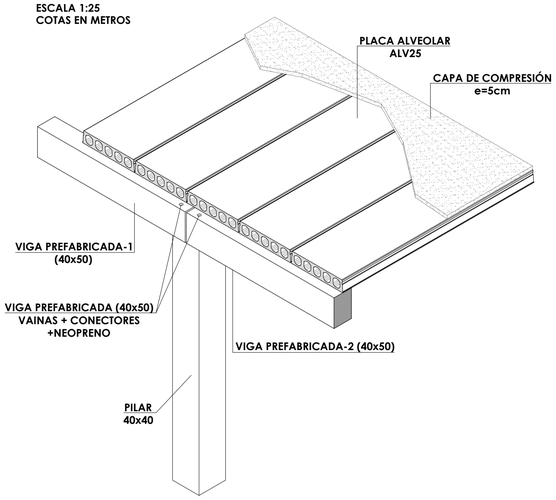
DETALLE A2 - VISTA B





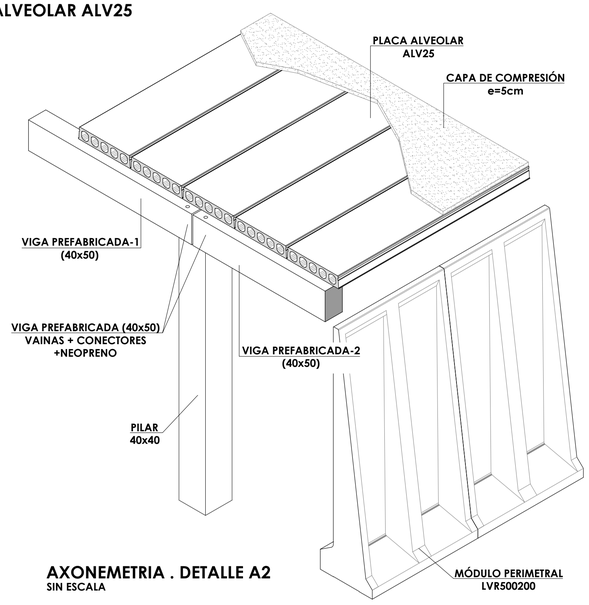
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ESCALA 1:25
COTAS EN METROS



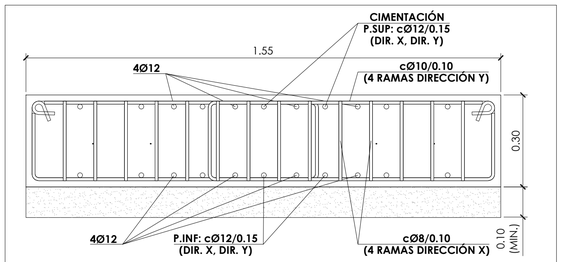
AXONEMETRIA . DETALLE A1

SIN ESCALA



AXONEMETRIA . DETALLE A2

SIN ESCALA



DETALLE LOSA CIMENTACIÓN BASE MUROS

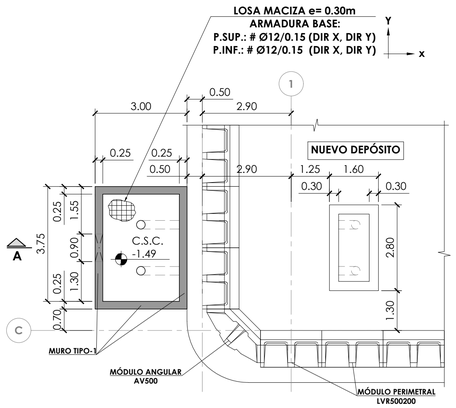
ESCALA 1:10
COTAS EN METROS

Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina

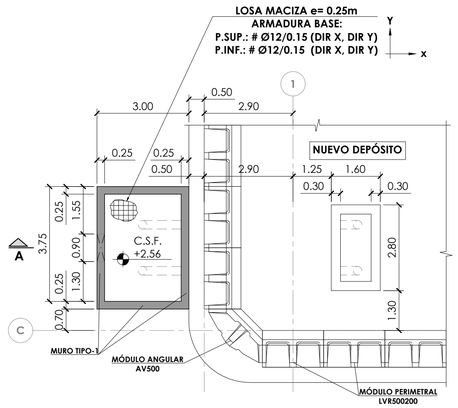
Título del Proyecto:
PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

Autor del Proyecto:
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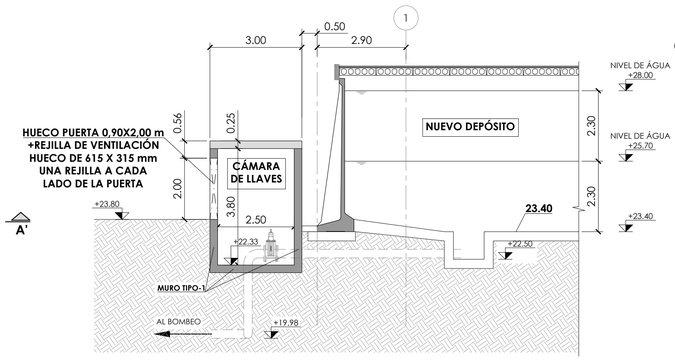
Título del Plano:	Situación:	Escala:	Cons:	Núm. Plano:
DETALLES	FORMENTERA	IND.	Fecha: 05.07.2023	7.6
				Núm. Hoja: 6 DE 6



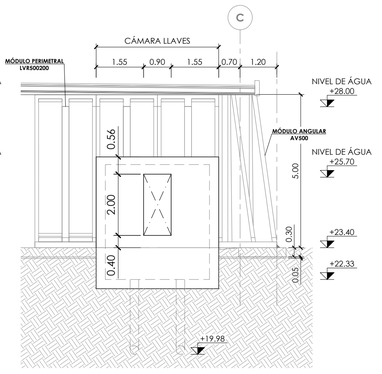
PLANTA CIMENTACIÓN. CÁMARA DE LLAVES
ESCALA 1:100
COTAS EN METROS



PLANTA CUBIERTA. CÁMARA DE LLAVES
ESCALA 1:100
COTAS EN METROS



SECCIÓN A-A'
ESCALA 1:100
COTAS EN METROS



ALZADO CÁMARA DE LLAVES
ESCALA 1:75
COTAS EN METROS

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

MATERIALES	CALIDAD	NIVEL DE CONTROL	COEFICIENTE PONDERACIÓN
HORMIGÓN DE LIMPIEZA Y NIVELACIÓN	HL-15	NO ESTRUCTURAL	
HORMIGÓN DE FORJADOS	HA-30/B/20/IIIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE MUROS	HA-30/B/20/IIIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE CIMENTACIÓN	HA-25/B/20/IIa	ESTADÍSTICO	Yc=1.50
COEFICIENTES PARCIALES DE SEGURIDAD APLICABLES PARA ESTADOS LÍMITES ÚLTIMOS			γ_G =1.35 γ_Q *=1.50 γ_P =1.50
NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08			

*ACERO CON LÍMITE ELÁSTICO MÍNIMO GARANTIZADO

NOTAS GENERALES:

1. TODOS LOS DATOS RELATIVOS A LA GEOMETRÍA DE ESTE PROYECTO (COTAS, HUECOS, PENDIENTES, E.T.C.) SE TOMARÁN DE LOS PLANOS DE ARQUITECTURA. LOS VALORES QUE FIGUREN EN LOS PLANOS DE ESTRUCTURA SE COMPROBARÁN CON LOS PLANOS DE REPLANTEO, QUEDANDO A JUICIO DEL DIRECTOR DE OBRA EL POSIBLE RECÁLCULO DE LAS ZONAS NO COINCIDENTES.

2. DOSIFICACIÓN DE LOS HORMIGONES:
- INDEPENDIENTEMENTE DE LA RESISTENCIA CARACTERÍSTICA DEL PROYECTO, EL HORMIGÓN DEBERÁ CUMPLIR CON LOS REQUISITOS DE LIMITACIÓN DEL CONTENIDO DE AGUA Y CEMENTO INDICADOS EN LAS TABLAS 37.3.2.a Y 37.3.2.b DE LA INSTRUCCIÓN EHE:

CLASE EXPOSICIÓN	MÁX. RELACIÓN AGUA/CEMENTO	MÍNIMO CONTENIDO CEMENTO (kg/m³)	TIPO DE CEMENTO
IIa	0.60	275	CEM I
IIIa	0.50	300	CEM III/A

3. TABLA DE LONGITUDES DE SOLAPO Y ANCLAJE.

	SOLAPO (Ls) (cm)		ANCLAJE (Lb) (cm)	
Ø	Ls_I	Ls_{II}	Lb_I	Lb_{II}
6	30	50	15	25
8	40	60	20	30
10	50	80	25	40
12	60	90	30	45
16	80	120	40	60
20	120	170	60	85
25	190	270	95	135
32	310	440	155	220

LOS SUBÍNDICES I Y II EN LAS LONGITUDES DE SOLAPO Y ANCLAJE DE LAS TABLAS SE REFIEREN A LA POSICIÓN DE LA BARRA, A ANCLAR O SOLAPAR, EN LA PIEZA RESPECTO A LA DIRECCIÓN DEL HORMIGONADO.

LA INSTRUCCIÓN EHE DEFINE:
a) POSICIÓN I, DE ADHERENCIA BUENA, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO FORMAN CON LA HORIZONTAL UN ÁNGULO COMPRENDIDO ENTRE 45°Y 90° O QUE EN EL CASO DE FORMAR UN ÁNGULO INFERIOR A 45°. ESTÁN SITUADAS EN LA MITAD INFERIOR DE LA SECCIÓN O A UNA DISTANCIA IGUAL O MAYOR A 30 cm DE LA CARA SUPERIOR DE UNA CAPA DE HORMIGONADO.
b) POSICIÓN II, DE ADHERENCIA DEFICIENTE. PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO NO SE ENCUENTRAN EN NINGUNO DE LOS CASOS ANTERIORES.

4. RECUBRIMIENTOS NOMINALES (r_{nom})

MUROS Y CIMENTACIÓN: r_{nom} = 5.0 cm.
FORJADOS: r_{nom} = 3.5 cm.

5. NO SE ADMITIRÁ LA REDUCCIÓN DE SOLAPOS POR EXCESO DE ARMADURA.

NOTAS CIMENTACIÓN SUPERFICIAL

1.- LOS PARÁMETROS GEOTÉCNICOS DE CÁLCULO ADOPTADOS PARA EL DIMENSIONAMIENTO DE LA CIMENTACIÓN, SE HAN ADOPTADO A PARTIR DEL INFORME GEOTÉCNICO, SIENDO:

CIMENTACIÓN SUPERFICIAL
TENSIÓN ADMISIBLE σ = 250 KN/m²

2.- EN EL CASO DE QUE EL TALUD REALIZADO NO SEA SUFICIENTE PARA ALCANZAR UNA ALTURA MÍNIMA DE 1,80M BAJO LA COTA ACTUAL DEL TERRENO, SE REALIZARÁ UN POZO DE CIMENTACIÓN HASTA ALCANZAR EL NIVEL DE CALIZA BLANCA.

CUADRO DE CARGAS PLANTA CUBIERTA
CAMARA DE LLAVES
LOSA MACIZA e = 25 cm

LOSA MACIZA		
CANTO DE LOSA (e)	=	25cm
PESO PROPIO (γ)	=	25.00 KN/m³
CARGA MUERTA	=	2.50 KN/m²
SOBRECARGA DE USO	=	1.00 KN/m²

NOTAS DE MUROS

1.- LOS PARAMENTOS GEOTECNICOS DE CALCULO ADOPTADOS PARA EL DIMENSIONAMIENTO DE LOS MUROS SON LOS SIGUIENTES :

RELLENO TRASDÓS DEL MURO:
DENSIDAD TIERRAS : 20 KN/m³
ANGULO DE ROZAMIENTO INTERNO TERRENO δ : 30°
COHESION DEL TERRENO C : 0 KN/m²

ESTOS VALORES DEBEN SER CONFIRMADOS CON LAS CARACTERISTICAS REALES DEL TERRENO, UNA VEZ EXCAVADO EL MISMO.

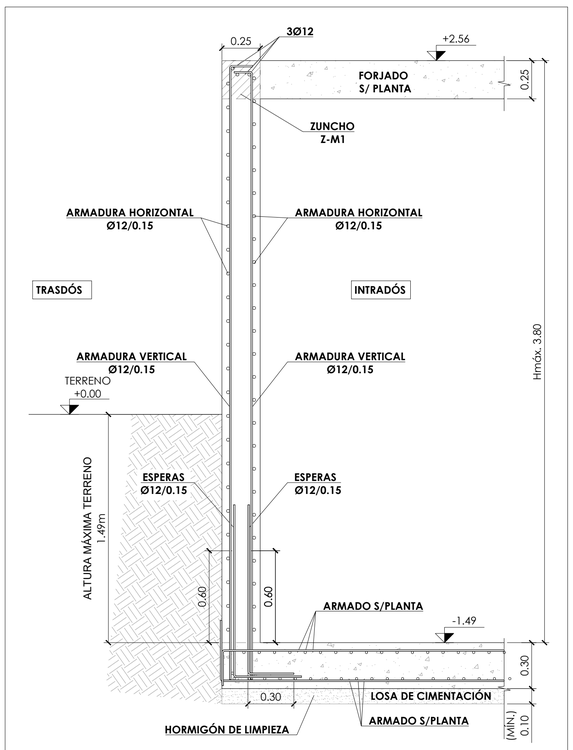
2.- EN EL CALCULO NO SE HA CONSIDERADO LA PRESENCIA DEL NIVEL FREATICO.

3.- SE RECOMIENDA COLOCAR UN BERENJENO VERTICAL EN AMBOS PARAMENTOS PARA CONTROLAR LA FISURACION DEL MURO. (CADA 5 m. APROXIMADAMENTE).

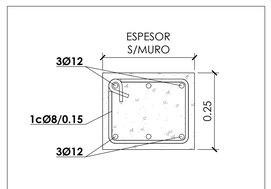
4.- NO SE RELLENARÁ DE TIERRAS EL TRASDOS DE MURO HASTA HABER EJECUTADO EL FORJADO DE CORONACIÓN CORRESPONDIENTE.

NOTA:

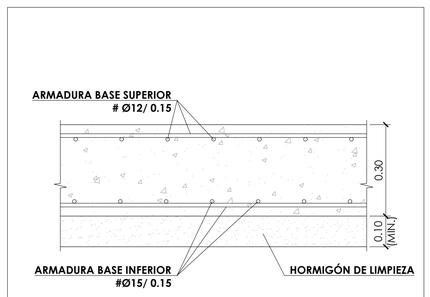
C.S.C. COTA SUPERIOR DE CIMENTACIÓN
C.S.F. COTA SUPERIOR DE FORJADO
MURO DE HORMIGÓN ARMADO



SECCIÓN MURO TIPO 1
ESCALA 1:20
COTAS EN METROS

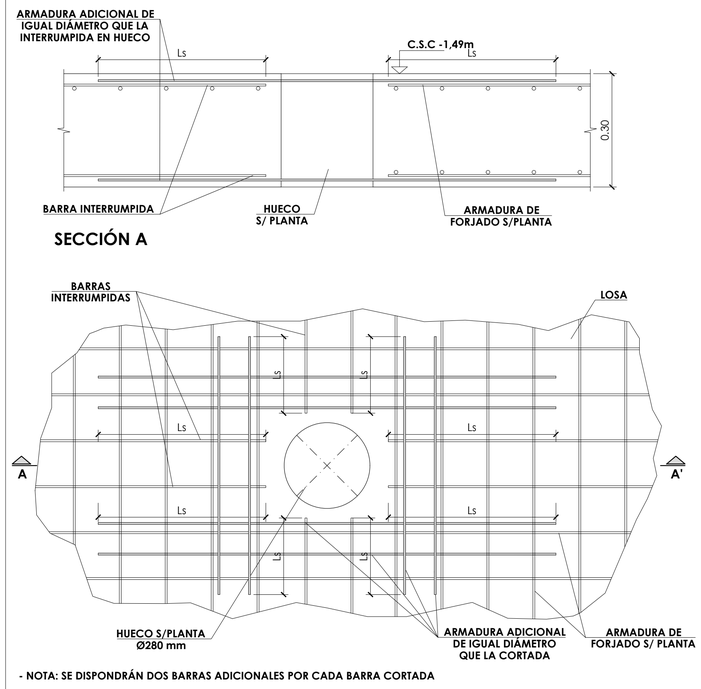


ZUNCHO Z-M1 (e murox25)
ESCALA 1:10
COTAS EN METROS



DETALLE GENERAL ARMADO
LOSA MACIZA DE CIMENTACIÓN
ESCALA 1:10
COTAS EN METROS

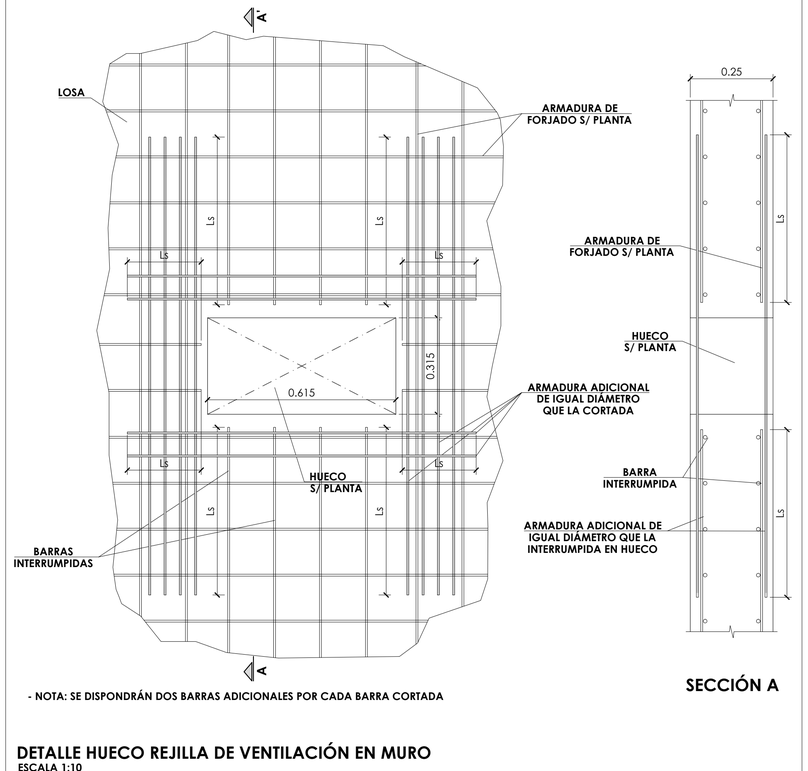
Promotor: GOVERN DE LES ILLES BALEARS Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA) Responsable del Contrato: Guillem Rosselló Alcina		Título del Proyecto: PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	
		Autor del Proyecto: Juan Carlos Arroyo Portero ICCP Jesús Jiménez Cañas ICCP	
Título del Plano: CÁMARA DE LLAVES	Situación: FORMENTERA	Escala: IND.	Num. Plano: 8.1
		Fecha: 05.07.2023	Num. Hoja: 1 DE 2



- NOTA: SE DISPONDRÁN DOS BARRAS ADICIONALES POR CADA BARRA CORTADA

DETALLE DISPOSICIÓN DE ARMADURA EN HUECOS EN ZONAS MACIZAS DE LOSA DE CIMENTACIÓN

ESCALA 1:10
COTAS EN METROS



- NOTA: SE DISPONDRÁN DOS BARRAS ADICIONALES POR CADA BARRA CORTADA

DETALLE HUECO REJILLA DE VENTILACIÓN EN MURO

ESCALA 1:10
COTAS EN METROS

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

MATERIALES	CALIDAD	NIVEL DE CONTROL	COEFICIENTE PONDERACIÓN
HORMIGÓN DE LIMPIEZA Y NIVELACIÓN	HL-15	NO ESTRUCTURAL	
HORMIGÓN DE FORJADOS	HA-30/B/20/IIIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE MUROS	HA-30/B/20/IIIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE CIMENTACIÓN	HA-25/B/20/IIa	ESTADÍSTICO	Yc=1.50
COEFICIENTES PARCIALES DE SEGURIDAD APLICABLES PARA ESTADOS LÍMITES ÚLTIMOS			γ_G =1.35 γ_Q =1.50 γ_θ =1.50
NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08			

*ACERO CON LÍMITE ELÁSTICO MÍNIMO GARANTIZADO

NOTAS GENERALES:

1. TODOS LOS DATOS RELATIVOS A LA GEOMETRÍA DE ESTE PROYECTO (COTAS, HUECOS, PENDIENTES, E.T.C.) SE TOMARÁN DE LOS PLANOS DE ARQUITECTURA. LOS VALORES QUE FIGUREN EN LOS PLANOS DE ESTRUCTURA SE COMPROBARÁN CON LOS PLANOS DE REPLANTEO, QUEDANDO A JUICIO DEL DIRECTOR DE OBRA EL POSIBLE RECÁLCULO DE LAS ZONAS NO COINCIDENTES.

2. DOSIFICACIÓN DE LOS HORMIGONES:
- INDEPENDIENTEMENTE DE LA RESISTENCIA CARACTERÍSTICA DEL PROYECTO, EL HORMIGÓN DEBERÁ CUMPLIR CON LOS REQUISITOS DE LIMITACIÓN DEL CONTENIDO DE AGUA Y CEMENTO INDICADOS EN LAS TABLAS 37.3.2.a Y 37.3.2.b DE LA INSTRUCCIÓN EHE:

CLASE EXPOSICIÓN	MÁX. RELACIÓN AGUA/CEMENTO	MÍNIMO CONTENIDO CEMENTO (kg/m³)	TIPO DE CEMENTO
IIa	0.60	275	CEM I
IIIa	0.50	300	CEM III/A

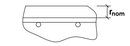
3. TABLA DE LONGITUDES DE SOLAPO Y ANCLAJE.

	SOLAPO (Ls) (cm)		ANCLAJE (Lb) (cm)	
Ø	Ls_I	Ls_{II}	Lb_I	Lb_{II}
6	30	50	15	25
8	40	60	20	30
10	50	80	25	40
12	60	90	30	45
16	80	120	40	60
20	120	170	60	85
25	190	270	95	135
32	310	440	155	220

LOS SUBÍNDICES I Y II EN LAS LONGITUDES DE SOLAPO Y ANCLAJE DE LAS TABLAS SE REFIEREN A LA POSICIÓN DE LA BARRA, A ANCLAR O SOLAPAR, EN LA PIEZA RESPECTO A LA DIRECCIÓN DEL HORMIGONADO.

LA INSTRUCCIÓN EHE DEFINE:
a) POSICIÓN I, DE ADHERENCIA BUENA, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO FORMAN CON LA HORIZONTAL UN ÁNGULO COMPRENDIDO ENTRE 45°Y 90° O QUE EN EL CASO DE FORMAR UN ÁNGULO INFERIOR A 45°. ESTÁN SITUADAS EN LA MITAD INFERIOR DE LA SECCIÓN O A UNA DISTANCIA IGUAL O MAYOR A 30 cm DE LA CARA SUPERIOR DE UNA CAPA DE HORMIGONADO.
b) POSICIÓN II, DE ADHERENCIA DEFICIENTE. PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO NO SE ENCUENTRAN EN NINGUNO DE LOS CASOS ANTERIORES.

4. RECUBRIMIENTOS NOMINALES (r_{nom})



MUROS Y CIMENTACIÓN: r_{nom} = 5.0 cm.
FORJADOS: r_{nom} = 3.5 cm.

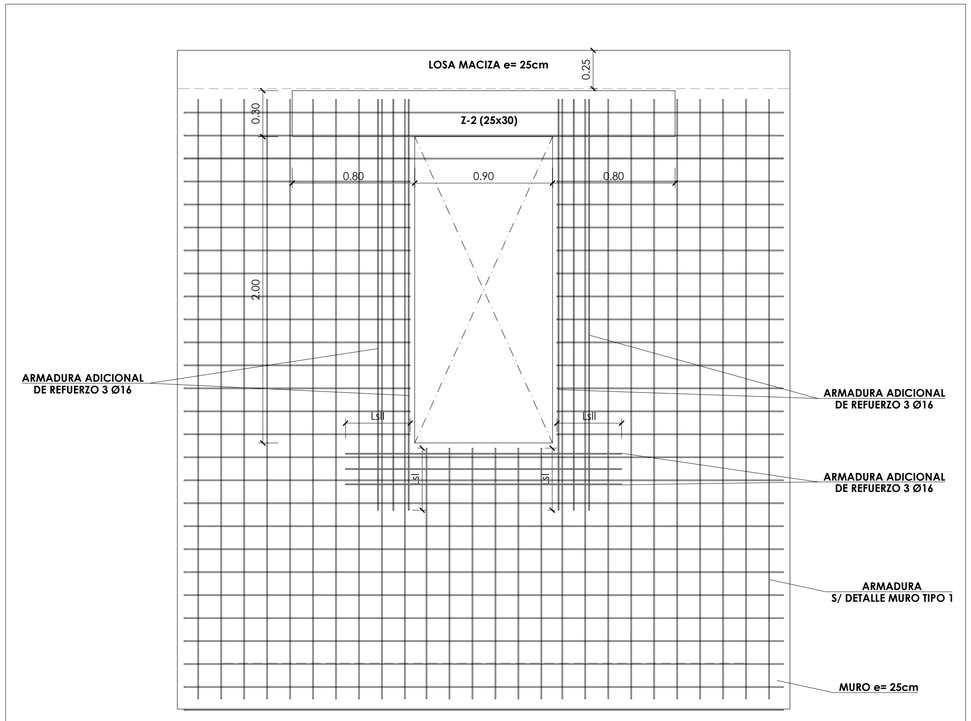
5. NO SE ADMITIRÁ LA REDUCCIÓN DE SOLAPOS POR EXCESO DE ARMADURA.

NOTAS CIMENTACIÓN SUPERFICIAL

1.- LOS PARÁMETROS GEOTÉCNICOS DE CÁLCULO ADOPTADOS PARA EL DIMENSIONAMIENTO DE LA CIMENTACIÓN, SE HAN ADOPTADO A PARTIR DEL INFORME GEOTÉCNICO, SIENDO:

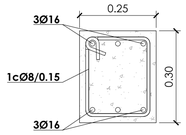
CIMENTACIÓN SUPERFICIAL
TENSIÓN ADMISIBLE σ = 250 KN/m²

2.- EN EL CASO DE QUE EL TALUD REALIZADO NO SEA SUFICIENTE PARA ALCANZAR UNA ALTURA MÍNIMA DE 1,80M BAJO LA COTA ACTUAL DEL TERRENO, SE REALIZARÁ UN POZO DE CIMENTACIÓN HASTA ALCANZAR EL NIVEL DE CALIZA BLANCA.



DETALLE HUECO PUERTA

ESCALA 1:20
COTAS EN METROS



ZUNCHO Z-2 (25x30)

ESCALA 1:10
COTAS EN METROS

CUADRO DE CARGAS PLANTA CUBIERTA CAMARA DE LLAVES LOSA MACIZA e = 25 cm

LOSA MACIZA		
CANTO DE LOSA (e)	=	25cm
PESO PROPIO (γ)	=	25.00 KN/m³
CARGA MUERTA	=	2.50 KN/m²
SOBRECARGA DE USO	=	1.00 KN/m²

NOTAS DE MUROS

1.- LOS PARAMENTOS GEOTECNICOS DE CALCULO ADOPTADOS PARA EL DIMENSIONAMIENTO DE LOS MUROS SON LOS SIGUIENTES :

RELLENO TRASDÓS DEL MURO:
DENSIDAD TIERRAS : 20 KN/m³
ANGULO DE ROZAMIENTO INTERNO TERRENO δ : 30°
COHESION DEL TERRENO C : 0 KN/m²

ESTOS VALORES DEBEN SER CONFIRMADOS CON LAS CARACTERISTICAS REALES DEL TERRENO, UNA VEZ EXCAVADO EL MISMO.

2.- EN EL CALCULO NO SE HA CONSIDERADO LA PRESENCIA DEL NIVEL FREATICO.

3.- SE RECOMIENDA COLOCAR UN BERENJENO VERTICAL EN AMBOS PARAMENTOS PARA CONTROLAR LA FISURACION DEL MURO. (CADA 5 m. APROXIMADAMENTE).

4.- NO SE RELLENARÁ DE TIERRAS EL TRASDOS DE MURO HASTA HABER EJECUTADO EL FORJADO DE CORONACIÓN CORRESPONDIENTE.

NOTA:

C.S.C. COTA SUPERIOR DE CIMENTACIÓN
C.S.F. COTA SUPERIOR DE FORJADO
MURO DE HORMIGÓN ARMADO

Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina

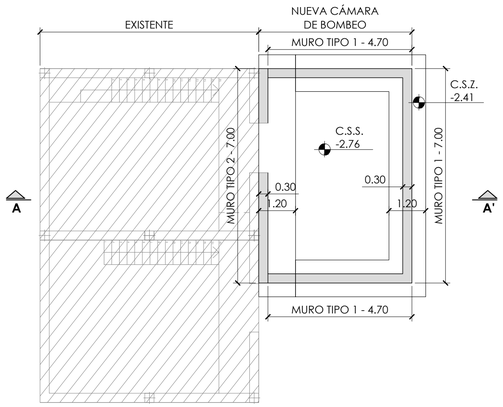
G CONSELLERIA
O MEDI AMBIENT
B I TERRITORI
A I ENERGIA I AIGUA
Q I AIGUA I QUALITAT AMBIENTAL

Título del Proyecto:
PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

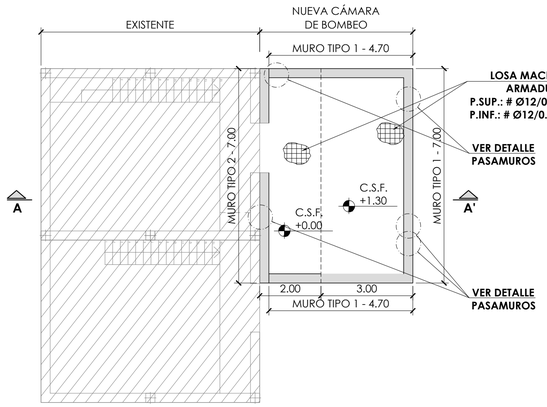
Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

calter

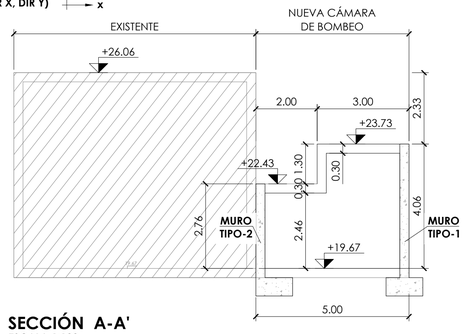
Título del Plano: CÁMARA DE LLAVES. DETALLES
Situación: FORMENTERA
Escala: IND.
Fecha: 05.07.2023
Núm. Plano: 8.2
Núm. Hoja: 2 DE 2



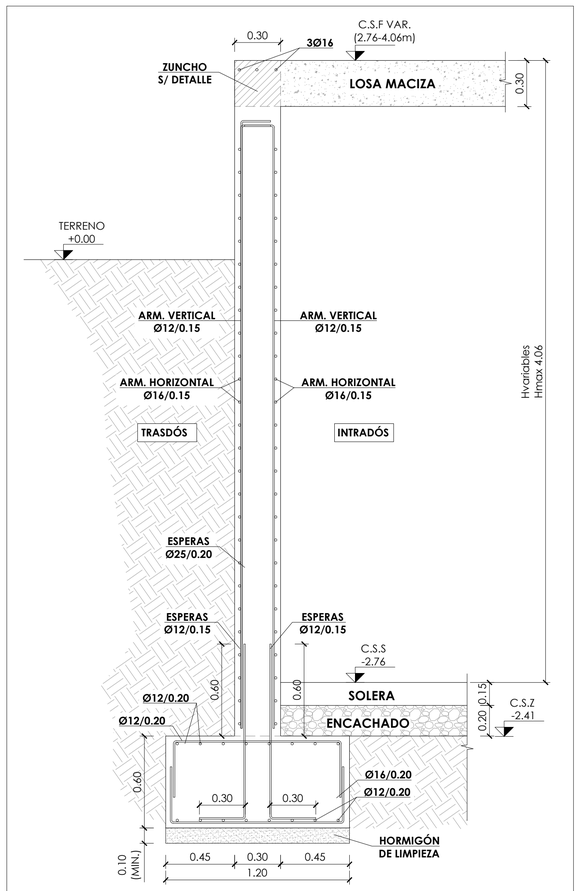
PLANTA CIMENTACIÓN. CÁMARA DE BOMBEO
ESCALA 1:100
COTAS EN METROS



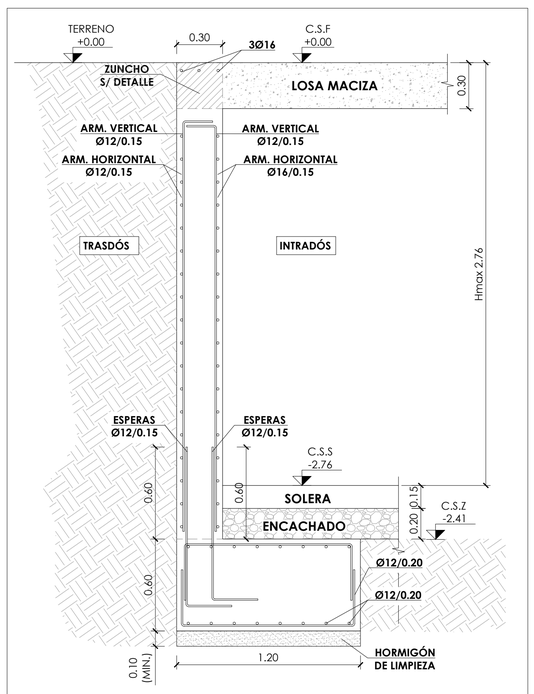
PLANTA CUBIERTA. CÁMARA DE BOMBEO
ESCALA 1:100
COTAS EN METROS



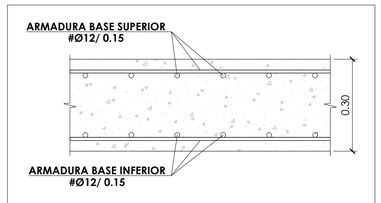
SECCIÓN A-A'
ESCALA 1:100
COTAS EN METROS



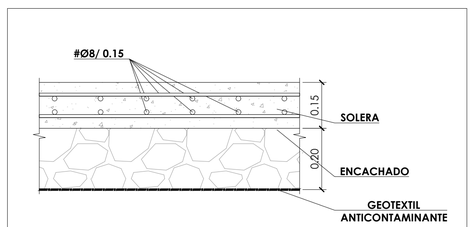
SECCIÓN MURO TIPO 1
ESCALA 1:20
COTAS EN METROS



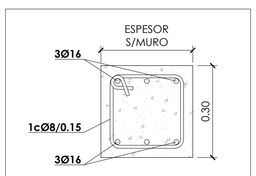
SECCIÓN MURO TIPO 2
ESCALA 1:20
COTAS EN METROS



DETALLE GENERAL ARMADO DE LOSA MACIZA DE CUBIERTA (H= 0.30m)
ESCALA 1:10
COTAS EN METROS



DETALLE SOLERA
ESCALA 1:10
COTAS EN METROS



ZUNCHO Z-M1 (e murox30)
ESCALA 1:10
COTAS EN METROS

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

MATERIALES	CALIDAD	NIVEL DE CONTROL	COEFICIENTE PONDERACIÓN
HORMIGÓN DE LIMPIEZA Y NIVELACIÓN	HL-15	NO ESTRUCTURAL	
HORMIGÓN DE FORJADOS	HA-30/B/20/IIIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE MUROS	HA-30/B/20/IIIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE CIMENTACIÓN	HA-25/B/20/IIa	ESTADÍSTICO	Yc=1.50
COEFICIENTES PARCIALES DE SEGURIDAD APLICABLES PARA ESTADOS LÍMITES ÚLTIMOS			γ_G =1.35 γ_Q *=1.50 γ_P =1.50
NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08			

*ACERO CON LÍMITE ELÁSTICO MÍNIMO GARANTIZADO

NOTAS GENERALES:

1. TODOS LOS DATOS RELATIVOS A LA GEOMETRÍA DE ESTE PROYECTO (COTAS, HUECOS, PENDIENTES, E.T.C.) SE TOMARÁN DE LOS PLANOS DE ARQUITECTURA. LOS VALORES QUE FIGUREN EN LOS PLANOS DE ESTRUCTURA SE COMPROBARÁN CON LOS PLANOS DE REPLANTEO, QUEDANDO A JUICIO DEL DIRECTOR DE OBRA EL POSIBLE RECÁLCULO DE LAS ZONAS NO COINCIDENTES.

2. DOSIFICACIÓN DE LOS HORMIGONES:
- INDEPENDIENTEMENTE DE LA RESISTENCIA CARACTERÍSTICA DEL PROYECTO, EL HORMIGÓN DEBERÁ CUMPLIR CON LOS REQUISITOS DE LIMITACIÓN DEL CONTENIDO DE AGUA Y CEMENTO INDICADOS EN LAS TABLAS 37.3.2.a Y 37.3.2.b DE LA INSTRUCCIÓN EHE:

CLASE EXPOSICIÓN	MÁX. RELACIÓN AGUA/CEMENTO	MÍNIMO CONTENIDO CEMENTO (kg/m³)	TIPO DE CEMENTO
IIa	0.60	275	CEM I
IIIa	0.50	300	CEM III/A

3. TABLA DE LONGITUDES DE SOLAPO Y ANCLAJE.

	SOLAPO (Ls) (cm)		ANCLAJE (Lb) (cm)	
Ø	Ls_I	Ls_{II}	Lb_I	Lb_{II}
6	30	50	15	25
8	40	60	20	30
10	50	80	25	40
12	60	90	30	45
16	80	120	40	60
20	120	170	60	85
25	190	270	95	135
32	310	440	155	220

LOS SUBÍNDICES I Y II EN LAS LONGITUDES DE SOLAPO Y ANCLAJE DE LAS TABLAS SE REFIEREN A LA POSICIÓN DE LA BARRA, A ANCLAR O SOLAPAR, EN LA PIEZA RESPECTO A LA DIRECCIÓN DEL HORMIGONADO.

LA INSTRUCCIÓN EHE DEFINE:
a) POSICIÓN I, DE ADHERENCIA BUENA, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO FORMAN CON LA HORIZONTAL UN ÁNGULO COMPRENDIDO ENTRE 45°Y 90° O QUE EN EL CASO DE FORMAR UN ÁNGULO INFERIOR A 45°. ESTÁN SITUADAS EN LA MITAD INFERIOR DE LA SECCIÓN O A UNA DISTANCIA IGUAL O MAYOR A 30 cm DE LA CARA SUPERIOR DE UNA CAPA DE HORMIGONADO.
b) POSICIÓN II, DE ADHERENCIA DEFICIENTE. PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO NO SE ENCUENTRAN EN NINGUNO DE LOS CASOS ANTERIORES.

4. RECUBRIMIENTOS NOMINALES (r_{nom})



MUROS Y CIMENTACIÓN: r_{nom} = 5.0 cm.
FORJADOS: r_{nom} = 3.5 cm.

5. NO SE ADMITIRÁ LA REDUCCIÓN DE SOLAPOS POR EXCESO DE ARMADURA.

CUADRO DE CARGAS PLANTA CUBIERTA
CASETA BOMBAS
LOSA MACIZA e = 30 cm

LOSA MACIZA		
CANTO DE LOSA (e)	=	30cm
PESO PROPIO (γ)	=	25.00 KN/m³
CARGA MUERTA	=	2.50 KN/m²
SOBRECARGA DE USO	=	1.00 KN/m²

NOTAS DE MUROS

1.- LOS PARAMENTOS GEOTECNICOS DE CALCULO ADOPTADOS PARA EL DIMENSIONAMIENTO DE LOS MUROS SON LOS SIGUIENTES :

RELLENO TRASDÓS DEL MURO:

DENSIDAD TIERRAS	:	20 KN/m³
ANGULO DE ROZAMIENTO INTERNO TERRENO δ	:	30°
COHESION DEL TERRENO C	:	0 KN/m²

ESTOS VALORES DEBEN SER CONFIRMADOS CON LAS CARACTERISTICAS REALES DEL TERRENO, UNA VEZ EXCAVADO EL MISMO.

2.- EN EL CALCULO NO SE HA CONSIDERADO LA PRESENCIA DEL NIVEL FREATICO.

3.- SE RECOMIENDA COLOCAR UN BERENJENO VERTICAL EN AMBOS PARAMENTOS PARA CONTROLAR LA FISURACION DEL MURO. (CADA 5 m. APROXIMADAMENTE).

4.- NO SE RELLENARÁ DE TIERRAS EL TRASDOS DE MURO HASTA HABER EJECUTADO EL FORJADO DE CORONACIÓN CORRESPONDIENTE.

NOTA:

C.S.S. COTA SUPERIOR DE SOLERA
C.S.Z. COTA SUPERIOR DE ZAPATA
MURO DE HORMIGÓN ARMADO

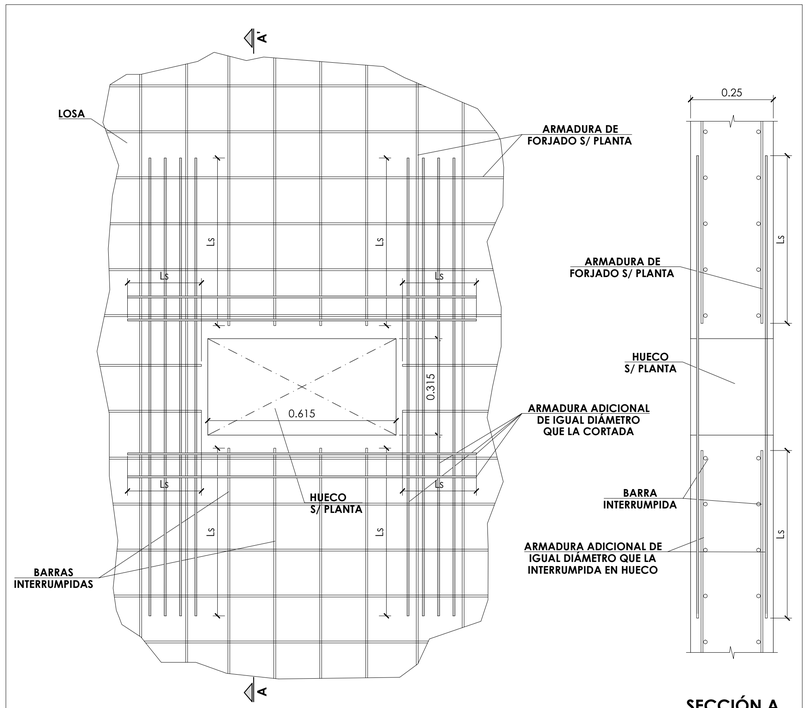
Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina

Título del Proyecto:
PROYECTO EJECUCIÓN DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

calter

Título del Plano: CÁMARA DE BOMBEO, PLANTAS Y DETALLES I
Situación: FORMENTERA
Escala: IND.
Fecha: 05.07.2023
Num. Plano: 9.1
Num. Hoja: 1 DE 2

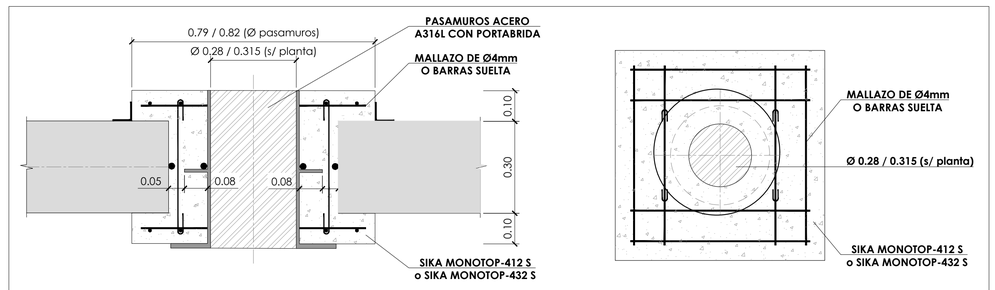


- NOTA: SE DISPONDRÁN DOS BARRAS ADICIONALES POR CADA BARRA CORTADA

SECCIÓN A

DETALLE HUECO REJILLA DE VENTILACIÓN EN MURO

ESCALA 1:10
COTAS EN METROS



DETALLE PASAMUROS

ESCALA 1:10
COTAS EN METROS

CUADRO DE CARACTERÍSTICAS SEGÚN EHE-08 / CTE

MATERIALES	CALIDAD	NIVEL DE CONTROL	COEFICIENTE PONDERACIÓN
HORMIGÓN DE LIMPIEZA Y NIVELACIÓN	HL-15	NO ESTRUCTURAL	
HORMIGÓN DE FORJADOS	HA-30/B/20/IIIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE MUROS	HA-30/B/20/IIIa	ESTADÍSTICO	Yc=1.50
HORMIGÓN DE CIMENTACIÓN	HA-25/B/20/IIa	ESTADÍSTICO	Yc=1.50
COEFICIENTES PARCIALES DE SEGURIDAD APLICABLES PARA ESTADOS LÍMITES ÚLTIMOS			γ_G =1.35 γ_Q *=1.50 γ_Q =1.50
NIVEL DE CONTROL DE EJECUCIÓN SEGÚN EL ARTICULO 92 DE LA INSTRUCCIÓN EHE-08			

*ACERO CON LÍMITE ELÁSTICO MÍNIMO GARANTIZADO

NOTAS GENERALES:

1. TODOS LOS DATOS RELATIVOS A LA GEOMETRÍA DE ESTE PROYECTO (COTAS, HUECOS, PENDIENTES, E.T.C.) SE TOMARÁN DE LOS PLANOS DE ARQUITECTURA. LOS VALORES QUE FIGUREN EN LOS PLANOS DE ESTRUCTURA SE COMPROBARÁN CON LOS PLANOS DE REPLANTEO, QUEDANDO A JUICIO DEL DIRECTOR DE OBRA EL POSIBLE RECÁLCULO DE LAS ZONAS NO COINCIDENTES.

2. DOSIFICACIÓN DE LOS HORMIGONES:
- INDEPENDIENTEMENTE DE LA RESISTENCIA CARACTERÍSTICA DEL PROYECTO, EL HORMIGÓN DEBERÁ CUMPLIR CON LOS REQUISITOS DE LIMITACIÓN DEL CONTENIDO DE AGUA Y CEMENTO INDICADOS EN LAS TABLAS 37.3.2.a Y 37.3.2.b DE LA INSTRUCCIÓN EHE:

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b) POSICIÓN II, DE ADHERENCIA DEFICIENTE, PARA LAS ARMADURAS QUE DURANTE EL HORMIGONADO NO SE ENCUENTRAN EN NINGUNO DE LOS CASOS ANTERIORES.

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CUADRO DE CARGAS PLANTA CUBIERTA
CASETA BOMBAS
LOSA MACIZA e = 30 cm

LOSA MACIZA		
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SOBRECARGA DE USO	=	1.00 KN/m²

NOTAS DE MUROS

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ANGULO DE ROZAMIENTO INTERNO TERRENO δ : 30°
COHESION DEL TERRENO C : 0 KN/m²

ESTOS VALORES DEBEN SER CONFIRMADOS CON LAS CARACTERISTICAS REALES DEL TERRENO, UNA VEZ EXCAVADO EL MISMO.

2.- EN EL CALCULO NO SE HA CONSIDERADO LA PRESENCIA DEL NIVEL FREATICO.

3.- SE RECOMIENDA COLOCAR UN BERENJENO VERTICAL EN AMBOS PARAMENTOS PARA CONTROLAR LA FISURACION DEL MURO. (CADA 5 m. APROXIMADAMENTE).

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NOTA:

C.S.S. COTA SUPERIOR DE SOLERA
C.S.Z. COTA SUPERIOR DE ZAPATA
MURO DE HORMIGÓN ARMADO

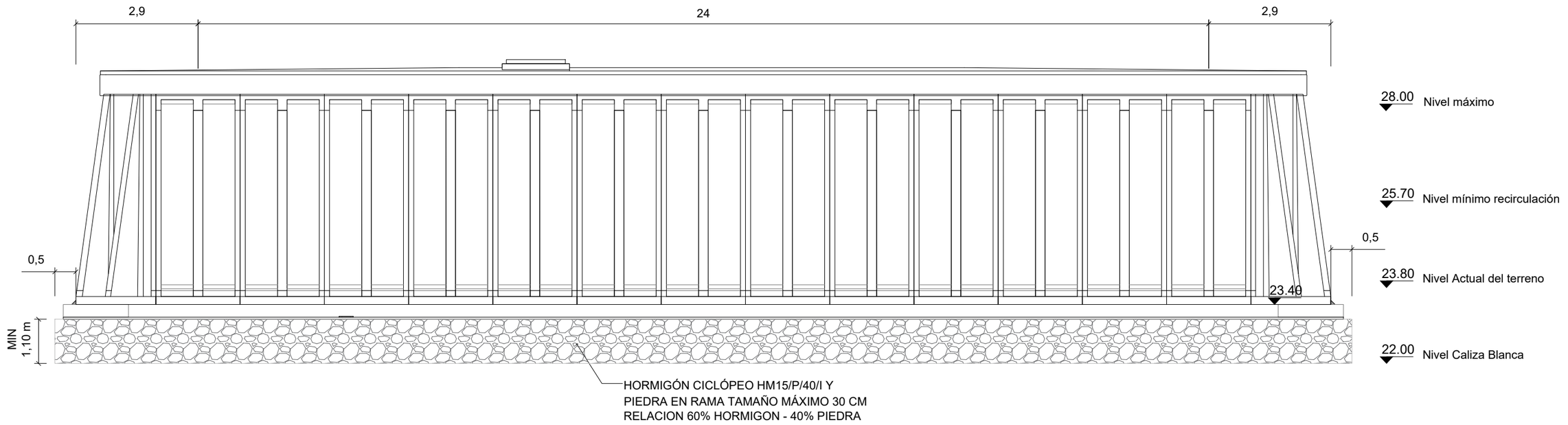
Promotor:
GOVERN DE LES ILLES BALEARS
Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)
Responsable del Contrato: Guillem Rosselló Alcina

Título del Proyecto:
PROYECTO EJECUCIÓN DEPOSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA

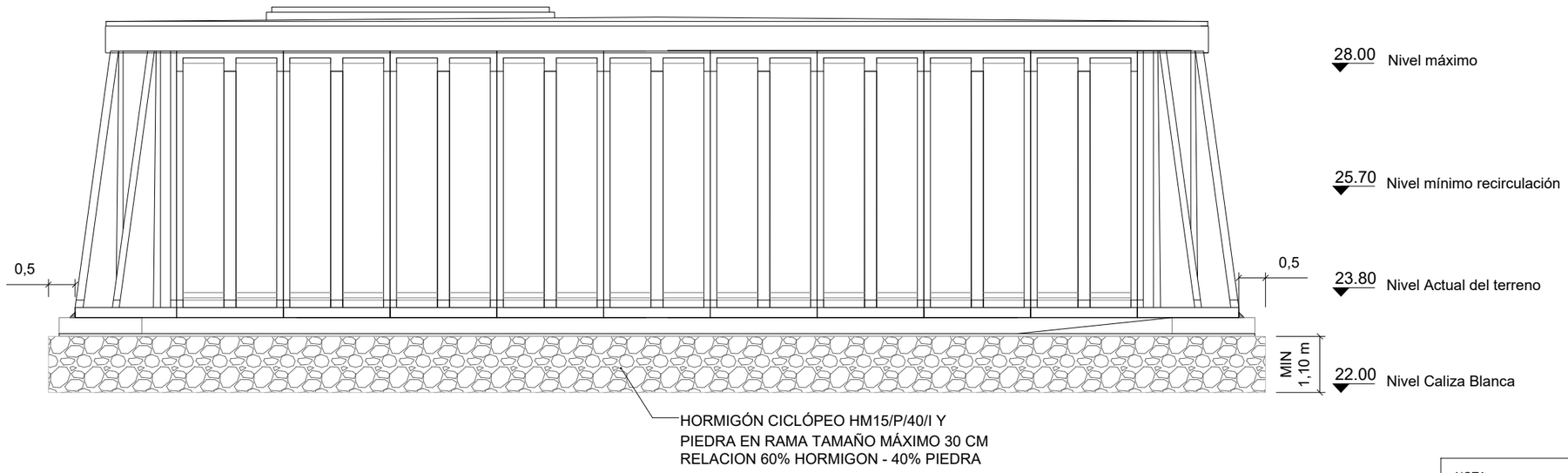
Autor del Proyecto:
Juan Carlos Arroyo Portero ICCP
Jesús Jiménez Cañas ICCP

Título del Plano: CÁMARA DE BOMBEO, PLANTAS Y DETALLES II
Situación: FORMENTERA
Escala: IND.
Clave:
Fecha: 05.07.2023
Núm. Plano: 9.2
Núm. Hoja: 2 DE 2

ALZADO OESTE. MEJORA DEL TERRENO CON HORMIGÓN CICLÓPEO E: 1/100



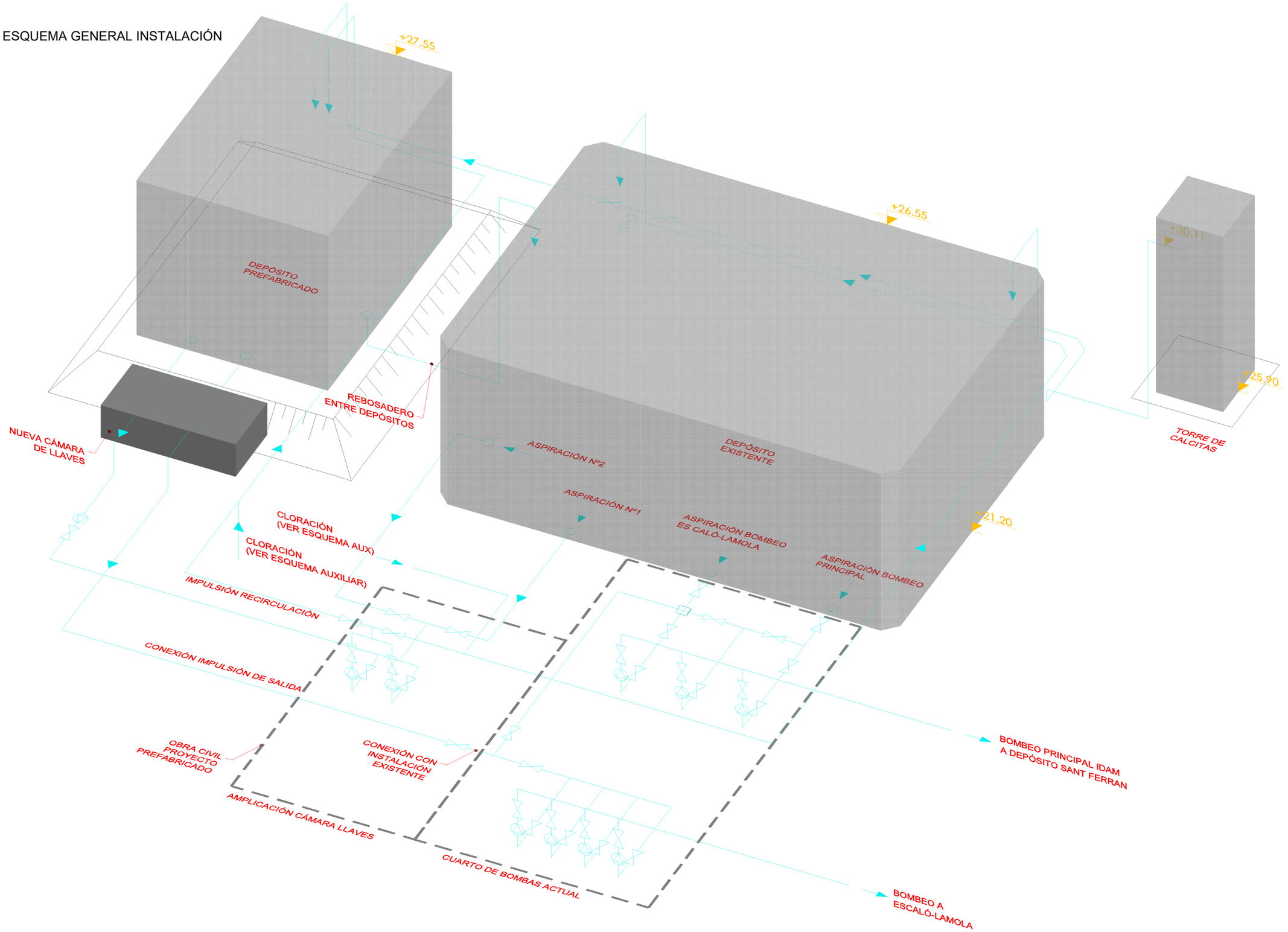
ALZADO SUR. MEJORA DEL TERRENO CON HORMIGÓN CICLÓPEO. E: 1/100



NOTA:
LOS ESPESORES MÍNIMOS RECOGIDOS EN EL PRESENTE PLANO SON APROXIMADOS SEGÚN EL INFORME GEOTÉCNICO PREVIO REALIZADO PARA EL PRESENTE PROYECTO.
DURANTE LA CAMPAÑA DE RECONOCIMIENTO GEOTÉCNICO A REALIZAR PREVIO AL INICIO DE LAS OBRAS SE DETERMINARÁ BAJO LA APROBACIÓN DEL DIRECTOR DE OBRA EL ESPESOR REAL A EJECUTAR COMO MEJORA DEL TERRENO EXISTENTE

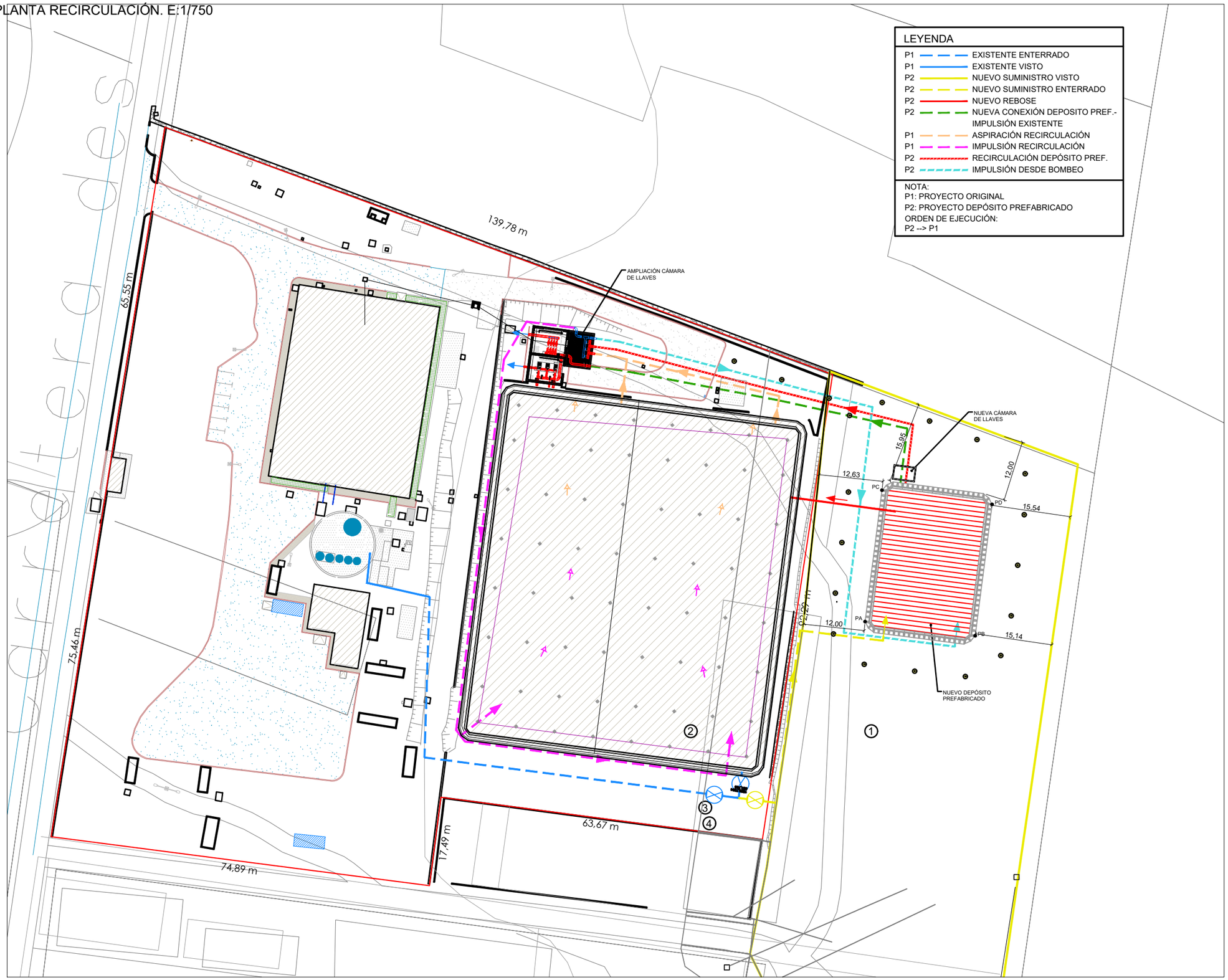
Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP, Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: MEJORA DEL TERRENO HORMIGÓN CICLÓPEO	Escala: 1/100 1/20	Clave: / Fecha: 05.07.2023	Núm. Plano: 10 / Núm. Hoja: 1 de 1

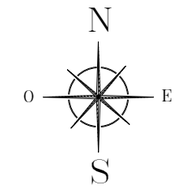
ESQUEMA GENERAL INSTALACIÓN



GOIB CONSELLERIA MEDI AMBIENT, I TERRITORI / AGÈNCIA BALEAR AIGUA I QUALITAT AMBIENTAL	Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	calter ingeniería de estructuras	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: ESQUEMA GENERAL	Escala: S/E	Clave: / Fecha: 05.07.2023	Núm. Plano: 11 / Núm. Hoja: 1 de 1

PLANTA RECIRCULACIÓN. E:1/750

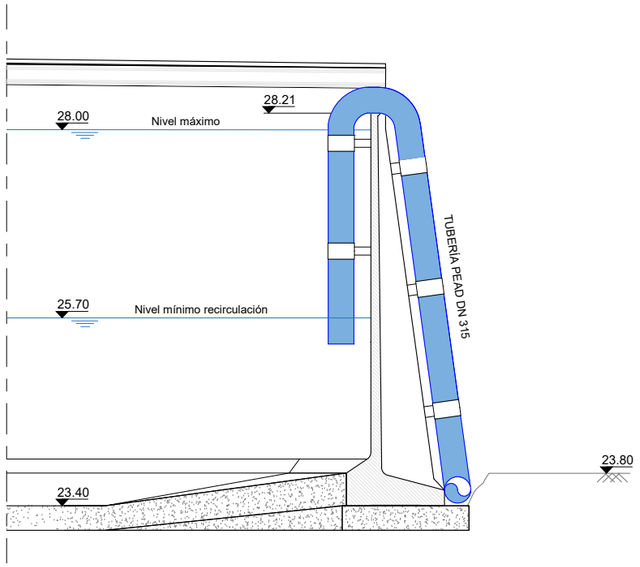




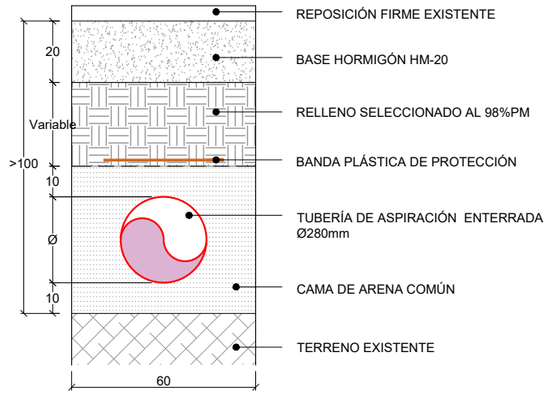
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Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: RECIRCULACIÓN - PLANTA GENERAL Y DISTRIBUCIÓN DE TUBERÍAS	Escala: 1/750	Clave:	Núm. Plano: 12
							Fecha: 05.07.2023	Núm. Hoja: 1 de 1

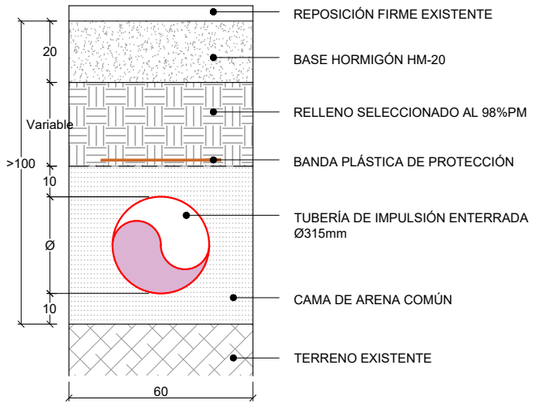
ACCESO TUBERÍA DE IMPULSIÓN AL DEPÓSITO PREFABRICADO. E= 1/75



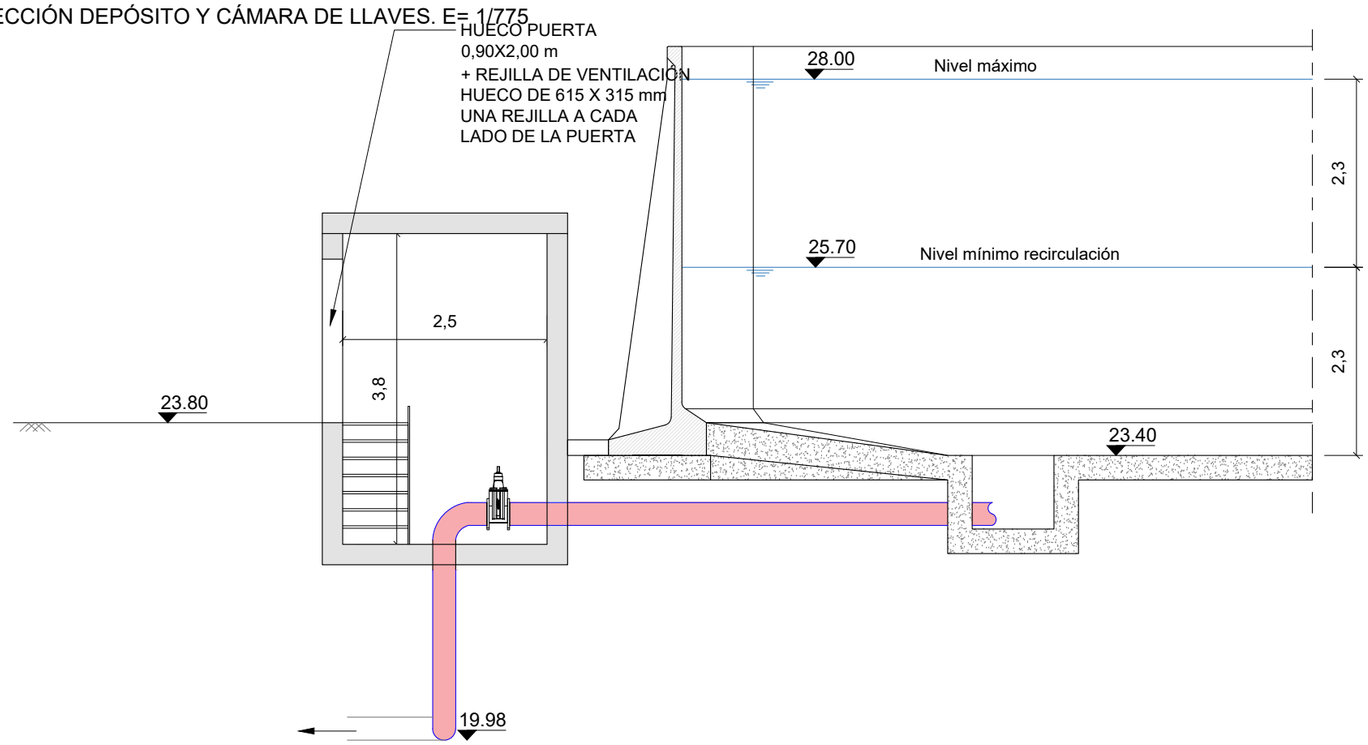
ZANJA TUBERÍA DE ASPIRACIÓN. E= 1/20



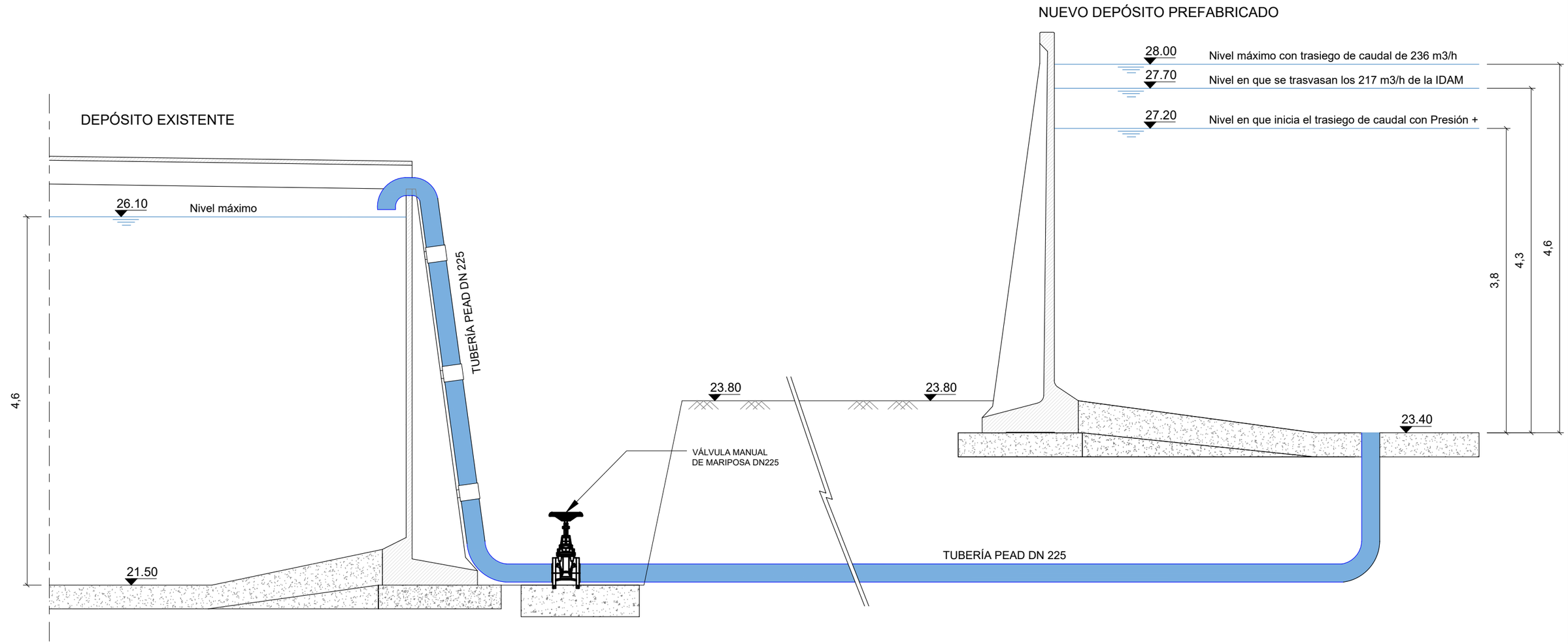
ZANJA TUBERÍA DE IMPULSIÓN. E= 1/20



ASPIRACIÓN - SECCIÓN DEPÓSITO Y CÁMARA DE LLAVES. E= 1/775

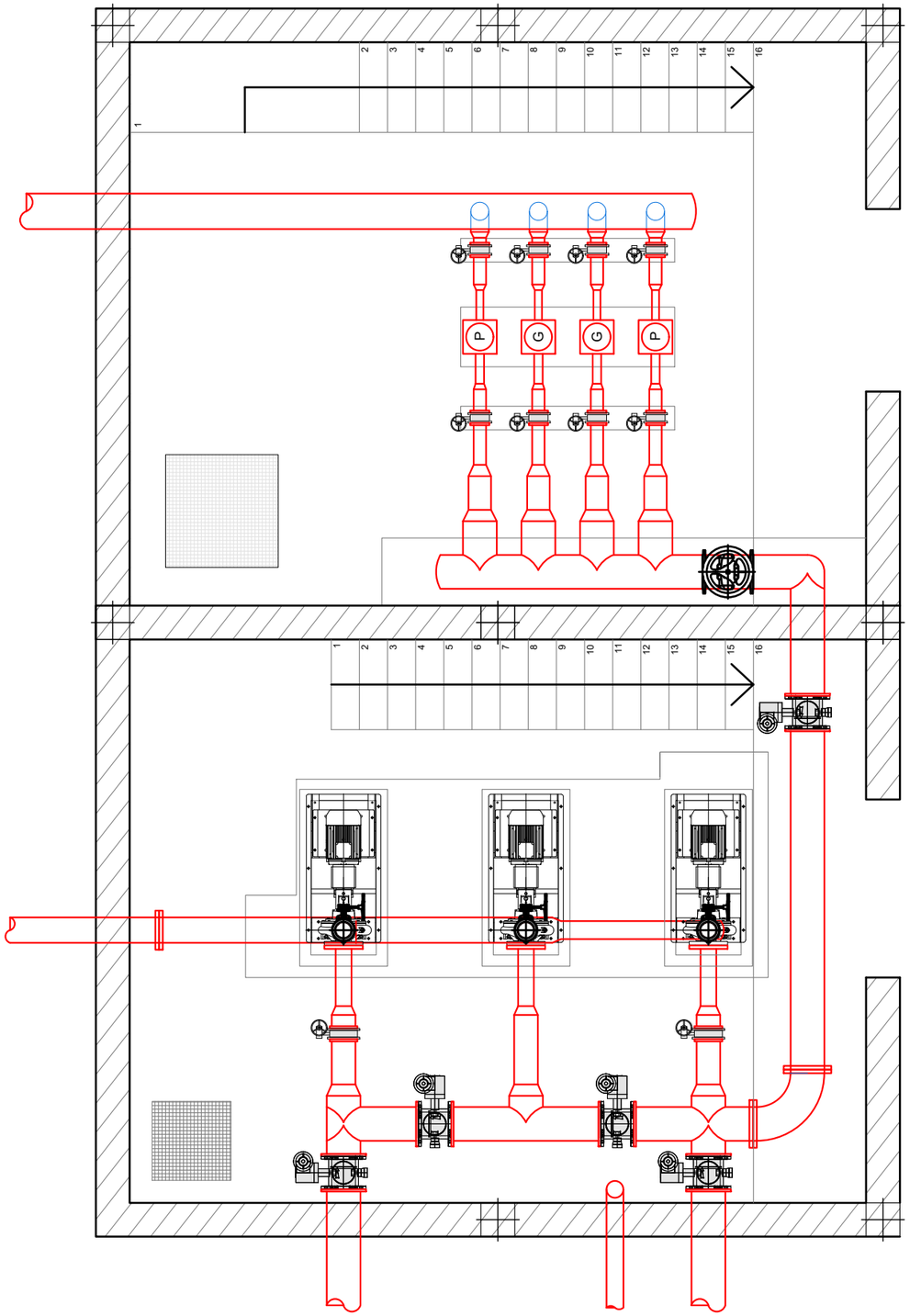


Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: RECIRCULACIÓN - ALZADOS Y DETALLES	Escala: 1/75	Clave:	Núm. Plano: 13
							Fecha: 05.07.2023	Núm. Hoja: 1 de 1



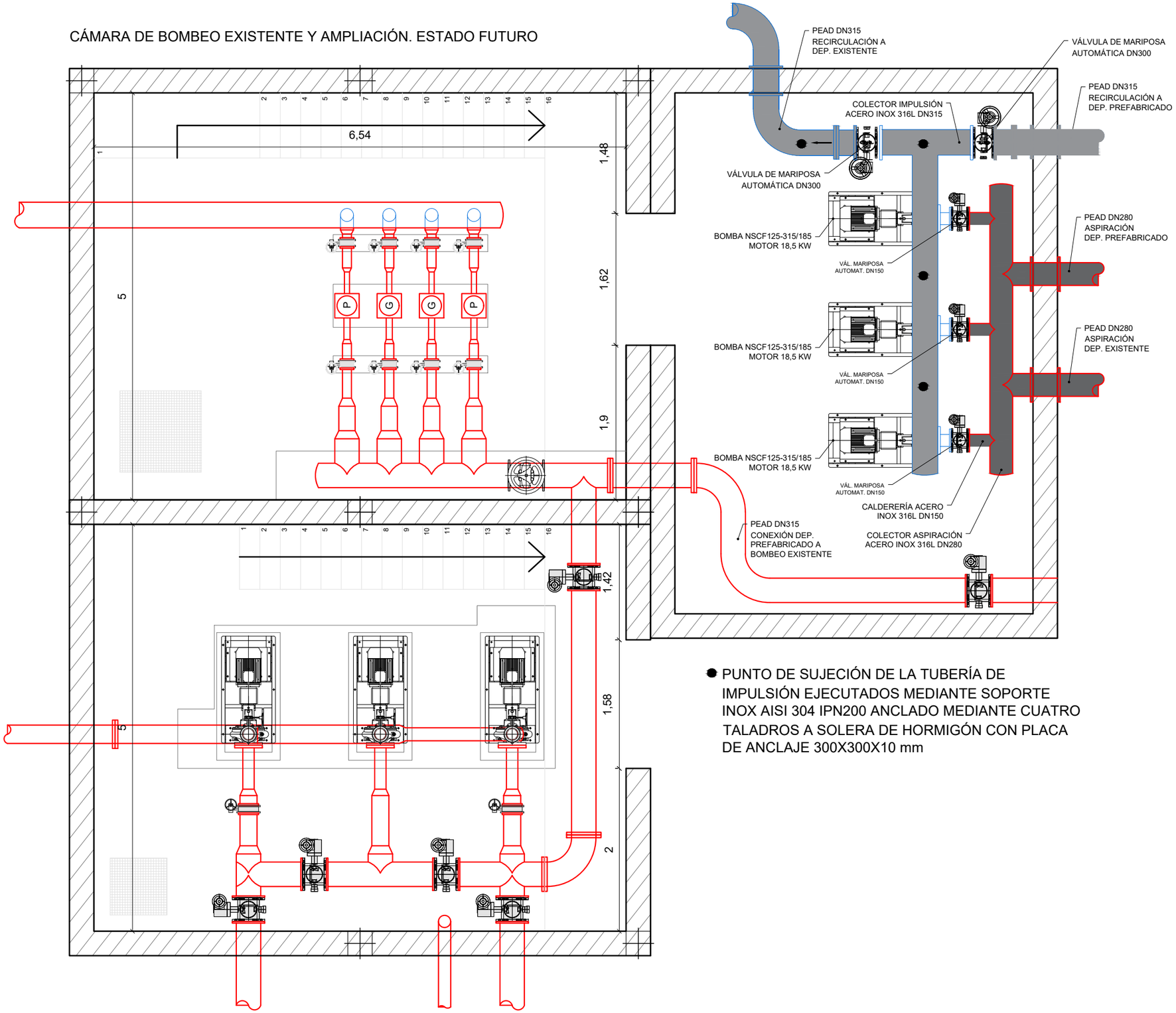
Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: TRASVASE ENTRE DEPÓSITOS	Escala: VARIAS	Clave:	Núm. Plano: 14
							Fecha: 05.07.2023	Núm. Hoja: 1 de 1

CÁMARA DE BOMBEO EXISTENTE. ESTADO ACTUAL



Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: CÁMARA DE BOMBEO ESTADO ACTUAL	Escala: 1/50	Clave: Fecha: 05.07.2023	Núm. Plano: 15 Núm. Hoja: 1 de 3

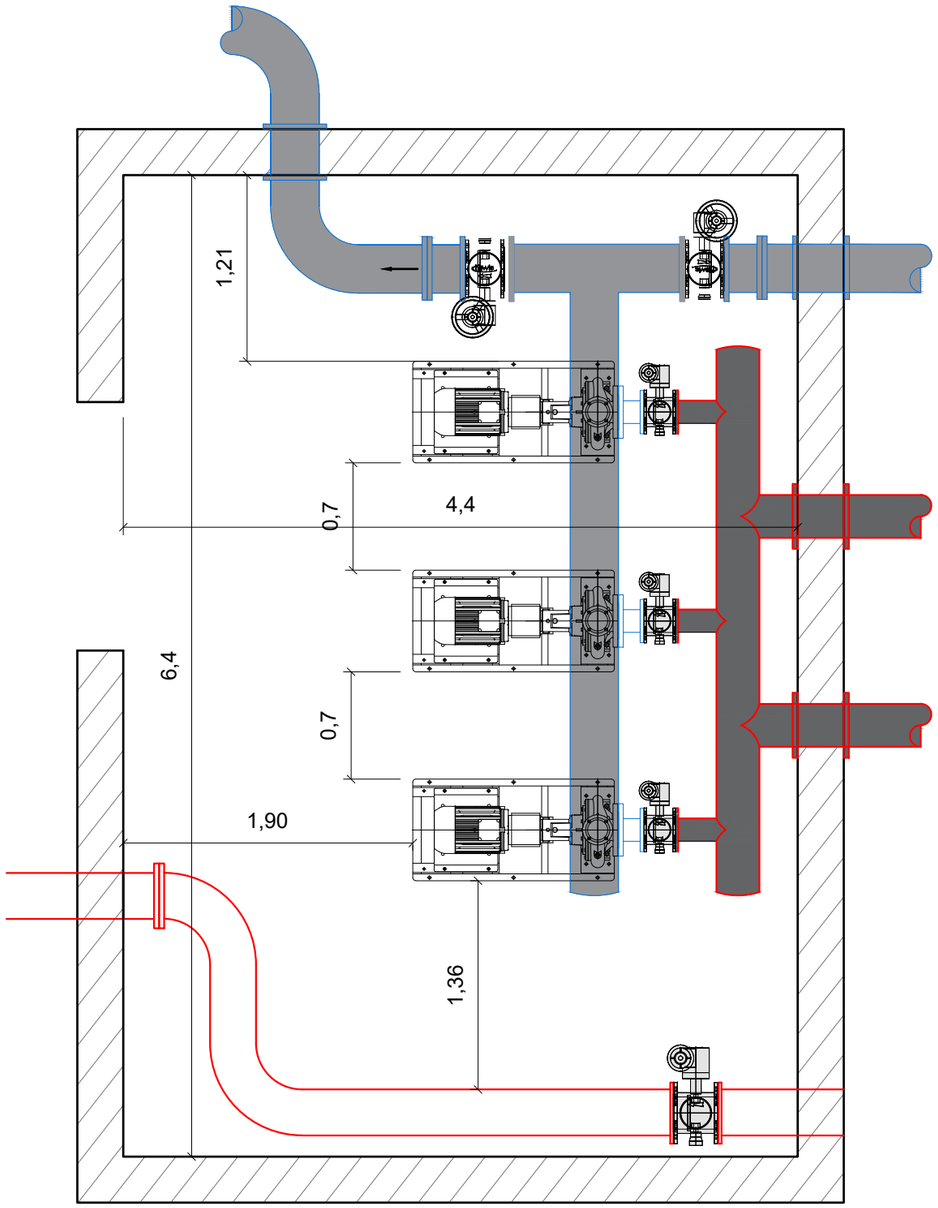
CÁMARA DE BOMBEO EXISTENTE Y AMPLIACIÓN. ESTADO FUTURO



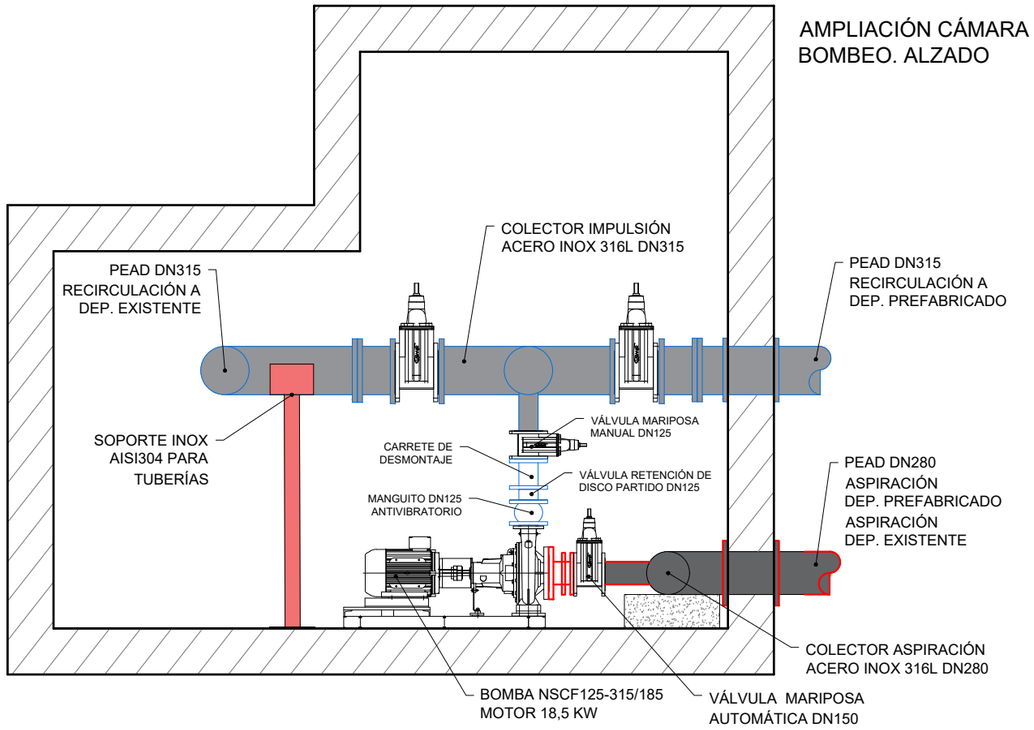
- PUNTO DE SUJECIÓN DE LA TUBERÍA DE IMPULSIÓN EJECUTADOS MEDIANTE SOPORTE INOX AISI 304 IPN200 ANCLADO MEDIANTE CUATRO TALADROS A SOLERA DE HORMIGÓN CON PLACA DE ANCLAJE 300X300X10 mm

Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP, Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: CÁMARA DE BOMBEO ESTADO FUTURO	Escala: 1/50	Clave:	Núm. Plano: 15
							Fecha: 05.07.2023	Núm. Hoja: 2 de 3

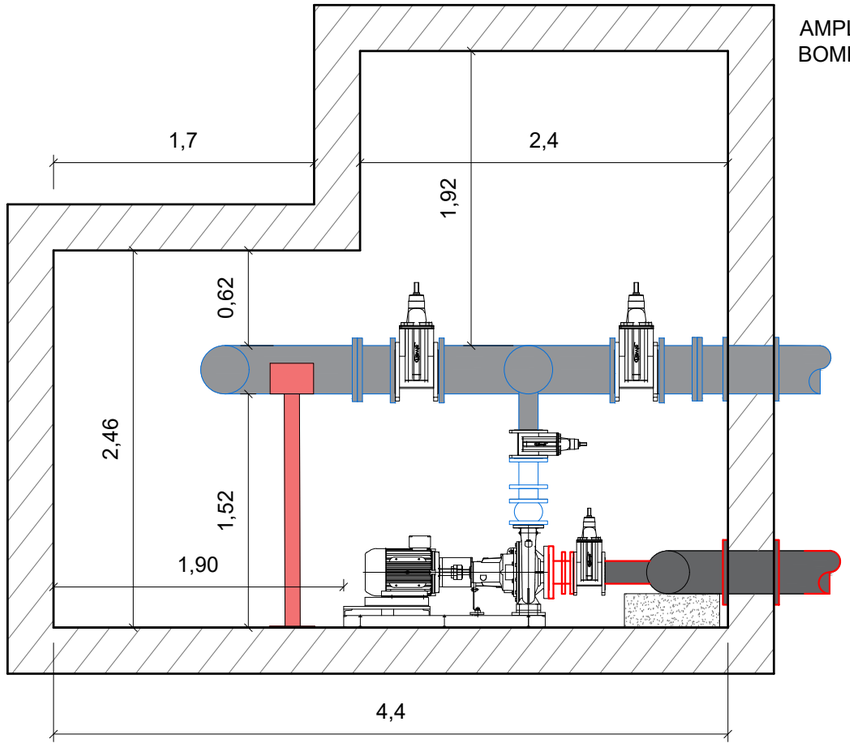
AMPLIACIÓN CÁMARA DE BOMBEO. ACOTACIÓN



AMPLIACIÓN CÁMARA DE BOMBEO. ALZADO

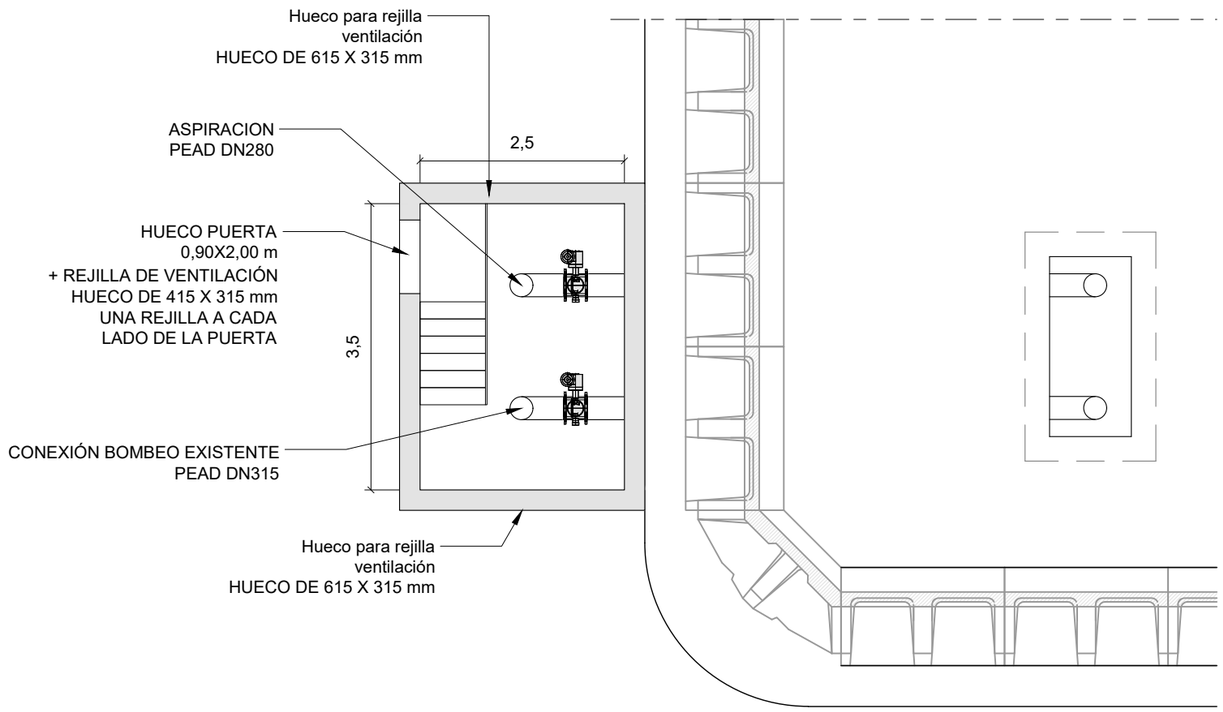


AMPLIACIÓN CÁMARA DE BOMBEO. ALZADO ACOTADO

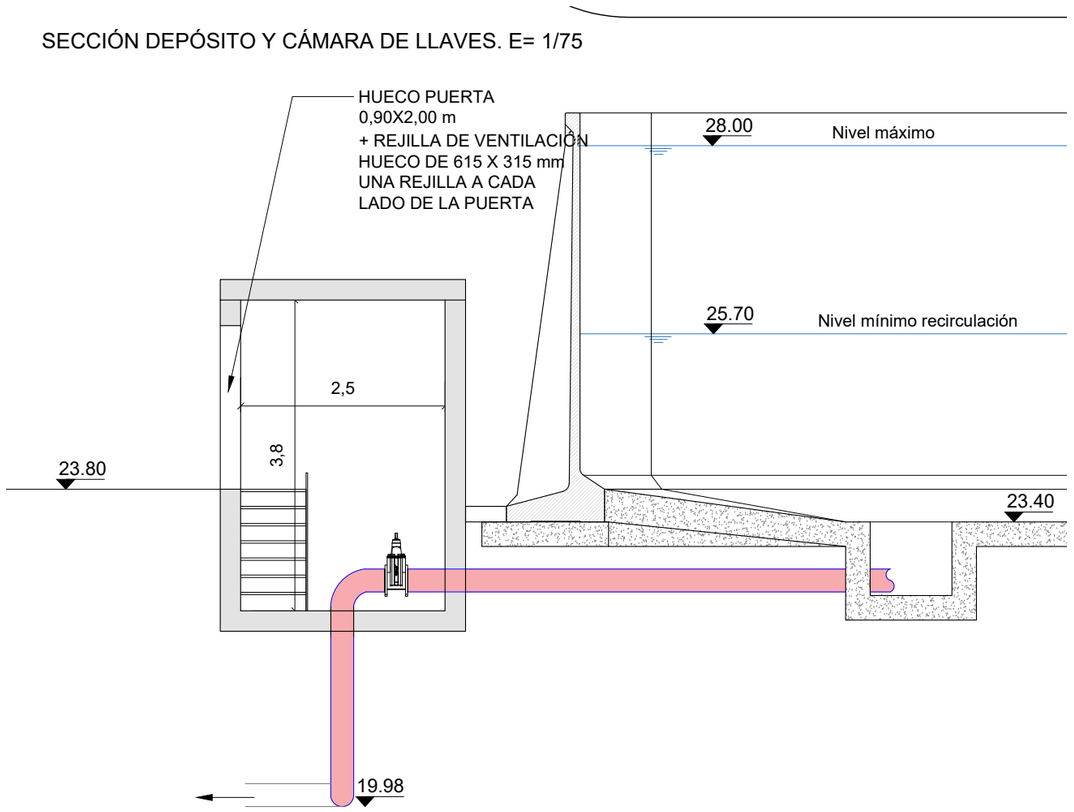


CONSELLERIA MEDI AMBIENT I TERRITORI AGÈNCIA BALEAR AIGUA I QUALITAT AMBIENTAL	Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	calter ingeniería de estructuras	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: CÁMARA DE BOMBEO ESTADO FUTURO. ACOTACIÓN Y ALZADOS	Escala: 1/50	Clave:	Núm. Plano: 15
									Fecha: 05.07.2023	Núm. Hoja: 3 de 3

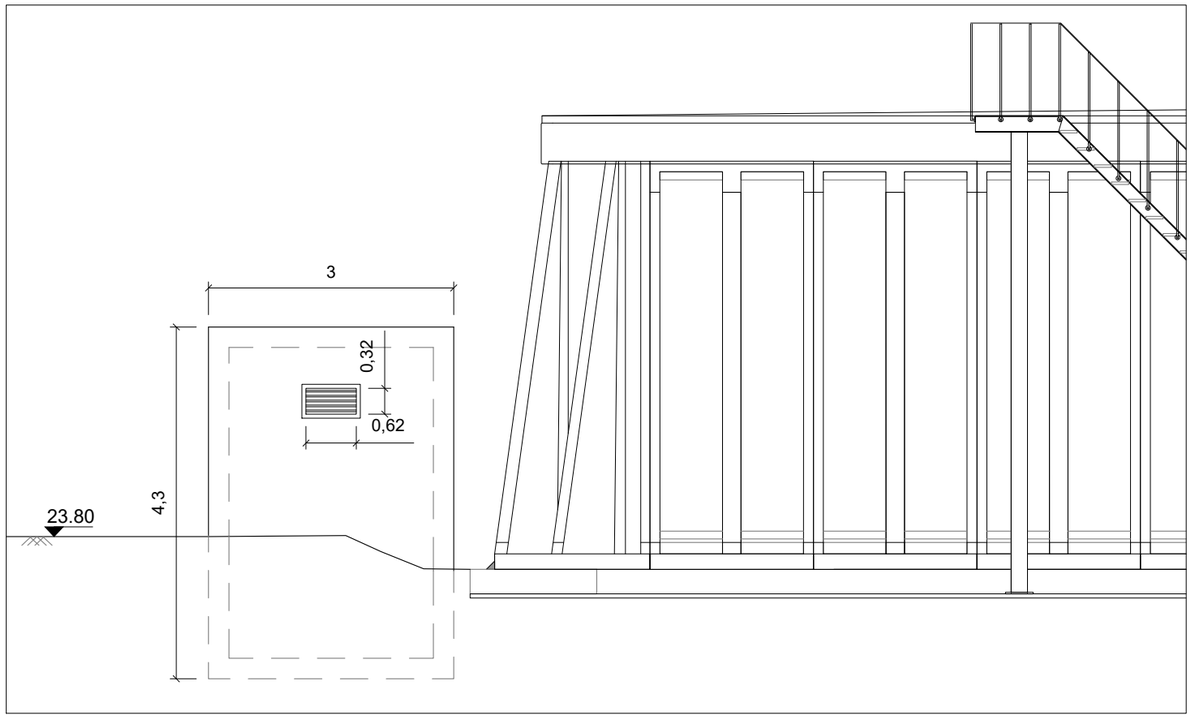
PLANTA DEPÓSITO Y CÁMARA DE LLAVES. E= 1/75



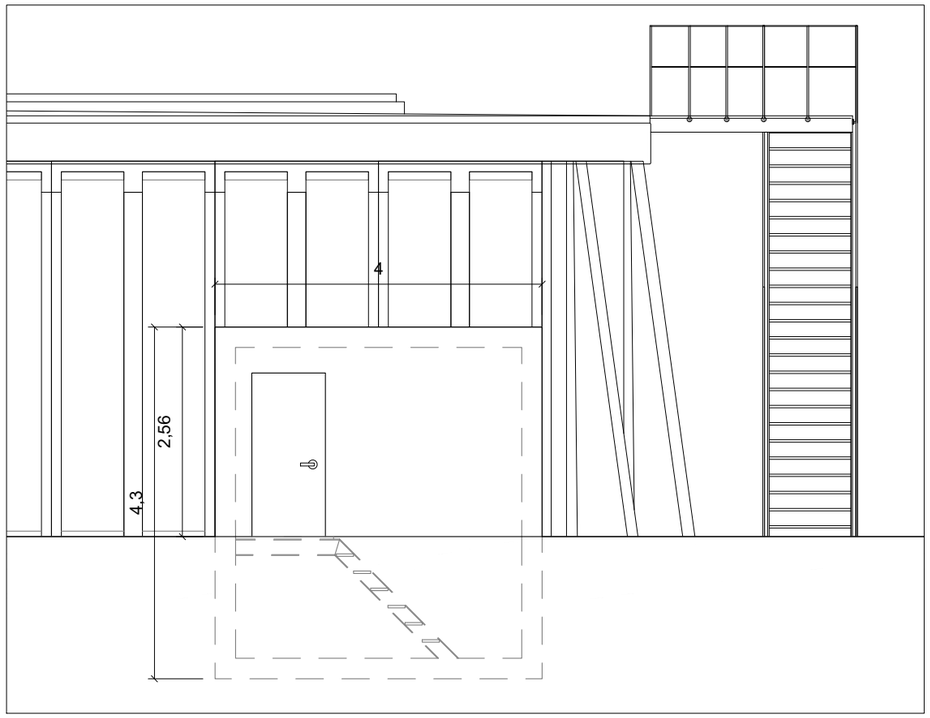
SECCIÓN DEPÓSITO Y CÁMARA DE LLAVES. E= 1/75



ALZADO LATERAL CÁMARA DE LLAVES. E= 1/75

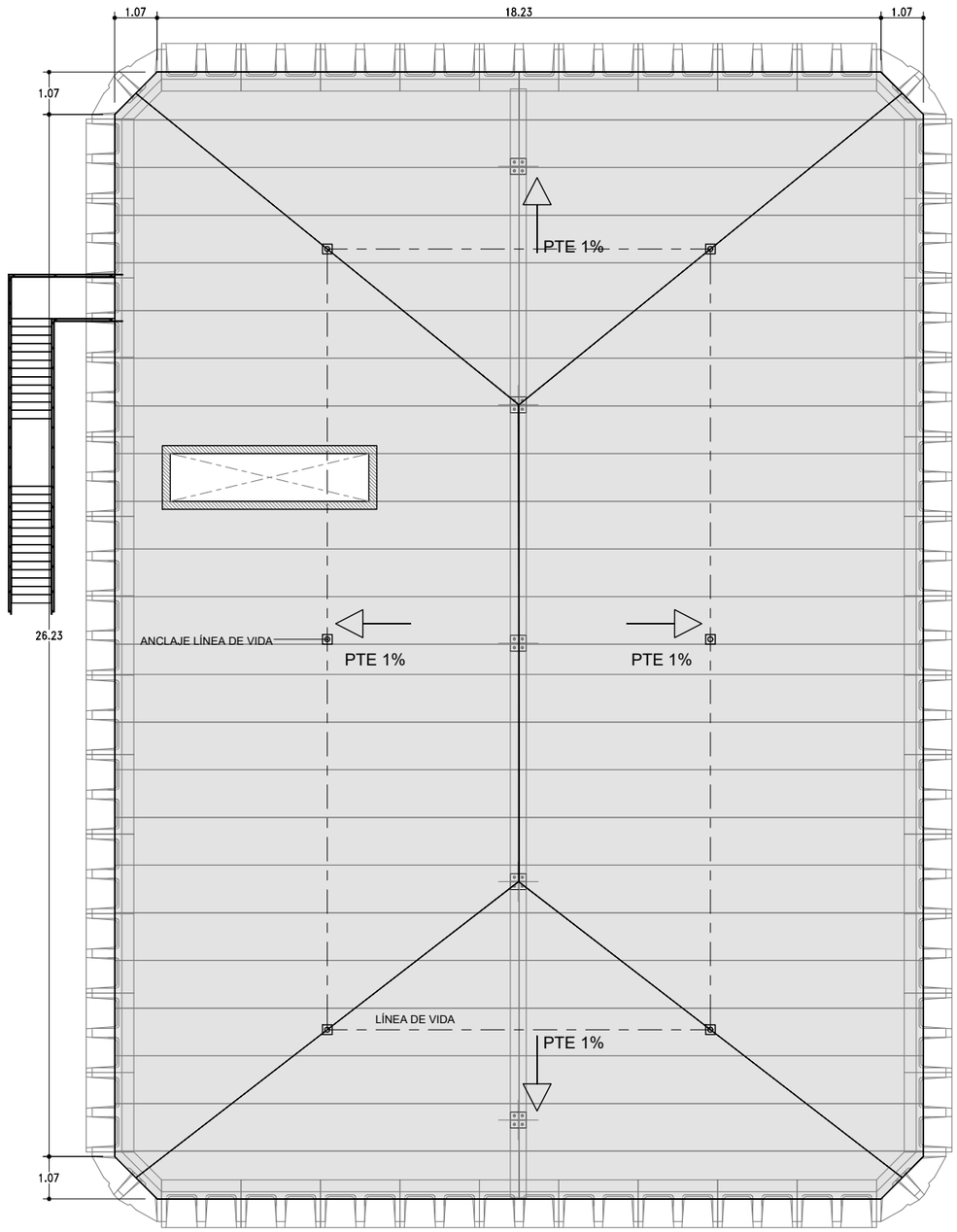


ALZADO FRONTAL CÁMARA DE LLAVES. E= 1/75

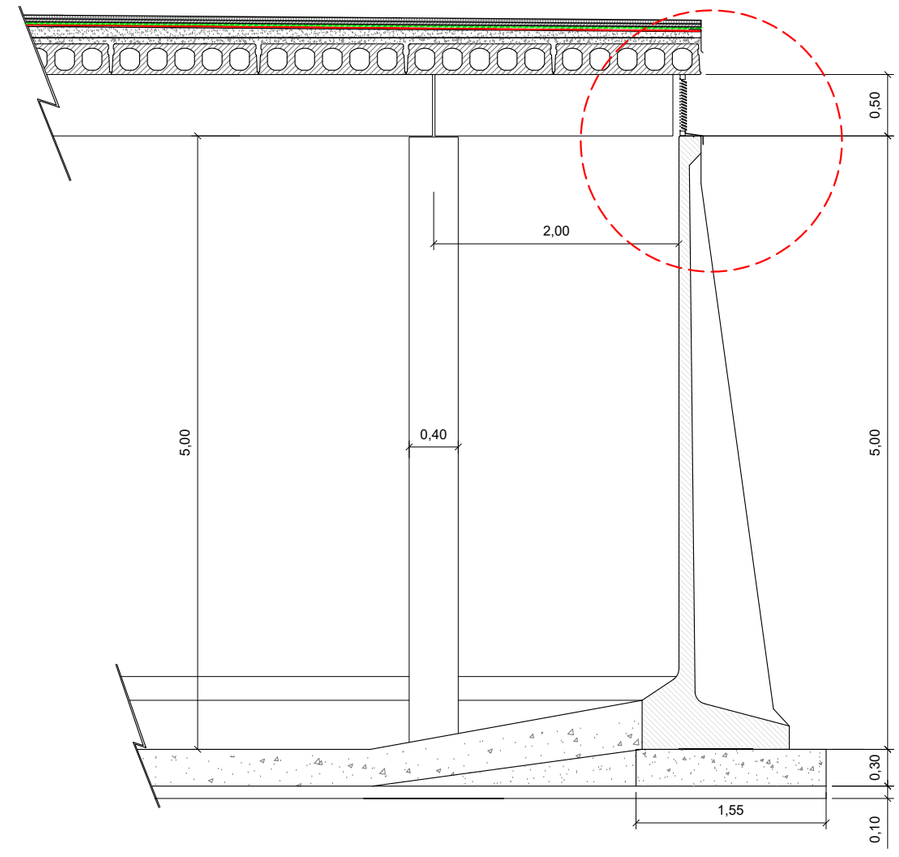


Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP, Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: CÁMARA DE LLAVES	Escala: 1/75	Clave:	Núm. Plano: 16
							Fecha: 05.07.2023	Núm. Hoja: 1 de 1

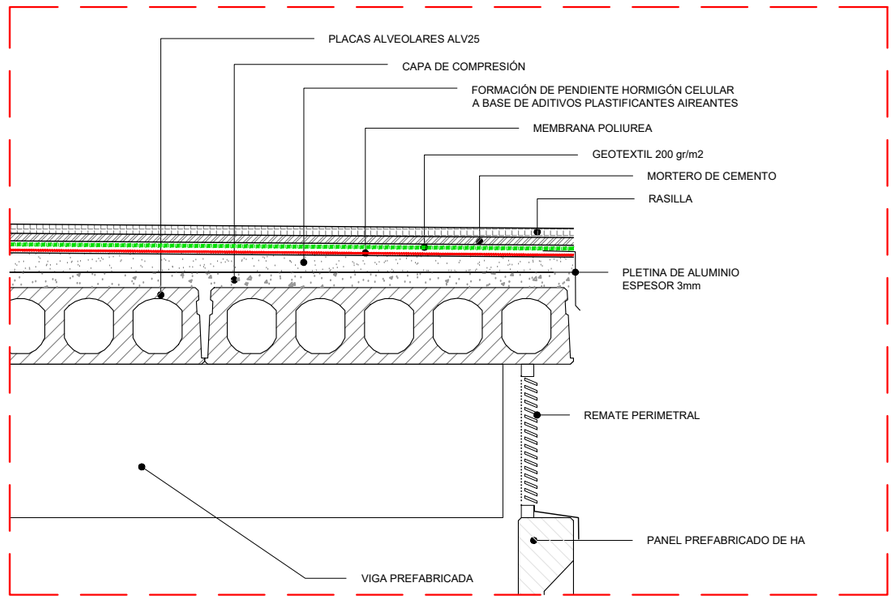
CUBIERTA DEPÓSITO PREFABRICADO - FORMACIÓN DE PENDIENTES. E:1/150



DETALLE FORMACIÓN DE CUBIERTA. E:1/50

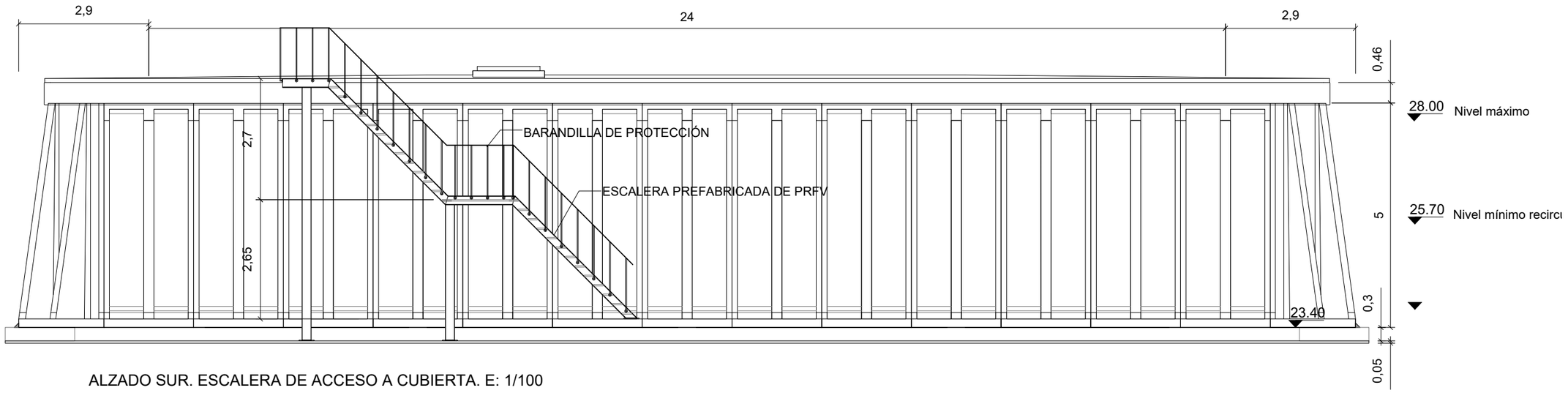


DETALLE FORMACIÓN DE CUBIERTA Y TERMINACIÓN PERIMETRAL. E:1/20

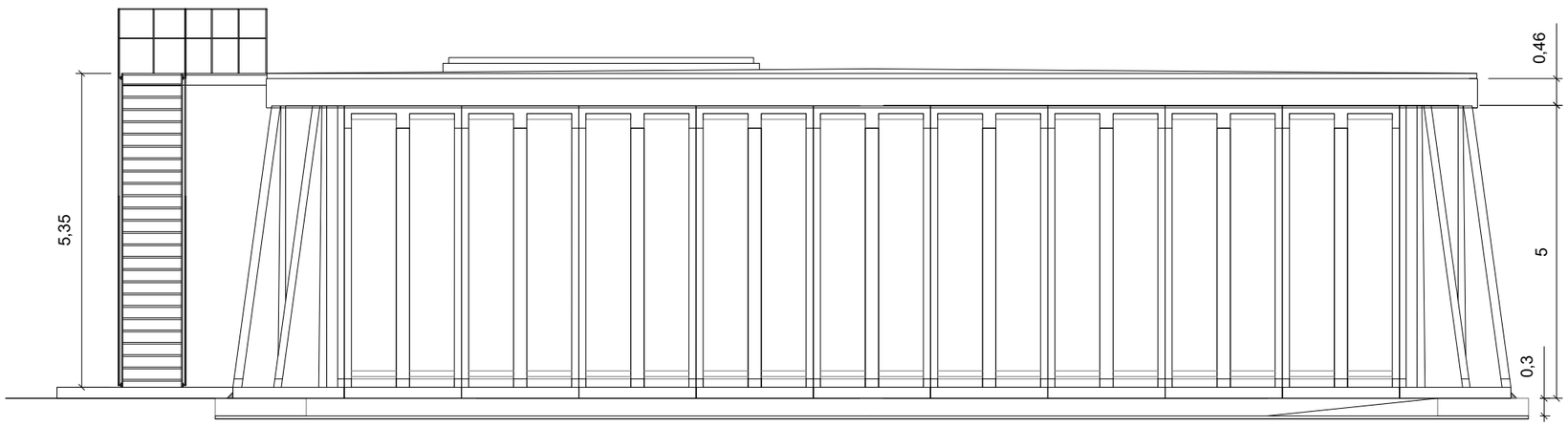


Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: DETALLES DE CUBIERTA: FORMACIÓN DE PENDIENTES	Escala: VARIAS	Clave: / Fecha: 05.07.2023	Núm. Plano: 17 / Núm. Hoja: 1 de 3

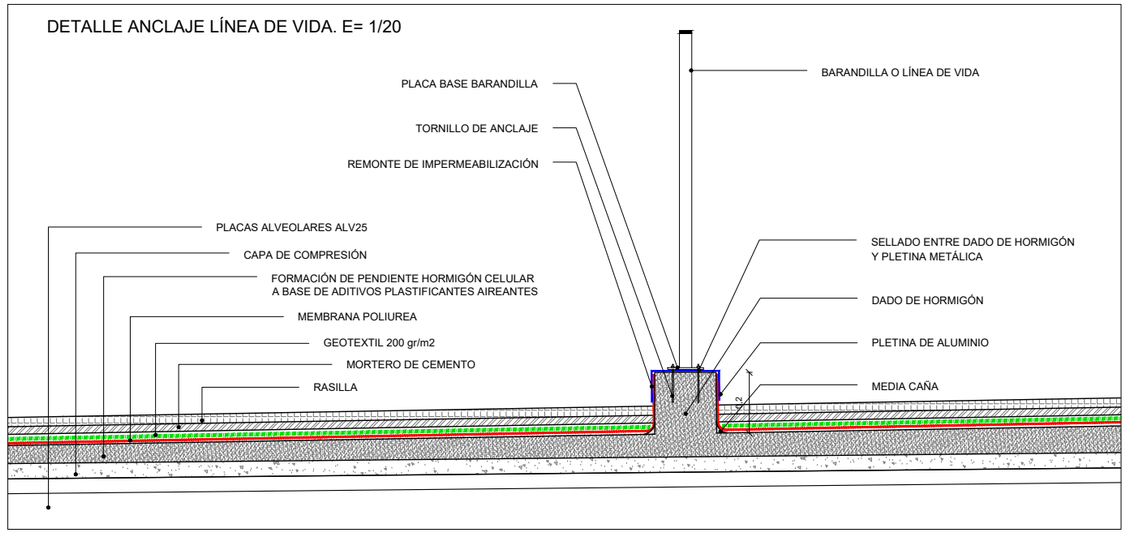
ALZADO OESTE. ESCALERA DE ACCESO A CUBIERTA. E: 1/100



ALZADO SUR. ESCALERA DE ACCESO A CUBIERTA. E: 1/100

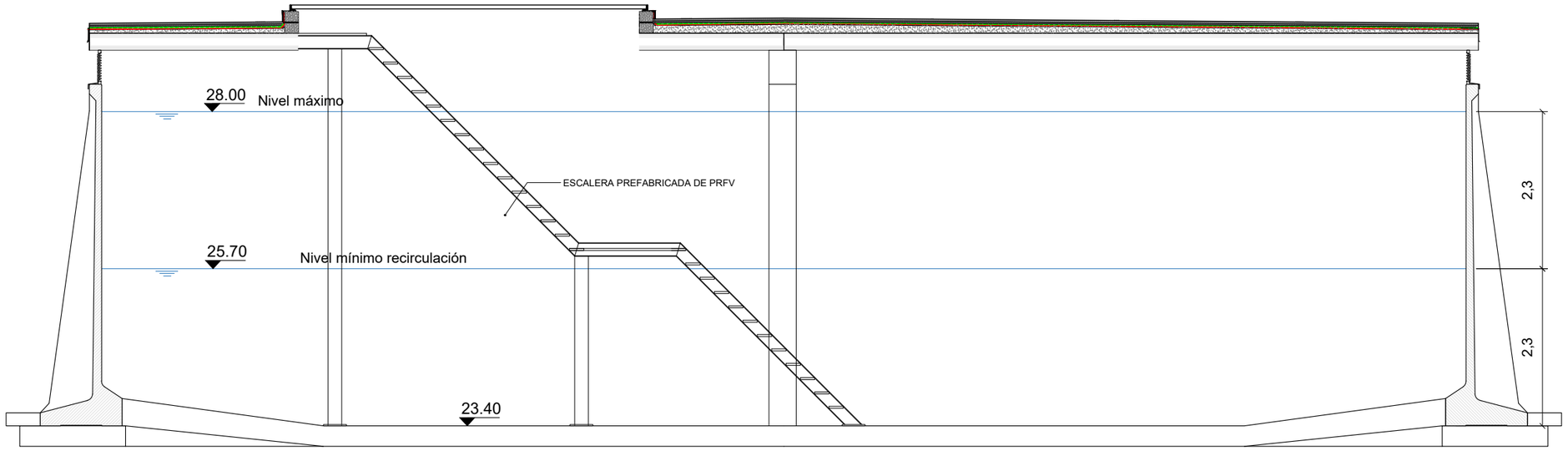


DETALLE ANCLAJE LÍNEA DE VIDA. E= 1/20

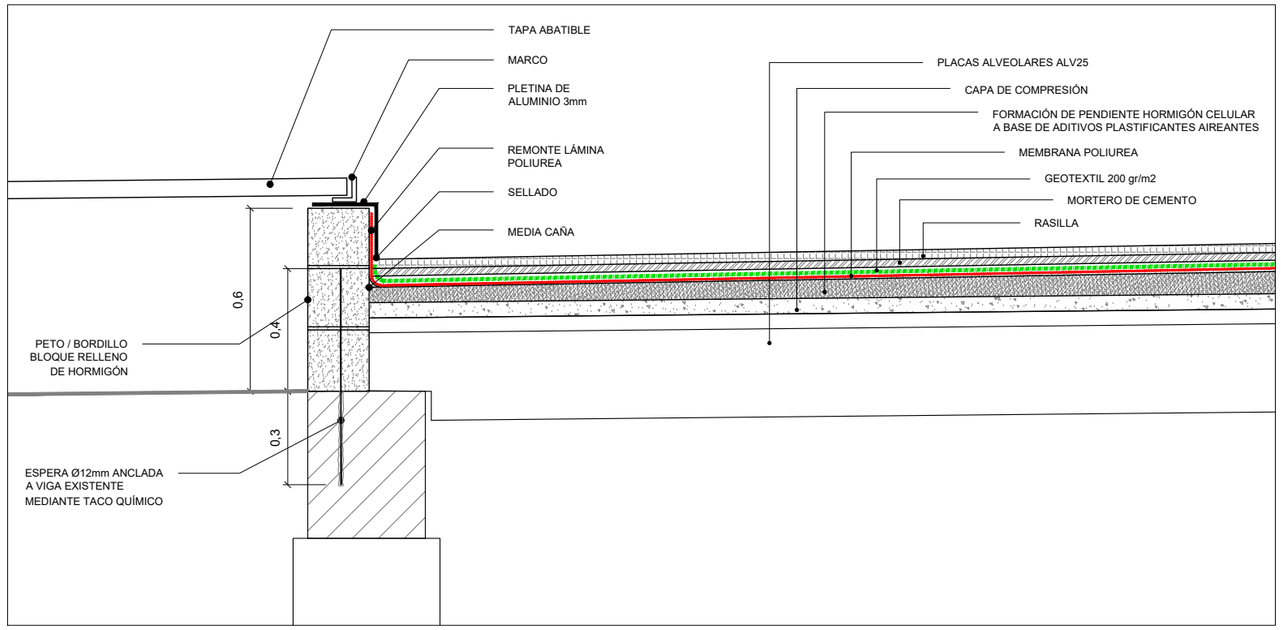


CONSELLERIA MEDI AMBIENT I TERRITORI AGÈNCIA BALEAR AIGUA I QUALITAT AMBIENTAL	Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	calter ingeniería de estructuras	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: DETALLES DE CUBIERTA: ANCLAJE LÍNEA DE VIDA	Escala: 1/100 1/20	Clave:	Núm. Plano: 17
									Fecha: 05.07.2023	Núm. Hoja: 2 de 3

DETALLE FORMACIÓN HUECO Y ESCALERA PARA ACCESO A DEPÓSITO. E: 1/75

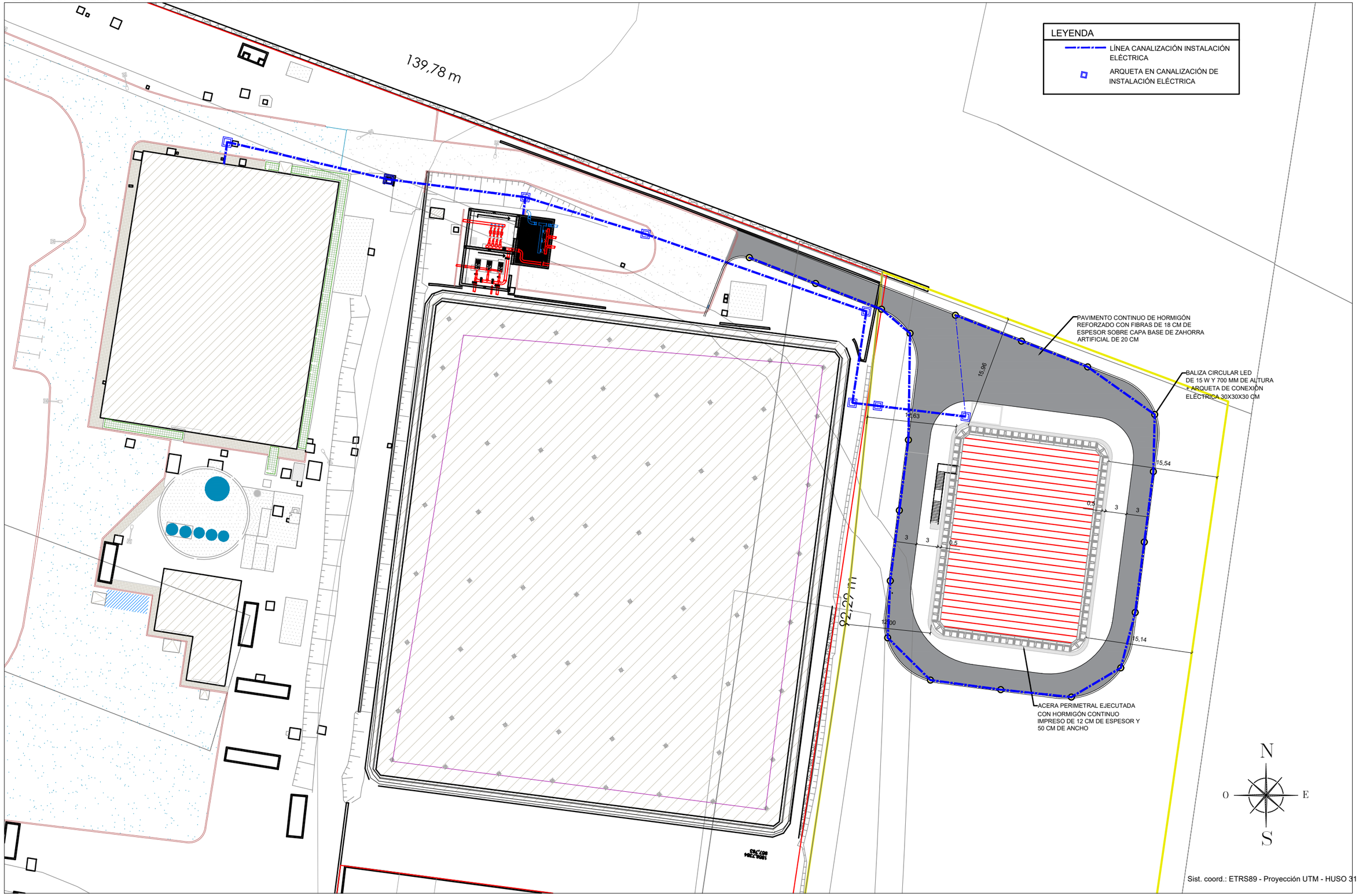


DETALLE FORMACIÓN HUECO PARA ACCESO A DEPÓSITO. E:1/20



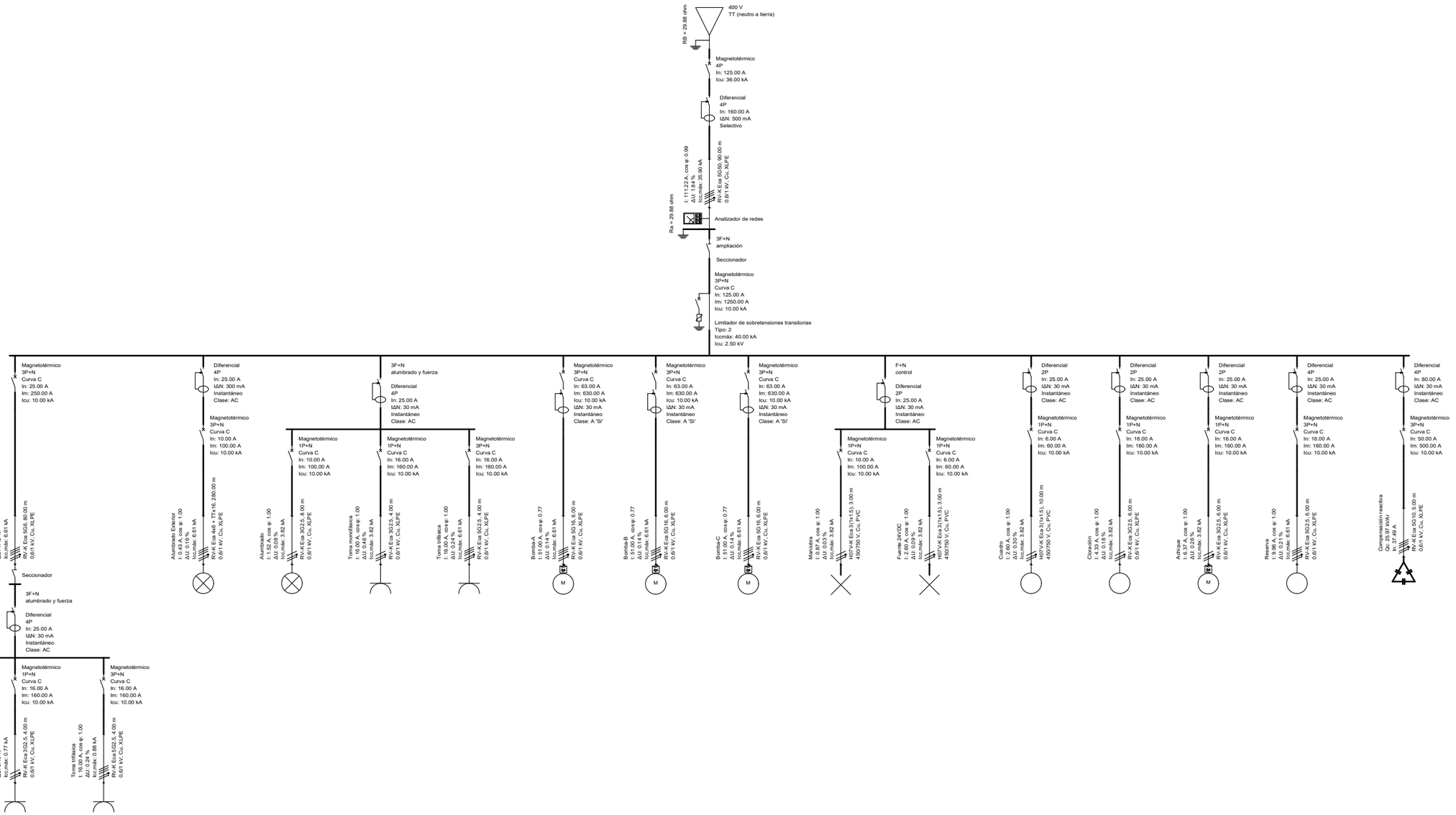
CONSELLERIA MEDI AMBIENT I TERRITORI AGÈNCIA BALEAR AIGUA I QUALITAT AMBIENTAL	Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	calter ingeniería de estructuras	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: DETALLES DE CUBIERTA: NUEVO ACCESO A INTERIOR DE DEPÓSITO	Escala: 1/75 1/20
							Clave:	Núm. Plano: 17
							Fecha: 05.07.2023	Núm. Hoja: 3 de 3

PLANTA CANALIZACIÓN INSTALACIÓN ELÉCTRICA. E:1/500



Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP, Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: INSTALACIÓN ELÉCTRICA	Escala: 1/500	Clave:	Núm. Plano: 18
							Fecha: 05.07.2023	Núm. Hoja: 1 de 2

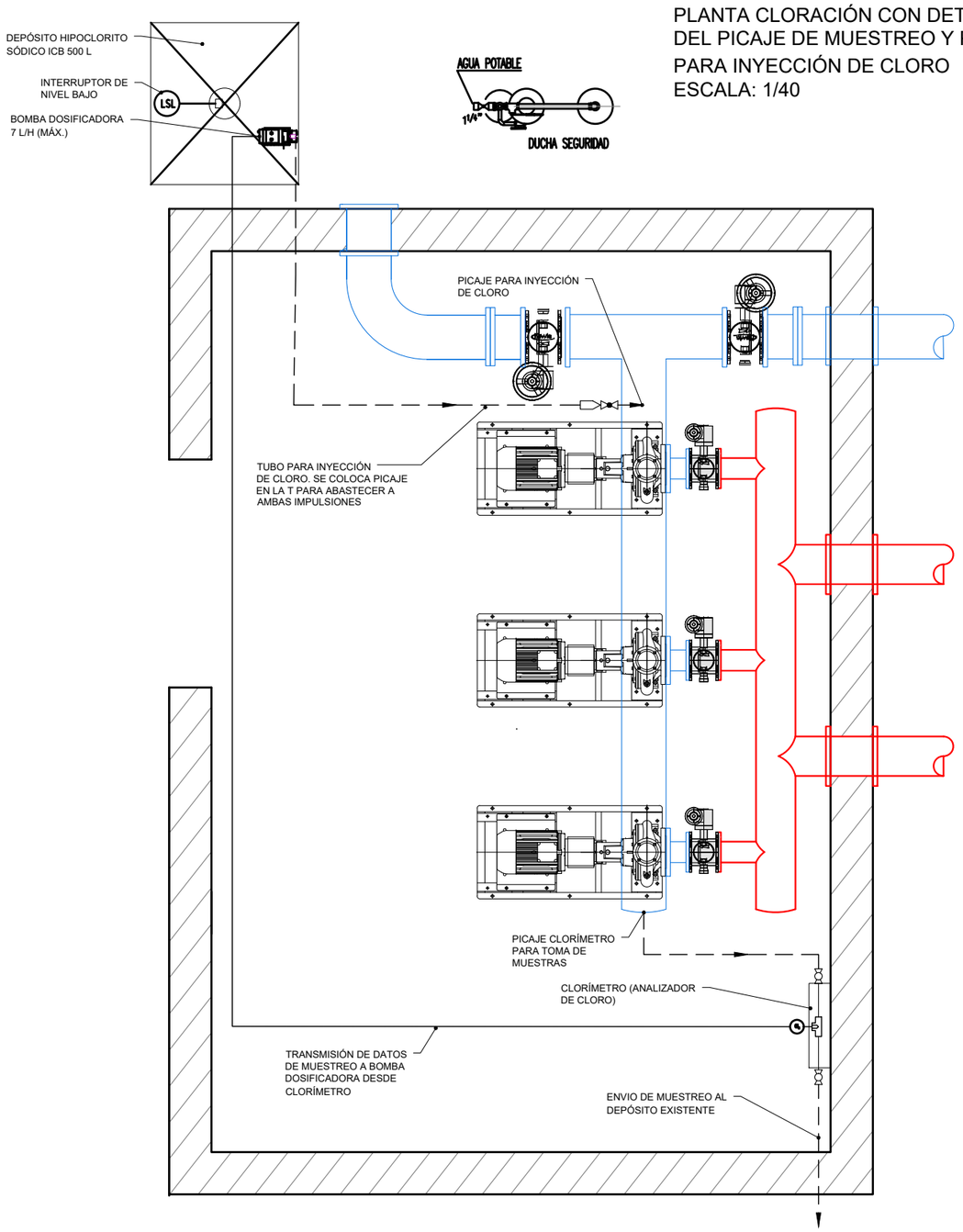
ESQUEMA UNIFILAR



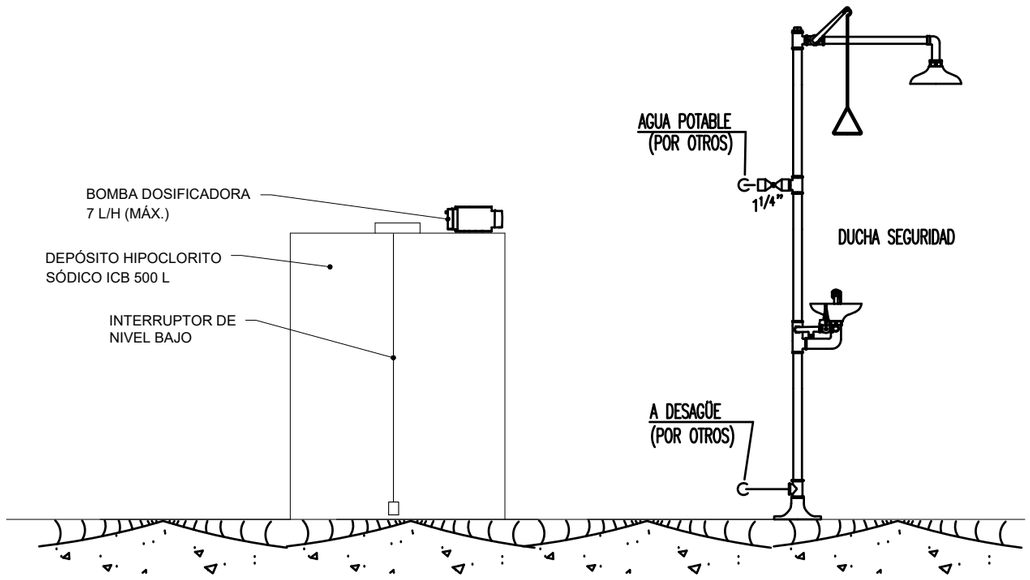
Referencia	Alumbrado	Tomas monofásicas	Tomas trifásicas	Balizas Exteriores	Alumbrado	Tomas monofásicas	Tomas trifásicas	Bomba	Bomba	Bomba	Tranformador 24VAC	Fuente 24VDC	Servicios internos cuadro	Cloración	Bomba Achique	reserva	
Potencia demandada	0.35 kW	3.70 kW	11.09 kW	0.30 kW	0.35 kW	3.70 kW	11.09 kW	21.76 kW	21.76 kW	21.76 kW	0.20 kW	0.60 kW	0.60 kW	1.00 kW	1.18 kW	6.90 kW	

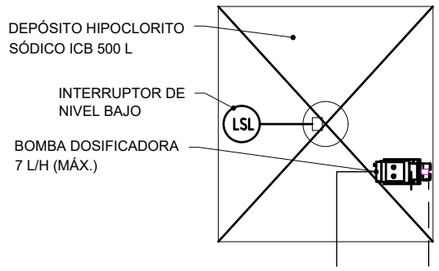
Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP; Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: INSTALACIÓN ELÉCTRICA ESQUEMA UNIFILAR	Escala: 1/750	Clave:	Núm. Plano: 18
							Fecha: 05.07.2023	Núm. Hoja: 2 de 2

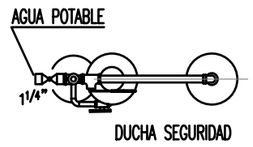
PLANTA CLORACIÓN CON DETALLE
DEL PICAJE DE MUESTREO Y PICAJE
PARA INYECCIÓN DE CLORO
ESCALA: 1/40



PLANTA Y ALZADO - DEPÓSITO HIPOCLORITO SÓDICO
Y DUCHA DE SEGURIDAD
ESCALA: 1/30



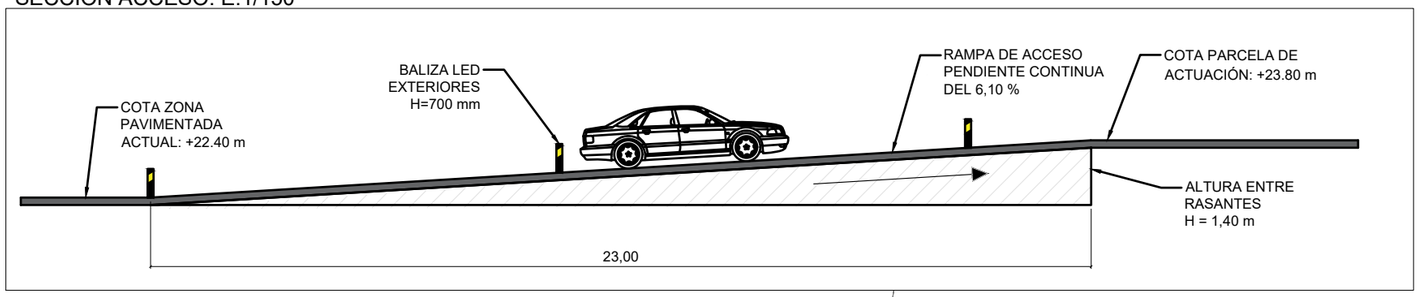


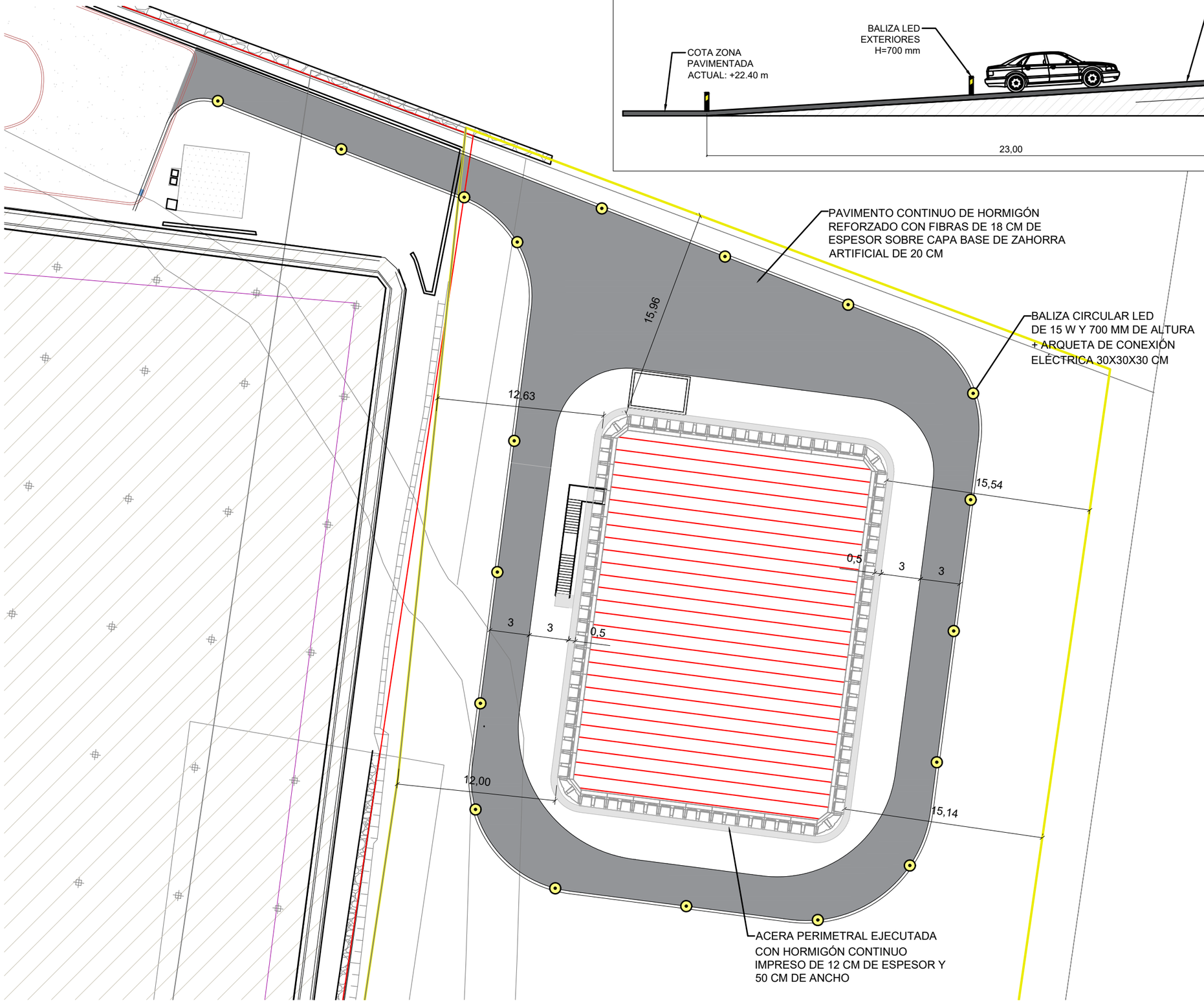


Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP, Jesús Jiménez Cañas ICCP	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: CLORACIÓN	Escala: 1/40 1/30	Clave:	Núm. Plano: 19
							Fecha: 05.07.2023	Núm. Hoja: 1 de 1

PLANTA URBANIZACIÓN. E:1/300

SECCIÓN ACCESO. E:1/150





N
O E
S

Sist. coord.: ETRS89 - Proyección UTM - HUSO 31

Promotor: **GOVERN DE LES ILLES BALEARS** Agència Balear de l'Aigua i la Qualitat Ambiental (ABAQUA)	Responsable del Contrato: Guillem Rosselló Alcina	Autor del Proyecto: Juan Carlos Arroyo Portero ICCP, Jesús Jiménez Cañas ICCP (calter ingeniería de estructuras)	Situación: FORMENTERA	Título del Proyecto: PROYECTO DE DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA	Título del Plano: URBANIZACIÓN	Escala: 1/300	Clave: / Fecha: 05.07.2023	Núm. Plano: 20 / Núm. Hoja: 1 de 1

CONDUCCIÓN AGUA DESALADA (NUEVO SUMINISTRO ENTERRADO) **

Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	LONGITUD (m) **	SUPERFICIE TERRENO A EXPROPIAR (m2) TEMPORAL	SERVIDUMBRE	VALORACIÓN EXPROPIACIONES TERRENO (€) TEMPORAL	SERVIDUMBRE	TOTAL
1	Formentera	8	74	0	Venda des ca Marí i Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradio secano	03	29,40	176,40	58,80	242,55	404,25	646,80

** Hay un tramo de 24,2 metros de dicha conducción que discurre dentro de la superficie del entorno del nuevo depósito que se prevé expropiar de forma definitiva (por lo que a estos 12m no se le aplican las exprop. Temporales y de servidumbre)
La longitud total de la conducción de agua desalada del nuevo suministro enterrado es de 54,1 m

TOTAL	646,80 €

NUEVO DEPÓSITO DE AGUA DESALADA

Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marí i Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradio secano	03	696,94	9.582,93
													TOTAL	9.582,93

NUEVA CÁMARA DE LLAVES

Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marí i Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradio secano	03	47,28	650,10
													TOTAL	650,10

ZONA URBANIZADA (entorno nuevo depósito)

Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marí i Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradio secano	03	649,72	8.933,65
													TOTAL	8.933,65

SUPERFICIE RESTANTE FRANJA PERIMETRAL (entorno nuevo depósito) **

Nº	MUNICIPIO	POLIGONO	PARCELA	SUBPARCELA	DIRECCIÓN	C.P.	CLASE	USO PRINCIPAL	REFERENCIA CATASTRAL	USO	CULTIVO	IP	SUPERFICIE (m2)	VALORACIÓN (€)
1	Formentera	8	74	0	Venda des ca Marí i Migjorn	07871	RÚSTICO	AGRARIO	07024A008000740000PX	C	Labor o labradio secano	03	1.184,17	16.282,34
													TOTAL	16.282,34

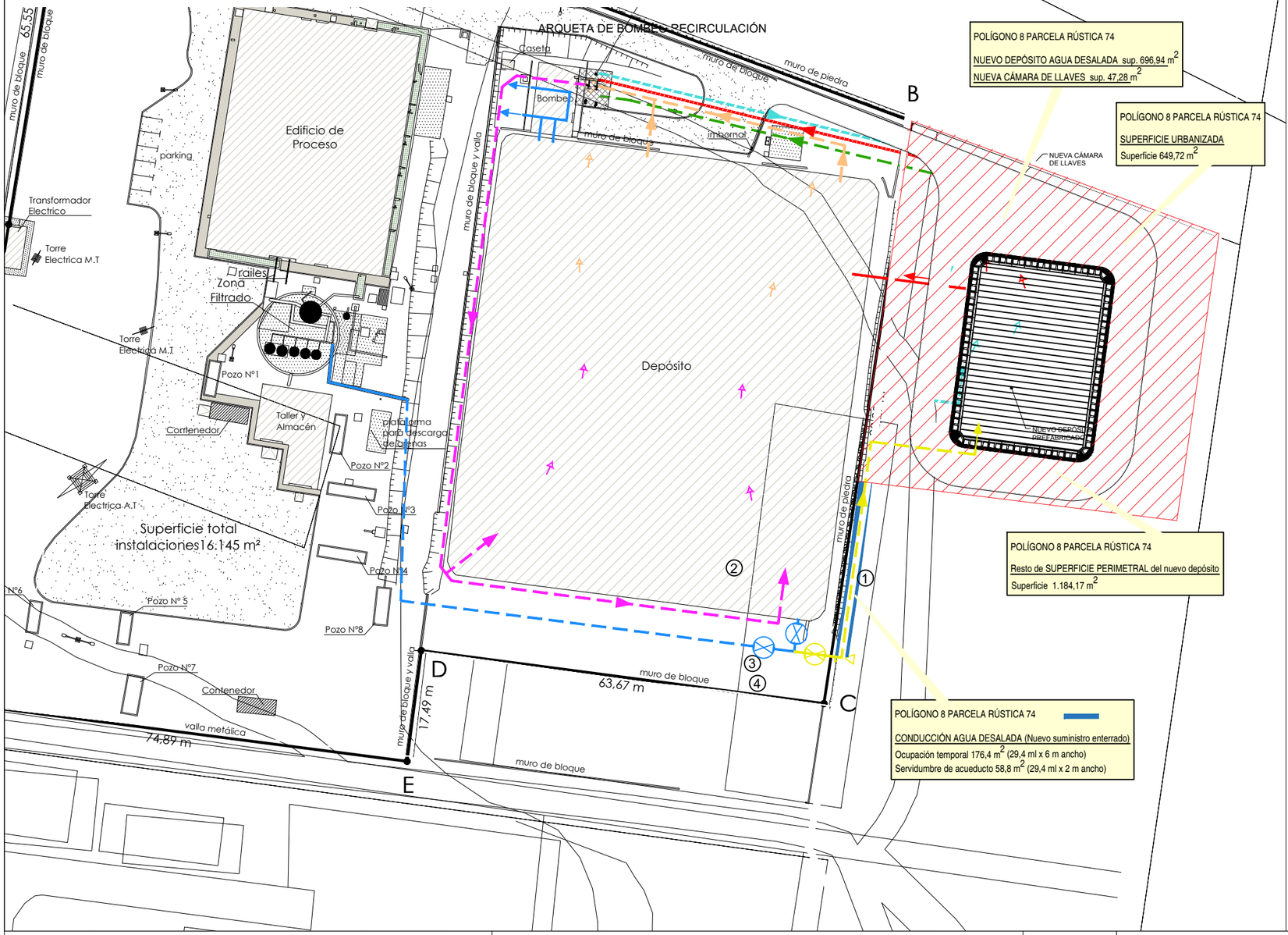
** Incluye franja perimetral que separa los dos depósitos y donde se prevé también la localización de diferentes conducciones o tuberías de conexión entre los dos depósitos, así como la franja de parcela que queda comprendida entre el nuevo depósito y el otro límite de parcela.

TOTAL VALORACIÓN ESTIMADA EXPROPIACIÓN	36.095,81

LEYENDA

- P1 — EXISTENTE ENTERRADO
- P1 — EXISTENTE VISTO
- P2 — NUEVO SUMINISTRO VISTO
- P2 — NUEVO SUMINISTRO ENTERRADO
- P2 — NUEVO REBOSE
- P2 — NUEVA CONEXIÓN DEPOSITO PREF.-IMPULSIÓN EXISTENTE
- P1 — ASPIRACIÓN RECIRCULACIÓN
- P1 — IMPULSIÓN RECIRCULACIÓN
- P2 — RECIRCULACIÓN DEPÓSITO PREF.
- P2 — IMPULSIÓN DESDE BOMBEO

NOTA:
P1: PROYECTO ORIGINAL
P2: PROYECTO DEPÓSITO PREFABRICADO
ORDEN DE EJECUCIÓN:
P2 --> P1



POLÍGONO 8 PARCELA RÚSTICA 74
NUEVO DEPÓSITO AGUA DESALADA sup. 696,94 m²
NUEVA CÁMARA DE LLAVES sup. 47,28 m²

POLÍGONO 8 PARCELA RÚSTICA 74
SUPERFICIE URBANIZADA
Superficie 649,72 m²

POLÍGONO 8 PARCELA RÚSTICA 74
Resto de SUPERFICIE PERIMETRAL del nuevo depósito
Superficie 1.184,17 m²

POLÍGONO 8 PARCELA RÚSTICA 74
CONDUCCIÓN AGUA DESALADA (Nuevo suministro enterrado)
Ocupación temporal 176,4 m² (29,4 ml x 6 m ancho)
Servidumbre de acueducto 58,8 m² (29,4 ml x 2 m ancho)

LEYENDA

- Límite de parcela
- Vértices de parcela
- Mapa Topográfico Balear 2008

CARACTERÍSTICAS DEL LEVANTAMIENTO

Toma de datos de campo: Enero 2021
Sistema geodésico ref. ETRS89 - Proyección UTM Huso 31 S
Referencia 'Red de estaciones permanentes GNSS' del Instituto Geográfico Nacional (IGN).
Planimetría georreferenciada según Real Decreto 1071/2007, de 27 de julio
Fotografía únicamente con carácter orientativo

CUADRO DE MEDICIONES

LADO EST	LADO PV	RUMBO	DISTANCIA	V	COORDENADAS X	COORDENADAS Y
				A	366,361.72	4,283,916.92
A	B	S 69°41'16.45" E	139.78	B	366,492.81	4,283,868.39
B	C	S 08°35'15.83" O	92.29	C	366,479.03	4,283,777.14
C	D	N 82°30'30.01" O	63.67	D	366,415.91	4,283,785.44
D	E	S 07°22'34.48" O	17.49	E	366,413.66	4,283,768.09
E	F	N 82°38'18.66" O	74.89	F	366,339.39	4,283,777.69
F	G	N 09°01'00.15" E	75.46	G	366,351.21	4,283,852.21
G	A	N 09°13'31.17" E	65.55	A	366,361.72	4,283,916.92

SUPERFICIE = 16.145 m2

N
O E
S

Sist. coord.: ETRS89 - Proyección UTM - HUSO 31

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DOCUMENTO III: PLIEGO DE PRESCRIPCIONES

TÉCNICAS PARTICULARES

PLIEGO DE PRESCRIPCIONES TÉCNICAS PARTICULARES

PLIEGO DE PRESCRIPCIONES TÉCNICAS PARTICULARES

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PLIEGO DE PRESCRIPCIONES TÉCNICAS PARTICULARES

1. DISPOSICIONES DE CARÁCTER GENERAL

1.1 OBJETO DEL PLIEGO DE CONDICIONES

El objeto del presente Pliego es establecer las prescripciones técnicas que deben cumplirse en las obras del PROYECTO DE EJECUCIÓN DEL DEPÓSITO PREFABRICADO DE LA DESALADORA DE FORMENTERA.

El presente Pliego constituye el conjunto de especificaciones, prescripciones, criterios y normas que definen todos los requisitos técnicos de las obras que son objeto del proyecto de referencia, así como la definición de ensayos y pruebas a realizar y la forma en que se medirán y abonarán las diferentes unidades de obra.

En caso de discrepancia entre este Pliego de Prescripciones Técnicas Particulares y la normativa de aplicación, prevalecerá el más restrictivo. Además, también serán de aplicación todas las prescripciones referentes a los materiales y su puesta en obra contenidas en las Normas relativas a los mismos vigentes en el momento de la redacción del presente proyecto.

1.2 DEFINICIONES Y FUNCIONES

1.2.1 Funciones del Coordinador de obras/Representante facultativo designado por la Administración

En virtud de lo expuesto en el Pliego de Cláusulas Administrativas Particulares del contrato, y sin perjuicio de las funciones de la Dirección facultativa de las obras, en caso que el Órgano de contratación designe un Coordinador de obras/Representante facultativo, éste será el encargado de supervisar la ejecución del contrato. En caso de que no se especifiquen expresamente, las funciones atribuidas por el Órgano de contratación al Coordinador de obras/Representante facultativo serán las siguientes:

- Coordinar y actuar como interlocutor por parte de la *Agència Balear de l'Aigua i de la Qualitat Ambiental* ante los diferentes agentes afectados por las obras y el funcionamiento de las instalaciones en fase de ejecución, en particular, Administraciones competentes, Particulares afectados, Dirección facultativa de las obres, Contratista de las obras, Contratista de explotación, mantenimiento y conservación, y si procede, el Responsable del contrato de explotación, mantenimiento y conservación.
- Asistir al acto de replanteo del proyecto y firmar el acta correspondiente, antes de la aprobación del expediente de contratación de las obras, comprobando la realidad geométrica de la obra, la disponibilidad de los terrenos, y los supuestos que figuran en el proyecto elaborado y sean básicos para el contrato a celebrar (art. 236 LCSP).
- Revisar y si procede, completar y/o complementar y tramitar las autorizaciones, licencias y permisos de los diferentes organismos implicados, así como se actuaciones procedentes para obtener los terrenos (expropiaciones, servidumbres (de paso, de acueducto, de vuelo etc.) necesarios para la ejecución de las

obras.

- Promover el nombramiento del equipo de colaboradores a las órdenes de Director facultativo para el correcto seguimiento de los trabajos encomendados, y que pasarán a formar parte del equipo de la Dirección facultativa de la obra.
- Promover el nombramiento del coordinador de seguridad y salud en fase de ejecución de las obras, el cual también quedará integrado en la Dirección facultativa.
- Promover las reuniones necesarias con la Dirección facultativa y el contratista de obras, a los efectos de solucionar cualquier circunstancia y/o incidente en la realización del objeto del contrato.
- Solicitar la documentación e informes necesarios a la Dirección facultativa y al contratista, para el correcto seguimiento y supervisión del contrato de obras y sus posibles repercusiones sobre el funcionamiento de las infraestructuras gestionadas por la Agencia Balear del Agua y de la Calidad Ambiental. Incluye la revisión y, si procede, la petición expresa de revisión/corrección la documentación entregada, hasta que esta se adapte a los objetivos, necesidades y requerimientos establecidos.
- Informar y dar traslado al órgano de contratación, a través del Jefe del área que promueve el expediente, de cualquier propuesta de modificación necesaria y legalmente prevista, ampliación de plazos y/o cualquier otra circunstancia que considere oportuna.
- Asistir al acto de comprobación del replanteo de las obras.
- Informar y dar traslado al órgano de contratación, a través de la Jefe del área que promueve el expediente, del Programa de trabajo inicial y sus posibles adaptaciones durante la fase de ejecución.
- Conformar las facturas emitidas por el contratista en base a las certificaciones de obra emitidas por el Director facultativo.
- Informar y dar traslado al órgano de contratación, a través del Jefe del área que promueve el expediente, de la propuesta de penalizaciones a imponer al contratista en caso de incumplimientos del contrato imputables al mismo.
- Fijar la fecha para llevar a cabo el acto de recepción, previo traslado por parte del Director facultativo de un informe favorable al respeto, así como la comunicación del contratista indicando la fecha prevista de fin.
- Coordinar las acciones y actuaciones necesarias y firmar el acta de transmisión de la gestión, mantenimiento y conservación, junto con la Dirección facultativa, el Responsable del contrato de explotación, mantenimiento y conservación, el Contratista de las obras, y el Contratista de explotación, mantenimiento y conservación.
- Asistir al acto de recepción de las obras y firmar el acta correspondiente.
- Informar y dar traslado al órgano de contratación, a través del Jefe de área que promueve el expediente, de la propuesta de certificación final de las obras ejecutadas, previo informe favorable de la dirección

facultativa y la conformidad del contratista.

- Proceder a la comprobación y, si procede, a la recepción de la documentación de obra acabada facilitada por la Dirección facultativa.
- Revisar, dentro del plazo de 15 días anteriores al cumplimiento del plazo de garantía o en el supuesto de que el Director facultativo lo pusiera de manifiesto en cualquiera otro momento del plazo de garantía, el informe de la Dirección facultativa sobre el estado de las obras, y en caso de ser favorable este, autorizar a la Dirección facultativa a la preparación de la propuesta de liquidación.
- Revisar la propuesta de liquidación final presentada por la Dirección facultativa, a los efectos de adecuación de los precios unitarios del contrato y comprobación aritmética del importe resultante.
- Informar y dar traslado al órgano de contratación, a través del Jefe del área que promueve el expediente, de la propuesta de liquidación de las obras elaborada por la Dirección facultativa
- Informar y dar traslado al órgano de contratación, a través del Jefe de área que promueve el expediente, de cualquier otra circunstancia no mencionada anteriormente, asociada al cumplimiento del objeto del contrato y a su régimen jurídico.
- Asumir las funciones propias del órgano de contratación, que este decida delegar en la figura del Coordinador de obras/Representante facultativo designado por la Administración.

1.2.2 Funciones de la dirección facultativa y, si procede, dirección de la explotación, mantenimiento y conservación de las instalaciones en funcionamiento, de forma simultánea.

- Respecto al contrato de obras: Mantener las reuniones necesarias con el responsable del contrato de servicios y con el Coordinador de obras/ Representante Facultativo designado por la Administración (art. 243 LCSP), a efectos de informarlos y/o de solucionar cualquier circunstancia y/o incidente en la realización del objeto del contrato.
- Respecto a la Seguridad y Salud: mantener las reuniones necesarias con el Coordinador de Seguridad y Salud de la obra, a efectos de consensuar y solucionar cualquier circunstancia y/o incidente en la ejecución de las obras.
- Respecto a la ejecución de las obras:
    - Coordinar y dirigir el equipo técnico de colaboradores que conforman la Dirección facultativa
    - Actuar como interlocutor ordinario ante las diferentes Administraciones, Organismos y Particulares durante la ejecución de las obras.
    - Asistir al acto de comprobación del replanteo de las obras, tomar las decisiones pertinentes y firmar el acta correspondiente.
    - Autorizar el inicio de las obras, haciéndose constar este extremo explícitamente en el acta de comprobación de replanteo.
    - Programa de trabajos. Comprobación inicial de la adecuación del mismo a las condiciones del

proyecto, seguimiento y control de las adaptaciones surgidas durante la fase de construcción.

- Informar y aprobar, si procede, el Programa de trabajo inicial y sus posibles adaptaciones durante la fase de ejecución, así como dar traslado del mismo al órgano de contratación a través del Coordinador de obras/ Representante Facultativo designado por la Administración (art. 243 LCSP)
- Dar su conformidad a las construcciones e instalaciones auxiliares, acopios, desvíos provisionales, etc., propuestos por el Contratista.
- Supervisar el desarrollo constructivo del proyecto.
- Dirección y supervisión:
  - Exigir al contratista el cumplimiento de las prestaciones contratadas.
  - Garantizar la ejecución de las obras en base al proyecto aprobado, o las modificaciones debidamente autorizadas de las obras, y el cumplimiento del programa de trabajos.
  - Exigir al Contratista el cumplimiento de las condiciones requeridas en el procedimiento de adjudicación del contrato, cómo: experiencia y titulación del Delegado en obra del contratista, el control de la calidad de la ejecución de la obra ofrecido, la maquinaria, los medios auxiliares y los equipos ofrecidos, etc.
  - Autorizar, si procede, los materiales a emplear en obra comprobando el cumplimiento de las características exigidas para los mismos en el Pliego de Prescripciones Técnicas Particulares. La Dirección facultativa de las obras tendrá que analizar y conformar, si procede, el Plan de Control de Calidad.
  - Autorizar, si procede, la utilización por el Contratista de los bienes que aparezcan como consecuencia de la ejecución de las obras: rocas, minerales, corrientes de agua, etc.
  - Indicar al Contratista todas las precauciones que tiene que tomar cuando, a consecuencia de las excavaciones y demoliciones practicadas en la obra aparezcan objetos de arte, restos arqueológicos, antigüedades, etc.
  - Autorizar, si procede, sobre la adecuación de los equipos e instalaciones equivalentes propuestos por el contratista a la Dirección facultativa, así como de toda la documentación necesaria (Planos, etc.) para la materialización de los ajustes derivados de las dimensiones finales de los equipos aprobados, anclajes de estos, conducciones e interferencias.
  - Resolver las cuestiones técnicas que surgen en cuanto a interpretación de los planos, condiciones de los materiales y de ejecución de unidades de obra, siempre que no se modifiquen las condiciones del contrato.
  - Informar sobre las actuaciones procedentes para obtener, de los organismos oficiales y de los particulares, los permisos necesarios para la ejecución de las obras y ocupación de los

bienes afectados por estos, así como resolver los problemas planteados por los servicios y servidumbres asociadas.

- Adoptar las decisiones y dar las instrucciones en interpretación básica que el contrato deja a su decisión.

- Emitir las certificaciones y liquidaciones de obra.
- Supervisar los informes mensuales sobre el avance y estado de las obras.
- Proponer las modificaciones necesarias y legalmente previstas:
  - Informe especifico y detallado de nuevas necesidades detectadas respecto al proyecto aprobado.
  - Recabar del órgano de contratación, la autorización para iniciar el expediente del proyecto modificado.
  - Elaborar las propuestas razonadas de suspensión temporal de las obras para someterlas a la aprobación del Órgano de contratación.
  - Elaborar las propuestas razonadas de prórroga de las obras para someterlas a la aprobación del Órgano de contratación.
- Elaborar y asumir la autoría de los documentos técnicos necesarios para definir, tramitar, y si procede, ejecutar las adaptaciones y modificaciones necesarias del proyecto.
- Libro de órdenes.
- Formalizar las Actas de suspensión temporal y reanudación de las obras, previamente acordadas por el Órgano de contratación.
- Informar desde el punto de vista técnico sobre los daños y perjuicios ocasionados a la Administración, en los casos de resolución del contrato por causas imputables al Contratista.
- Supervisar la tramitación de las licencias, permisos y autorizaciones necesarias para la regularización administrativa de las obras y las instalaciones antes de su recepción, puesta en servicio y/o liquidación final.
- Organizar el acto de transmisión de la gestión, mantenimiento y conservación y firmar el acta correspondiente, junto con el Coordinador de obras/ Representante Facultativo designado por la Administración (art. 243 LCSP) y el Responsable del contrato de explotación, mantenimiento y conservación.
- Recepción de las obras
  - Remitir al Coordinador de obras/ Representante Facultativo designado por la Administración (art. 243 LCSP), con una antelación de un mes a la fecha de finalización de las obras, la comunicación del Contratista indicando la fecha prevista de fin, junto con su informe sobre este tema.

- Dar las instrucciones necesarias porque, en el momento de la recepción, se hayan obtenido los permisos de instalaciones precisos para el funcionamiento de las obras e instalaciones, de forma que puedan ser entregadas o cedidas al uso al que se destinan.
- En caso de que las obras no se encuentren en estado de ser recibidas, dar las instrucciones oportunas al Contratista, señalar los defectos detectados y establecer un plazo máximo para reparar aquellos.
- Asistir al acto de recepción de la obra y firmar el acta correspondiente
- Dar las instrucciones oportunas al Contratista sobre la conservación de la obra durante el plazo de garantía, en base al proyecto vigente y las recomendaciones incorporadas en fase de ejecución de las obras.
- Supervisar la medición general de la obra, en un plazo máximo de un mes desde la fecha de la recepción. De este acto se levantará acta por triplicado subscrita por la Dirección facultativa y el Contratista.
- Remitir al Coordinador de obras/ Representante Facultativo designado por la Administración (art. 243 LCSP) un ejemplar del acta de medición general de las obras.
- Emitir la certificación final de las obras y remitirla al Coordinador de obras/ Representando Facultativo designado por la Administración (art. 243 LCSP).
- Informar sobre las posibles discrepancias que pudiera plantear el Contratista de obras a la certificación final, durante el trámite de audiencia previo a la aprobación por parte del Órgano de contratación.
- Revisar y entregar al Coordinador de obras/ Representante Facultativo designado por la Administración (art. 243 LCSP) la documentación de obra acabada incluyendo tres (3) CD en formato digital editable, la cual tendrá que incorporar los siguientes contenidos:
    - Proyecto As Built
    - Manual de funcionamiento de los instalaciones y fichas de características técnicas de los equipos electromecánicos
    - Fotografías de la fase de ejecución de las obras
    - Otra documentación significativa generada durante las obras (permisos, boletines, informes, actas, ensayos, etc.)
- Revisar y emitir, dentro del plazo de 15 días anteriores al cumplimiento del plazo de garantía o en cualquiera otro momento de este periodo (si fuera necesario), un informe sobre el estado de las obras.
- Formular en el plazo de un mes la propuesta de liquidación de las obras, dando traslado de la misma al Coordinador de obras/ Representante Facultativo designado por la Administración (art. 243 LCSP) para que lo trámite ante el Órgano de contratación.

- Respecto a la explotación, mantenimiento y conservación de las instalaciones:

    - Dirección de la ejecución de la parte del contrato correspondiente a la explotación, mantenimiento y conservación de las instalaciones en funcionamiento, en conformidad con el PCAP del contrato de obras y las "Prescripciones técnicas asociadas a la explotación y mantenimiento del EDAR durante la ejecución de las obras"
    - Coordinar y dirigir el equipo técnico de colaboradores
    - Actuar como interlocutor ordinario ante las diferentes Administraciones, Organismos y Particulares
    - Asistir a los actos formales de comprobación del replanteo de las obras e inicio de la fase de explotación, mantenimiento y conservación asociadas al contrato de obras principal (exceptuando la mejora voluntaria de explotación, mantenimiento y conservación durante el año de garantía); al acto de recepción de las obras y de la fase de explotación, mantenimiento y conservación de las instalaciones durante la fase de construcción; así como tomar las decisiones pertinentes y firmar las actas correspondientes
    - Supervisión de la ejecución, comprobando que su realización se ajusta al establecido en el contrato, y adoptando las decisiones y cursando al contratista las órdenes e instrucciones necesarias con el fin de garantizar la correcta realización de la prestación pactada.
    - Proponer al órgano de contratación la imposición de penalizaciones al contratista en caso de incumplimiento del contrato imputable al mismo.
    - Informar al órgano de contratación sobre los posibles incumplimientos de los compromisos adquiridos por el contratista relativo a los criterios de adjudicación y condiciones especiales de ejecución, proponiendo, si procede, el inicio del procedimiento de imposición de penalizaciones o resolución del contrato.

1.2.3 Funciones del coordinador de seguridad y salud en fase de ejecución de las obras y, si procede, en fase de explotación, mantenimiento y conservación de las instalaciones en funcionamiento, de forma simultánea.

Sin perjuicio de las atribuciones, responsabilidades y obligaciones conferidas por la Ley de Prevención de Riesgos Laborales, las tareas y funciones a desarrollar por parte del Coordinador de seguridad y salud en fase de ejecución de las obras, así como de la fase de explotación, mantenimiento y conservación de las instalaciones en funcionamiento, formando parte de la Dirección facultativa, serán las siguientes:

- Analizar el proyecto de obra y el estudio de seguridad y salud.
- Analizar, informar y aprobar si procede, el Plan de Seguridad y Salud redactado por el contratista

adjudicatario de las obras incluidas en este pliego, tanto el inicial como los que consecutivamente se confeccionen.

- Analizar, informar y aprobar si procede, los Planes de Seguridad de cada una de las subcontratos y trabajadores autónomos, tanto el inicial como los que posteriormente se confeccionen, en caso de que no se subroguen al Plan de Seguridad del constructor principal de las obras.
- Actuar como interlocutor ordinario ante las diferentes Administraciones, Organismos y Particulares durante la ejecución de las obras.
- Visitar las diferentes actividades de obra en cada visita, dejando constancia mediante la correspondiente acta de visita.
- Asistir a las reuniones/visitas que realice la Dirección facultativa de las obras, así como a todas aquellas reuniones donde se le requiera por circunstancias extraordinarias y que tengan relación con su responsabilidad.
- Realizar las reuniones de coordinación del personal responsable de seguridad y salud de las diferentes empresas de la obra.
- Emitir el informe oportuno de recomendación de ajuste o reforma de la documentación de seguridad y salud, así como informar los posibles anexos al Plan de Seguridad y Salud de acuerdo con las necesidades que surjan durante la ejecución de los trabajos.
- Comprobar supervisar y exigir la correcta actuación de los servicios de prevención y evaluación de cada uno de los contratistas y subcontratistas.
- Coordinar la aplicación por las empresas que intervengan en la construcción de los principios generales de prevención y seguridad de la Ley de Prevención de Riesgos Laborales.
- Coordinar a las empresas (contratista, subcontratistas y trabajadores autónomos) participantes en la obra porque apliquen los principios de acción preventiva. Supervisar el libro de subcontratación de la obra.
- Organizar la coordinación de actividades empresariales.
- Mantener informada a la Dirección facultativa, Delegado en obra del contratista y al Promotor de la situación de la seguridad y salud de la obra, lo cual incluye analizar cualquier posible accidente laboral emitiendo un informe sobre este tema con las conclusiones correspondientes para adoptar las medidas necesarias para prevenir accidentes laborales de origen similar.
- Mantener informada a la Dirección facultativa y al Promotor de cualquier anotación efectuada en el Libro de Incidencias.
- Mantener informada a la Dirección facultativa y al Promotor de las posibles visitas de técnicos o inspectores de la autoridad laboral competente.
- Hacer el seguimiento y supervisión en relación a los siguientes aspectos:
    - Apertura del Centro de Trabajo por parte del contratista adjudicatario de la obra.

  - Modalidad preventiva de la empresa.
  - Libro de subcontratación de la obra.
  - La existencia de los seguros correspondientes de obra, que las diferentes empresas participantes en la misma disponen.
  - Adoptar las medidas necesarias para limitar y controlar las personas que acceden a la obra, mediante los protocolos de autorización pertinentes.
  - Actividad de formación/ información de trabajadores sobre prevención de riesgos, en función de gremios específicos y entrega de EPI's.
  - Comprobar la existencia de los avisos que tienen que estar expuestos: Servicios Sanitarios, ambulancia, aviso previo, modificación del aviso, etc.
  - Comprobación del cumplimiento con los temas de Seguridad Social y manualidades de cada trabajo.
  - Comprobación de la idoneidad y eficacia de la señalización seguridad y salud de la obra.
  - Informes mensuales de siniestralidad generados por el contratista.
- Elaborar los informes mensuales, así como llevar a cabo los trabajos de gabinete necesarios para generar la documentación necesaria. .

Con el fin de elaborar un archivo documental en el cual quede reflejado el control de los aspectos anteriormente citados, el Coordinador de seguridad y salud durante la ejecución de las obras se encargará de solicitar, supervisar y analizar la siguiente documentación a aportar por el contratista de las obras:

- Copia de apertura del centro de trabajo.
- Modalidad preventiva de la empresa
- Seguros de responsabilidad de las diferentes empresas
- Notificación del comienzo de las actuaciones.
- Avisos de paralización de trabajos, si procede.
- Pla de Seguridad y Salud, y las modificaciones que puedan surgir durante la ejecución.
- Acta de entrega y subrogación del Plan de Seguridad, a los subcontratistas.
- Acta de entrega y subrogación del Plan al de Seguridad a los trabajadores autónomos.
- Control documental del Libro de Subcontratación.
- Relación de personal que intervendrá en la obra.
- Registro de copias de altas de Seguridad Social, TC1 y TC2.
- Documentos de control de reconocimientos médicos, y certificados de formación e información proporcionados a los trabajadores.
- Autorizaciones para acceso a las obras del personal del Contratista, Subcontratistas y Autónomos.

- Constitución del Comité de Seguridad y Salud, si procede.
- Actas de reunión de Comité de Seguridad y Salud.
- Acta de disolución de Comité de Seguridad y Salud.
- Nombramientos de:
    - Técnico de prevención, y acreditación de la formación adecuada.
    - Encargado de seguridad y salud de las empresas intervinientes (Recurso Preventivo), y acreditación de la formación adecuada.
    - Miembro de la cuadrilla de seguridad y salud
    - Señalista de maniobras o tránsito.
- Documentos de control de entrega de equipos de protección individual (EPI's), por parte del constructor, subcontratistas y trabajadores autónomos.
- Acreditación de los maquinistas.
- Autorización de utilización de máquinas, equipos y herramientas.
- Informes de siniestralidad y de investigación de accidentes laborales.
- Control documental del Libro de Incidencias.

Por otro lado, el Coordinador de seguridad y salud tendrá que generar la siguiente documentación para entregar a la Dirección facultativa de las obras, al Promotor y al Delegado en obra del contratista si procede:

- Nombramiento del Coordinador de seguridad y salud durante la ejecución de las obras y sustitución del mismo si procede.
- Aprobación del Plan de Seguridad y Salud Laboral elaborado por el contratista, y las modificaciones de este que se puedan generar durante la ejecución de la obra.
- Emitir si procede, el informe de recomendación de ajuste o reforma de la documentación de seguridad y salud, así como informar los posibles anexos al Plan de Seguridad y Salud de acuerdo con las necesidades que surjan durante la ejecución de los trabajos.
- Recepción del proyecto de instalación eléctrica provisional de obra.
- Actas de visita del Coordinador de seguridad y salud que incluirá un reportaje fotográfico, y la adecuada notificación al Delegado en obra del contratista.
- Actas de reuniones con la Dirección facultativa de las obras.
- Actas e informes de reuniones con terceros (vecinos, plataformas ciudadanas, asociaciones empresariales, ayuntamiento, etc.) relativas con objeto del contrato.
- Informe sobre el estado de seguridad y salud de los trabajos, por actividades y por empresas, reseñando incumplimientos del plan, actuaciones positivas, etc.
- Informe detallado de incumplimientos, incidencias o deficiencias de seguridad, incluso aunque las

incidencias no tengan como consecuencia daños a personas.

- Informes de investigación de accidentes y supervisión y análisis de los índices de siniestralidad.
- La Dirección facultativa de las obras dispondrá de un informe mensual que incluya como mínimo, los documentos actualizados que se relacionan:
    - Memoria y conclusiones del periodo informado.
    - Listado de empresas subcontratistas y trabajadores autónomos en obra y su control documental (Libro de subcontratación).
    - Actas de visita del Coordinador de Seguridad y Salud, con reportaje fotográfico.
    - Anotaciones en el Libro de Incidencias.
    - Visitas de técnicos o inspectores de la autoridad laboral
    - Análisis del cumplimiento de los principios generales aplicables durante la ejecución de la obra.
    - Grado de cumplimiento del Plan de Seguridad y Salud de las empresas concurrentes y de los trabajadores autónomos.
    - Asuntos relevantes pendientes.
    - Actas de reuniones de coordinación del personal responsable de seguridad y salud de las diferentes empresas de la obra.
    - Estadística de siniestralidad a la obra.
- Informe final de seguridad y salud de la obra, con un resumen de los aspectos más destacados de los incluidos en los informes mensuales.

1.3 DOCUMENTOS QUE DEFINEN LAS OBRAS E INSTALACIONES. PRELACIÓN

El orden de prelación de los documentos contractuales será el siguiente:

1. Contrato y Pliego de Cláusulas Administrativas Particulares, incluyendo los compromisos requeridos en la fase de licitación.
2. Cuadro de precios nº 1 del "Documento nº 4. Presupuesto" del proyecto, los precios elementales y auxiliares del Anejo de Justificación de precios, y los precios unitarios contemplados en el Anejo de Control de Calidad
3. "Documento nº 3. Pliego de Prescripciones Técnicas Particulares" del proyecto.
4. "Documento nº2. Planos" del proyecto.
5. Las partes del proyecto que remitan, de forma específica, a los documentos contractuales anteriores

Las obras e instalaciones vienen definidas en los documentos del presente proyecto: Memoria y Anejos, Planos, Pliego de Prescripciones Técnicas Particulares y Presupuesto.

En caso de incompatibilidad entre lo indicado en los diferentes documentos del proyecto se seguirán las siguientes normas:

- El documento nº 2, "Planos", tiene prelación sobre los demás documentos en lo que a dimensiones se refiere. Las cotas en los planos tendrán preferencia sobre las medidas a escala. En los elementos que figuren en varios planos, serán preferentes los de mayor escala.
- El documento nº 3, "Pliego de Prescripciones Técnicas Particulares", tiene prelación sobre los demás en lo que se refiere a los materiales a emplear, ejecución, medición y valoración de las obras.
- El cuadro de precios nº 1 tiene prelación sobre cualquier otro documento en lo que se refiere a los precios de las unidades de obra.
- Lo mencionado en el Pliego de Prescripciones Técnicas Particulares y omitido en Planos, o viceversa, habrá de ser ejecutado como si estuviese expuesto en ambos documentos, siempre que la unidad de obra esté definida en uno u otro documento, y tenga precio en el Presupuesto.
- Las omisiones o las descripciones erróneas de los detalles de la obra que sean indispensables para llevar a cabo el espíritu o intención expuestos en el proyecto, y que por uso o costumbre deban ser realizados, no eximen al Contratista de la obligación de ejecutar estos detalles de obra, sino que deberán ser correctamente ejecutados.
- En cualquier caso se dará prioridad a aquello que permita la mejor ejecución y funcionamiento de la instalación, siguiendo las instrucciones de la Dirección facultativa.

A los documentos mencionados habrá que añadir:

- Los planos de obra complementarios o substitutivos de los planos, que hayan sido debidamente aprobados por la Dirección facultativa.
- Las órdenes escritas emanadas de la Dirección facultativa y reflejadas en el Libro de Órdenes, existente obligatoriamente en la obra.

El resto de documentos del proyecto se considerarán informativos, y como tales representan una opinión fundada de la Administración. Sin embargo, ello no supone que se responsabilice de la certeza de los datos que se suministran; y, en consecuencia, deben aceptarse tan sólo complemento de la información que el Contratista debe adquirir directamente y con sus propios medios. Por tanto, el Contratista será responsable de los errores que se puedan derivar de su defecto o negligencia en la consecución de todos los datos que afectan al Contrato, al Planeamiento y a la ejecución de las obras.

1.3.1 Obligaciones generales del contratista

Se estará, en general, a lo dispuesto en el Pliego de Cláusulas Administrativas Particulares del contrato, en el presente Pliego de Prescripciones técnicas particulares y en la normativa de aplicación.

Sin perjuicio de lo anterior y siempre que la naturaleza y características de las obras lo permitan, el Contratista deberá elaborar, tramitar y dar cumplimiento a los aspectos que se exponen a continuación, adaptándolos a su

sistema productivo y a la realidad física de los terrenos, siendo a cuenta del Contratista cuantos gastos se produzcan:

a) Previamente a la firma del acta de comprobación de replanteo

- Plan de seguridad y salud y documentación complementaria asociada (Aprobación del Plan, apertura centro de trabajo, coordinación actividades empresariales, etc.). En el caso que los trabajadores estén expuestos o sean susceptibles de estar expuestos a fibras de amianto o de materiales que lo contengan, será de aplicación el Real Decreto 396/2006, de 31 de marzo, por el que se establecen las disposiciones mínimas de seguridad y salud aplicables a los trabajos con riesgo de exposición al amianto. En este supuesto, el empresario deberá elaborar un plan de trabajo específico de las actividades con riesgo y de las medidas de seguridad y salud de los trabajadores, y tramitar el mismo ante la autoridad laboral
- Programa de trabajos detallado, en desarrollo del Plan de Obra del Proyecto y de la oferta presentada, si procede, adaptado a los documentos contractuales, condicionantes normativos y de tramitación (ordenanzas municipales, plan de medidas de seguridad y salud aplicables a los trabajos con riesgo de exposición al amianto, etc.), plazos de entrega definitiva de los equipos y a los medios de ejecución de la obra, así como a las condiciones de funcionamiento de las instalaciones existentes durante las obras (si procede), para su aprobación por parte de la Dirección facultativa.
- Documentación, gestiones y comunicaciones asociadas a las prescripciones y condiciones de las autorizaciones, concesiones, licencias, y permisos de las Administraciones intervinientes y de los propietarios de los terrenos afectados por las obras.

b) En el plazo máximo de dos semanas desde la firma del acta de comprobación de replanteo, y sin perjuicio de las actualizaciones y documentación complementaria que se requieran durante la ejecución de los trabajos.

- Documentación, gestiones y comunicaciones restantes, asociadas a las prescripciones y condiciones de las autorizaciones, concesiones, licencias, y permisos de las Administraciones intervinientes, de los propietarios de los terrenos afectados por las obras y de los terrenos adicionales que el contratista proponga para acopios y trabajos auxiliares.
- Trabajos complementarios de comprobación de topografía, geotecnia, inspecciones, inventarios, etc., necesarios para el correcto inicio de los trabajos.
- Servicios afectados. Recopilación de información y propuesta de organización de los trabajos asociados.
- Programa específico de Gestión de Residuos de construcción-demolición
- Programa de acopios y autorizaciones correspondientes (si procede)
- Programa de organización y desvíos de tráfico.
- Programa de vigilancia ambiental
- Programa de calidad, ensayos y pruebas.

- Confrontación de los planos y medidas para informar por escrito a la Dirección facultativa de aquellos aspectos que, a su juicio, no hayan sido correctamente reflejados en la documentación de proyecto o de cualquier contradicción que encontrara. La Dirección facultativa dispondrá de quince (15) días para la resolución de las dudas planteadas. Una vez aprobadas las correcciones correspondientes, el Contratista deberá disponer en la obra de una colección completa de los planos actualizados.

c) En el plazo máximo de cuatro semanas desde la firma del acta de comprobación de replanteo, y sin perjuicio de las actualizaciones y documentación complementaria que se requieran durante la ejecución de los trabajos.

- Versiones definitivas corregidas de todos los documentos del apartado b), según las indicaciones de la Dirección facultativa
- Documentación preceptiva para la tramitación ante la administración competente en materia de instalaciones eléctricas de las autorizaciones previas y de puesta en servicio.
- Documentación preceptiva para la tramitación del suministro eléctrico ante la compañía eléctrica.
- Propuesta de equipos equivalentes propuestos a la Dirección facultativa, juntamente con toda la documentación técnica necesaria para su evaluación, y justificación de la equivalencia y/o mejora respecto a los equipos propuestos en proyecto. Los equipos equivalentes propuestos por el Contratista no pueden ser motivo, en ningún caso, de incremento de precio del proyecto.
- La Dirección facultativa deberá aprobar expresamente la relación definitiva de equipos, en el plazo máximo de dos semanas desde la presentación de la lista por el Contratista, indicando en cada caso qué equipos equivalentes acepta y cuáles deben ser los propuestos en el proyecto. La no contestación por parte de la Dirección facultativa en el plazo indicado, supone la no aceptación de los mismos y, por lo tanto, la obligación por parte del Contratista de suministrar los equipos indicados en el Proyecto.
- En el caso de obras cuya duración y/u organización por fases lo aconsejen, podrá plantearse el análisis y selección de los equipos por bloques, siempre y cuando no resulten afectados los plazos parciales ni globales establecidos en el contrato.

d) En el plazo máximo de dos semanas desde la aprobación definitiva de los equipos propuestos

- Planos de implantación detallada de los equipos e instalaciones y de ejecución de las obras, que recojan todos los ajustes derivados de las dimensiones finales de los equipos aprobados, anclajes de éstos, conducciones e interferencias, para la aprobación de la Dirección facultativa.

e) Durante la ejecución de las obras

- Justificación documental y medios auxiliares necesarios para la realización, por parte de la Dirección facultativa, de las mediciones de las unidades de obra ejecutadas durante el período anterior (albaranes, fotografías, mediciones auxiliares, relación de incidencias, etc.). La documentación deberá entregarse con la suficiente antelación a la realización de dicha medición.

- Comunicación a la Dirección facultativa, por escrito y con acuse de recibo, de cualquier incidencia que pueda suponer una variación del precio del proyecto, en el plazo máximo de dos días laborables desde el momento en que se produzca. Dicha comunicación deberá acompañarse de la justificación documental necesaria, así como de una estimación de la desviación observada con respecto del proyecto. El Contratista no podrá reclamar cantidad alguna adicional al precio del proyecto, si no efectúa la comunicación y presentación en plazo de dicha documentación.
- Entrega a la Dirección facultativa de original o copia de toda la documentación generada durante la ejecución de la obra, en especial la referente a permisos, trámites y/o autorizaciones, albaranes y documentación de equipos instalados, pruebas y análisis realizados, planos de montaje, despieces y cualquier otro documento relevante para incluir en la documentación final de la obra.
- Comunicación escrita a la dirección de obra de la fecha prevista de terminación del contrato, a los efectos de que se pueda realizar su recepción.

f) Con carácter general, cualquier otra documentación, tramitación y/o gestión derivada de las autorizaciones, licencias y permisos del proyecto de referencia.

1.3.2 Gastos de carácter general a cargo del contratista

Serán a cuenta del Contratista los gastos generales e indirectos que se exponen a continuación, siempre que en el contrato no se prevea explícitamente lo contrario.

Se considerarán costes indirectos:

- los asociados a garantizar la operatividad de las instalaciones existentes
- los de construcción, remoción y retirada de toda clase de instalaciones y construcciones auxiliares (oficinas, comunicaciones, almacenes, talleres, laboratorios, etc.)
- los de alquiler o adquisición de terrenos para depósitos de maquinaria y materiales.
- los de montaje, conservación y retirada de instalaciones para el suministro de agua, energía eléctrica y otros servicios necesarios para las obras; así como la adquisición de dicha agua y energía;
- los de coordinación con otras obras coincidentes en la zona y/o en el tiempo
- los del personal técnico y administrativo adscrito a la obra

Se considerarán gastos generales de estructura, los gastos financieros, cargas fiscales, Impuesto sobre el Valor Añadido excluido, tasas de la Administración legalmente establecidas, que inciden sobre el costo de las obras y demás derivados de las obligaciones del contrato, y en particular:

- los que origine el replanteo de las obras o su comprobación, incluyendo los replanteos parciales de las mismas, así como la toma de datos suplementarios que fuere preciso conseguir para completar el proyecto original
- los gastos de jornales, materiales y consumos necesarios para las mediciones y las pruebas

- los de ensayos y análisis "in situ" y de laboratorio de materiales y unidades de obra, y los informes específicos que en cada caso resulten pertinentes que sean necesarios para la recepción de los materiales y de las obras, siempre que no superen el porcentaje indicado en el Pliego de cláusulas administrativas particulares del contrato de obras.
- los de protección de acopios y de la propia obra contra todo deterioro, daño o incendio, cumpliendo los requisitos vigentes para el almacenamiento de explosivos y carburantes
- los de construcción y conservación durante el plazo de su utilización de desvíos provisionales de accesos a tramos parcial o totalmente terminados cuya construcción responda a conveniencia del Contratista, y los de conservación durante el mismo plazo de toda clase de desvíos prescritos en el Proyecto y ordenados por la Administración que no se efectúen aprovechando carreteras existentes;
- los de conservación de señales de tráfico y demás recursos necesarios para proporcionar seguridad dentro de las obras; los de remoción de las instalaciones, herramientas, materiales y limpieza general de la obra a su terminación;
- los de retirada y gestión de los materiales rechazados y corrección de las deficiencias observadas y puestas de manifiesto por los correspondientes ensayos y pruebas.
- los daños a terceros a consecuencia de las operaciones que requiera la ejecución de las obras.

Es obligación del Contratista la conservación de todas las obras objeto de este Proyecto y por consiguiente, la reparación o construcción a su costa, de aquellas partes que hayan sufrido daños por causas o imprevisiones imputables a él. Esta obligación de conservar las obras se extiende igualmente a los acopios que se hayan certificado, correspondiendo, por tanto, al Contratista el almacenamiento, guarda y custodia de estos acopios y la reposición de aquellos que se hayan perdido, destruido o dañado por su causa o imprevisión.

Será de cuenta del Contratista indemnizar a los propietarios de los derechos que les correspondan y todos los daños que causen por la perturbación del tráfico en las vías públicas, la explotación de canteras, la extracción de tierras para la ejecución de los terraplenes, el establecimiento de almacenes, talleres y depósitos; los que se originen con la habilitación de caminos y vías provisionales para el transporte de aquellos o para apertura y desviación de cauces, y los que exijan las demás operaciones que requieran la ejecución de las obras.

En los casos de resolución del contrato, sea por finalización o por cualquier otra causa que la motive, serán de cuenta del Contratista los gastos originados por la liquidación, así como los de las retiradas de los medios auxiliares empleados o no en la ejecución de las obras.

1.3.3 Coordinación con otras obras.

Si existiesen otros trabajos dentro del área de la obra a ejecutar, el Contratista deberá coordinar su actuación con los mismos de acuerdo con las instrucciones de la Dirección facultativa, adaptando su programa de trabajo en lo

que pudiera resultar afectado sin que por ello tenga derecho a indemnización alguna ni justificar retraso en los plazos señalados.

1.3.4 Forma de abono de las obras, relación valorada y certificación

Las obras ejecutadas se abonarán al Contratista por medio de certificaciones mensuales, aplicando al volumen de cada unidad de obra ejecutada el precio correspondiente del Cuadro de Precios nº 1.

Todos los meses a partir de la fecha comienzo de la Obras, la Dirección de las mismas formulará una Relación Valorada de las ejecutadas durante el período anterior. Dicha relación contendrá las mediciones efectuadas y valoradas de acuerdo con los criterios presentados en los puntos anteriores. El Contratista podrá presenciar la realización de dichas mediciones.

Al resultado de la valoración, obtenido en la forma expresada, se le aumentarán los porcentajes adoptados para formar el presupuesto base de licitación, y a la cifra resultante se le aplicará el coeficiente de adjudicación, obteniendo así la relación valorada.

La Dirección facultativa enviará un ejemplar de la relación valorada al Contratista, a efectos de su conformidad o reparos, pudiendo éste formular sus alegaciones en un plazo máximo de diez días desde la recepción de la misma. Transcurrido este plazo sin formular alegaciones por parte del Contratista se considerará otorgada la conformidad a la relación valorada. En caso contrario, y de aceptarse en todo o en parte las alegaciones del Contratista, éstas se tendrán en cuenta a la hora de redactar la próxima relación valorada, o en su caso, en la certificación final o en la liquidación del contrato.

Tomando como base la relación valorada mensual, la dirección facultativa expedirá la correspondiente certificación de obra en el plazo máximo de diez días siguientes al período que corresponda, la cual se tramitará por parte de la Dirección facultativa en la forma reglamentaria.

El abono de estas certificaciones tendrán el concepto de pagos a cuenta sujetos a las rectificaciones y variaciones que se produzcan en la medición final y sin suponer de forma alguna, aprobación y recepción de las obras que comprenden.

1.3.5 Recepción, certificación final y liquidación de las obras

Con carácter general, se estará a lo dispuesto en el Pliego de Cláusulas Administrativas Particulares.

Sin perjuicio de lo anterior, se procederá a la recepción una vez superadas todos los ensayos y pruebas necesarias con resultado satisfactorio, así como se acredite el cumplimiento de todas las obligaciones contenidas en los documentos contractuales.

El procedimiento a seguir será el siguiente:

- Con una antelación de un mes respecto a la fecha de terminación de las obras, la Dirección facultativa

remitirá al Coordinador de obras/ Representante Facultativo designado por la Administración la comunicación del Contratista indicando la fecha prevista de finalización, junto con su informe de si procede realizar el acto de recepción.

- Se llevarán a cabo las acciones necesarias para que, en el momento de la recepción, se hayan superado todos los ensayos y pruebas necesarias, y obtenido los permisos de instalaciones precisos para el funcionamiento de las obras e instalaciones, de modo que puedan ser entregadas o cedidas al uso a que se destinen.
- Acta de transmisión de la gestión, mantenimiento y conservación de los elementos afectados por las obras, con la firma del Coordinador de obras/ Representante Facultativo designado por la Administración, la Dirección facultativa y el Responsable del contrato de explotación, mantenimiento y conservación. En caso de que el Contratista de explotación, mantenimiento y conservación planteara discrepancias sobre el estado de los elementos objeto de transmisión, la Dirección facultativa de las obras y el Responsable del contrato de explotación, mantenimiento y conservación deberán informar al respecto, previamente a la formalización del Acta.
- El Coordinador de obras/ Representante Facultativo designado por la Administración determinará la fecha para llevar a cabo el acto de recepción de las obras y lo comunicará a las partes. La recepción deberá realizarse dentro del plazo de un mes desde la fecha de finalización de las obras.
- Acto de recepción de las obras:
    - En caso que las obras se encuentren en buen estado y conforme a las prescripciones previstas, se levantará el acta correspondiente, adjuntando la documentación justificativa necesaria e iniciándose el plazo de garantía. La Dirección facultativa dará las instrucciones oportunas al Contratista acerca de la conservación de la obra y los aspectos que deben ser especialmente estudiados o vigilados durante el periodo de garantía, así las pruebas de funcionamiento que no se hubieran podido llevar a cabo antes de la recepción, y las pruebas de rendimiento a realizar durante el plazo de garantía.
    - En caso de que las obras no se hallen en estado de ser recibidas, la Dirección facultativa señalará los defectos detectados y detallará el plazo asociado y las instrucciones oportunas al Contratista para remediar aquéllos, dejando constancia en el acta. Si transcurrido dicho plazo el contratista no lo hubiera efectuado, podrá concedérsele otro nuevo plazo improrrogable o declarar resuelto el contrato.
    - Podrán ser objeto de recepción parcial aquellas partes de obra susceptibles de ser ejecutadas por fases que puedan ser entregadas al uso público, según lo establecido en el contrato.
    - Por razones excepcionales de interés público debidamente motivadas en el expediente, el órgano de contratación puede acordar la ocupación efectiva de las obras o su puesta en servicio

para el uso público, aun sin el cumplimiento del acto formal de recepción.

- En el plazo máximo de un mes desde la fecha de la recepción se realizará la medición general de las obras a iniciativa de la Dirección Facultativa. La asistencia del Contratista es obligatoria, para lo cual se le notificara con antelación suficiente. De dicho acto se levantará acta por triplicado suscrita por la dirección facultativa y el Contratista, remitiendo un ejemplar al Coordinador de obras/ Representante Facultativo designado por la Administración. Si el contratista no hubiera asistido a la medición, la dirección de obras le remitirá un ejemplar del acta correspondiente. El contratista tendrá un plazo de cinco días hábiles para prestar su conformidad o manifestar los reparos que considere oportunos. En este último supuesto, el director facultativo deberá emitir su informe en el plazo de diez días hábiles.
- En base a la medición final, la Dirección facultativa elaborará la certificación final de las obras y la remitirá al Coordinador de obras/ Representante Facultativo designado por la Administración para su revisión a efectos de adecuación de los precios unitarios del contrato y comprobación aritmética del importe resultante. A continuación, se dará audiencia al Contratista. En caso que el Contratista planteara discrepancias a la propuesta de certificación final, la Dirección facultativa deberá informar sobre las mismas.
- El Coordinador de obras/ Representante Facultativo designado por la Administración elevará la propuesta de certificación final para la aprobación por parte del Órgano de contratación, en un plazo no superior a tres (3) meses desde la recepción.
- Antes del abono del importe de la certificación final aprobada por el Órgano de contratación, la Dirección facultativa elaborará y/o recopilará y revisará, para su entrega al Coordinador de obras/ Representante Facultativo designado por la Administración, la documentación de obra acabada, la cual deberá incorporar los siguientes contenidos (incluyendo tres (3) CD en formato digital editable):
    - Proyecto As Built
    - Manual de funcionamiento de les instalaciones y fichas de características técnicas de los equipos electromecánicos
    - Fotografías de la fase de ejecución de las obras
    - Otra documentación significativa generada durante las obras (permisos, boletines, informes, actas, ensayos, etc.)
- La Dirección facultativa emitirá, dentro del plazo de 15 días anteriores al cumplimiento del plazo de garantía, un informe sobre el estado de las obras. Si éste fuera favorable o, en caso contrario, una vez reparado lo construido, se formulará en el plazo de un mes la propuesta de liquidación de las obras, dando traslado de la misma al Coordinador de obras/ Representante Facultativo designado por la Administración para que lo trámite ante el Órgano de contratación, otorgando al contratista un plazo de 10 días para que preste su conformidad o manifieste los reparos que estime oportunos. Dentro del plazo

de dos meses, contados a partir de la contestación del contratista o del transcurso del plazo establecido para tal fin, el órgano de contratación deberá aprobar la liquidación y abonar, en su caso, el saldo resultante de la misma.

- Si el informe sobre el estado de las obras no fuera favorable, debe indicarse en el mismo si las causas son debidas a defectos de ejecución o al uso de lo construido. En el primer caso, la Dirección facultativa procederá a dictar las oportunas instrucciones al contratista para la debida reparación de lo construido, concediéndole un plazo para ello durante el cual continuará encargado de la conservación de las obras, sin derecho a percibir cantidad alguna por ampliación del plazo de garantía. En el segundo caso, se emitirá un informe favorable haciendo constar las causas de las deficiencias. En ambos casos, la tramitación proseguirá en los mismos términos del párrafo primero.

Se recomienda la contratación de la ejecución de las obras por unidades de obra, con arreglo a los documentos del proyecto y en cifras fijas. A tal fin, el director de obra ofrece la documentación necesaria para la realización del contrato de obra.

1.3.6 Redacción de proyectos específicos y documentación

El contratista se encargará de la redacción de todos los proyectos eléctricos específicos que sean necesarios, tanto en lo que se refiere a la ampliación de la red de baja tensión como a la acometida y a la instalación interior en baja tensión, y tanto los proyectos de tramitación como los de obra.

El proyecto de tramitación podrá incluir solamente aquellos proyectos específicos para los que sea necesaria algún tipo de autorización previa por parte de alguna administración u organismo (Ayuntamiento, Consell insular, DG Industria… o Endesa).

En el proyecto de tramitación se incluirán, como mínimo, los esquemas unifilares de potencia.

En el proyecto de obra se incluirán cada uno de los proyectos específicos eléctricos, como un documento único y autónomo cada uno de ellos.

Los proyectos que se tengan que incluir en el proyecto de tramitación (líneas de MT o BT…) tendrán la suficiente definición para permitir la completa tramitación de las autorizaciones previas de las instalaciones, y contendrán todos los documentos necesarios para ello (Memoria y anejos, planos, pliego de condiciones, estudio de seguridad y salud, gestión de residuos…).

Los proyectos definitivos tendrán el suficiente detalle en todas y cada una de sus partes para permitir unívocamente su ejecución. Así mismo dispondrán de todos los apartados y documentos para su tramitación y puesta en servicio ante los organismos competentes.

2. NORMATIVA APLICABLE

La siguiente relación de disposiciones constituye el marco normativo al que se ajustarán las obras. Sin embargo, son preceptivas todas las disposiciones legales y reglamentarias de carácter oficial aplicables a las obras definidas en el presente proyecto, aunque no se citen. Por otra parte, las disposiciones de carácter no oficial que se incluyen en la relación serán de aplicación en todo lo que no quede expresamente especificado en este Pliego.

2.1 NORMAS TÉCNICAS DE PROYECTO Y CONSTRUCCIÓN

- Real Decreto 1247/2008, de 18 de julio, por el que se aprueba la Instrucción de Hormigón Estructural (EHE-08).
- Articulado vigente del Pliego de Prescripciones Técnicas Generales para Obras de Carreteras y Puentes (PG-3).
- Pliego de Prescripciones Técnicas Generales para Tuberías de Saneamiento de Poblaciones, aprobado por Orden del Ministerio de Obras Públicas y Transportes de 15 de septiembre de 1986.
- Código Técnico de la Edificación, aprobado por Real Decreto 314/2006, de 17 de marzo. Incluye las siguientes Normas Básicas de la Edificación:
    - DB-SE: Seguridad estructural.
    - DB-SE-AE: Acciones en la edificación.
    - DB-SE-C: Cimentaciones
    - DB-SE-A: Estructuras de acero.
    - DB-SE-F: Estructuras de fábrica.
    - DB-SI: Seguridad en caso de incendio.
    - DB-SU: Seguridad de utilización.
    - DB-HS: Salubridad.
    - DB-HR: Protección frente al ruido.
    - DB-HE: Ahorro de energía.
- Real Decreto 1371/2007, de 19 de octubre, por el que se aprueba el documento básico «DB-HR Protección frente al ruido» del Código Técnico de la Edificación y se modifica el Real Decreto 314/2006, de 17 de marzo, por el que se aprueba el Código Técnico de la Edificación.
- Orden VIV/984/2009, de 15 de abril, por la que se modifican determinados documentos básicos del Código Técnico de la Edificación. Corrección de errores en BOE de 23 de septiembre de 2009.
- Real Decreto 223/2008, de 15 de febrero, por el que se aprueban el Reglamento sobre condiciones técnicas y garantías de seguridad en líneas eléctricas de alta tensión y sus Instrucciones técnicas complementarias ITC-LAT 01 a 09. Modificado por correcciones de errores y erratas en BOE nº 174 de 19 de julio de 2008 y BOE nº 120 de 17 de mayo de 2008.

- Reglamento Electrotécnico para Baja Tensión, aprobado por Real Decreto 842/2002, de 2 de agosto.
- Real Decreto 1890/2008, de 14 de noviembre, por el que se aprueba el Reglamento de eficiencia energética en instalaciones de alumbrado exterior y sus Instrucciones técnicas complementarias EA-01 a EA-07.
- Reglamento de Instalaciones Térmicas de los Edificios, aprobado por el Real Decreto 1027/2007, de 20 de julio; modificado por el Real Decreto 1826/2009, de 27 de noviembre

2.2 NORMAS URBANÍSTICAS

- Ley 6/1997, de 8 de julio, del suelo rústico de las Islas Baleares
- Plan Territorial de Eivissa i Formentera (21 de marzo de 2005)
- Norma territorial cautelar por la cual se adoptan medidas provisionales para asegurar la viabilidad y efectividad de la modificación del Plan Territorial Insular de Ibiza y Formentera (PTI) (26 de abril de 2017).
- Modificación núm. 1 aprobada por el Pleno del Consell d'Eivissa el 15 de mayo de 2019 del PTI.
- Normas Subsidiarias de Planeamiento de Formentera.
- Real Decreto Legislativo 2/2008, de 20 de junio, por el que se aprueba el texto refundido de la Ley del Suelo.
- Ley 5/1990, de 24 de mayo, de Carreteras de la Comunidad Autónoma de las Islas Baleares
- Ley 22/88, de 28 de julio, de Costas. Modificada por ley 53/2002, de 30 de diciembre, de medidas fiscales.
- Ley 2/2013 de Protección y uso Sostenible del Litoral y de Modificación de la Ley de Costas.
- Real Decreto 876/2014, de 10 de octubre, por el que se aprueba el Reglamento General de Costas.
- Sentencia 149/91, de 4 de julio, del Tribunal Constitucional, en relación con determinados preceptos de la Ley 22/88, de 28 de julio, de Costas.

2.3 NORMAS SOBRE AGUAS Y DOMINIO PÚBLICO HIDRÁULICO

- Real Decreto 849/86, de 11 de abril, por el que se aprueba el Reglamento del Dominio Público Hidráulico que desarrolla los títulos preliminar I, IV, V, VI y VII de la Ley de Aguas.
- Real Decreto 1.315/92, de 30 de octubre, por el que se modifica parcialmente el Reglamento del Dominio Público Hidráulico, aprobado por Real Decreto 849/86, de 11 de abril.
- Real Decreto 638/2016, de 9 de diciembre, por el que se modifica el Reglamento del Dominio Público Hidráulico aprobado por el Real Decreto 849/1986, de 11 de abril, el Reglamento de Planificación Hidrológica, aprobado por el Real Decreto 907/2007, de 6 de julio, y otros reglamentos en materia de gestión de riesgos de inundación, caudales ecológicos, reservas hidrológicas y vertidos de aguas residuales.
- Real Decreto 51/2019, de 8 de febrero, de Revisión anticipada del Plan Hidrológico de las Islas Baleares, correspondiente al segundo ciclo 2015-2021.

- Real Decreto 995/2000, de 2 de junio de 2000, por el que se fijan los objetivos de calidad para determinadas sustancias contaminantes y se modifica el Reglamento del Dominio Público Hidráulico (RD 849/86).
- Real Decreto Legislativo 1/2001, de 20 de julio de 2001, por el que se aprueba el texto refundido de la Ley de Aguas.
- Real Decreto Ley, de 13 de abril de 2007, por el que se modifica el texto refundido de la Ley de Aguas, aprobado por el Real Decreto Legislativo 1/2001, de 20 de julio.

2.4 NORMAS SOBRE CALIDAD DEL EFLUENTE

- Real Decreto Ley 11/95, de 28 de diciembre, por el que se establecen las normas aplicables al tratamiento de las aguas residuales urbanas.
- Real Decreto 509/96, de 15 de marzo, de desarrollo del Real Decreto Ley 11/95, de 28 de diciembre, por el que se establecen las normas aplicables al tratamiento de las aguas residuales urbanas.
- Real Decreto 2.116/98, de 2 de octubre, por el que se modifica el Real Decreto 509/1996, de 15 de marzo, de desarrollo del Real Decreto Ley 11/95, de 28 de diciembre, por el que se establecen las normas aplicables al tratamiento de las aguas residuales urbanas.
- Decreto 49/2003, de 9 de mayo, por el que se declaran las zonas sensibles en las Illes Balears.
- Real Decreto 1620/2007, de 7 de diciembre, por el que se establece el régimen jurídico de la reutilización de las aguas depuradas.

2.5 NORMAS SOBRE OBJETIVOS DE CALIDAD DEL MEDIO RECEPTOR

- Directiva 2000/60/CE, de 23 de octubre de 2000, por la que se establece un marco comunitario de actuación en el ámbito de la política de aguas (Directiva Marco del Agua).
- Directiva 2006/7/CE del Parlamento Europeo y del Consejo, de 15 de febrero de 2006, relativa a la gestión de las aguas de baño
- Real Decreto 1341/2007, de 11 de octubre, sobre la gestión de la calidad de las aguas de baño.

2.6 NORMAS SOBRE IMPACTO AMBIENTAL

- Ley 5/2005, de 26 de mayo, para la conservación de los espacios de relevancia ambiental (Illes Balears).
- Acuerdo del Consell de Govern de día 3 de marzo de 2006, por el cual se aprueba definitivamente, una vez sometida a trámite de audiencia e información pública, la lista de lugares de importancia comunitaria (LIC) aprobada por acuerdo del Consell de Govern de 28 de julio de 2000, en el ámbito de las Illes Balears.
- Decreto 28/2006, de 24 de marzo, por el cual se declaran zonas de especial protección para las aves (ZEPA), en el ámbito de las Illes Balears.
- Decreto 29/2006, de 24 de marzo, por el cual se aprueba la ampliación de la lista de lugares de importancia comunitaria (LIC) y se declaran más zonas de especial protección para las aves (ZEPA), en

el ámbito de las Illes Balears.

- Ley 27/2006, de 18 de julio, por la que se regulan los derechos de acceso a la información, de participación pública y de acceso a la justicia en materia de medio ambiente y incorpora las Directivas 2003/4/CE y 2003/35/CE
- Ley 21/2013, de 9 de diciembre, de avaluación ambiental.
- Ley 12/2016, de 17 de agosto de evaluación ambiental de las Islas Baleares
- Real Decreto 815/2013, de 18 de octubre, por el que se aprueba el Reglamento de emisiones industriales y de desarrollo de la Ley 16/2002, de 1 de julio, de prevención y control integrados de la contaminación Real Decreto Legislativo 1/2008, de 11 de enero, por el que se aprueba el texto refundido de la Ley (estatal) de evaluaciones de impacto ambiental.
- Ley 3/2005, de 20 de abril, de protección del medio nocturno de las Illes Balears.
- Ley 34/2007, de 15 de noviembre, de calidad del aire y protección de la atmósfera.
- Ley 1/2007, de 16 de marzo, contra la contaminación acústica de las Illes Balears.

2.7 NORMAS SOBRE SEGURIDAD Y SALUD

- Ley 31/1995, de 8 de noviembre, de Prevención de Riesgos Laborales.
- Real Decreto 1627/1997, de 24 de octubre, por el que se establecen disposiciones mínimas de seguridad y salud en las obras de construcción.
- Orden de 14 de octubre de 1997, por la que se aprueban las normas de seguridad para el ejercicio de actividades subacuáticas y su modificación mediante resolución de 20-1-99 de la DGMM (BOE 42 de 18-02).
- Resolución de 18 de octubre de 2016, de la Dirección General de Empleo, por la que se registra y publica el Acta del acuerdo de modificación del Convenio colectivo de buceo profesional y medios hiperbáricos y el acuerdo sobre Normas de seguridad en actividades subacuáticas.
- Real Decreto 614/2001, de 8 de junio, sobre disposiciones mínimas para la protección de la seguridad y salud de los trabajadores frente al riesgo eléctrico.
- Real Decreto 1311/2005, de 4 de noviembre, sobre la protección de la salud y la seguridad de los trabajadores frente a los riesgos derivados o que puedan derivarse de la exposición a vibraciones mecánicas.
- Real Decreto 286/2006, de 10 de marzo, sobre la protección de la salud y la seguridad de los trabajadores contra los riesgos relacionados con la exposición al ruido.
- Real Decreto 396/2006, de 31 de marzo, por el que se establecen las disposiciones mínimas de seguridad y salud aplicables a los trabajos con riesgo de exposición al amianto.
- Real Decreto 604/2006, de 19 de mayo, por el que se modifican el Real Decreto 39/1997, de 17 de enero, por el que se aprueba el Reglamento de los Servicios de Prevención, y el Real Decreto 1627/1997, de 24

de octubre, por el que se establecen las disposiciones mínimas de seguridad y salud en las obras de construcción.

- Real Decreto 1644/2008, de 10 de octubre, por el que se establecen las normas para la comercialización y puesta en servicio de las máquinas.
- Real Decreto 2060/2008, de 12 de diciembre, por el que se aprueba el Reglamento de equipos a presión y sus instrucciones técnicas complementarias.

2.8 NORMAS SOBRE GESTIÓN DE RESIDUOS

- Aprobación Definitiva del Plan Director Sectorial de residuos no peligrosos de Formentera publicado en el BOIB núm. 72 del 30 de mayo de 2019.
- Ordenanza municipal reguladora de la gestión de los residuos de la construcción y demolición
- Real Decreto 105/2008, de 1 de febrero, por el que se regula la producción y gestión de los residuos de construcción y demolición.

2.9 NORMAS SOBRE ACTIVIDADES

- Ley 6/2019, de 8 de febrero, de modificación de la Ley 7/2013, de 26 de noviembre, de régimen jurídico de instalación, acceso y ejercicio de actividades en las Illes Balears
- Ley 7/2013, de 26 de noviembre, de régimen jurídico de instalación, acceso y ejercicio de actividades en las Illes Balears
- Ley 8/1995, de 30 de marzo, de atribución de competencias a los Consells Insulares en materia de Actividades Clasificadas.
- Decreto 18/1996, de 8 de febrero, por el cual se aprueba el Reglamento de Actividades Clasificadas.
- Decreto 19/1996, de 8 de febrero, por el cual se aprueba el nomenclátor de actividades molestas, insalubres, nocivas y peligrosas, sujetas a clasificación.
- Real Decreto 2267/2004, de 3 de diciembre, por el cual se aprueba el Reglamento de Seguridad contra incendios en establecimientos industriales

2.10 NORMAS SOBRE CONTRATACIÓN

- Ley 32/2006, de 18 de octubre, reguladora de la subcontratación en el Sector de la Construcción.
- Real Decreto 1109/2007, de 24 de agosto, por el que se desarrolla la Ley 32/2006, de 18 de octubre, reguladora de la subcontratación en el Sector de la Construcción.
- Ley 9/2017, de 8 de noviembre, de Contratos del Sector Público.
- Real Decreto 1098/2001, de 12 de octubre, por el que se aprueba el Reglamento General de la Ley de contratos de las Administraciones Públicas.

Será de aplicación, aunque no esté contemplada en la relación anterior, cualquier disposición, pliego, reglamento o norma de obligado cumplimiento.

En caso de presentarse discrepancias entre las especificaciones impuestas por los diferentes Pliegos, Instrucciones y Normas, se entenderá como válida la más restrictiva.

En cualquier caso, se entenderá que las normas citadas serán de aplicación en sus últimas versiones actualizadas y editadas.

3. DISPOSICIONES DE LA EJECUCIÓN Y RECEPCIÓN DE LA OBRA

3.1 INICIO DE LA OBRA Y RITMO DE EJECUCIÓN DE LOS TRABAJOS

El contratista dará comienzo a las obras en el plazo especificado en el respectivo contrato, desarrollándose de manera adecuada para que dentro de los períodos parciales señalados se realicen los trabajos, de modo que la ejecución total se lleve a cabo dentro del plazo establecido en el contrato.

Será obligación del contratista comunicar a la Dirección Facultativa el inicio de las obras, de forma fehaciente y por escrito.

El director de obra redactará el acta de comienzo de la obra y la suscribirán en la misma obra junto con él, el día de comienzo de los trabajos, el director de obra, el promotor y el contratista.

Para la formalización del acta de comienzo de la obra, el director de la obra comprobará que en la obra existe copia de los siguientes documentos:

- Proyecto de Ejecución, Anejos y modificaciones.
- Plan de Seguridad y Salud en el Trabajo y su acta de aprobación por parte del Coordinador de Seguridad y Salud durante la ejecución de los trabajos.
- Licencia de Obra otorgada por el Ayuntamiento.
- Comunicación de apertura de centro de trabajo efectuada por el contratista.
- Otras autorizaciones, permisos y licencias que sean preceptivas por otras administraciones.
- Libro de Órdenes y Asistencias.
- Libro de Incidencias.

La fecha del acta de comienzo de la obra marca el inicio de los plazos parciales y total de la ejecución de la obra.

3.2 ORDEN DE LOS TRABAJOS

La determinación del orden de los trabajos es, generalmente, facultad del contratista, salvo en aquellos casos en que, por circunstancias de naturaleza técnica, se estime conveniente su variación por parte de la Dirección Facultativa.

3.3 FACILIDADES PARA OTROS CONTRATISTAS

De acuerdo con lo que requiera la Dirección Facultativa, el contratista dará todas las facilidades razonables para la realización de los trabajos que le sean encomendados a los Subcontratistas u otros Contratistas que intervengan en la ejecución de la obra. Todo ello sin perjuicio de las compensaciones económicas a que haya lugar por la

utilización de los medios auxiliares o los suministros de energía u otros conceptos.

En caso de litigio, todos ellos se ajustarán a lo que resuelva la Dirección Facultativa.

3.4 INTERPRETACIONES, ACLARACIONES Y MODIFICACIONES DEL PROYECTO

El contratista podrá requerir del director de obra o del director de obra, según sus respectivos cometidos y atribuciones, las instrucciones o aclaraciones que se precisen para la correcta interpretación y ejecución de la obra proyectada.

Cuando se trate de interpretar, aclarar o modificar preceptos de los Pliegos de Condiciones o indicaciones de los planos, croquis, órdenes e instrucciones correspondientes, se comunicarán necesariamente por escrito al contratista, estando éste a su vez obligado a devolver los originales o las copias, suscribiendo con su firma el enterado, que figurará al pie de todas las órdenes, avisos e instrucciones que reciba tanto del director de obra, como del director de obra.

Cualquier reclamación que crea oportuno hacer el contratista en contra de las disposiciones tomadas por la Dirección Facultativa, habrá de dirigirla, dentro del plazo de tres días, a quien la hubiera dictado, el cual le dará el correspondiente recibo, si éste lo solicitase.

3.5 PRÓRROGA POR CAUSA DE FUERZA MAYOR

Si, por causa de fuerza mayor o independientemente de la voluntad del contratista, éste no pudiese comenzar las obras, tuviese que suspenderlas o no le fuera posible terminarlas en los plazos prefijados, se le otorgará una prórroga proporcionada para su cumplimiento, previo informe favorable del director de obra. Para ello, el contratista expondrá, en escrito dirigido al director de obra, la causa que impide la ejecución o la marcha de los trabajos y el retraso que por ello se originaría en los plazos acordados, razonando debidamente la prórroga que por dicha causa solicita.

Tendrán la consideración de casos de fuerza mayor los siguientes:

- Los incendios causados por la electricidad atmosférica.
- Los fenómenos naturales de efectos catastróficos, como maremotos, terremotos, erupciones volcánicas, movimientos del terreno, temporales marítimos, inundaciones u otros semejantes.
- Los destrozos ocasionados violentamente en tiempo de guerra, robos tumultuosos o alteraciones graves del orden público.

3.6 RESPONSABILIDAD DE LA DIRECCIÓN FACULTATIVA EN EL RETRASO DE LA OBRA

El contratista no podrá excusarse de no haber cumplido los plazos de obras estipulados, alegando como causa la carencia de planos u órdenes de la Dirección Facultativa, a excepción del caso en que, habiéndolo solicitado por escrito, no se le hubiese proporcionado.

3.7 TRABAJOS DEFECTUOSOS

El contratista debe emplear los materiales que cumplan las condiciones exigidas en el proyecto, y realizará todos y cada uno de los trabajos contratados de acuerdo con lo estipulado.

Por ello, y hasta que tenga lugar la recepción definitiva de la obra, el contratista es responsable de la ejecución de los trabajos que ha contratado y de las faltas y defectos que puedan existir por su mala ejecución, no siendo un eximente el que la Dirección Facultativa lo haya examinado o reconocido con anterioridad, ni tampoco el hecho de que estos trabajos hayan sido valorados en las Certificaciones Parciales de obra, que siempre se entenderán extendidas y abonadas a buena cuenta.

Como consecuencia de lo anteriormente expresado, cuando el director de obra advierta vicios o defectos en los trabajos ejecutados, o que los materiales empleados o los aparatos y equipos colocados no reúnen las condiciones preceptuadas, ya sea en el curso de la ejecución de los trabajos o una vez finalizados con anterioridad a la recepción definitiva de la obra, podrá disponer que las partes defectuosas sean sustituidas o demolidas y reconstruidas de acuerdo con lo contratado a expensas del contratista. Si ésta no estimase justa la decisión y se negase a la sustitución, demolición y reconstrucción ordenadas, se planteará la cuestión ante el director de obra, quien mediará para resolverla.

3.8 RESPONSABILIDAD POR VICIOS OCULTOS

El contratista es el único responsable de los vicios ocultos y de los defectos de la construcción, durante la ejecución de las obras y el periodo de garantía, hasta los plazos prescritos después de la terminación de las obras en la vigente "Ley 12/2017 de 29 de diciembre de Urbanismo de les Illes Balears", aparte de otras responsabilidades legales o de cualquier índole que puedan derivarse.

Si la obra se arruina o sufre deterioros graves incompatibles con su función con posterioridad a la expiración del plazo de garantía por vicios ocultos de la construcción, debido a incumplimiento del contrato por parte del contratista, éste responderá de los daños y perjuicios que se produzcan o se manifiesten durante un plazo de quince años a contar desde la recepción de la obra.

Asimismo, el contratista responderá durante dicho plazo de los daños materiales causados en la obra por vicios o defectos que afecten a la cimentación, los soportes, las vigas, los forjados, los muros de carga u otros elementos estructurales, y que comprometan directamente la resistencia mecánica y la estabilidad de la construcción, contados desde la fecha de recepción de la obra sin reservas o desde la subsanación de estas.

Si el director de obra tuviese fundadas razones para creer en la existencia de vicios ocultos de construcción en las obras ejecutadas, ordenará, cuando estime oportuno, realizar antes de la recepción definitiva los ensayos, destructivos o no, que considere necesarios para reconocer o diagnosticar los trabajos que suponga defectuosos,

dando cuenta de la circunstancia al director de obra.

El contratista demolerá, y reconstruirá posteriormente a su cargo, todas las unidades de obra mal ejecutadas, sus consecuencias, daños y perjuicios, no pudiendo eludir su responsabilidad por el hecho de que el director de obra y/o el director de la ejecución de obra lo hayan examinado o reconocido con anterioridad, o que haya sido conformada o abonada una parte o la totalidad de las obras mal ejecutadas.

3.9 CONSIDERACIONES DE CARÁCTER GENERAL

La recepción de la obra es el acto por el cual el contratista, una vez concluida la obra, hace entrega de la misma al promotor y es aceptada por éste. Podrá realizarse con o sin reservas y deberá abarcar la totalidad de la obra o fases completas y terminadas de la misma, cuando así se acuerde por las partes.

La recepción deberá consignarse en un acta firmada, al menos, por el promotor y el contratista, haciendo constar:

- Las partes que intervienen.
- La fecha del certificado final de la totalidad de la obra o de la fase completa y terminada de la misma.
- El coste final de la ejecución material de la obra.
- La declaración de la recepción de la obra con o sin reservas, especificando, en su caso, éstas de manera objetiva, y el plazo en que deberán quedar subsanados los defectos observados. Una vez subsanados los mismos, se hará constar en un acta aparte, suscrita por los firmantes de la recepción.
- Las garantías que, en su caso, se exijan al contratista para asegurar sus responsabilidades.

Asimismo, se adjuntará el certificado final de obra suscrito por el director de obra y el director de obra.

El promotor podrá rechazar la recepción de la obra por considerar que la misma no está terminada o que no se adecúa a las condiciones contractuales.

En todo caso, el rechazo deberá ser motivado por escrito en el acta, en la que se fijará el nuevo plazo para efectuar la recepción.

Salvo pacto expreso en contrario, la recepción de la obra tendrá lugar dentro de los treinta días siguientes a la fecha de su terminación, acreditada en el certificado final de obra, plazo que se contará a partir de la notificación efectuada por escrito al promotor. La recepción se entenderá tácitamente producida si transcurridos treinta días desde la fecha indicada el promotor no hubiera puesto de manifiesto reservas o rechazo motivado por escrito.

3.10 RECEPCIÓN PROVISIONAL

Treinta días antes de dar por finalizadas las obras, comunicará el director de la obra al promotor la proximidad de su terminación a fin de convenir el acto de la Recepción Provisional.

Ésta se realizará con la intervención del promotor, del contratista, del director de obra y del director de obra. Se convocará también a los restantes técnicos que, en su caso, hubiesen intervenido en la dirección con función propia en aspectos parciales o unidades especializadas.

Practicado un detenido reconocimiento de las obras, se extenderá un acta con tantos ejemplares como intervinientes y firmados por todos ellos. Desde esta fecha empezará a correr el plazo de garantía, si las obras se hallasen en estado de ser admitidas. Seguidamente, los Técnicos de la Dirección extenderán el correspondiente Certificado de Final de Obra.

Cuando las obras no se hallen en estado de ser recibidas, se hará constar expresamente en el Acta y se darán al contratista las oportunas instrucciones para subsanar los defectos observados, fijando un plazo para subsanarlos, expirado el cual se efectuará un nuevo reconocimiento a fin de proceder a la recepción provisional de la obra.

Si el contratista no hubiese cumplido, podrá declararse resuelto el contrato con la pérdida de la fianza.

3.11 DOCUMENTACIÓN FINAL DE LA OBRA

El director de obra, asistido por el contratista y los técnicos que hubieren intervenido en la obra, redactará la documentación final de las obras, que se facilitará al promotor, con las especificaciones y contenidos dispuestos por la legislación vigente.

3.12 MEDICIÓN DEFINITIVA Y LIQUIDACIÓN PROVISIONAL DE LA OBRA

Recibidas provisionalmente las obras, se procederá inmediatamente por el director de obra a su medición definitiva, con precisa asistencia del contratista o de su representante. Se extenderá la oportuna certificación por triplicado que, aprobada por el director de obra con su firma, servirá para el abono por el promotor del saldo resultante menos la cantidad retenida en concepto de fianza.

3.13 PLAZO DE GARANTÍA

El plazo de garantía deberá estipularse en el contrato privado y, en cualquier caso, nunca deberá ser inferior a un año salvo casos especiales

Dentro del plazo de quince días anteriores al cumplimiento del plazo de garantía, la Dirección Facultativa, de oficio o a instancia del contratista, redactará un informe sobre el estado de las obras.

Si el informe fuera favorable, el contratista quedará exonerado de toda responsabilidad, procediéndose a la devolución o cancelación de la garantía, a la liquidación del contrato y, en su caso, al pago de las obligaciones pendientes que deberá efectuarse en el plazo de sesenta días.

En el caso de que el informe no fuera favorable y los defectos observados se debiesen a deficiencias en la ejecución de la obra, la Dirección Facultativa procederá a dictar las oportunas instrucciones al contratista para su debida reparación, concediéndole para ello un plazo durante el cual continuará encargado de la conservación de las obras, sin derecho a percibir cantidad alguna por la ampliación del plazo de garantía.

3.14 CONSERVACIÓN DE LAS OBRAS RECIBIDAS PROVISIONALMENTE

Los gastos de conservación durante el plazo de garantía comprendido entre las recepciones provisional y definitiva correrán a cargo y cuenta del contratista.

3.15 RECEPCIÓN DEFINITIVA

La recepción definitiva se realizará después de transcurrido el plazo de garantía, en igual modo y con las mismas formalidades que la provisional. A partir de esa fecha cesará la obligación del contratista de reparar a su cargo aquellos desperfectos inherentes a la normal conservación de la obra, y quedarán sólo subsistentes todas las responsabilidades que pudieran derivar de los vicios de construcción.

3.16 PRÓRROGA DEL PLAZO DE GARANTÍA

Si, al proceder al reconocimiento para la recepción definitiva de la obra, no se encontrase ésta en las condiciones debidas, se aplazará dicha recepción definitiva y el director de obra indicará al contratista los plazos y formas en que deberán realizarse las obras necesarias. De no efectuarse dentro de aquellos, podrá resolverse el contrato con la pérdida de la fianza.

3.17 RECEPCIONES DE TRABAJOS CUYA CONTRATA HAYA SIDO RESCINDIDA

En caso de resolución del contrato, el contratista vendrá obligado a retirar, en el plazo fijado, la maquinaria, instalaciones y medios auxiliares, a resolver los subcontratos que tuviese concertados y a dejar la obra en condiciones de ser reanudada por otra empresa sin problema alguno.

Las obras y trabajos terminados por completo se recibirán provisionalmente con los trámites establecidos anteriormente. Transcurrido el plazo de garantía, se recibirán definitivamente según lo dispuesto anteriormente.

Para las obras y trabajos no determinados, pero aceptables a juicio del director de obra, se efectuará una sola y definitiva recepción.

4. PRESCRIPCIONES SOBRE LOS MATERIALES

En el apartado de Prescripciones sobre los materiales se indican: las características técnicas que deben reunir los productos, equipos y sistemas, sus condiciones de suministro, recepción y conservación, almacenamiento y manipulación, garantías de calidad y el control de recepción que debe realizarse, incluyendo el muestreo del producto, los ensayos a realizar, y los criterios de aceptación y rechazo, (control de la recepción en obra de los productos).

Atendiendo a lo establecido en el Art. 12 de la LOE y a la documentación contractual que une al promotor y al constructor en el presente contrato, le compete al constructor la obligación de ejecutar la obra con sujeción al proyecto, al contrato y a la legislación aplicable, a fin de alcanzar la calidad exigida, acreditando dicha calidad

mediante el aporte de certificados, resultados de pruebas de servicio u otros documentos, cuando así lo demande el proyecto o la normativa.

Precisamente en estos apartados del pliego, se señalan aquellos certificados, resultados de pruebas de servicio u otros documentos, que debe aportar el constructor, y cuyo coste corre por su cuenta, sin que sea para ello necesario presupuestarlo de manera diferenciada y específica.

Para facilitar la labor a realizar, por parte del director de la obra, para el control de recepción en obra de los productos, equipos y sistemas que se suministren a la obra en el presente proyecto se especifican las características técnicas que deberán cumplir los productos, equipos y sistemas suministrados.

Los productos, equipos y sistemas suministrados deberán cumplir las condiciones que sobre ellos se especifican en los distintos documentos que componen el Proyecto. Asimismo, sus calidades serán acordes con las distintas normas que sobre ellos estén publicadas y que tendrán un carácter de complementariedad a este apartado del Pliego. Tendrán preferencia en cuanto a su aceptabilidad aquellos materiales que estén en posesión de Documento de Idoneidad Técnica que avale sus cualidades, emitido por Organismos Técnicos reconocidos.

Este control de recepción en obra de productos, equipos y sistemas comprenderá:

- El control de la documentación de los suministros.
- El control mediante distintivos de calidad o evaluaciones técnicas de idoneidad.
- El control mediante ensayos.

Por parte del constructor o contratista debe existir obligación de comunicar a los suministradores de productos las cualidades que se exigen para los distintos materiales, aconsejándose que previamente al empleo de los mismos se solicite la aprobación del director de obra y de las entidades y laboratorios encargados del control de calidad de la obra.

El contratista será responsable de que los materiales empleados cumplan con las condiciones exigidas, independientemente del nivel de control de calidad que se establezca para la aceptación de los mismos.

El contratista notificará al director de obra, con suficiente antelación, la procedencia de los materiales que se proponga utilizar, aportando, cuando así lo solicite el director de obra, las muestras y datos necesarios para decidir acerca de su aceptación.

Estos materiales serán reconocidos por el director de la obra antes de su empleo en obra, sin cuya aprobación no podrán ser acopiados en obra ni se podrá proceder a su colocación. Así mismo, aún después de colocados en obra, aquellos materiales que presenten defectos no percibidos en el primer reconocimiento, siempre que vaya en perjuicio del buen acabado de la obra, serán retirados de la obra. Todos los gastos que ello ocasionase serán a cargo del contratista.

El hecho de que el contratista subcontrate cualquier partida de obra no le exime de su responsabilidad.

La simple inspección o examen por parte de los Técnicos no supone la recepción absoluta de los mismos, siendo los oportunos ensayos los que determinen su idoneidad, no extinguiéndose la responsabilidad contractual del contratista a estos efectos hasta la recepción definitiva de la obra.

4.1 GARANTÍAS DE CALIDAD (MARCADO CE)

El término producto de construcción queda definido como cualquier producto fabricado para su incorporación, con carácter permanente, a las obras de edificación e ingeniería civil que tengan incidencia sobre los siguientes requisitos esenciales:

- Resistencia mecánica y estabilidad.
- Seguridad en caso de incendio.
- Higiene, salud y medio ambiente.
- Seguridad de utilización.
- Protección contra el ruido.
- Ahorro de energía y aislamiento térmico.

El marcado CE de un producto de construcción indica:

- ·Que éste cumple con unas determinadas especificaciones técnicas relacionadas con los requisitos esenciales contenidos en las Normas Armonizadas (EN) y en las Guías DITE (Guías para el Documento de Idoneidad Técnica Europeo).
- Que se ha cumplido el sistema de evaluación y verificación de la constancia de las prestaciones indicado en los mandatos relativos a las normas armonizadas y en las especificaciones técnicas armonizadas.
- Siendo el fabricante el responsable de su fijación y la Administración competente en materia de industria la que vele por la correcta utilización del marcado CE.

Es obligación del director de obra verificar si los productos que entran en la obra están afectados por el cumplimiento del sistema del marcado CE y, en caso de ser así, si se cumplen las condiciones establecidas en el "Real Decreto 1630/1992. Disposiciones para la libre circulación de productos de construcción, en aplicación de la Directiva 89/106/CEE".

El marcado CE se materializa mediante el símbolo “CE” acompañado de una información complementaria.

El fabricante debe cuidar de que el marcado CE figure, por orden de preferencia:

· En el producto propiamente dicho.

· En una etiqueta adherida al mismo.

4.2 MATERIALES GRANULAR PARA APOYO Y RECUBRIMIENTO DE TUBERÍAS ENTERRADAS

Se define como material para apoyo de tubería el que se coloca entre el terreno natural del fondo de la zanja y la tubería o envolviendo a ésta hasta "media caña".

Se define como material para recubrimiento de tuberías el que se coloca envolviendo al tubo hasta diez (10)

centímetros por encima de la generatriz superior de aquél.

El material granular para apoyo y recubrimiento de tuberías enterradas consistirá en un árido procedente de machaqueo, duro, limpio y químicamente estable. Su granulometría vendrá dada por un tamaño de partícula comprendido entre 0 y 5 mm.

4.3 MATERIALES A EMPLEAR EN RELLENOS

Los materiales a emplear en rellenos serán suelos o materiales locales constituidos con productos que no contengan materia orgánica descompuesta, estiércol, materiales congelados, raíces, terreno vegetal o cualquier otra materia similar. Los materiales se podrán obtener de las excavaciones realizadas en la obra o de los préstamos que, en caso necesario,

se autoricen por la Dirección de Obra. Los rellenos a utilizar en la ejecución de las obras que constituyen el objeto del presente proyecto son los indicados a continuación:

- Suelo seleccionado, cuyas características deberán cumplir las prescripciones establecidas en el artículo 330 del Pliego de Prescripciones Técnicas Generales para Obras de Carretera y Puentes (PG-3).
- En las zonas pavimentadas, la base del firme estará constituida por una zahorra artificial caliza que deberá cumplir lo establecido en el artículo 510 del PG 3. La curva granulométrica se adaptará al huso ZA-20 reseñado en el cuadro 510.3 del PG 3. Esta base de zahorra artificial se podrá sustituir por hormigón seco en aquellos casos que por necesidades de tráfico sea conveniente.

4.4 ÁRIDOS A EMPLEAR EN MORTEROS Y HORMIGONES

Se ajustarán a lo prescrito en el artículo 28 de la Instrucción EHE-08. Asimismo, se designarán según el formato indicado en el artículo 28.1.

El tamaño máximo, D, y mínimo, d, vienen definidos en el artículo 28.3, debiendo cumplir los requisitos indicados en la siguiente tabla:

Árido		Porcentaje que pasa (en masa)				
		2 D	1,4 D	D	D	D/2
Árido grueso	D>11,2 y D/d>2	100	98 a 100	90 a 99	0 a 15	0 a 5
	D<=11,2 o D/d<=2	100	98 a 100	85 a 99	0 a 20	0 a 5
Árido fino	D<=4 y d=0	100	95 a 100	85 a 99	-	-

Los áridos deberán ser acopiados independientemente, según tamaño, sobre superficies limpias y drenadas, en montones distintos o separados por tabiques.

Según la instrucción EHE-08, “A efectos de la fabricación del hormigón, se denomina grava o árido grueso total, a

la mezcla de las distintas fracciones de árido grueso que se utilicen; arena o árido fino total a la mezcla de las distintas fracciones de árido fino que se utilicen; y árido total (cuando no haya lugar a confusiones, simplemente árido), aquel que posee las proporciones de arena y grava adecuadas para fabricar el hormigón necesario en el caso particular que se considere".

El árido fino a emplear en morteros y hormigones será arena natural, arena procedente de machaqueo, una mezcla de ambos materiales u otros productos, cuyo empleo haya sido sancionado por la práctica. Las arenas naturales estarán constituidas por partículas estables resistentes.

Las arenas artificiales se obtendrán de piedras que deberán cumplir los requisitos exigidos para el árido grueso a emplear en hormigones.

El árido grueso a emplear en hormigones, será grava natural o procedente del machaqueo y trituración de piedra de cantera o grava natural u otros productos cuyo empleo haya sido sancionado por la práctica. En todo caso, el árido se compondrá de elementos limpios sólidos y resistentes, de uniformidad razonable, exentos de polvo, suciedad, arcilla u otras materias extrañas.

El tamaño máximo del árido grueso cumplirá las limitaciones indicadas en el articulado.

4.5 AGUA PARA EMPLEAR EN MORTEROS, HORMIGONES Y ESTABILIZACIÓN DE SUELOS

DEFINICIÓN

Se denomina agua para emplear en el amasado o en el curado de morteros y hormigones, tanto a lo natural como a la depurada, sea o no potable, que cumpla los requisitos que se señalan en el apartado correspondiente del presente artículo.

Lo dispuesto en este artículo se entenderá sin perjuicio de lo establecido en el Real Decreto 1630/92 (modificado por el Real Decreto 1328/95), por el que se dictan disposiciones para la libre circulación, en aplicación de la Directiva 89/106 CE. En particular, en lo referente a los procedimientos especiales de reconocimiento, se estará lo establecido en el artículo 9 del mencionado Real Decreto.

EQUIPOS

Con la maquinaria y equipos utilizados en el amasado deberá conseguirse una mezcla adecuada de todos los componentes con el agua.

CRITERIOS DE ACEPTACIÓN Y RECHAZO

En general, podrán ser utilizadas, tanto para el amasado como para el curado de morteros y hormigones, todas las aguas que la práctica haya sancionado como aceptables.

En los casos dudosos o cuando no se posean antecedentes de su utilización, las aguas deberán ser analizadas.

En ese caso, se rechazarán las aguas que no cumplan alguno de los requisitos indicados en la vigente Instrucción de Hormigón Estructural (EHE-08)" o normativa que la sustituya, salvo justificación especial de que su empleo no altera de forma apreciable las propiedades exigibles a los morteros y hormigones con ellas fabricados.

RECEPCIÓN

El control de calidad de recepción se efectuará de acuerdo con la vigente Instrucción de Hormigón Estructural (EHE-08). El Director de las Obras exigirá la acreditación documental del cumplimiento de los criterios de aceptación y, si procede, la justificación especial de inalterabilidad mencionada anteriormente.

4.6 ADITIVOS PARA EMPLEAR EN MORTEROS Y HORMIGONES

Se definirán como aditivos a emplear en hormigones y morteros, los productos en estado sólido o líquido que, mezclados junto con los áridos y el cemento durante el amasado, modifican alguna de las características del hormigón o mortero, de sus propiedades habituales o de su comportamiento.

El empleo de aditivos podrá ser permitido por la Dirección de la Obra, la cual deberá aprobar o señalar el tipo a utilizar, la cantidad y hormigones o morteros en los que se empleará el producto.

Los aditivos deberán tener consistencia y calidad uniforme en las diferentes partidas y podrán ser aceptados basándose en el certificado del fabricante que atestigüe que los productos están dentro de los límites de aceptación sugeridos.

La cantidad total de aditivos no excederá de los límites marcados en la Instrucción EHE-08, para los hormigones, y en la Instrucción para la recepción de cementos (RC-08), para los cementos.

4.7 ACELERANTES Y RETARDADORES DEL FRAGUADO

Se definen como acelerantes y retardantes del fraguado y endurecimiento, los productos comerciales que aumentan o disminuyen la velocidad de hidratación del cemento, utilizándose como reguladores del fraguado.

Los productos más usados comúnmente son: como acelerador el cloruro cálcico y como retardantes, sulfato cálcico, materiales orgánicos, azúcares, cafeína, celulosa, cloruros amino ferrosos, férricos y hexametafosfato sódico.

Solamente se emplearán, y siempre bajo la autorización de la Dirección de la Obra, en condiciones especiales que lo aconsejen; y la cantidad de acelerante no deberá exceder de la estrictamente necesaria para producir la modificación del fraguado requerido.

En cada caso, su empleo se ajustará a las condiciones fijadas por los ensayos de laboratorio y las recomendaciones del fabricante.

4.8 PLASTIFICANTES

Se definen como plastificantes a emplear en hormigones hidráulicos, los productos que se añaden durante el amasado, con el fin de poder reducir la cantidad de agua correspondiente a la consistencia deseada.

No se utilizarán ningún tipo de plastificantes sin la aprobación previa y expresa de la Dirección de Obra, quien deberá dar las indicaciones para su empleo.

4.9 PRODUCTOS DE CURADO

Se definen como productos de curado a emplear en hormigones hidráulicos, los productos que se aplican en forma de recubrimiento plástico y otros tratamientos especiales, para impermeabilizar la superficie del hormigón y conservar su humedad, a fin de evitar la falta de agua durante el fraguado y primer período de endurecimiento.

Los productos filmógenos, y otros análogos que se utilicen como productos de curado, deberán asegurar una perfecta conservación del hormigón, formando una película continua sobre la superficie del mismo, que impida la evaporación de agua durante su fraguado y primer endurecimiento, y que permanezca intacta durante siete días (7) al menos, después de su aplicación.

No reaccionarán perjudicialmente con el hormigón ni desprenderán, en forma alguna, vapores nocivos.

Serán de color claro, preferiblemente blanco, y de fácil manejo, y admitirán, sin deteriorarse, un período de almacenamiento no inferior a treinta días (30).

No se utilizará ningún tipo de productos de curado, sin la aprobación previa de la Dirección de Obra.

4.10 ADICIONES

Se definen en el artículo 30 de la Instrucción EHE-08.

Según el artículo, en elementos no pretensados, la Dirección de Obra puede autorizar el uso de cenizas volantes o humo de sílice para su confección, siendo la cantidad máxima de cenizas volantes adicionadas no superior al 35% del peso del cemento, y la de humo de sílice no superior al 10% del peso del cemento.

La central que suministre hormigón con cenizas volantes realizará un control sobre la producción según art. 30.1 de la EHE-08 y debe poner los resultados del análisis al alcance de la Dirección de Obra, o dispondrá de un sello o marca de conformidad oficialmente homologado a nivel nacional o de un país miembro de la UE.

Las cenizas deben cumplir, en cualquier caso, las especificaciones de la norma UNE_EN 450-1, recogidas en el citado artículo.

El humo de sílice debe cumplir, en cualquier caso, las especificaciones recogidas en el artículo 30.2 de la EHE-08.

4.11 CEMENTOS

DEFINICION Y CLASIFICACION

Se denominan cementos a los conglomerantes hidráulicos que, amasados con agua, fraguan y endurecen sumergidos en este líquido, y son prácticamente estables en contacto con él.

Se denomina cemento Portland al producto obtenido por mezcla íntima de calizas y arcillas, cocción de la mezcla hasta la sintetización y molienda del producto resultante, con una pequeña adición de yeso, a un grado de finura elevado. El clinker de cemento Portland está compuesto principalmente por silicato tricálcico (SC3), silicato bicálcico (SC2), aluminato tricálcico (AC3) y alumino-ferrito tetracálcico (AFC4), además de componentes secundarios como el yeso, los álcalis, la cal libre y la magnesia libre.

Se denomina cemento de horno alto a la mezcla de clinker de cemento Portland y regulador de fraguado en proporción superior al 20 por 100 e inferior al 64 por 100 en peso y escoria siderúrgica en proporción inferior al 80 por 100 y superior al 36 por 100 en peso.

Se denomina cemento puzolánico a la mezcla de clinker de cemento Portland y regulador de fraguado en proporción inferior al 89 por 100 en peso, y puzolana en proporción superior al 11 por 100 en peso, englobando en el término puzolana la mezcla de puzolanas naturales, cenizas volantes y humo de sílice, este último en proporción no mayor al 10 por 100.

Se denomina cemento compuesto a la mezcla de clinker de cemento Portland y regulador de fraguado en proporción superior al 40 por 100 e inferior al 64 por 100 en peso, escoria siderúrgica en proporción inferior al 30 por 100 y superior al 18 por 100 en peso y puzolanas naturales y cenizas volantes en proporción inferior al 30 por 100 y superior al 18 por 100 en peso.

CONDICIONES GENERALES

El cemento deberá cumplir las condiciones exigidas por las Normas UNE 80 de la serie 300, la "Instrucción para la Recepción de Cementos" (RC-08) cuyo ámbito de aplicación alcanza a las obras de construcción, centrales de fabricación de hormigón preparado y las fábricas de productos de construcción con carácter obligatorio según indica el artículo segundo del R.D. 956/2008 de 6 de junio que la aprueba, y la Instrucción EHE08, junto con sus comentarios. El cemento deberá estar en posesión de una Marca de Calidad de AENOR o de cualquier otra entidad pública o privada oficialmente autorizada para ello en el ámbito de la Unión Europea.

DENOMINACION Y DESIGNACION

Las distintas clases de cemento son las especificadas en las Normas UNE 80.301-96, 80.303-96, 80.305-96, 80.306-96, 80.307-96 y 80.310-96:

- CEM I: Cemento Portland
- CEM II: Cemento Portland con adiciones:
    - CEM II/A-S: Cemento Portland con escoria.
    - CEM II/B-S: Cemento Portland con escoria.
    - CEM II/A-D: Cemento Portland con humo de sílice.
    - CEM II/B-P: Cemento Portland con puzolana
    - CEM II/B-V: Cemento Portland con ceniza volante.
- CEM III: Cemento de horno alto:
    - CEM III/A.
- CEM IV: Cemento puzolánico:
    - CEM IV/A.
- CEM V: Cemento compuesto:
    - CEM V/A.

Dentro de cada uno de estos grupos se distinguen diferentes tipos de acuerdo con su resistencia mínima en megapascales (Mpa) o N/mm2 (32,5 – 42,5 – 52,5), según sean o no de alta resistencia inicial (R), de acuerdo con su resistencia a los sulfatos y al agua del mar (SR) o sólo al agua de mar (MR), si son de bajo calor de hidratación (BC), etc.

Además, existen cementos para aplicaciones específicas cuyos tipos y designaciones son ESP VI-1 y ESP VI-2. La designación de los cementos de aluminato de calcio es CAC/R.

En todo aquello que no contradiga lo indicado en el presente Pliego será de aplicación lo indicado en el artículo 26 de la Instrucción EHE-08 y sus comentarios.

Los cementos blancos tienen las siguientes denominaciones según sean sus proporciones de Clinker y Adiciones:

- BL I: Cementos Portland blancos.
- BL II: Cementos Portland blancos con adiciones.
- BL V: Cementos blancos para solados.

Además, existen cementos para aplicaciones específicas cuyos tipos y designaciones son ESP VI-1 y ESP VI-2. La designación de los cementos de aluminato de calcio es CAC/R.

En principio, y salvo indicación en contrario en los Planos o por parte del Director de Obra, se utilizará cemento III/A 42,5 SR UNE 80 303:96 para hormigones de resistencia característica igual o inferior a doscientos cincuenta kilopondios por centímetro cuadrado (250 kp/cm2) y cemento CEM I 52,5 R para resistencias superiores.

En todo aquello que no contradiga lo indicado en el presente Pliego será de aplicación lo indicado en el apartado

5.1 de la Instrucción EH-91 y sus comentarios.

CARACTERISTICAS TÉCNICAS

COMPOSICIÓN

Las proporciones en masa de los componentes de los cementos se especifican en las siguientes tablas.

TIPOS DE CEMENTOS COMUNES Y COMPOSICIONES: PROPORCIÓN EN MASA (1)

Tipo de cemento	Denominación	Designación	Clinker K	Escoria de horno alto S	Humo de sílice D	Puzolanas naturales P	Cenizas volantes V	Caliza L	Componentes minoritarios adicionales (2)
CEM I	Cemento Portland	CEM I	95-100	-	-	-	-	-	0-5
CEM II	Cemento Portland con escoria	CEM II/A-S CEM II/B-S	80-94 65-79	6-20 21-35	- -	- -	- -	- -	0-5 0-5
	Cemento Portland con humo de sílice	CEM II/A-D	90-94	-	6-10	-	-	-	0-5
	Cemento con puzolana	CEM II/B-P	65-79	-	-	21-35	-	-	0-5
	Cemento Portland con ceniza volante	CEM II/B-V	65-79	-	-	-	21-35	-	0-5
CEM III	Cemento de horno alto	CEM III/A	35-64	36-65	-	-	-	-	0-5
CEM IV	Cemento puzolánico	CEM IV/A	65-89	-	11-35 (4)			-	0-5
CEM V	Cemento compuesto	CEM V/A	40-64	18-30	-	18-30		-	0-5

(1) Los valores de la tabla se refieren al núcleo del cemento, entendiéndose por tal el "clinker" y las adiciones con exclusión del sulfato de calcio (regulador de fraguado) y de los aditivos.

(2) Los componentes minoritarios adicionales pueden ser "filler" o uno más de los componentes principales, a menos que estén incluidos ya como tales en el cemento.

(3) Cuando algún cemento "Portland" mixto, en razón de su composición, se pueda incluir en alguno de los tipos II anteriores, deberá llevar la denominación y designación correspondientes a dicho tipo.

(4) La proporción de humo de sílice se limita al 10 por 100.

(5) La proporción de "filler" se limita al 5 por 100.

(6) La proporción de caliza se limita al 20 por 100.

Los cementos con características adicionales están definidos por las normas UNE 80303:96 "Cementos resistentes a los sulfatos y/o al agua de mar", y UNE 80306:96 "Cementos de bajo calor de hidratación".

Se consideran cementos resistentes a los sulfatos y/o al agua de mar a los que su composición cumpla en cada caso las prescripciones indicadas en la siguiente tabla:

PRESCRIPCIONES ADICIONALES PARA CEMENTOS RESISTENTES A LOS SULFATOS Y/O AL AGUA DE MAR

Tipo	Resistentes a los sulfatos y al agua de mar		Resistentes al agua de mar	
	C_3A Porcentaje	C_3A+C_4AF Porcentaje	C_3A Porcentaje	C_3A+C_4AF Porcentaje
CEM I	<= 5,0	<= 22,0	<= 5,0	<= 22,0
CEM II/A-S CEM II/B-S CEM II/A-D CEM II/B-P CEM II/B-V	<= 6,0	<= 22,0	<= 8,0	<= 25,0
CEM III/A	<= 8,0	<= 25,0	<= 10,0	<= 25,0
CEM IV/A CEM V/A	<= 6,0 <= 8,0	<= 22,0 <= 25,0	<= 8,0 <= 10,0	<= 25,0 <= 25,0

Las especificaciones sobre C3A y C3A+C4AF se refieren al clinker. Los contenidos de C3A y C4AF se determinarán por cálculo (norma UNE 80304:86) a partir de los análisis según UNE EN 196-2 1996.

Se consideran cementos de bajo calor de hidratación todos aquellos que a la edad de cinco días desarrollen un calor de hidratación igual o inferior a 272 kJ/kg (65 kcal/g), determinado por el método del calorímetro de Langavant (UNE 80118:86), según se especifica en la norma UNE 80306:96.

CARACTERISTICAS MECANICAS Y FISICAS

Las prescripciones que deben cumplir los cementos comunes relativas a las características mecánicas y físicas figuran en la siguiente tabla.

Clase resistente	Resistencia a compresión N/mm²				Tiempo de fraguado		Expansión mm
	Resistencia inicial		Resistencia Nominal		Principio	Final	
	Dos días	Siete días	Veintiocho días		Minutos	Horas	
32,5	-	>= 16,0	>= 32,5	<= 52,5	>= 75	<= 12	<= 10
32,5 R	>= 10	-					
42,5	>= 10	-	>= 42,5	<=62,5	>= 60		
42,5 R	>= 20	-					
52,5	>= 20	-	>= 52,5	-	>= 45		
52,5 R	>= 30	-					

Las prescripciones mecánicas y físicas que deben cumplir los cementos blancos y los cementos para usos especiales son las especificadas en la Instrucción para la Recepción de Cementos (RC-08).

CARACTERISTICAS QUIMICAS

El cemento utilizado cumplirá lo señalado en la Instrucción para la Recepción de Cementos (RC-08), que se resume en las siguientes tablas:

PRESCRIPCIONES QUIMICAS DE LOS CEMENTOS COMUNES

Características	Tipo de cemento	Clase resistente	Porcentaje en masa
Pérdida por calcinación	CEM I CEM III	Todas	<= 5,00
Residuo insoluble	CEM I CEM III	Todas	<= 5,00
Contenido de sulfatos (expresado en SO_3)	CEM I CEM II (7) CEM IV CEM V	32,5 32,5 R (8) 42,5	<= 3,50
		42,5 R (8) 52,5 52,5 R (8)	<= 4,00
	CEM III	Todas	
Contenido de cloruros (Cl^-)	Todos (9)	Todas	<= 0,10
Puzolanicidad	CEM IV	Todas	Puz. A 8 ó 15 días

(7) Esta indicación afecta a todos los cementos CEM II/A y CEM II/B incluidos los cementos Portland compuestos que contienen un solo componente principal, por ejemplo II/A-S o II/B-V.

(8) R = Alta resistencia inicial.

(9) El cemento tipo III puede contener más de 0,10 por 100 de cloruros, pero en tal caso se debe consignar en los envases y albaranes de entrega el contenido de cloruros.

Los cementos con características adicionales están definidos por las normas UNE 80303:96 "Cementos resistentes a los sulfatos y/o al agua de mar", y UNE 80306:96 "Cementos de bajo calor de hidratación".

Se consideran cementos resistentes a los sulfatos y/o al agua de mar a los que su composición cumpla en cada caso las prescripciones indicadas en la siguiente tabla:

PRESCRIPCIONES ADICIONALES PARA CEMENTOS RESISTENTES A LOS SULFATOS Y/O AL AGUA DE MAR

Tipo	Resistentes a los sulfatos y al agua de mar		Resistentes al agua de mar	
	C_3A Porcentaje	C_3A+C_4AF Porcentaje	C_3A Porcentaje	C_3A+C_4AF Porcentaje
CEM I	<= 5,0	<= 22,0	<= 5,0	<= 22,0
CEM II/A-S CEM II/B-S CEM II/A-D CEM II/B-P CEM II/B-V	<= 6,0	<= 22,0	<= 8,0	<= 25,0
CEM III/A	<= 8,0	<= 25,0	<= 10,0	<= 25,0
CEM IV/A CEM V/A	<= 6,0 <= 8,0	<= 22,0 <= 25,0	<= 8,0 <= 10,0	<= 25,0 <= 25,0

Las especificaciones sobre C3A y C3A+C4AF se refieren al clinker. Los contenidos de C3A y C4AF se determinarán por cálculo (norma UNE 80304:86) a partir de los análisis según UNE EN 196-2 1996.

Se consideran cementos de bajo calor de hidratación todos aquellos que a la edad de cinco días desarrollen un

calor de hidratación igual o inferior a 272 kJ/kg (65 kcal/g), determinado por el método del calorímetro de Langavant (UNE 80118:86), según se especifica en la norma UNE 80306:96.

CARACTERISTICAS MECANICAS Y FISICAS

CONDICIONES DE SUMINISTRO

El cemento se suministra a granel o envasado.

El cemento a granel se debe transportar en vehículos, cubas o sistemas similares adecuados, con el hermetismo, seguridad y almacenamiento tales que garanticen la perfecta conservación del cemento, de forma que su contenido no sufra alteración, y que no alteren el medio ambiente.

El cemento envasado se debe transportar mediante palets o plataformas similares, para facilitar tanto su carga y descarga como su manipulación, y así permitir mejor trato de los envases.

El cemento no llegará a la obra u otras instalaciones de uso excesivamente caliente. Se recomienda que, si su manipulación se va a realizar por medios mecánicos, su temperatura no exceda de 70°C, y si se va a realizar a mano, no exceda de 40°C.

Cuando se prevea que puede presentarse el fenómeno de falso fraguado, deberá comprobarse, con anterioridad al empleo del cemento, que éste no presenta tendencia a experimentar dicho fenómeno.

RECEPCIÓN Y CONTROL

Documentación de los suministros:

Este material debe estar provisto del marcado CE, que es una indicación de que cumple los requisitos esenciales y ha sido objeto de un procedimiento de evaluación de la conformidad.

A la entrega del cemento, ya sea el cemento expedido a granel o envasado, el suministrador aportará un albarán que incluirá, al menos, los siguientes datos:

1. Número de referencia del pedido.
2. Nombre y dirección del comprador y punto de destino del cemento.
3. Identificación del fabricante y de la empresa suministradora.
4. Designación normalizada del cemento suministrado.
5. Cantidad que se suministra.
6. En su caso, referencia a los datos del etiquetado correspondiente al marcado CE.

7. Fecha de suministro.

8. Identificación del vehículo que lo transporta (matrícula).

Ensayos:

La comprobación de las propiedades o características exigibles a este material se realiza según la Instrucción para la recepción de cementos (RC-08).

Si el cemento llega a la obra ensacado, con objeto de facilitar la lectura de los datos indicados anteriormente, éstos deberán figurar impresos en el saco.

La Dirección de Obra podrá, asimismo, reconocer y desechar después de recibido el cemento que, por poco cuidado en su conservación, lugar de almacenamiento, fecha de almacenaje, humedad, etc., hubiera perdido las condiciones que exige el presente Pliego.

La Instrucción establece, en su artículo 26, aquellos cementos que resultan utilizables en función del tipo de hormigón (en masa, armado o pretensado) según tabla adjunta:

Tipo de hormigón	Tipo de cemento
Hormigón en masa	Cementos comunes excepto los tipos CEM II/A-Q, CEM II/B-Q, CEM II/A-W, CEM II/B-W, CEM II/A-T, CEM II/B-T y CEM III/C Cementos para usos especiales ESP VI-1
Hormigón armado	Cementos comunes excepto los tipos CEM II/A-Q, CEM II/B-Q, CEM II/A-W, CEM II/B-W, CEM II/A-T, CEM II/B-T, CEM III/C y CEM V/B
Hormigón pretensado	Cementos comunes de los tipos CEM I, CEM II/A-D, CEM II/A-V, CEM II/A-P y CEM II/A-M(V,P)

CONSERVACIÓN, ALMACENAMIENTO Y MANIPULACIÓN

Los cementos a granel se almacenarán en silos estancos y se evitará, en particular, su contaminación con otros cementos de tipo o clase de resistencia distintos. Los silos deben estar protegidos de la humedad y tener un sistema o mecanismo de apertura para la carga en condiciones adecuadas desde los vehículos de transporte, sin riesgo de alteración del cemento.

En cementos envasados, el almacenamiento deberá realizarse sobre palets o plataforma similar, en locales cubiertos, ventilados y protegidos de las lluvias y de la exposición directa del sol. Se evitarán especialmente las ubicaciones en las que los envases puedan estar expuestos a la humedad, así como las manipulaciones durante su almacenamiento que puedan dañar el envase o la calidad del cemento.

Las instalaciones de almacenamiento, carga y descarga del cemento dispondrán de los dispositivos adecuados para minimizar las emisiones de polvo a la atmósfera.

Aún en el caso de que las condiciones de conservación sean buenas, el almacenamiento del cemento no debe ser muy prolongado, ya que puede meteorizarse. El almacenamiento máximo aconsejable es de tres meses, dos meses y un mes, respectivamente, para las clases resistentes 32,5, 42,5 y 52,5. Si el periodo de almacenamiento es superior, se comprobará que las características del cemento continúan siendo adecuadas. Para ello, dentro de los veinte días anteriores a su empleo, se realizarán los ensayos de determinación de principio y fin de fraguado y resistencia mecánica inicial a 7 días (si la clase es 32,5) ó 2 días (para todas las demás clases) sobre una muestra representativa del cemento almacenado, sin excluir los terrones que hayan podido formarse.

RECOMENDACIONES PARA SU USO EN OBRA

La elección de los distintos tipos de cemento se realizará en función de la aplicación o uso al que se destinen, las condiciones de puesta en obra y la clase de exposición ambiental del hormigón o mortero fabricado con ellos.

Las aplicaciones consideradas son la fabricación de hormigones y los morteros convencionales, quedando excluidos los morteros especiales y los monocapa.

El comportamiento de los cementos puede ser afectado por las condiciones de puesta en obra de los productos que los contienen, entre las que cabe destacar:

Los factores climáticos: temperatura, humedad relativa del aire y velocidad del viento.

Los procedimientos de ejecución del hormigón o mortero: colocado en obra, prefabricado, proyectado, etc.

Las clases de exposición ambiental.

Los cementos que vayan a utilizarse en presencia de sulfatos deberán poseer la característica adicional de resistencia a sulfatos.

Los cementos deberán tener la característica adicional de resistencia al agua de mar cuando vayan a emplearse en los ambientes marino sumergido o de zona de carrera de mareas.

En los casos en los que se haya de emplear áridos susceptibles de producir reacciones álcali-árido, se utilizarán los cementos con un contenido de alcalinos inferior a 0,60% en masa de cemento.

Cuando se requiera la exigencia de blancura, se utilizarán los cementos blancos.

Para fabricar un hormigón se recomienda utilizar el cemento de la menor clase de resistencia que sea posible y compatible con la resistencia mecánica del hormigón deseada.

4.12 HORMIGONES

Condiciones generales

Se definen como hormigones los productos formados por mezcla de cementos, agua, árido grueso y

eventualmente productos de adición, que, al fraguar y endurecer, adquieren una notable resistencia.

Los hormigones se ajustarán a lo prescrito en la Instrucción EHE-08

Designación y características

Los componentes del hormigón, su dosificación, el proceso de fabricación y el transporte deben cumplir las prescripciones incluidas en el artículo 71 de la EHE-08.

Tal como establece el artículo 71.3.4 de la Instrucción EHE-08, la designación del hormigón fabricado en central se puede hacer por propiedades o por dosificación y se expresará, como mínimo, la siguiente información:

- Consistencia.
- Tamaño máximo del árido.
- Tipo de ambiente al que se expondrá el hormigón.
- Resistencia característica a compresión para los hormigones designados por propiedades.
- Contenido de cemento expresado en kg/m^3, para los hormigones designados por dosificación.
- La indicación del uso estructural que tendrá el hormigón: en masa, armado o pretensado.

La designación por propiedades se realizará de acuerdo con el siguiente formato, tipificado en el artículo 39.2 de la Instrucción EHE-08: **T-R/C/TM/A**.

- T: Indicativo que será HM para el hormigón en masa, HA para el hormigón armado, y HP para el hormigón pretensado.
- R: Resistencia característica especificada, en N/mm^2.
- C: Letra indicativa del tipo de consistencia: F fluida, B blanda, P plástica y S seca.
- TM: Tamaño máximo del árido en mm.
- A: Designación del ambiente al que se expondrá el hormigón.

En los hormigones designados por propiedades, el suministrador debe establecer la composición de la mezcla del hormigón, garantizando al peticionario las características especificadas de tamaño máximo del árido, consistencia y resistencia característica, así como las limitaciones derivadas del tipo de ambiente especificado (contenido de cemento y relación agua/cemento).

En los hormigones designados por dosificación, el peticionario es responsable de la congruencia de las características especificadas de tamaño máximo del árido, consistencia y contenido en cemento por metro cúbico de hormigón, y el suministrador las deberá garantizar, indicando también, la relación agua/cemento que ha utilizado.

En los hormigones con características especiales u otras de las especificadas en la designación, las garantías y

los datos que el suministrador deba aportar serán especificados antes del inicio del suministro.

Docilidad del hormigón

La docilidad del hormigón se valorará determinando su consistencia por medio del ensayo de asentamiento, según UNE-EN 12350-2, cuyos valores límite del asentamiento del cono, se incluyen en el artículo 31.5 de la EHE-08.

Composición

Deberá cumplir lo establecido en el artículo 31.1 de la EHE-08.

El ión cloro total aportado por los componentes de un hormigón no puede exceder los siguientes límites:

- Obras de hormigón pretensado: 0,2% peso del cemento
- Obras de hormigón armado o en masa con armadura para reducir la fisuración: 0,4% peso del cemento.

Prescripciones respecto a la calidad del hormigón

El hormigón debe cumplir con las exigencias de calidad que establece el artículo 37.2.3 de la Instrucción EHE-08. La cantidad mínima de cemento, así como la máxima relación A/C, se especifica en el artículo 37.3.1, en función de la clase de exposición (tabla 37.3.2.a).

Materiales

Los materiales que necesariamente se utilizarán son los definidos para estas obras en los artículos del presente Pliego y cumplirán las prescripciones que para ellos se fijan en los mismos.

Tipificación

De acuerdo con la resistencia característica especificada del hormigón a los veintiocho días, tipo de consistencia, tamaño máximo del árido en milímetros y la designación del ambiente (clase de exposición), de acuerdo con el artículo 39.2 de la EHE-08, se establecen los tipos de hormigón a utilizar en las obras objeto del presente proyecto que se indican en la siguiente tabla:

HORMIGÓN TIPO	f_{ck} (N/mm²)	EMPLEO
HL-150/P/30	Denominado por dosificación (150 kg cemento por m³)	Hormigón de limpieza y nivelación
HM-20/B/20/I	20	Protección de tuberías, rellenos
HM-Hormifill		Protección y rellenos
HM-30/B/20/I+Qb	30	Para hormigón ciclópeo en cimentación bajo zapatas y losas hasta alcanzar suelo firme en suelos con sulfatos.
HA-30/P/20/IIIa+Qb	30	Estructuras en terrenos con sulfatos
HA-30/P/20/IV+Qb	30	Depósitos agua residual con concentración de amonio < 60 mg/l

HA-35/P/20/IV+Qc	35	Depósitos agua residual con concentración de amonio > 60 mg/l

Los hormigones de ambiente Qb y Qc se deberán confeccionar con cemento resistente a los sulfatos.

Dosificación

La dosificación de los materiales debe, en todo caso, ser aceptada por la Dirección de Obra y se atendrá a las prescripciones que según los artículos 37.3.1, 37.3.2 y 71.3.2 dicta la norma EHE- 08 de acuerdo a la clase de exposición adoptada. La dosificación de los diferentes materiales destinados a la fabricación del hormigón se hará siempre en peso, con la única excepción del agua, cuya dosificación se hará en volumen.

- La dosificación del cemento se hará en kilogramos por metro cúbico.
- La dosificación de los áridos a utilizar se hará en kilogramos por metro cúbico.
- La dosificación del agua se hará en metros cúbicos.

Cuando se estime pertinente, podrá emplearse como adiciones al hormigón, todo tipo de productos sancionados por la experiencia, y que hayan sido definidos en el presente Pliego.

Las dosificaciones deberán ser fijadas por la Dirección de Obra a la vista de las circunstancias que concurren en cada tipo de obra.

Las instalaciones de dosificación cumplirán lo establecido en el artículo 71.2.3 de la EHE-08.

Estudio de la mezcla y obtención de la fórmula de trabajo

La ejecución de cualquier mezcla de hormigón en obra no deberá iniciarse hasta que su correspondiente fórmula de trabajo haya sido estudiada y aprobada por la Dirección de Obra.

Dicha fórmula señalará, exactamente, el tipo de cemento a emplear, la clase y tamaño del árido grueso, la consistencia del hormigón, y los contenidos, en peso de cemento, árido fino y árido grueso, y en volumen de agua, todo ello por metro cúbico de mezcla.

En todo caso, las dosificaciones elegidas deberán ser capaces de proporcionar hormigones que posean las cualidades mínimas de resistencia.

Con objeto de conseguir las citadas cualidades mínimas, se seguirá lo estipulado en el artículo 86 de la EHE-08, que contiene las prescripciones exigidas para llevar a cabo el control del hormigón. La toma de muestras, así como la realización de los ensayos, se efectuarán conforme a las normas UNE indicadas en el articulado. Además, se tendrá en cuenta lo establecido en el artículo 86.7 relativo a las decisiones derivadas del control del hormigón.

Recomendaciones para su uso en obra

El tiempo transcurrido entre la adición de agua de amasado al cemento y a los áridos y la colocación del hormigón, no debe ser mayor de hora y media. En tiempo caluroso, o bajo condiciones que contribuyan a un rápido fraguado del hormigón, el tiempo límite deberá ser inferior, a menos que se adopten medidas especiales que, sin perjudicar la calidad del hormigón, aumenten el tiempo de fraguado.

Hormigonado en tiempo frío:

La temperatura de la masa de hormigón, en el momento de verterla en el molde o encofrado, no será inferior a 5°C.

Se prohíbe verter el hormigón sobre elementos (armaduras, moldes, etc.) cuya temperatura sea inferior a cero grados centígrados.

En general, se suspenderá el hormigonado siempre que se prevea que, dentro de las cuarenta y ocho horas siguientes, pueda descender la temperatura ambiente por debajo de cero grados centígrados.

En los casos en que, por absoluta necesidad, se hormigone en tiempo de heladas, se adoptarán las medidas necesarias para garantizar que, durante el fraguado y primer endurecimiento del hormigón, no se producirán deterioros locales en los elementos correspondientes, ni mermas permanentes apreciables de las características resistentes del material.

Hormigonado en tiempo caluroso:

Si la temperatura ambiente es superior a 40°C o hay un viento excesivo, se suspenderá el hormigonado, salvo que, previa autorización expresa de la Dirección de Obra, se adopten medidas especiales.

4.13 MORTEROS

CONDICIONES GENERALES

Se definen los morteros de cemento como la masa constituida por árido fino, cemento y agua. Eventualmente, pueden contener algún producto de adición para mejorar alguna de sus propiedades, cuya utilización deberá haber sido previamente aprobada por la Dirección de Obra.

Se define la lechada de cemento como la pasta muy fluida de cemento y agua, y eventualmente adiciones, utilizada principalmente para inyecciones de terrenos, cimientos, túneles, obras de fábrica, etc.

CARACTERÍSTICAS Y CLASIFICACIÓN

Los morteros serán suficientemente plásticos para rellenar los espacios en que hayan de usarse y no se retraerán de forma tal que pierdan contacto con superficie de apoyo.

La mezcla será tal que, al apretarla, conserve su forma una vez que se le suelta sin pegarse ni humedecer las manos.

La proporción en peso del cemento y el agua en las lechadas podrá variar desde el uno por ocho (1/8) al uno por uno (1/1), de acuerdo con las características de la inyección y la presión de aplicación. En todo caso, la composición de la lechada deberá ser aprobada por la Dirección de Obra para cada caso. Para su empleo en las distintas clases de obra, se establecen los siguientes tipos de morteros de cemento Portland, con sus dosificaciones, definidas por la relación entre el cemento y la arena en peso: M 1:6, M 1:5, M 1:4, M 1:3, M 1:2 y M 1:1.

FABRICACIÓN

La mezcla podrá realizarse a mano o mecánicamente. En el primer caso, se hará sobre piso impermeable, mezclando en seco el cemento y la arena hasta conseguir un producto homogéneo de color uniforme, al que se añadirá la cantidad de agua estrictamente necesaria para que, una vez batido, tenga la consistencia adecuada para su aplicación en obra.

Se fabricará solamente el mortero preciso para su uso inmediato, rechazando todo aquel que haya empezado a fraguar y el que no haya sido empleado a los cuarenta y cinco minutos de amasado.

4.13.1 Morteros hechos en obra

CONDICIONES DE SUMINISTRO

El conglomerante (cal o cemento) se debe suministrar:

En sacos de papel o plástico, adecuados para que su contenido no sufra alteración.

O a granel, mediante instalaciones especiales de transporte y almacenamiento que garanticen su perfecta conservación.

La arena se debe suministrar a granel, mediante instalaciones especiales de transporte y almacenamiento que garanticen su perfecta conservación.

El agua se debe suministrar desde la red de agua potable.

RECEPCIÓN Y CONTROL

Documentación de los suministros:

Si ciertos tipos de mortero necesitan equipamientos, procedimientos o tiempos de amasado especificados para el amasado en obra, se deben especificar por el fabricante. El tiempo de amasado se mide a partir del momento en el que todos los componentes se han adicionado.

Ensayos:

La comprobación de las propiedades o características exigibles a este material se realiza según la normativa

vigente.

CONSERVACIÓN, ALMACENAMIENTO Y MANIPULACIÓN

Los morteros deben estar perfectamente protegidos del agua y del viento, ya que, si se encuentran expuestos a la acción de este último, la mezcla verá reducido el número de finos que la componen, deteriorando sus características iniciales y por consiguiente no podrá ser utilizado. Es aconsejable almacenar los morteros secos en silos.

RECOMENDACIONES PARA SU USO EN OBRA

Para elegir el tipo de mortero apropiado se tendrá en cuenta determinadas propiedades, como la resistencia al hielo y el contenido de sales solubles en las condiciones de servicio en función del grado de exposición y del riesgo de saturación de agua.

En condiciones climatológicas adversas, como lluvia, helada o excesivo calor, se tomarán las medidas oportunas de protección.

El amasado de los morteros se realizará preferentemente con medios mecánicos. La mezcla debe ser batida hasta conseguir su uniformidad, con un tiempo mínimo de 1 minuto. Cuando el amasado se realice a mano, se hará sobre una plataforma impermeable y limpia, realizando como mínimo tres batidas.

El mortero se utilizará en las dos horas posteriores a su amasado. Si es necesario, durante este tiempo se le podrá agregar agua para compensar su pérdida. Pasadas las dos horas, el mortero que no se haya empleado se desechará.

4.13.2 Mortero para revoco y enlucido

CONDICIONES DE SUMINISTRO

El mortero se debe suministrar en sacos de 25 ó 30 kg.

Los sacos serán de doble hoja de papel con lámina intermedia de polietileno.

RECEPCIÓN Y CONTROL

Documentación de los suministros:

Este material debe estar provisto del marcado CE, que es una indicación de que cumple los requisitos esenciales y ha sido objeto de un procedimiento de evaluación de la conformidad.

Deberán figurar en el envase, en el albarán de suministro, en las fichas técnicas de los fabricantes, o bien, en cualquier documento que acompañe al producto, la designación o el código de designación de la identificación.

Ensayos:

La comprobación de las propiedades o características exigibles a este material se realiza según la normativa vigente.

CONSERVACIÓN, ALMACENAMIENTO Y MANIPULACIÓN

Se podrá conservar hasta 12 meses desde la fecha de fabricación con el embalaje cerrado y en local cubierto y seco.

RECOMENDACIONES PARA SU USO EN OBRA

Se respetarán, para cada amasado, las proporciones de agua indicadas. Con el fin de evitar variaciones de color, es importante que todos los amasados se hagan con la misma cantidad de agua y de la misma forma.

Temperaturas de aplicación comprendidas entre 5°C y 30°C.

No se aplicará con insolación directa, viento fuerte o lluvia. La lluvia y las heladas pueden provocar la aparición de manchas y carbonataciones superficiales.

Es conveniente, una vez aplicado el mortero, humedecerlo durante las dos primeras semanas a partir de 24 horas después de su aplicación.

Al revestir áreas con diferentes soportes, se recomienda colocar malla.

4.14 ACEROS PARA HORMIGÓN ARMADO

4.14.1 Aceros corrugados

CONDICIONES DE SUMINISTRO

Los aceros se deben transportar protegidos adecuadamente contra la lluvia y la agresividad de la atmósfera ambiental.

RECEPCIÓN Y CONTROL

Documentación de los suministros:

Los suministradores entregarán al Constructor, quién los facilitará a la Dirección Facultativa, cualquier documento de identificación del producto exigido por la reglamentación aplicable o, en su caso, por el proyecto o por la Dirección Facultativa. Se facilitarán los siguientes documentos:

Antes del suministro:

Los documentos de conformidad o autorizaciones administrativas exigidas reglamentariamente.

Hasta la entrada en vigor del marcado CE, se adjuntarán los certificados de ensayo que garanticen el

cumplimiento de las siguientes características:

Características mecánicas mínimas garantizadas por el fabricante.

Ausencia de grietas después del ensayo de doblado-desdoblado.

Aptitud al doblado simple.

Los aceros soldables con características especiales de ductilidad deberán cumplir los requisitos de los ensayos de fatiga y deformación alternativa.

Características de adherencia. Cuando el fabricante garantice las características de adherencia mediante el ensayo de la viga, presentará un certificado de homologación de adherencia, en el que constará, al menos:

Marca comercial del acero.

Forma de suministro: barra o rollo.

Límites admisibles de variación de las características geométricas de los resaltos.

Composición química.

En la documentación, además, constará:

El nombre del laboratorio. En el caso de que no se trate de un laboratorio público, declaración de estar acreditado para el ensayo referido.

Fecha de emisión del certificado.

Durante el suministro:

Las hojas de suministro de cada partida o remesa.

Hasta la entrada en vigor del marcado CE, se adjuntará una declaración del sistema de identificación del acero que haya empleado el fabricante.

La clase técnica se especificará mediante un código de identificación del tipo de acero mediante engrosamientos u omisiones de corrugas o grafilas. Además, las barras corrugadas deberán llevar grabadas las marcas de identificación que incluyen información sobre el país de origen y el fabricante.

En el caso de que el producto de acero corrugado sea suministrado en rollo o proceda de operaciones de enderezado previas a su suministro, deberá indicarse explícitamente en la correspondiente hoja de suministro.

En el caso de barras corrugadas en las que, dadas las características del acero, se precise de procedimientos especiales para el proceso de soldadura, el fabricante deberá indicarlos.

Después del suministro:

El certificado de garantía del producto suministrado, firmado por persona física con poder de representación suficiente.

Distintivos de calidad y evaluaciones de idoneidad técnica:

En su caso, los suministradores entregarán al Constructor, quién la facilitará a la Dirección Facultativa, una copia compulsada por persona física de los certificados que avalen que los productos que se suministrarán están en posesión de un distintivo de calidad oficialmente reconocido, donde al menos constará la siguiente información:

Identificación de la entidad certificadora.

Logotipo del distintivo de calidad.

Identificación del fabricante.

Alcance del certificado.

Garantía que queda cubierta por el distintivo (nivel de certificación).

Número de certificado.

Fecha de expedición del certificado.

Antes del inicio del suministro, la Dirección Facultativa valorará, en función del nivel de garantía del distintivo y de acuerdo con lo indicado en el proyecto y lo establecido en la Instrucción de Hormigón Estructural (EHE-08), si la documentación aportada es suficiente para la aceptación del producto suministrado o, en su caso, qué comprobaciones deben efectuarse.

Ensayos:

La comprobación de las propiedades o características exigibles a este material se realiza según la Instrucción de Hormigón Estructural (EHE-08).

En el caso de efectuarse ensayos, los laboratorios de control facilitarán sus resultados acompañados de la incertidumbre de medida para un determinado nivel de confianza, así como la información relativa a las fechas, tanto de la entrada de la muestra en el laboratorio como de la realización de los ensayos.

Las entidades y los laboratorios de control de calidad entregarán los resultados de su actividad al agente autor del encargo y, en todo caso, a la Dirección Facultativa.

CARACTERÍSTICAS

Sólo podrán emplearse aquellos elementos que sean conformes con UNE-EN 10080, según artículo 32.2 de EHE-08.

Dichos elementos, cumplirán las especificaciones señaladas en la citada Instrucción, en concreto, lo indicado en la siguiente tabla (art. 32.2 EHE-08):

Tipo de acero	Soldable
Designación	B 500 S
Límite elástico, f_y (N/mm^2)	>= 500
Carga unitaria de rotura, f_s (N/mm^2)	>= 550
Alargamiento de rotura, $e_{u,5}$ (%)	>= 12
Alargamiento total bajo carga máxima	>= 5
Relación f_s/f_y	>= 1,05
Relación $f_{y\,real}/f_{y\,nominal}$	-

En el artículo 32 de la EHE-08, se incluyen los valores que deben cumplir los ensayos de adherencia de las barras corrugadas, aptitud al doblado-desdoblado, características de composición química y la geometría de las corrugas.

CONSERVACIÓN, ALMACENAMIENTO Y MANIPULACIÓN

Durante el almacenamiento las armaduras se protegerán adecuadamente contra la lluvia y de la agresividad de la atmósfera ambiental. Hasta el momento de su empleo, se conservarán en obra, cuidadosamente clasificadas según sus tipos, calidades, diámetros y procedencias, para garantizar la necesaria trazabilidad.

Antes de su utilización y especialmente después de un largo periodo de almacenamiento en obra, se examinará el estado de su superficie, con el fin de asegurarse de que no presenta alteraciones perjudiciales. Una ligera capa de óxido en la superficie de las barras no se considera perjudicial para su utilización. Sin embargo, no se admitirán pérdidas de peso por oxidación superficial, comprobadas después de una limpieza con cepillo de alambres hasta quitar el óxido adherido, que sean superiores al 1% respecto al peso inicial de la muestra.

En el momento de su utilización, las armaduras pasivas deben estar exentas de sustancias extrañas en su superficie tales como grasa, aceite, pintura, polvo, tierra o cualquier otro material perjudicial para su buena conservación o su adherencia.

La elaboración de armaduras mediante procesos de ferralla requiere disponer de unas instalaciones que permitan desarrollar, al menos, las siguientes actividades:

Almacenamiento de los productos de acero empleados.

Proceso de enderezado, en el caso de emplearse acero corrugado suministrado en rollo.

Procesos de corte, doblado, soldadura y armado, según el caso.

RECOMENDACIONES PARA SU USO EN OBRA

Para prevenir la corrosión, se deberá tener en cuenta todas las consideraciones relativas a los espesores de recubrimiento.

Con respecto a los materiales empleados, se prohíbe poner en contacto las armaduras con otros metales de muy diferente potencial galvánico.

Se prohíbe emplear materiales componentes (agua, áridos, aditivos y/o adiciones) que contengan iones despasivantes, como cloruros, sulfuros y sulfatos, en proporciones superiores a las establecidas.

4.14.2 Mallas electrosoldadas

Cumplirán las especificaciones señaladas en el artículo 33.1.1 de la Instrucción EHE-08.

Las mallas electrosoldadas estarán fabricadas con barras corrugadas que cumplan lo dispuesto en el apartado precedente, o con alambres corrugados que cumplan las condiciones incluidas en el artículo 32.3 de la citada Instrucción.

4.15 ENCOFRADOS

Se define como encofrado el elemento destinado al moldeo in situ de hormigones y morteros. Puede ser recuperable o perdido, entendiéndose por esto último el que queda englobado dentro del hormigón.

Cumplirán lo prescrito en la Orden FOM/3818/2007, de 10 de diciembre, por la que se dictan instrucciones complementarias para la utilización de elementos auxiliares de obra en la construcción de puentes de carretera, que deroga al artículo 680 del PG-3.

Serán de madera, metálicos o de otro material rígido que reúna análogas condiciones de eficacia.

ENCOFRADOS DE MADERA

La madera procederá de troncos en sazón con pocos nudos, deberá haber sido curada al aire al menos durante dos años (2 años).

Solo se empleará madera de sierra con aristas vivas de fibra recta paralela a la mayor dimensión de la pieza, sin grietas, hendiduras, ni nudos de espesor superior a la séptima parte (1/7) de la menor dimensión.

La madera que se destine a la entibación de zanjas, cimbras, andamios y demás elementos auxiliares, no tendrá otra limitación que la de ser sana y con dimensiones suficientes para ofrecer la necesaria resistencia, con objeto de poner a cubierto la seguridad de la obra y la vida de los obreros que en ella trabajan.

ENCOFRADOS DE METÁLICOS

Los encofrados metálicos deberán ser lo suficientemente rígidos y resistentes como para evitar desplazamientos

locales durante el hormigonado, siendo la chapa de los paneles de un espesor tal que no se produzcan deformaciones en su uso a fin de que el paramento de hormigón presente un aspecto liso y uniforme sin bombeos, resaltos ni rebabas. Se utilizará acero laminado de 0.5 cm de espesor como mínimo.

La Dirección de Obra deberá aprobar, antes de comenzar las operaciones de hormigonado, el encofrado metálico empleado por el contratista.

4.16 OTROS MATERIALES METÁLICOS

4.16.1 Aceros laminados

Se consideran comprendidos dentro de esta denominación todos los laminados, aceros comunes al carbono o aceros de baja aleación fabricados por cualquiera de los procedimientos usuales.

El acero a utilizar será tipo S275 JR, según la designación comercial actual que figura en las normas UNE EN 10025 y UNE EN 10210-1.

Cumplirá las condiciones establecidas en el Documento Básico SE-A (Seguridad estructural - Acero) del Código Técnico de la Edificación.

La estructura del acero será homogénea, conseguida por un buen proceso de fabricación y por un correcto laminado, estando exenta de defectos que perjudiquen a la calidad del material.

Los productos laminados tendrán superficie lisa sin defectos superficiales de importancia que afecten a su utilización. Las irregularidades superficiales como rayados, pliegues y fisuras serán reparadas mediante procedimientos adecuados, previo consentimiento de la Dirección facultativa.

Serán admisibles los defectos superficiales cuando, suprimidos por esmerilado, el perfil en cuestión cumpla las tolerancias exigidas.

Los productos laminados deberán ser acopiados por el Contratista en parque adecuado. El tiempo de permanencia a la intemperie quedará limitado por la condición de que una vez eliminado el óxido superficial antes de su puesta en obra, los perfiles cumplan las especificaciones de la tabla de tolerancia. El Contratista deberá evitar cualquier tipo de golpe brusco sobre los materiales y tomar las necesarias precauciones a fin de que durante la manipulación que ha de efectuarse, ningún elemento sea sometido a esfuerzos, deformaciones o trato inadecuado.

4.16.2 Fundición

La fundición a emplear para la fabricación de las piezas deberá ser fundición gris, con grafito laminar (fundición gris normal) o con grafito esferoidal (fundición nodular o dúctil).

La fundición presentará en su fractura grano fino, regular, homogéneo y compacto. Deberá ser dulce, tenaz y dura; pudiendo sin embargo trabajarse a la lima y al buril y susceptible de ser cortada y taladrada fácilmente. En su

moldeo no presentará poros, sopladuras, bolsas de aire o huecos, gotas frías, grietas, manchas, pelos ni otros defectos debidos a impurezas que perjudiquen a la resistencia o a la continuidad del material y al buen aspecto de la superficie del producto obtenida. Las paredes interiores y exteriores de las piezas deben estar cuidadosamente acabadas, limpiadas y desbarbadas.

La fundición gris cumplirá la norma UNE-EN 1561.

La fundición de grafito esferoidal cumplirá la norma UNE-EN 1563.

La fundición maleable se ajustará a la norma UNE-EN 1562.

En cualquier caso, deberán cumplirse las normas citadas a continuación: UNE-EN 12680-1, UNE-EN 12681, UNE-EN 1369, UNE-EN 1370, UNE-EN 1371-2, UNE-EN 1559-1, UNE-EN 1560, UNE-EN ISO 10714, UNE-EN ISO 945.

4.16.3 Acero inoxidable

El acero inoxidable a emplear en los elementos pertenecientes a obras de saneamiento en ambientes de aguas o vapores de aguas residuales será acero austenítico, bajo en carbono, tipo AISI 304 y/o AISI 316, según se especifique, por presentar buena soldabilidad y gran resistencia a la corrosión. Para aquellos ambientes especialmente agresivos se utilizará acero tipo AISI 316 por su mejor comportamiento a la corrosión frente al AISI 304.

El acero inoxidable a emplear en las obras se ajustará a las normas UNE-EN 10088, UNE-EN ISO 3506-2.

Las piezas de acero inoxidable se marcarán con señales indelebles para evitar confusiones en su empleo.

La composición química del acero reseñado se ajustará a los valores que a continuación se adjuntan:

	AISI 304	**AISI 316**
Designación	X5CrNi18-10	X5CrNiMo17-12-2
C (%)	≤ 0,070	≤ 0,070
Si (%)	≤ 0,75	≤ 0,75
Mn (%)	≤ 2,00	≤ 2,00
P máx (%)	0,045	0,045
S máx (%)	0,015	0,015
Cr (%)	18,00 - 19,00	16,50 - 18,00
Ni (%)	8,00 - 10,00	10,00 - 12,00
Mo (%)	---	2,0 - 2,5
Ti (%)	---	---
Otros (%)	---	---

4.17 PREFABRICADOS DE HORMIGÓN

4.17.1 DESCRIPCIÓN

Como elementos de hormigón prefabricado pueden considerarse: Forjados unidireccionales: constituidos por elementos superficiales planos con nervios, flectando esencialmente en una dirección. Se consideran dos tipos de forjados, los de viguetas o semiviguetas pretensadas, y los de losas alveolares pretensadas.

Placas o losas sobre apoyos aislados: estructuras constituidas por placas macizas o aligeradas con nervios de hormigón armado en dos direcciones perpendiculares entre sí, que no poseen, en general, vigas para transmitir las cargas a los apoyos y descansan directamente sobre soportes con o sin capitel.

Muros de sótanos y muros de carga.

Pantallas: sistemas estructurales en ménsula empotrados en el terreno, de hormigón prefabricado, de pequeño espesor, gran canto y muy elevada altura, especialmente aptas para resistir acciones horizontales.

Núcleo: un conjunto de pantallas enlazadas entre sí para formar una pieza de sección cerrada o eventualmente abierta por huecos de paso, que presenta una mayor eficacia que las pantallas para resistir esfuerzos horizontales.

Estructuras porticadas: formadas por soportes y vigas. Las vigas son elementos estructurales, planos o de canto, de directriz recta y sección rectangular que salvan una determinada luz, soportando cargas de flexión. Los soportes son elementos de directriz recta y sección rectangular, cuadrada, poligonal o circular, de hormigón armado, pertenecientes a la estructura del edificio, que transmiten las cargas al cimiento.

4.17.2 CRITERIOS DE MEDICIÓN Y VALORACIÓN DE UNIDADES

Metro cuadrado de losa o forjado reticular: hormigón de resistencia o dosificación especificados, con una cuantía media del tipo de acero especificada, del canto e intereje especificados, con aligeramientos del material especificado, incluso encofrado, vibrado, curado y desencofrado, según Instrucción EHE.

Metro cuadrado de forjado unidireccional con vigueta, semivigueta o losa pretensada, totalmente terminado, incluyendo las piezas de entrevigado para forjados con viguetas o semiviguetas pretensadas, hormigón vertido en obra y armadura colocada en obra, incluso vibrado, curado, encofrado y desencofrado, según Instrucción EFHE.

Metro cuadrado de núcleos y pantallas de hormigón armado: completamente terminado, de espesor y altura especificadas, de hormigón de resistencia o dosificación especificados, de la cuantía del tipo acero especificada, incluyendo encofrado a una o dos caras del tipo especificado, elaboración, desencofrado y curado, según Instrucción EHE.

Metro lineal de soporte de hormigón prefabricado: completamente terminado, de sección y altura especificadas, de hormigón de resistencia o dosificación especificados, de la cuantía del tipo de acero especificada, incluyendo

puesta en obra, según Instrucción EHE.

4.17.3 PRESCRIPCIONES SOBRE LOS PRODUCTOS

Características y recepción de los productos que se incorporan a las unidades de obra

Áridos:

Los áridos deberán cumplir las especificaciones contenidas en el artículo 28. Como áridos para la fabricación de hormigones pueden emplearse arenas y gravas existentes en yacimientos naturales o rocas machacadas, así como otros productos cuyo empleo se encuentre sancionado por la práctica o resulte aconsejable como consecuencia de estudios realizados en laboratorio. Se prohíbe el empleo de áridos que contengan sulfuros oxidables. Los áridos se designarán por su tamaño mínimo y máximo en mm. El tamaño máximo de un árido grueso será menor que las dimensiones siguientes: 0,8 de la distancia horizontal libre entre armaduras que no formen grupo, o entre un borde de la pieza y una armadura que forme un ángulo mayor de 45º con la dirección del hormigonado; 1,25 de la distancia entre un borde de la pieza y una armadura que forme un ángulo no mayor de 45º con la dirección de hormigonado, 0,25 de la dimensión mínima de la pieza, excepto en los casos siguientes: Losa superior de los forjados, donde el tamaño máximo del árido será menor que 0,4 veces el espesor mínimo. Piezas de ejecución muy cuidada y aquellos elementos en los que el efecto pared del encofrado sea reducido (forjados, que sólo se encofran por una cara), en cuyo caso será menor que 0,33 veces el espesor mínimo.

Otros componentes:

Podrán utilizarse como componentes del hormigón los aditivos y adiciones, siempre que se justifique con la documentación del producto o los oportunos ensayos que la sustancia agregada en las proporciones y condiciones previstas produce el efecto deseado sin perturbar excesivamente las restantes características del hormigón ni representar peligro para la durabilidad del hormigón ni para la corrosión de armaduras.

Viguetas y losas alveolares pretensadas:

Las viguetas prefabricadas de hormigón, y las losas alveolares prefabricadas de hormigón pretensado cumplirán las condiciones del artículo 10 de la Instrucción EFHE. Piezas prefabricadas para entrevigado: Las piezas de entrevigado pueden ser de arcilla cocida u hormigón (aligerantes y resistentes), poliestireno expandido y otros materiales suficientemente rígidos que no produzcan daños al hormigón ni a las armaduras (aligerantes). En piezas colaborantes, la resistencia característica a compresión no será menor que la resistencia de proyecto del hormigón de obra con que se ejecute el forjado.

4.17.4 RECEPCIÓN DE LOS PRODUCTOS

La recepción de los productos, equipos y sistemas se realizará conforme se desarrolla en la Parte II, Condiciones de recepción de productos. Este control comprende el control de la documentación de los suministros (incluida la

correspondiente al marcado CE, cuando sea pertinente), el control mediante distintivos de calidad o evaluaciones técnicas de idoneidad y el control mediante ensayos.

Hormigón fabricado en central de obra u hormigón preparado:

Control documental:

En la recepción se controlará que cada carga de hormigón vaya acompañada de una hoja de suministro, firmada por persona física, a disposición de la dirección facultativa, y en la que figuren, los datos siguientes:

- Nombre de la central de fabricación de hormigón.
- Número de serie de la hoja de suministro.
- Fecha de entrega.
- Nombre del peticionario y del responsable de la recepción.

Especificación del hormigón:

En el caso de que el hormigón se designe por propiedades:

- Designación de acuerdo con el artículo 39.2.
- Contenido de cemento en kilogramos por metro cúbico de hormigón, con una tolerancia de ± 15 kg.
- Relación agua/cemento del hormigón, con una tolerancia de ± 0,02.

En el caso de que el hormigón se designe por dosificación:

- Contenido de cemento por metro cúbico de hormigón.
- Relación agua/cemento del hormigón, con una tolerancia de ± 0,02.
- Tipo de ambiente de acuerdo con la tabla 8.2.2.
- Tipo, clase, y marca del cemento.
- Consistencia. Tamaño máximo del árido.
- Tipo de aditivo, según UNE-EN 934-2:98, si lo hubiere, y en caso contrario, indicación expresa de que no contiene. Procedencia y cantidad de adición (cenizas volantes o humo de sílice, artículo 29.2) si la hubiere, y en caso contrario, indicación expresa de que no contiene.
- Designación específica del lugar del suministro (nombre y lugar).
- Cantidad del hormigón que compone la carga, expresada en metros cúbicos de hormigón fresco.
- Identificación del camión hormigonera (o equipo de transporte) y de la persona que proceda a la descarga, según artículo 69.2.9.2. Hora límite de uso para el hormigón.

Elementos resistentes de los forjados:

Viguetas prefabricadas de hormigón, u hormigón y arcilla cocida.

Losas alveolares pretensadas (ver Parte II, Relación de productos con marcado CE, 1.2.1).

Según la Instrucción EFHE, para elementos resistentes se comprobará que:

- las viguetas o losas alveolares pretensadas llevan marcas que permitan la identificación del fabricante, tipo de elemento, fecha de fabricación y longitud del elemento, y que dichas marcas coinciden con los datos que deben figurar en la hoja de suministro; l
- as características geométricas y de armado del elemento resistente cumplen las condiciones reflejadas en la Autorización de Uso y coinciden con las establecidas en los planos de los forjados del proyecto de ejecución del edificio;
- los recubrimientos mínimos de los elementos resistentes cumplen las condiciones señaladas en el apartado 34.3 de, con respecto al que consta en las autorizaciones de uso; certificado al que se hace referencia en el punto e) del apartado 3.2; en su caso, conforme a lo establecido en los apartados 14.2.1 y 14.3, certificados de garantía a los que se hace referencia en los Anejos 5 y 6.

<u>Piezas prefabricadas para entrevigado:</u>

En cuanto al control y aceptación de este tipo de piezas, se cumplirá que toda pieza de entrevigado sea capaz de soportar una carga característica de 1 kN, repartida uniformemente en una placa de 200 x 75 x 25 mm, situada en la zona más desfavorable de la pieza.

En piezas de entrevigado cerámicas, el valor medio de la expansión por humedad, determinado según UNE 67036:99, no será mayor que 0,55 mm/m, y no debe superarse en ninguna de las mediciones individuales el valor de 0,65 mm/m. Las piezas de entrevigado que superen el valor límite de expansión total podrán utilizarse, no obstante, siempre que el valor medio de la expansión potencial, según la UNE 67036:99, determinado previamente a su puesta en obra, no sea mayor que 0,55 mm/m.

En cada suministro que llegue a la obra de piezas de entrevigado se realizarán las comprobaciones siguientes: que las piezas están legalmente fabricadas y comercializadas; que el sistema dispone de Autorización de uso en vigor, justificada documentalmente por el fabricante, de acuerdo con la Instrucción EFHE, y que las condiciones allí reflejadas coinciden con las características geométricas de la pieza de entrevigado. Esta comprobación no será necesaria en el caso de productos que posean un distintivo de calidad reconocido oficialmente.

<u>Almacenamiento y manipulación (criterios de uso, conservación y mantenimiento)</u>

Vigas y viguetas prefabricadas y losas alveolares pretensadas:

Tanto la manipulación, a mano o con medios mecánicos como el izado y acopio de las viguetas y losas alveolares pretensadas en obra se realizará siguiendo las instrucciones indicadas por cada fabricante, almacenándose en su posición normal de trabajo, sobre apoyos que eviten el contacto con el terreno o con cualquier producto que las

pueda deteriorar. Si alguna resultase dañada afectando a su capacidad portante deberá desecharse.

Las vigas, viguetas y losas alveolares pretensadas se apilarán limpias sobre durmientes, que coincidirán en la misma vertical, con vuelos, en su caso, no mayores que 0,50 m, ni alturas de pilas superiores a 1,50 m, salvo que el fabricante indique otro valor.

4.17.5 PRESCRIPCIÓN EN CUANTO A LA EJECUCIÓN POR UNIDADES DE OBRA

Características técnicas de cada unidad de obra

- Compatibilidad entre los productos, elementos y sistemas constructivos

No se empleará aluminio en moldes que vayan a estar en contacto con el hormigón.

En los hormigones armados o pretensados no podrán utilizarse como aditivos el cloruro cálcico ni en general productos en cuya composición intervengan cloruros, sulfuros, sulfitos u otros componentes químicos que puedan ocasionar o favorecer la corrosión de las armaduras.

En el caso de estructuras pretensadas, se prohíbe el uso de cualquier sustancia que catalice la absorción del hidrógeno por el acero.

Para prevenir el fenómeno electroquímico de la corrosión galvánica entre metales con diferente potencial, se adoptarán las siguientes medidas:

- Evitar el contacto entre dos metales de distinta actividad. En caso de no poder evitar el contacto, se deberá seleccionar metales próximos en la serie galvánica.
- Aislar eléctricamente los metales con diferente potencial.
- Evitar el acceso de agua y oxígeno a la zona de unión de los dos metales.

Proceso de ejecución

- Ejecución Condiciones generales:

Se tomarán las precauciones necesarias, en función de la agresividad ambiental a la que se encuentre sometido cada elemento, para evitar su degradación pudiendo alcanzar la duración de la vida útil acordada, según lo indicado en proyecto. Se cumplirán las prescripciones constructivas indicadas en la Norma de Construcción Sismorresistente NCSE-02 que sean de aplicación, según lo indicado en proyecto, para cada uno de los elementos:

- Elementos prefabricados: tratamiento de los nudos.

Replanteo:

Se comprobará el replanteo de soportes, con sus ejes marcados indicándose los que reducen a ejes, los que

mantienen una cara o varias caras fijas entre diferentes plantas.

Ejecución de la ferralla:

Se prohíbe el enderezamiento en obra de las armaduras activas.

Antes de autorizar el hormigonado, y una vez colocadas y, en su caso, tesas las armaduras, se comprobará si su posición, así como la de las vainas, anclajes y demás elementos, concuerdan con la indicada en los planos, y si las sujeciones son las adecuadas para garantizar su invariabilidad durante el hormigonado y vibrado. Si fuera preciso, se efectuarán las oportunas rectificaciones.

Apuntalado:

Se dispondrán durmientes de reparto para el apoyo de los puntales. Si los durmientes de reparto descansan directamente sobre el terreno, habrá que cerciorarse de que no puedan asentar en él. Los tableros llevarán marcada la altura a hormigonar. Las juntas de los tableros serán estancas, en función de la consistencia del hormigón y forma de compactación. Se unirá el encofrado al apuntalamiento, impidiendo todo movimiento lateral o incluso hacia arriba (levantamiento), durante el hormigonado. Se fijarán las cuñas y, en su caso, se tensarán los tirantes. Los puntales se arriostrarán en las dos direcciones, para que el apuntalado sea capaz de resistir los esfuerzos horizontales que puedan producirse durante la ejecución de los forjados. En los forjados de viguetas armadas se colocarán los apuntalados nivelados con los apoyos y sobre ellos se colocarán las viguetas. En los forjados de viguetas pretensadas se colocarán las viguetas ajustando a continuación los apuntalados. Los puntales deberán poder transmitir la fuerza que reciban y, finalmente, permitir el desapuntalado con facilidad.

Cimbras, encofrados y moldes:

Serán lo suficientemente estancos para impedir una pérdida apreciable de pasta entre las juntas, indicándose claramente sobre el encofrado la altura a hormigonar y los elementos singulares. Los encofrados pueden ser de madera, cartón, plástico o metálicos, evitándose el metálico en tiempos fríos y los de color negro en tiempo soleado. Se colocarán dando la forma requerida al soporte y cuidando la estanquidad de la junta. Los de madera se humedecerán ligeramente, para no deformarlos, antes de verter el hormigón.

Los productos desencofrantes o desmoldeantes aprobados se aplicarán en capas continuas y uniformes sobre la superficie interna del encofrado o molde, colocándose el hormigón durante el tiempo en que estos productos sean efectivos. Los encofrados y moldes de madera se humedecerán para evitar que absorban el agua contenida en el hormigón. Por otra parte, las piezas de madera se dispondrán de manera que se permita su libre entumecimiento, sin peligro de que se originen esfuerzos o deformaciones anormales.

En la colocación de las placas metálicas de encofrado y posterior vertido de hormigón, se evitará la disgregación del mismo, picándose o vibrándose sobre las paredes del encofrado. Tendrán fácil desencofrado, no utilizándose

gasoil, grasas o similares. El encofrado (los fondos y laterales) estará limpio en el momento de hormigonar, quedando el interior pintado con desencofrante antes del montaje, sin que se produzcan goteos, de manera que el desencofrante no impedirá la ulterior aplicación de revestimiento ni la posible ejecución de juntas de hormigonado, especialmente cuando sean elementos que posteriormente se hayan de unir para trabajar solidariamente. La sección del elemento no quedará disminuida en ningún punto por la introducción de elementos del encofrado ni de otros. No se transmitirán al encofrado vibraciones de motores. El desencofrado se realizará sin golpes y sin sacudidas.

Colocación de las viguetas y piezas de entrevigados:

Se izarán las viguetas desde el lugar de almacenamiento hasta su lugar de ubicación, cogidas de dos o más puntos, siguiendo las instrucciones indicadas por cada fabricante para la manipulación, a mano o con grúa. Se colocarán las viguetas en obra apoyadas sobre muros y/o encofrado, colocándose posteriormente las piezas de entrevigado, paralelas, desde la planta inferior, utilizándose bovedillas ciegas y apeándose, si así se especifica en proyecto, procediéndose a continuación al vertido y compactación del hormigón. Si alguna resultara dañada afectando a su capacidad portante será desechada. En los forjados reticulares, se colocarán los casetones en los recuadros formados entre los ejes del replanteo. En los forjados no reticulares, la vigueta quedará empotrada en la viga, antes de hormigonar. Finalizada esta fase, se ajustarán los puntales y se procederá a la colocación de las bovedillas, las cuales no invadirán las zonas de macizado o del cuerpo de vigas o soportes. Se dispondrán los pasatubos y se encofrarán los huecos para instalaciones. En los voladizos se realizarán los oportunos resaltes, molduras y goterones, que se detallen en el proyecto; así mismo se dejarán los huecos precisos para chimeneas, conductos de ventilación, pasos de canalizaciones, etc. Se encofrarán las partes macizas junto a los apoyos.

Colocación de las armaduras:

Se colocarán las armaduras sobre el encofrado, con sus correspondientes separadores. La armadura de negativos se colocará preferentemente bajo la armadura de reparto. Podrá colocarse por encima de ella siempre que ambas cumplan las condiciones requeridas para los recubrimientos y esté debidamente asegurado el anclaje de la armadura de negativos sin contar con la armadura de reparto. En los forjados de losas alveolares pretensadas, las armaduras de continuidad y las de la losa superior hormigonada en obra, se mantendrán en su posición mediante los separadores necesarios. En muros y pantallas se anclarán las armaduras sobre las esperas, tanto longitudinal como transversalmente, encofrándose tanto el trasdós como el intradós, aplomados y separadas sus armaduras. Se utilizarán calzos separadores y elementos de suspensión de las armaduras para obtener el recubrimiento adecuado y posición correcta de negativos en vigas.

Colocación y aplomado de la armadura del soporte; en caso de reducir su sección se grifará la parte correspondiente a la espera de la armadura, solapándose la siguiente y atándose ambas. Los cercos se sujetarán

a las barras principales mediante simple atado u otro procedimiento idóneo, prohibiéndose expresamente la fijación mediante puntos de soldadura una vez situada la ferralla en los moldes o encofrados. Encofrada la viga, previo al hormigonado, se colocarán las armaduras longitudinales principales de tracción y compresión, y las transversales o cercos según la separación entre sí obtenida.

Puesta en obra del hormigón:

No se colocarán en obra masas que acusen un principio de fraguado. Antes de hormigonar se comprobará que no existen elementos extraños, como barro, trozos de madera, etc. y se regará abundantemente, en especial si se utilizan piezas de entrevigado de arcilla cocida. No se colocarán en obra tongadas de hormigón cuyo espesor sea superior al que permita una compactación completa de la masa. En general, se controlará que el hormigonado del elemento, se realice en una jornada. Se adoptarán las medias necesarias para que, durante el vertido y colocación de las masas de hormigón, no se produzca disgregación de la mezcla, evitándose los movimientos bruscos de la masa, o el impacto contra los encofrados verticales y las armaduras. Queda prohibido el vertido en caída libre para alturas superiores a un metro. En el momento del hormigonado, las superficies de las piezas prefabricadas que van a quedar en contacto con el hormigón vertido en obra deben estar exentas de polvo y convenientemente humedecidas para garantizar la adherencia entre los dos hormigones.

El hormigonado de los nervios o juntas y la losa superior se realizará simultáneamente, compactando con medios adecuados a la consistencia del hormigón. En los forjados de losas alveolares pretensadas se asegurará que la junta quede totalmente rellena. En el caso de losas alveolares pretensadas, la compactación del hormigón de relleno de las juntas se realizará con un vibrador que pueda penetrar en el ancho de las juntas. Las juntas de hormigonado perpendiculares a las viguetas deberán disponerse a una distancia de apoyo no menor que 1/5 de la luz, más allá de la sección en que acaban las armaduras para momentos negativos. Las juntas de hormigonado paralelas a las mismas es aconsejable situarlas sobre el eje de las bovedillas y nunca sobre los nervios.

En losas/ forjados reticulares el hormigonado de los nervios y de la losa superior se realizará simultáneamente. Se hormigonará la zona maciza alrededor de los pilares. La placa apoyará sobre los pilares (ábaco).

Compactación del hormigón:

Se realizará mediante los procedimientos adecuados a la consistencia de la mezcla, debiendo prolongarse hasta que refluya la pasta a la superficie. La compactación del hormigón se hará con vibrador, controlando la duración, distancia, profundidad y forma del vibrado. No se rastrillará en forjados. Como criterio general el hormigonado en obra se compactará por picado con barra (los hormigones de consistencia blanda o fluida, se picarán hasta la capa inferior ya compactada), vibrado enérgico, (los hormigones secos se compactarán, en tongadas no superiores a 20 cm) y vibrado normal en los hormigones plásticos o blandos.

Juntas de hormigonado:

Deberán, en general, estar previstas en el proyecto, se situarán en dirección lo más normal posible a la de las tensiones de compresión, y allí donde su efecto sea menos perjudicial. Se les dará la forma apropiada que asegure una unión lo más íntima posible entre el antiguo y el nuevo hormigón. Cuando haya necesidad de disponer juntas de hormigonado no previstas en el proyecto se dispondrán en los lugares que apruebe la dirección facultativa, y preferentemente sobre los puntales de la cimbra. Se evitarán juntas horizontales. No se reanudará el hormigonado de las mismas sin que hayan sido previamente examinadas y aprobadas, si procede. Antes de reanudar el hormigonado se limpiará la junta de toda suciedad o árido suelto y se retirará la capa superficial de mortero utilizando para ello chorro de arena o cepillo de alambre. Se prohíbe a tal fin el uso de productos corrosivos. Para asegurar una buena adherencia entre el hormigón nuevo y el antiguo se eliminará toda lechada existente en el hormigón endurecido, y en el caso de que esté seco, se humedecerá antes de proceder al vertido del nuevo hormigón.

La forma de la junta será la adecuada para permitir el paso de hormigón de relleno, con el fin de crear un núcleo capaz de transmitir el esfuerzo cortante entre losas colaterales y para, en el caso de situar en ella armaduras, facilitar su colocación y asegurar una buena adherencia. La sección transversal de las juntas deberá cumplir con los requisitos siguientes: el ancho de la junta en la parte superior de la misma no será menor que 30 mm; el ancho de la junta en la parte inferior de la misma no será menor que 5 mm, ni al diámetro nominal máximo de árido.

Hormigonado en temperaturas extremas:

La temperatura de la masa del hormigón en el momento de verterla en el molde o encofrado, no será inferior a 5 ºC. No se autorizará el hormigonado directo sobre superficies de hormigón que hayan sufrido los efectos de las heladas, sin haber retirado previamente las partes dañadas por el hielo. Se prohíbe verter el hormigón sobre elementos cuya temperatura sea inferior a 0 ºC. En general se suspenderá el hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40 ºC. o se prevea que dentro de las 48 h siguientes, pueda descender la temperatura ambiente por debajo de los 0 ºC. El empleo de aditivos anticongelantes requerirá una autorización expresa. Cuando el hormigonado se efectúe en tiempo caluroso, se adoptarán las medidas oportunas para evitar la evaporación del agua de amasado. Para ello, los materiales y encofrados deberán estar protegidos del soleamiento y una vez vertido se protegerá la mezcla del sol y del viento, para evitar que se deseque.

Curado del hormigón:

Se deberán tomar las medidas oportunas para asegurar el mantenimiento de la humedad del hormigón durante el fraguado y primer período de endurecimiento, mediante un adecuado curado. Si el curado se realiza mediante riego directo, éste se hará sin que produzca deslavado de la superficie y utilizando agua sancionada como

aceptable por la práctica. Queda prohibido el empleo de agua de mar.

Descimbrado, desencofrado y desmoldeo:

Las operaciones de descimbrado, desencofrado y desmoldeo no se realizarán hasta que el hormigón haya alcanzado la resistencia necesaria. Los plazos de desapuntalado serán los prescritos en el articulo 75 de la Instrucción EHE. El orden de retirada de los puntales será desde el centro del vano hacia los extremos y en el caso de voladizos del vuelo hacia el arranque. No se entresacarán ni retirarán puntales sin la autorización previa de la dirección facultativa. No se desapuntalará de forma súbita y se adoptarán precauciones para impedir el impacto de las sopandas y puntales sobre el forjado. Se desencofrará transcurrido el tiempo definido en el proyecto y se retirarán los apeos según se haya previsto. El desmontaje de los moldes se realizará manualmente, tras el desencofrado y limpieza de la zona a desmontar. Se cuidará de no romper los cantos inferiores de los nervios de hormigón, al apalancar con la herramienta de desmoldeo. Terminado el desmontaje se procederá a la limpieza de los moldes y su almacenado .

- Tolerancias admisibles

Se comprobará que las dimensiones de los elementos ejecutados presentan unas desviaciones admisibles para el funcionamiento adecuado de la construcción. El autor del proyecto podrá adoptar el sistema de tolerancias de la Instrucción EHE, Anejos de Seguridad y Salud0, completado o modificado según estime oportuno.

- Condiciones de terminación

Las superficies vistas, una vez desencofradas o desmoldeadas, no presentarán coqueras o irregularidades que perjudiquen al comportamiento de la obra o a su aspecto exterior. Para los acabados especiales se especificarán los requisitos directamente o bien mediante patrones de superficie.

Para el recubrimiento o relleno de las cabezas de anclaje, orificios, entalladuras, cajetines, etc., que deba efectuarse una vez terminadas las piezas, en general se utilizarán morteros fabricados con masas análogas a las empleadas en el hormigonado de dichas piezas, pero retirando de ellas los áridos de tamaño superior a 4 mm.

El forjado acabado presentará una superficie uniforme, sin irregularidades, con las formas y texturas de acabado en función de la superficie encofrante. Si ha de quedar la losa vista tendrá además una coloración uniforme, sin goteos, manchas o elementos adheridos.

Control de ejecución, ensayos y pruebas

- Control de ejecución

Se seguirán las prescripciones del capitulo XVI de la Instrucción EHE (artículo 95). Considerando los tres niveles siguientes para la realización del control de la ejecución: control de ejecución a nivel reducido, a nivel normal y a

nivel intenso, según lo exprese el proyecto de ejecución. Las comprobaciones generales que deben efectuarse para todo tipo de obras durante la ejecución son:

Comprobaciones de replanteo y geométricas:

- Cotas, niveles y geometría.
- Tolerancias admisibles.
- Espesor mínimo de la losa superior hormigonada en obra, excepto en los forjados con losas alveolares pretensadas en las que pueden no disponerse ésta, será de: 40 mm sobre viguetas; 40 mm sobre piezas de entrevigado de arcilla cocida o de hormigón y losas alveolares pretensadas; 50 mm sobre piezas de entrevigado de otro tipo; 50 mm sobre piezas de entrevigado en el caso de zonas con aceleración sísmica de cálculo mayor que 0,16 g.
- En el caso de forjados de viguetas sin armaduras transversales de conexión con el hormigón vertida en obra, el perfil de la pieza de entrevigado dejará a ambos lados de la cara superior de la vigueta un paso de 30 mm, como mínimo.

Cimbras y andamiajes:

- Existencia de cálculo, en los casos necesarios.
- Comprobación de planos.
- Comprobación de cotas y tolerancias.
- Revisión del montaje.

Armaduras:

- Tipo, diámetro y posición.
- Corte y doblado. Almacenamiento.
- Tolerancias de colocación.
- Recubrimientos y separación entre armaduras.
- Utilización de separadores y distanciadores.
- Estado de vainas, anclajes y empalmes y accesorios.

Encofrados:

- Estanquidad, rigidez y textura.
- Tolerancias.
- Posibilidad de limpieza, incluidos fondos.
- Geometría y contraflechas.

Transporte, vertido y compactación:

- Tiempos de transporte.

Condiciones de vertido:

- método, secuencia, altura máxima, etc.
- Hormigonado con viento, tiempo frío, tiempo caluroso o lluvia.
- Compactación del hormigón.
- Acabado de superficies.

Juntas de trabajo, contracción o dilatación:

- Disposición y tratamiento de juntas de trabajo y contracción.
- Limpieza de las superficies de contacto.
- Tiempo de espera.
- Armaduras de conexión.
- Posición, inclinación y distancia.
- Dimensiones y sellado, en los casos que proceda.

Curado:

- Método aplicado.
- Plazos de curado.
- Protección de superficies.

Desmoldeado y descimbrado:

- Control de la resistencia del hormigón antes del tesado.
- Control de sobrecargas de construcción.
- Comprobación de plazos de descimbrado.
- Reparación de defectos.

Tesado de armaduras activas:

- Programa de tesado y alargamiento de armaduras activas.
- Comprobación de deslizamientos y anclajes.
- Inyección de vainas y protección de anclajes.
- Tolerancias y dimensiones finales:
- Comprobación dimensional.
- Reparación de defectos y limpieza de superficies.

Específicas para forjados de edificación:

- Comprobación de la Autorización de Uso vigente.
- Dimensiones de macizados, ábacos y capiteles.
- Condiciones de enlace de los nervios.
- Comprobación geométrica del perímetro crítico de rasante.
- Espesor de la losa superior.
- Canto total.

Huecos:

- posición, dimensiones y solución estructural.
- Armaduras de reparto.
- Separadores.

En las obras de hormigón pretensado, sólo podrán emplearse los niveles de control de ejecución normal e intenso. Las comprobaciones específicas que deben efectuarse para estructuras prefabricadas de hormigón durante la ejecución son:

Estado de bancadas:

- Limpieza.

Colocación de tendones:

- Placas de desvío.
- Trazado de cables.
- Separadores y empalmes.
- Cabezas de tesado.
- Cuñas de anclaje.

Tesado:

- Comprobación de la resistencia del hormigón antes de la transferencia.
- Comprobación de cargas.
- Programa de tesado y alargamientos.
- Transferencia.
- Corte de tendones.

Moldes:

- Limpieza y desencofrantes.
- Colocación.

Curado:

- Ciclo térmico.
- Protección de piezas.
- Desmoldeo y almacenamiento:
- Levantamiento de piezas.
- Almacenamiento en fábrica.

Transporte a obra y montaje:

- Elementos de suspensión y cuelgue.
- Situación durante el transporte.
- Operaciones de carga y descarga.
- Métodos de montaje.
- Almacenamiento en obra.
- Comprobación del montaje.

Las comprobaciones que deben efectuarse para forjados unidireccionales de hormigón estructural realizados con elementos prefabricados durante la ejecución son: Los acopios cumplirán las especificaciones del artículo 25. Las viguetas o losas alveolares pretensadas no presentan daños que afecten a su capacidad resistente.

Los enlaces o apoyos en las viguetas o losas alveolares pretensadas son correctos. La ejecución de los apuntalados es correcta, con especial atención a la distancia entre sopandas, diámetros y resistencia de los puntales. La colocación de viguetas coincide con la posición prevista en los planos.

- La longitud y diámetro de las armaduras colocadas en obra son las indicadas en los planos.
- La posición y fijación de las armaduras se realiza mediante la utilización de los separadores adecuados. Las disposiciones constructivas son las previstas en el proyecto.
- Se realiza la limpieza y regado de las superficies antes del vertido del hormigón en obra.
- El espesor de la losa superior hormigonada en obra coincide con los prescritos. La compactación y curado del hormigón son correctos.
- Se cumplen las condiciones para proceder al desapuntalado.
- Las tolerancias son las que figuran en el proyecto. Cuando en el proyecto se hayan utilizado coeficientes diferentes de los de la Instrucción EHE que permite el artículo 6, se comprobará que cumplen las condiciones que se establecen en éste.

- Ensayos y pruebas

Según el artículo 99 de la Instrucción EHE, de las estructuras proyectadas y construidas con arreglo a dicha

Instrucción, en las que los materiales y la ejecución hayan alcanzado la calidad prevista, comprobada mediante los controles preceptivos, sólo necesitan someterse a ensayos de información y en particular a pruebas de carga, las incluidas en los supuestos que se relacionan a continuación:

- Cuando así lo dispongan las Instrucciones, Reglamentos específicos de un tipo de estructura o el proyecto.
- Cuando debido al carácter particular de la estructura convenga comprobar que la misma reúne ciertas condiciones específicas. En este caso el proyecto establecerá los ensayos oportunos que se deben realizar, indicando con toda precisión la forma de realizarlos y el modo de interpretar los resultados.
- Cuando a juicio de la dirección facultativa existan dudas razonables sobre la seguridad, funcionalidad o durabilidad de la estructura.
- Cuando se realicen pruebas de carga, estas no deberán realizarse antes de que el hormigón haya alcanzado la resistencia de proyecto.

Conservación y mantenimiento

No es conveniente mantener más de tres plantas apeadas, ni tabicar sin haber desapuntalado previamente.

Durante la ejecución se evitará la actuación de cualquier carga estática o dinámica que pueda provocar daños irreversibles en los elementos ya hormigonados.

4.17.6 SEGURIDAD Y SALUD

Riesgos laborales

- Desprendimiento de cargas suspendidas.
- Atrapamiento por objetos pesados.
- Golpes y/o cortes en manos y piernas por objetos y herramientas.
- Pinchazos en pies.
- Caídas de personas al mismo nivel.
- Caída de personas a distinto nivel, bordes de forjado y huecos, rotura de bovedillas; pisadas en falso.
- Caída de personas de altura.
- Caída de elementos propios del encofrado tanto en su ejecución como en su retirada, sobre otros operarios situados en niveles inferiores.
- Cortes al utilizar sierras de mano y/o las mesas de sierra circular.
- Sobreesfuerzos por manejo de cargas y/o posturas forzadas.
- Dermatitis por contacto con el hormigón.
- Los derivados de la ejecución del trabajo bajo circunstancias meteorológicas extremas (vientos fuertes

que pueden derribar el encofrado, etc.).

- Hundimiento de encofrados. Pisadas sobre objetos punzantes.

Planificación de la prevención

Organización del trabajo y medidas preventivas

- Se tendrá en cuenta el Anejo 1.
- En el manejo de cargas y/o posturas forzadas se tendrá en cuenta lo enunciado en el Anejo 2. Se prohíbe la presencia de operarios bajo el radio de acción de las cargas suspendidas.
- Se cumplirán las normas de encofrado, desencofrado, accionamiento de puntales, etc.
- La colocación de bovedillas, se hará siempre de fuera hacia dentro, evitando ir de espaldas al vacío, poniéndolas por series de nervios abarcando el mayor ancho posible, y colocando tablones para lograr superficies seguras. Se evitará pisar por cualquier concepto las bovedillas. Se cumplirán las condiciones de seguridad para escaleras de mano (Anejo 8) y plataformas de trabajo (Anejo 3).
- El hormigonado del forjado se llevará a cabo estableciendo previamente, con tablones o tableros, pasillos de trabajo para no pisar la ferralla, las bovedillas, ni el hormigón recién colocado. Las losas de escalera deberán hormigonarse conjuntamente con el resto del forjado, siendo recomendable que lleven incorporado el peldañeado de hormigón. El personal encofrador, acreditará a su contratación ser "carpintero encofrador" con experiencia, ya que un personal inexperto en estas tareas supone un riesgo adicional.
- Se tendrán en cuenta todas las normas de seguridad a aplicar en la ejecución de encofrados de madera.
- Se instalarán listones sobre los fondos de madera de las losas de escalera, para permitir un más seguro tránsito y evitar deslizamientos.
- Los apeos no deberán aflojarse antes de haber transcurrido 7 días desde la terminación del hormigonado ni suprimirse antes de 28 días desde la terminación del hormigonado, y siempre que el hormigón haya alcanzado su resistencia prevista.
- Antes del inicio del vertido del hormigón, el capataz o encargado, revisará el buen estado de la seguridad de los encofrados, en prevención de accidentes por reventones o derrames.
- En el vertido de hormigón mediante cubo, penderán cabos de guía del mismo para ayudar a su correcta posición de vertido.
- Se prohíbe guiarlo o recibirlo directamente, en prevención de caídas por movimiento pendular del cubo.
- La apertura del cubo para vertido se ejecutará exclusivamente accionando la palanca para ello, con las manos protegidas con guantes impermeables.
- Se prohíbe terminantemente, trepar por los encofrados de los pilares o permanecer en equilibrio sobre

los mismos.

- Se vigilará el buen comportamiento de los encofrados durante el vertido del hormigón, paralizándolos en el momento en que se detecten fallos.
- El hormigonado y vibrado del hormigón de pilares, se realizará desde "castilletes". Se tomarán las medidas de seguridad pertinentes para que la estabilidad de los encofrados previa al hormigonado se mantenga aun en condiciones meteorológicas desfavorables como fuertes vientos.

Protecciones colectivas

- Una vez montada la primera altura de pilares, se tenderán bajo ésta, redes horizontales de seguridad (Anejo 7).
- Todos los huecos de planta, patios, escaleras, etc., estarán debidamente protegidos con barandillas (Anejo 5).
- Se empezará la colocación de redes tipo horca desde el techo de la planta baja, cubriendo todo el perímetro de la fachada. Los mástiles se sujetarán en horquillas de acero soldadas a las vigas metálicas o empotradas en el forjado.
- Antes del encofrado como en el vertido del hormigón, se revisará la correcta disposición y estado de las redes de protección.
- Se colocarán barandillas en los bordes de forjado y huecos, antes de retirar las redes.
- Previo al encofrado de la losa de escalera, deberán cerrarse todas las aberturas a nivel de pavimento (hueco de escalera), y en los muros verticales de la misma (ventanas, etc.), en donde exista el riesgo de caída superior a 2 m, mediante redes, barandillas o tableros cuajados.
- Se instalarán cubridores (setas) de madera o plástico sobre las esperas de ferralla de las losas de madera (sobre las puntas de los redondos, para evitar su hinca en las personas).
- Cuando se utilicen vibradores eléctricos, irán provistos de doble aislamiento, prohibiéndose que el operario se encuentre inmerso en el hormigón.

Protección personal (con marcado CE)

- Casco de seguridad.
- Cinturón de seguridad.
- Calzado con suela reforzada anticlavo.
- Guantes de goma y botas de agua durante el vertido del hormigón.
- Guantes de cuero.
- Ropa de trabajo.

- Gafas de seguridad antiproyecciones.

4.18 MATERIALES ELASTOMÉRICOS PARA ELEMENTOS DE APOYO

Las placas de material elastomérico, tipo neopreno, deberán ser moldeadas, bajo presión y calor, al mismo tiempo que las láminas metálicas, que serán de acero o aluminio.

Las características mínimas del neopreno serán:

- Dureza Shore: Mayor que sesenta
- Carga de rotura de tracción: Mayor que ciento setenta y cinco kilogramos por centímetro cuadrado.
- Alargamiento mínimo de rotura: Mayor que seiscientos por ciento.
- Módulo de elasticidad transversal para cargas de elevada duración: Mayor de cien kilogramos por centímetro cuadrado.
- Módulo de elasticidad transversal, para cargas instantáneas: Mayor que catorce kilogramos por centímetro cuadrado.

Las características de las placas metálicas serán:

- Material: Acero
- Límite elástico > 240 MPa
- Carga de rotura > 420 MPa

4.19 REVESTIMIENTO DE PARAMENTOS

El revoco de paramentos se realizará con mortero de cemento.

La dosificación del mortero se hará de acuerdo con la Norma NTE-RPE “Revestimiento de Paramentos”, en la tabla 5.

4.19.1 Enlucido

El enlucido se realizará con mortero de cemento, no admitiéndose en ningún caso el enlucido con yeso o productos similares.

4.19.2 Alicatado

El material a emplear será gres preferentemente y deberá cumplir las siguientes condiciones:

- Ser homogéneo, de textura compacta y resistente al desgaste.
- Carecer de grietas, coqueras, planos de exfoliación y materia extraña que pueda disminuir su resistencia y duración.
- Tener color uniforme y carecer de manchas y eflorescencias.
- La superficie vitrificada será completamente plana, salvo cantos, romos o terminales.
- Se presentarán muestras a la Dirección facultativa con la suficiente antelación para su aprobación,

cumpliendo lo dispuesto en la norma NTE-RPA.

4.20 SOLADOS

4.20.1 Terrazos en baldosas y solados "in situ"

Serán de color uniforme, homogéneo y resistente al desgaste. Se presentarán muestras para elegir la calidad y el color. Sus dimensiones serán 60 x 60 cm y se cumplirá la norma NTE-RSC en su control.

4.20.2 Solado de baldosa hidráulica

Será de calidad reconocida en el mercado, resistente al desgaste de color y tamaño homogéneo, presentándose muestras a la Dirección facultativa para la elección. Se cumplirá lo especificado en la norma NTE-RSR.

4.20.3 Solado de gres o gres compacto

Será de calidad reconocida en el mercado, de tamaño homogéneo, siendo las dimensiones, colores, etc., elegidas por la Dirección facultativa. Se cumplirá lo especificado en las normas NTE-RSR.

4.20.4 Pavimento modular

Se define como pavimento modular elevado y regulable aquel que va montado sobre un bastidor de altura regulable a voluntad y que forma un falso suelo con el fin de camuflar las tuberías y conductos eléctricos.

Los soportes de altura regulable se anclarán al forjado mediante patillas recibidas con mortero de cemento atornilladas al mismo. Los soportes serán de acero galvanizado y los tornillos de acero estampado, galvanizados igualmente. El bastidor será de perfil rectangular de 60 x 40 mm y 2 mm de espesor, formando una retícula para paneles de 600 x 600 mm en acero galvanizado.

Los paneles serán de un aglomerado, cubiertos con un amianto-vinilo o similar. Se colocarán sobre el bastidor y serán desmontables.

Se presentarán muestras a la Dirección facultativa con la suficiente antelación para elegir la calidad y el color.

4.21 TUBERÍAS

4.21.1 Condiciones generales

Se definen como tuberías aquellos elementos de sección recta circular, que sirven para transportar diferentes fluidos bajo una determinada presión que denominaremos de servicio. Según los usos y diferentes fluidos podrán ser de los siguientes materiales: Hormigón, Fundición, Acero, P.V.C., Polietileno y Cobre.

La superficie interior de cualquier elemento será lisa, no presentando ningún defecto de regularidad en su superficie interna.

Los tubos y demás elementos de la conducción estarán bien acabados, con espesores uniformes y cuidadosamente trabajados, de manera que las paredes exteriores y especialmente interiores queden regulares y

lisas.

Todas las piezas constitutivas de mecanismos (llaves, válvulas, juntas mecánicas, etc.), deberán, para un mismo diámetro nominal y presión normalizada, ser rigurosamente intercambiables.

Las conducciones y sus elementos deberán resistirse sin daños y ser estancos a todos los esfuerzos que estén llamados a soportar en servicio y durante las pruebas, no produciendo alteración alguna en las características físicas, químicas, bacteriológicas y organolépticas de las aguas, aun teniendo en cuenta el tiempo y los tratamientos fisicoquímicos a que puedan estar sometidas.

Todos los elementos deberán permitir el correcto acoplamiento del sistema de juntas empleando para que sean estancas. Para ello, los extremos de cualquier elemento estarán perfectamente acabados, sin defectos que repercutan en el ajuste y montaje de las juntas, evitando tener que forzarlas.

El enlace entre un tramo de tubería y una de estas piezas especiales, o entre dos de estas últimas, se hará siempre por bridas, salvo cuando se trate de equipos especiales de suministro en los cuales la conexión venga preparada para roscar. En este caso se dispondrá un manguito roscado de desmontaje que acople a un extremo de la tubería que deberá tener en el otro su correspondiente brida.

Cada tubería debe inspeccionarse antes de ser colocada, pues una vez situada no podrá ser extraída ni reemplazada.

4.21.2 Abrazaderas y soportes

Son el conjunto de elementos a instalar para soporte y guiado de tuberías en techos, suelos y paredes.

Condiciones generales

Se empleará este sistema para sujeción de todas las tuberías, sea cual sea su diámetro y la posición en que deban ir.

Las abrazaderas deberán ir montadas sobre guías, que permitan su desplazamiento a lo largo de las mismas, a fin de que puedan adaptarse fácilmente a cualquier necesidad. El montaje de las abrazaderas sobre las guías será tal que se pueda realizar sin necesidad de recurrir a tornillos de apriete, únicamente a elementos tope contenidos en la propia abrazadera.

La abrazadera deberá llevar un anillo de goma que se adapte a su superficie interna e impida que el tubo o conducto se deteriore por el apriete de la misma. Podrá igualmente desplazarse con gran facilidad por el carril guía y posibilitar su localización exacta en obra, sin que sea necesaria la preparación previa del punto de localización.

La fijación de los carriles guía a la pared se hará de forma directa, o mediante pies de apoyo, según las necesidades que se produzcan en cada caso.

Características del montaje

La separación entre soportes del carril guía no será superior a 4,5 m. En el caso de que vaya soportado por tirantes, la separación será como máximo de 1 m. La sección del tirante será como mínimo de 40 x 5 mm.

El carril guía tendrá una anchura mínima de 50 mm y una altura mínima de 40 mm.

El abarcón se construirá en chapa de espesor mínimo 3 mm para diámetro de tubo hasta 150 mm. Para tuberías de hasta 500 mm, el espesor mínimo será de 5 mm.

4.21.3 Tuberías o accesorios de fundición dúctil

Las tuberías y accesorios de fundición dúctil procederán de fábrica con experiencia acreditada. Previamente a la puesta en obra de cualquier tubería el Contratista propondrá a la Dirección facultativa los siguientes aspectos:

- Fabricantes de tuberías.
- Descripción exhaustiva del sistema de fabricación para cada tubo.
- Sección tipo de cada diámetro, con indicación de las dimensiones y espesores.
- Características del revestimiento interior y exterior de la tubería.
- Experiencia en obras similares.
- Tipo de señalización del tubo.

La tubería deberá cumplir la Norma Internacional ISO 2531 en todos sus apartados:

- Espesor de los tubos
- Marcaje
- Elaboración de la fundición
- Calidad de los tubos
- Tolerancia de juntas
- Tolerancia de espesor, longitudes de fabricación y tolerancias de longitud
- Tolerancias de rectitud
- Tolerancias sobre masas
- Ensayos de tracción-probetas, métodos y resultados
- Ensayos de dureza Brinell
- Prueba hidráulica
- Prueba neumática bajo agua

La boca o enchufe de los tubos tendrá las dimensiones y formas que permita la utilización de la junta exprés completa (anillo de junta, contrabrida y bulones) y la junta automática flexible.

En las superficies de contacto con la junta, tanto en el asiento para ella como en el extremo liso, no se tolerará

ninguno de los siguientes defectos:

a) Excentricidad del diámetro del asiento de junta.
b) Ovalidad del diámetro del asiento de junta.
c) Poros o huecos mayores de 2 mm de diámetro.
d) Falta de material en el filete de la parte interior del asiento de junta.
e) Poros de diámetro menor de 2 mm cuya separación entre ellos sea menor de 3 cm o que éstos estén en número mayor de tres.

4.21.4 Tuberías de acero

Las tuberías y piezas especiales de acero procederán de fábrica siderúrgica con experiencia acreditada. Previamente a la puesta en obra de cualquier tubería el Contratista propondrá a la Dirección facultativa los siguientes aspectos:

- Fabricante de tuberías.
- Descripción exhaustiva del sistema de fabricación para cada tubo.
- Sección tipo de cada diámetro de tubería con indicación de las dimensiones y espesores.
- Longitud de tubería
- Características de la protección interior y exterior de la tubería, esta última tanto en fábrica como en obra.
- Tipo de junta a emplear, descripción exhaustiva de sus características y control en obra.
- Experiencia en obras similares. Tipo de señalización del tubo.

El Contratista calculará la tubería a emplear de acuerdo con el Pliego de Prescripciones Técnicas Generales para Tuberías de Abastecimiento de Agua y, en el caso de tuberías para conducciones de saneamiento, de acuerdo con el Pliego de Prescripciones Técnicas Generales para Tuberías de Saneamiento de Poblaciones.

En el cálculo de los tubos se considerarán todas las solicitaciones que puedan tener lugar tanto en la fabricación como en el transporte, puesta en obra y en las pruebas y posterior funcionamiento en servicio.

4.21.5 Tuberías de acero electrosoldado

Se entiende por tubería electrosoldada la construida de chapa de acero destinada al transporte de fluidos para los que se precisa estanqueidad.

El acero empleado en la fabricación de tubos y piezas especiales será dulce y perfectamente soldable.

Las características, sobre productos, para el acero empleado en la fabricación de tubos serán las correspondientes al acero A 42-b o X-60. En este último caso, las características serán las establecidas en la Norma API 5L, de fecha 30 de junio de 1987.

El acero correspondiente a las tuberías de la conducción cumplirá, como mínimo, las siguientes características:

- Resistencia a la rotura. Entre 37 y 45 Kg/mm^2
- Límite elástico aparente: 24 Kg/mm^2 para espesores menores o iguales de 16 mm
- Alargamiento mínimo en rotura: 26%
- Resistencia mínima: 2,8 Kg/cm^2 a 0ºC
- Contenidos máximos: C = 0,20%, P = 0,50%, S = 0,050%

Los tubos se fabricarán mediante chapa de acero laminada, que se soldará longitudinalmente, con doble canalón de soldadura, en conformidad con las condiciones señaladas en la Norma API 5L. (SPEC 5L).

Los tubos serán rectos y cilíndricos, debiendo estar perfectamente terminados, limpios, sin grietas y sin cualquier otro defecto superficial. Sus bordes extremos estarán perfectamente limpios y escuadrados con el eje del tubo.

Los espesores de los tubos vendrán determinados por la clase de material y procedimiento de fabricación cumpliendo, en cualquier caso, que el coeficiente de seguridad obtenido entre la presión máxima de trabajo y la presión de rotura sea cuatro (4), como mínimo.

Mediante el certificado de garantía de la factoría siderúrgica podrá prescindirse, en general, de los ensayos de recepción. Independientemente de esto, la Dirección facultativa determinará las series de ensayos necesarias para la comprobación de las características del acero. En el caso de que los resultados de estos ensayos demuestren que no se cumplen las indicaciones anteriormente citadas serán abonados por el Contratista.

4.21.6 Tuberías de acero estirado

Se entiende como tuberías de acero estirado los tubos sin soldadura fabricados por laminación o estirado.

El acero empleado en la fabricación de tubos y piezas especiales será dulce y perfectamente soldable. A requerimiento de la Dirección facultativa el Contratista deberá presentar copia de los análisis de cada colada. Los ensayos de soldabilidad se efectuarán a la recepción del material y consistirán en el plegado sobre junta soldada.

Las características, sobre productos, para el acero en la fabricación de tubos serán las establecidas en la Tabla nº 4

Carga de rotura (Kg/mm^2)	Mínimo alargamiento de U % máximo	Carbono (C) % máximo	Fósforo (P) % máximo	Azufre (S) % máximo
37 a 45	26		0,060	0,055
57 a 62	22	0,23	0,055	0,055

Las probetas de tracción para el acero se cortarán de los tubos de acuerdo con lo especificado en el Apartado 2.12. del Pliego de Prescripciones Técnicas Generales para tuberías de abastecimiento de agua de 1975. Las

condiciones y clases de pruebas se efectuarán según lo indicado en los apartados 2.12.1. y 2.12.2. del citado Pliego.

La Dirección facultativa, para las pruebas de soldabilidad, puede escoger para los ensayos dos (2) tubos de cada lote de cien (100) tubos. Si alguna de las dos (2) no alcanza los resultados que a continuación se establecen, podrán escogerse tanto nuevos tubos para ser probados como juzgue necesario el representante de la Administración para considerar satisfactorio el resto del lote. Si las pruebas de soldadura de los nuevos tubos escogidos no fueran satisfactorias se podrá rechazar el lote o probar cada uno de los tubos del lote, siendo rechazados los que no alcancen los resultados que no se indican a continuación.

Para los tubos que deben ir soldados a tope, de diámetro hasta cuatrocientos (400) milímetros, se tomarán unos anillos de no menos de cien (100) milímetros de longitud y cortados de los extremos del tubo. Estos anillos deben comprimirse entre dos placas paralelas con el punto medio de la soldadura en el diámetro perpendicular a la línea de la dirección del esfuerzo. Durante una primera etapa no se presentarán aberturas en la soldadura hasta que la distancia entre las placas sean las tres cuartas partes del diámetro exterior inicial del tubo. Se continúa el aplastamiento en una segunda etapa y tampoco deben presentar grietas o roturas hasta que la distancia entre las placas sea el sesenta por ciento (60%) del diámetro exterior inicial del tubo. En la tercera etapa se continúa el aplastamiento hasta que la probeta rompa o hasta que se junten las paredes opuestas del tubo. Si en esta etapa se comprueban definiciones en el material o en la penetración de la soldadura, puede rechazarse el tubo. Defectos superficiales motivados por imperfecciones de la superficie no serán causa de rechazo.

4.21.7 Tuberías de PVC

Se entiende por tuberías de P.V.C., las compuestas por policloruro de vinilo técnicamente puro en el cual los colorantes, estabilizadores y materiales auxiliares den un producto final aceptable, según el Código Alimentario Español.

Se considera policloruro de vinilo técnicamente puro aquél que no tenga plastificantes ni una proporción superior al uno por ciento (1%) de ingredientes masarios para su propia fabricación. El producto final, en tubería, está constituido por policloruro de vinilo técnicamente puro en una proporción mínima del noventa y seis por ciento (96%).

Las características físicas del material de policloruro de vinilo en tuberías serán las siguientes:

- Peso específico de uno con treinta y siete a uno cuarenta y dos (1,37 a 1,42) Kg/dm^3 (UNE 53.020).
- Coeficiente de dilatación lineal de sesenta a ochenta (60 a 80) millonésimas por grado C.
- Temperatura de reblandecimiento no menor de ochenta grados centígrados.
- (80ºC), siendo la carga de ensayo de uno (1) kilogramo (UNE 53.118).
- Módulo de elasticidad a veinte grados centígrados (20ºC)>(28.000) Kg/cm^2.

- Valor mínimo de la tensión máxima (tr) del material a tracción quinientos (500) kilogramos por centímetro cuadrado, realizando el ensayo a veinte más menos un grado centígrado (20 □ 1º C) y una velocidad de separación de mordazas de seis milímetros por minuto (6 mm/min) con probeta mecanizada. El alargamiento de rotura deberá ser, como mínimo, el ochenta por ciento (80%) (UNE 53.112).
- Absorción máxima de agua cuatro miligramos por centímetro cuadrado (4 mg/cm^2) (UNE 53.112).
- Opacidad tal que no pase más de dos décimas por ciento (0,2%) de la luz incidente (UNE 53.039).

Las tuberías empleadas en la obra procederán de fábrica con experiencia acreditada. Previamente a la puesta en obra de cualquier tubería, el Contratista propondrá a la Dirección facultativa el nombre del fabricante de la tubería, siendo necesario presentar los siguientes requisitos:

- Sección tipo de cada diámetro de tubería con indicación de las dimensiones y espesores.
- Longitud de tubería.
- Tipo de junta a emplear.
- Experiencia en obras similares.

Los tubos se clasificarán por su diámetro exterior (diámetro nominal) y la presión máxima de trabajo (Pt) definida en kilogramos por centímetro cuadrado. Dicha presión de trabajo se entiende para cincuenta años (50) de vida útil de la obra y veinte grados centígrados (20º C) de temperatura de uso del agua. Cuando dichos factores se modifiquen se definirán, explícitamente, el período útil y la temperatura de uso.

Las tuberías de PVC serán suministradas en longitudes no inferiores a 5 m cuando el diámetro sea igual o inferior a 50 mm y de 6 m cuando el diámetro sea superior a 50 mm.

En estas tuberías de PVC la superficie interna debe ser lo más regular posible. El material de los tubos estará exento de grietas, granulación, burbujas o faltas de homogeneidad de cualquier tipo. No se permitirá el uso de estas tuberías en intemperie.

Las condiciones de funcionamiento de las juntas y uniones deberán ser justificadas con los ensayos realizados en un laboratorio oficial y no serán inferiores a las correspondientes al propio tubo.

4.21.8 Tuberías de polietileno

FABRICACIÓN

La tubería deberá ser de Polietileno de alta densidad y de las siguientes características:

- PE100
- PN1.0MPa
- SDR17
- Código de uso previsto P (o W/P)

- UNE EN 12201
- Con línea marrón.

La tubería deberá llevar marcado:

- Nombre del suministrador, fabricante o nombre comercial.
- La identificación del año y mes de fabricación.
- Tipo de polietileno empleado.
- Diámetro nominal, DN.
- Presión nominal, PN.
- Espesor nominal, e (no necesariamente en las piezas especiales).
- Referencia a la norma UNE correspondiente.
- Marcado de conformidad con la norma UNE-EN 12201.

El tubo debe de tener banda marrón (no puede tener banda azul).

Las tolerancias dimensionales serán las descritas en las tablas normalizadas en la UNE EN 12201.

El fabricante de los tubos establecerá las condiciones técnicas de la resina de polietileno, de forma que pueda garantizar el cumplimiento de las características a corto plazo y a largo plazo, cincuenta años (50). En especial tendrá en cuenta las siguientes características de la resina:

- Granulometría
- Densidad
- Índice de fluidez
- Grado de contaminación
- Contenido en volátiles
- Contenido en cenizas

Estas características se determinarán de acuerdo con la Norma UNE-EN ISO 1872-2:2007, y UNE-EN 12201.

Densidad del compuesto, según ISO 1183-1:2012 e ISO 1183-2:2004 e ISO 1183-3:1999

El negro de carbono empleado en la fabricación de tubos de PE cumplirá las especificaciones del apartado 4.1 de la UNE-EN 13244-2:2004 ERRATUM y su dispersión tendrá una homogeneidad igual o superior a la definida en el apartado 4,3 de la UNE-EN 13244-2:2004 ERRATUM. Dispersión del negro de Carbono, según ISO 18553:2002

La determinación del contenido en negro de carbono se hará según UNE 53375-1:2007, UNE 53375-2:2008 e UNE 53375-3:2011

Aditivos, tales como lubrificantes, estabilizadores o colorantes, de acuerdo con lo indicado en la norma UNE-EN 12201.

Alargamiento en rotura, según EN ISO 6259-1:2015 e ISO 6259-3:2015

Toda la documentación originada en la fabricación de la tubería y durante los controles de calidad de la tubería se entregará a la DF convenientemente clasificada e informando de las incidencias significativas.

El fabricante de la tubería deberá aportar las características técnicas esenciales de la tubería para una vida de 50 años:

- EO = módulo de elasticidad en tiempo de carga cero y baja carga (MPa)
- EC= módulo de fluencia, tiempo > 0, esfuerzo σ> 0 y constante (MPa)
- ER= módulo de relajación, tiempo > 0, deformación ε> 0 y constante (MPa)
- σO = resistencia a los reventones en tiempo cero (MPa)
- σC = resistencia a la fluencia en tiempo > 0 (MPa) (también denominado resistencia a los reventones)
- v= Índice de Poisson = εl/εr
- εl= tracción en dirección axial
- εr= deformación circunferencial
- α= expansión térmica.

Los tubos de PEAD podrán utilizarse sin necesidad de cálculo mecánico justificativo cuando se cumplan todas las siguientes condiciones:

- Altura máxima de relleno sobre la generatriz superior de 6 m en zanja estrecha ó 4 en zanja ancha, zanja terraplenada y bajo terraplén.
- Altura mínima de relleno sobre la generatriz superior de 1 m ó 1,5 m con sobrecargas móviles comprendidas entre 12 y 30 toneladas.
- Terreno natural de apoyo y de zanja hasta una altura sobre la generatriz superior del tubo no inferior a dos veces el diámetro; rocas y suelos estables (que no sean arcillas expansivas o muy plásticas. fangos ni suelos orgánicos CN, OL y OH de Casagrande.
- Máxima presión exterior uniforme debida al agua intersticial o a otro fluido en contacto con el tubo: 0,6kp/cm2.

4.21.9 Tubos para alojar conductores eléctricos

Los tubos para alojar conductores eléctricos serán de resinas sintéticas (polivinilo, de chapa aislada, tipo Bergman o de acero especial para instalación eléctrica con rosca P.G.). Serán circulares con tolerancia del cinco (5) por ciento en el diámetro.

El diámetro de los tubos será tal que los conductores no ocupen nunca más de la mitad de la sección del tubo y pueda sustituirse con facilidad.

El Contratista presentará modelos del tipo de tubos que vaya a emplear, para su aprobación por la Dirección facultativa.

Así mismo se deberán cumplir todas las prescripciones del R.E.B.T.

4.22 GEOTEXTIL

El geotextil es una lámina de fieltro punzonado, no tejido, fabricado a partir de fibras especiales de poliéster o de polipropileno. La unión de sus fibras se realiza gracias a un sistema mecánico que compacta y entrelaza las fibras por un proceso de agujado y posterior termofijado mediante calor.

Condiciones generales

Los geotextiles se suministrarán, normalmente, en bobinas o rollos.

Éstos llevarán un embalaje opaco para evitar el deterioro por la luz solar, e irán debidamente identificados y etiquetados según UNE EN ISO 10320.

De acuerdo con ésta, cada rollo o unidad vendrá marcado, al menos, con:

- Datos del fabricante y/o suministrador.
- Nombre del producto.
- Tipo del producto.
- Identificación del rollo o unidad.
- Masa bruta nominal del rollo o unidad, en kilogramos (kg).
- Dimensiones del rollo o unidad desempaquetado (del material no del paquete).
- Masa por unidad de superficie, en gramos por metro cuadrado (g/m2), según UNE EN 965.
- Principal(es) tipo(s) de polímero(s) empleado(s).

El nombre y el tipo del geotextil estarán estampados de manera visible e indeleble en el propio geotextil a intervalos de cinco metros (5 m), tal como indica la referida norma, para que éste pueda ser identificado una vez eliminado el embalaje opaco. Es recomendable que queden igualmente estampadas la partida de producción y la identificación del rollo o unidad. De cada rollo o unidad habrá de indicarse también la fecha de fabricación.

En el transporte, carga y descarga se comprobará que no se produzcan daños mecánicos en las capas exteriores de los rollos (pinchazos, cortes, etcétera).

El almacenamiento en obra se realizará en lugares lisos, secos, limpios y libres de objetos cortantes y punzantes. No se almacenará ningún rollo o fracción que haya resultado dañado o no esté adecuadamente identificado por resultar una fracción demasiado corta o haberse deteriorado el marcado original.

Para almacenamiento del material de duración mayor de quince días (15 d), se respetarán escrupulosamente las indicaciones del fabricante, especialmente en lo relativo a la protección frente a la acción directa de los rayos solares, mediante techado o mediante tapado con lonas ancladas o sujetas.

En el momento de la colocación, el Director de las Obras ordenará la eliminación de las capas más exteriores de los rollos, si éstas muestran síntomas de deterioro y, en el resto, podrá exigir los ensayos necesarios para asegurar su calidad. No se colocará ningún rollo o fracción que, en el momento de su instalación, no resulte identificado por su marcado original.

Deberá ser imputrescible y resistente al moho, insectos y raíces, así como a los ácidos y álcalis naturales propios del terreno y cumplir con lo establecido en los artículos 290 y 422 del PG-3 y en la norma UNE vigente.

Se estará, en todo caso, a lo dispuesto en la legislación vigente en materia medioambiental, de seguridad y salud, y de almacenamiento y transporte de productos de construcción.

4.23 MATERIALES NO ESPECIFICADOS EN ESTE PLIEGO

Las características de los materiales no especificados han de ser propuestas por el Contratista la Dirección de la Obra, la cual se reserva el derecho de no aceptarlas si considera que no satisfacen las finalidades para las que están previstas. Los materiales no especificados que eventualmente lleguen a ser empleados en la obra han de obedecer a las Instrucciones, Normativas y Controles de calidad vigentes. Los ensayos para determinación del control de calidad de materiales no especificados han de ser efectuados por un laboratorio oficial y según las Instrucciones y Normativas en vigor.

5. DISPOSICIONES DE CARÁCTER GENERAL SOBRE LA EJECUCIÓN DE LAS OBRAS

5.1 DIRECCIÓN E INSPECCIÓN

La Administración designará al Director facultativo que ha de dirigir e inspeccionar las obras, así como el resto del personal adscrito a la Dirección facultativa.

Las órdenes de la Dirección facultativa deberán ser aceptadas por el Contratista, como emanadas directamente de la Administración, sin perjuicio de las facultades atribuidas por el Órgano de contratación al Coordinador de obras/ Representante Facultativo designado por la Administración. El Contratista podrá exigir que las mismas le sean dadas por escrito y firmadas, con arreglo a las normas habituales en estas relaciones. Se llevará un libro de órdenes de hojas numeradas en el que se expondrán por duplicado las que se dicten en el curso de las obras y que serán firmadas por ambas partes, entregándose una copia firmada al Contratista.

Cualquier reclamación que, en contra de las disposiciones de la Dirección facultativa, crea oportuna hacer el Contratista, deberá formularla por escrito, dentro del plazo de quince días, después de dictada la orden.

La Dirección facultativa decidirá la interpretación de los planos y de las condiciones de este Pliego.

La Dirección facultativa podrá vigilar todos los trabajos y los materiales que se empleen pudiendo rechazar los que no cumplan las condiciones exigidas.

La Dirección facultativa tendrá acceso a todas las partes de la obra, y el Contratista les prestará la información y ayuda necesaria para llevar a cabo una inspección completa y detallada. Se podrá ordenar la remoción y sustitución, a expensas del Contratista, de la obra hecha o de los materiales usados sin la supervisión o inspección de la Dirección facultativa.

El Contratista comunicará con antelación suficiente, nunca menor de 21 días, los materiales que tenga intención de utilizar, enviando muestra para su ensayo y aceptación y facilitando los medios necesarios para la inspección.

5.2 ENSAYOS, MUESTRAS Y PRUEBAS.

No se procederá al empleo de los materiales sin que antes sean examinados y aceptados por la Dirección facultativa, debiendo presentar el Contratista cuantos catálogos, muestras, informes y certificaciones de los correspondientes fabricantes que aquella considere necesarios.

Si la información no se considera suficiente podrán exigirse los ensayos oportunos para identificar la calidad de los materiales a utilizar.

Si se comprobase la existencia de algún defecto en materiales procedentes del propio almacén de la obra, por deficiencias de almacenaje o cualquier otra causa, el Contratista viene obligado a reponerlos a su costa

La Dirección facultativa podrá disponer todos los ensayos y pruebas que estime conveniente para comprobar la buena calidad de los materiales, la correcta ejecución de los trabajos, y el funcionamiento adecuado de los equipos e instalaciones.

Respecto a los equipos mecánicos y electromecánicos, la Dirección facultativa señalará qué equipos deben ser sometidos a control en los talleres de fabricación y cuales deberán someterse a prueba de montaje y puesta en marcha.

A lo largo de las obras, se tomarán muestras y se someterán a ensayos, así como se harán pruebas en obra, todo ello con arreglo al programa que redacte la Dirección facultativa. El costo de los ensayos, aparte de los de pruebas de recepción, será por cuenta del contratista siempre que no exceda del límite porcentual establecido en el Pliego de cláusulas Administrativas Particulares del contrato. La cantidad que exceda del límite anterior será por cuenta de la Administración siempre que los ensayos dieran resultados positivos.

También serán por cuenta del Contratista los asientos y averías, accidentes o daños que se produzcan en estas pruebas y procedan de la mala construcción o falta de precauciones.

La aceptación parcial o total de materiales u obras antes de la recepción, no exime al Contratista de sus responsabilidades en el acto de reconocimiento final y pruebas de recepción.

Se establecen los siguientes precios unitarios para los ensayos previstos:

MATERIAL O EQUIPO	ENSAYOS A REALIZAR POR LOTE		PRECIO (PEM)
MATERIALES GRANULARES			
RELLENOS ZANJAS	CONTROL DE MATERIALES	1 Proctor Modif. UNE-7365 1 Granulometría UNE-7376 1 Lím. Atterberg UNE-7377/78 1 Materia orgánica NLT-118	145,00 €
	CONTROL DE EJECUCIÓN	5 Densidades "in situ" 5 Humedades "in situ"	67,00 €
ZAHORRAS ARTIFICIALES	CONTROL DE MATERIALES	1 Proctor Modif. UNE-7365 1 CBR laboratorio NTL-111 1 Granulometría UNE-7376 1 Lím. Atterberg UNE-7377/78 1 Equivalente de arena UNE-7324 1 Desgaste Los Ángeles UNE-83116 1 Materia orgánica NLT-118	325,00 €
	CONTROL DE EJECUCIÓN	5 Densidades "in situ" 5 Humedades "in situ"	67,00 €
FIRMES			
MEZCLAS BITUMINOSAS	CONTROL MATERIALES	2 Desgaste Los Ángeles UNE-83116 4 Granulométricos UNE-7376 4 Equivalente de arena UNE-7324 2 Peso específico y Absorción NTL-154 1 Coeficiente de pulido NTL-175 2 índice agujas y lajas NTL-354 1 Inmersión compresión NTL-162 1 dosificación Marshall NTL-159	440,00 €
	CONTROL FABRICACIÓN	Control de mezclas Control de pesajes Control de áridos Control de dosificación Control de temperatura Control de camiones	320,00 €
	CONTROL EJECUCIÓN	Control de espesores (jornada) Control de temperatura (jornada) 10 Control de compactación 4 Toma de muestras 4 series de 3 probetas Marshall fabricadas "in situ" 4 Contenido en ligante 4 Estabilidad, densidades, deformación (3 probetas) 4 Granulometría de la mezcla	225,00 €

RIEGOS DE IMPRIMACIÓN Y ADHERENCIA	CONTROL MATERIALES	Porcentaje de ligante NTL-137/139	55,35 €
	CONTROL EJECUCIÓN	10 determinaciones de contenido de emulsión por m2 (PG-3)	55,35 €
ESTRUCTURAS			
ACERO EN BARRAS CORRUGADAS	CONTROL MATERIALES	Sección equivalente Ident. fabricante y calidad. Resaltos. Doblado simple. Doblado-desdoblado UNE 36.018/I/81, 36.092/I/81 y 36.099/I/81 Ensayo mecánico de tracción	180,00 €
HORMIGÓN EN ELEMENTOS COMPRIMIDOS	CONTROL DE MATERIALES	1 Resistencia mecánica del cemento UNE-80.101 1 Análisis áridos (Art.Nº28 EHE) 6 Granulométricos UNE-7376 12 Equivalente de arena UNE-7324 1 Materia orgánica NLT-118	85,00 €
	CONTROL DE EJECUCIÓN	1 Cono Abrahms 2 Series de 5 probetas de 15x30 para rotura a compresión UNE-83.301/303/304	55,00 €
HORMIGÓN EN ELEMENTOS EN FLEXIÓN SIMPLE	CONTROL DE MATERIALES	1 Resistencia mecánica del cemento UNE-80.101 1 Análisis áridos (Art.Nº28 EHE) 6 Granulométricos UNE-7376 12 Equivalente de arena UNE-7324 1 Materia orgánica NLT-118	85,00 €
	CONTROL DE EJECUCIÓN	1 Cono Abrahms 2 Series de 5 probetas de 15x30 para rotura a compresión UNE-83.301/303/304	55,00 €
HORMIGÓN EN MACIZOS	CONTROL DE MATERIALES	1 Resistencia mecánica del cemento UNE-80.101 1 Análisis áridos(Art.Nº28 EHE) 6 Granulométricos UNE-7376 12 Equivalente de arena UNE-7324 1 Materia orgánica NLT-118	85,00 €
	CONTROL DE EJECUCIÓN	1 Cono Abrahms 2 Series de 5 probetas de 15x30 para rotura a compresión UNE- 83.301/303/30	55,00 €
TUBERÍAS			
TUBERÍA PE	CONTROL SOLDADURA A TOPE	1 ensayo rotura	75,00 €
	PRESIÓN	1 prueba presión	200,00 €

5.3 PERIODOS DEL CONTRATO

El periodo de construcción comenzará al día siguiente de la fecha del Acta de Comprobación del Replanteo de la Obra y comprenderá la construcción de las obras civiles, la fabricación y adquisición de los equipos industriales e instalaciones necesarias, así como el montaje completo de todos los elementos anteriores en obra.

Cuando sea necesario que varias de las obras e instalaciones entren en servicio cuando estén finalizadas, antes de la terminación general de las obras, se tendrá en cuenta lo expuesto a continuación, sin perjuicio que puedan formalizarse recepciones parciales de aquellas partes completas de las obras, susceptibles de ser entregadas al uso público, según lo establecido en el contrato:

1. Las ampliaciones y modificaciones de las infraestructuras e instalaciones existentes se construirán por fases, de acuerdo con lo señalado en el proyecto y en los documentos contractuales definidos en el apartado 1.3.1 del presente Pliego. Las instalaciones construidas en cada fase serán sometidas a todas las pruebas necesarias, incluso de funcionamiento, y, cuando las hayan superado positivamente, entrarán en servicio provisional antes de comenzar las actuaciones correspondientes a la fase siguiente.
2. Las conducciones y obras externas a la EDAR deberán realizarse en los plazos ofrecidos por el Contratista en su oferta de licitación. Estas instalaciones, una vez terminadas y probadas, también se pondrán en servicio provisional, si lo juzga conveniente la Administración, representada por la Dirección facultativa.
3. El Contratista entregará a la Dirección facultativa al menos dos ejemplares de los Manuales de detalle y de las Instrucciones de Operación y Mantenimiento de los equipos antes de su montaje en las obras, corriendo los gastos a su cargo. También se deben incorporar al As Built de la obra.
4. La superación de las pruebas y las puestas en servicio provisional de las instalaciones indicadas en los apartados anteriores, antes de que se terminen todas las obras comprendidas en el proyecto, no darán lugar a que se produzca aún la recepción de estas obras e instalaciones.
5. Cuando se terminen todas las obras comprendidas en el proyecto, se harán las pruebas generales de funcionamiento y, si su resultado es positivo, se procederá a la recepción de las obras, redactándose y firmándose el Acta de Recepción de las obras.
6. A partir de la fecha de la mencionada Acta comenzará a contar el período de garantía, que tendrá una duración de UN (1) AÑO, salvo que se establezca un plazo superior en el Pliego de Prescripciones Administrativas del contrato.
7. Es obligación del Contratista la puesta a punto de todos los equipos e instalaciones ejecutados por él, de forma que se verifiquen los resultados, rendimientos y consumos exigidos en el proyecto y en los documentos contractuales definidos en el apartado 1.3.1 del presente Pliego. Esta obligación es exigible cuando se vayan a poner en servicio provisional los equipos e instalaciones de cada fase de la

construcción, y también, con carácter general, previamente a la recepción de las obras. El Contratista no podrá excusarse de cumplir esta obligación en el hecho de que las instalaciones sean explotadas por una empresa diferente.

8. Por razones excepcionales de interés público debidamente motivadas en el expediente, el órgano de contratación puede acordar la ocupación efectiva de las obras o su puesta en servicio para el uso público, aun sin el cumplimiento del acto formal de recepción.

5.4 MEDIOS Y MÉTODOS DE CONSTRUCCIÓN

A menos que se indique expresamente en los planos y documentos contractuales, el proceso productivo será elegido por el Contratista, si bien reservándose la Dirección facultativa el derecho a rechazar aquellos medios o métodos propuestos por el Contratista que:

- Constituyan o puedan causar un riesgo al trabajo, personas o bienes.
- Que no permitan lograr un trabajo terminado conforme a lo exigido en el contrato.

Dicha aprobación de la Dirección facultativa, o, en su caso su silencio, no eximirá al Contratista de la obligación de cumplir el trabajo conforme a lo exigido en el contrato. En el caso de que la Dirección facultativa rechace los medios y métodos del Contratista, esta decisión no se considerará como una base de reclamaciones por daños causados.

5.5 MAQUINARIA

El Contratista someterá al Director de Obra una relación de la maquinaria que se propone usar en las distintas partes de la obra, indicando los rendimientos medios de cada una de las máquinas. Una vez aceptada por la Dirección facultativa, quedará adscrita a la obra y será necesario su permiso expreso para que se puedan retirar de la obra.

Si durante la ejecución de las obras la Dirección facultativa observase que, por cambio en las condiciones de trabajo o por cualquier otro motivo, los equipos autorizados no fuesen los idóneos al fin propuesto y al cumplimiento del Programa de Trabajo, deberán sustituirse por otros o ser incrementados en número.

El Contratista no podrá reclamar si en el curso de los trabajos y para el cumplimiento del contrato se viese obligado a aumentar la importancia de la maquinaria, de los equipos o de las plantas y de los medios auxiliares, en calidad, potencia, capacidad de producción o en número, o a modificarlo respecto de sus previsiones.

Todos los gastos que se originen por el cumplimiento de este artículo se considerarán incluidos en los precios de las unidades correspondientes y, en consecuencia, no serán abonados separadamente.

5.6 TRANSPORTE DE MATERIALES

El transporte de los materiales hasta los lugares de acopio o empleo se efectuará en vehículos mecánicos

adecuados para tal clase de materiales. Además de cumplir todas las disposiciones legales referentes al transporte, los vehículos estarán provistos de los elementos que se precise para evitar cualquier alteración perjudicial del material transportado y su posible vertido sobre las rutas empleadas.

La procedencia y distancia de transporte que en los diferentes documentos del proyecto se consideran para los diferentes materiales no deben tomarse sino como aproximaciones para la estimación de los precios, sin que suponga prejuicio de su idoneidad ni aceptación para la ejecución de hecho de la obra, y no teniendo el Contratista derecho a reclamación ni indemnización de ningún tipo en el caso de deber utilizar materiales de otra procedencia o de error en la distancia, e incluso la no consideración de la misma.

5.7 PROCEDENCIA DE MATERIALES, APARATOS Y EQUIPOS

El contratista tiene libertad de proveerse de los materiales, aparatos y equipos de todas clases donde considere oportuno y conveniente para sus intereses, excepto en aquellos casos en los que se preceptúe una procedencia y características específicas en el proyecto.

Obligatoriamente, y antes de proceder a su empleo, acopio y puesta en obra, el contratista deberá presentar al director de ejecución de la obra una lista completa de los materiales, aparatos y equipos que vaya a utilizar, en la que se especifiquen todas las indicaciones sobre sus características técnicas, marcas, calidades, procedencia e idoneidad de cada uno de ellos.

5.8 MATERIALES QUE NO REÚNAN LAS CONDICIONES NECESARIAS

Cuando los materiales, elementos de instalaciones y aparatos no fuesen de la calidad prescrita en este Pliego, no tuvieran la preparación en él exigida, o cuando a falta de prescripciones formales de aquel se reconociera o demostrara que no eran adecuados para su objeto, la Dirección facultativa dará orden al Contratista para que, a su costa, los reemplace por otros que satisfagan las condiciones o llevan al objeto a que se destinen.

Si a los quince días, de recibir el Contratista orden de la Dirección facultativa para que retire de las obras los materiales defectuosos, no ha sido cumplida, procederá la Administración a realizar esa operación, cuyos gastos serán abonados por el Contratista.

Si los materiales o elementos de instalaciones fueran defectuosos, pero aceptables a juicio de la Dirección facultativa, se recibirán, pero con la rebaja de precio que él mismo determine, a menos que el Contratista prefiera sustituirlos por otros adecuados.

5.9 CONSTRUCCIONES E INSTALACIONES AUXILIARES

El Contratista queda obligado, por su cuenta, a la construcción y/o instalación, conservación durante la fase de ejecución, desmontaje, retirada y limpieza al final de las obras, de todas las construcciones e instalaciones auxiliares y temporales para zonas de acopio, oficinas, almacenes, instalaciones sanitarias, cobertizos, caminos

de servicio, acometidas y servicios básicos necesarios (agua, energía eléctrica, etc.), etc., que sean necesarios para la ejecución de los trabajos.

Todas estas construcciones estarán supeditadas a la aprobación de la Dirección facultativa en lo que se refiere a su ubicación, dimensiones y características.

El Contratista recabará todas las autorizaciones, licencias y/o permisos que fueran necesarias, y someterá a la aprobación de la Dirección facultativa, los proyectos de las obras auxiliares, instalaciones, medios y servicios generales que se propone emplear para realizar las obras en las condiciones técnicas requeridas y en los plazos previstos.

Una vez aprobados, el Contratista los ejecutará y conservará por su cuenta y riesgo hasta la finalización de los trabajos.

Estas instalaciones se proyectarán y mantendrán de forma que en todo momento se cumpla el Reglamento de Seguridad y Salud en el Trabajo.

El Contratista facilitará una oficina debidamente acondicionada a juicio de la Dirección facultativa, considerándose que dichas instalaciones están incluidas en los precios y presupuesto.

Al terminar la obra, el Contratista retirará a su cargo estas instalaciones, restituyendo las condiciones que tuviera la zona antes de realizar los trabajos, o mejorándolas a juicio de la Dirección facultativa.

Se considerarán instalaciones auxiliares de obra las que, sin carácter limitativo, se indiquen a continuación:

a) Oficinas del Contratista.
b) Instalaciones para los servicios del personal.
c) Instalaciones para los servicios de seguridad y vigilancia.
d) Laboratorios, almacenes, talleres y parques del Contratista.
e) Instalaciones de áridos; fabricación, transporte y colocación del hormigón, fabricación de mezclas bituminosas, excepto si en el contrato de adjudicación se indicase otra cosa.
f) Instalaciones de suministro de energía eléctrica y alumbrado para las obras.
g) Instalaciones de suministro de agua.
h) Instalaciones de carga y descarga de materiales y de pesaje si fuese necesario.

Se considerarán, como obras auxiliares las necesarias para la ejecución de las obras definitivas que, sin carácter limitativo, se indiquen a continuación:

- Obras de conducciones y bombeos provisionales necesarios para la ejecución de las obras e instalaciones proyectadas, sin causar interrupciones en los servicios de agua y alcantarillado.
- Obras para el desvío de corrientes de aguas superficiales tales como cortes, canalizaciones, etc.

- Obras de drenaje, recogida y evacuación de las aguas en las zonas de trabajo.
- Obras de protección y defensa contra inundaciones.
- Obras de protección contra temporales de superficies provisionales ganadas al mar.
- Obras para agotamiento o para rebajar el nivel freático.
- Entibaciones, sostenimiento y consolidación del terreno en obras a cielo abierto y subterráneas.
- Obras provisionales de desvío de circulación de personas o vehículos, requeridos para la ejecución de las obras objeto del contrato.
- Obras portuarias para carga y descarga de los materiales o puertos de refugio.

5.10 MEDIDAS DE PROTECCIÓN Y LIMPIEZA

El Contratista protegerá todos los materiales y la propia obra contra todo deterioro y daño durante el período de construcción y almacenará contra incendios todas las materias inflamables, explosivos, etc., cumpliendo los reglamentos aplicables.

Salvo que se indique expresamente lo contrario, construirá y conservará a su costa los pasos y caminos provisionales, alcantarillas, señales de tráfico y los recursos necesarios para proporcionar seguridad y facilitar el tránsito dentro de las obras.

El Contratista tomará, a sus expensas, las medidas oportunas para que no se interrumpa el tráfico en las vías existentes, dedicando especial atención a este aspecto. Serán de cuenta del adjudicatario tanto la ejecución de las obras necesarias por desvíos de tráfico, como la señalización provisional.

El Contratista está obligado no sólo a la ejecución de la obra, sino también a su conservación hasta la recepción. La responsabilidad del Contratista, por faltas que en la obra puedan advertirse, se extiende al supuesto de que tales faltas se deban a una indebida o defectuosa conservación de las unidades de obra, aunque éstas hayan sido examinadas y encontradas conformes por la Dirección facultativa inmediatamente después de su construcción o en cualquier otro momento dentro del periodo de vigencia del Contrato.

5.11 MEDIDAS CORRECTORAS Y PROTECTORAS DEL MEDIO AMBIENTE

Durante la ejecución de las obras, el Contratista deberá cumplir las medidas correctoras y protectoras del medio ambiente establecidas en el Estudio de Impacto Ambiental, así como las indicadas en el Dictamen o Acuerdo de la Comissió de Medi Ambient de les Illes Balears.

Además de las medidas específicas señaladas en el párrafo anterior, que son de obligado cumplimiento, el Contratista cumplirá las siguientes medidas de carácter general:

- Se deberán realizar las labores de mantenimiento del parque de maquinaria en lugares adecuados, alejados de los cursos de agua a los que accidentalmente pudiera contaminar; los residuos sólidos y líquidos (aceites usados, grasas, filtros, etc.) no podrán verterse sobre el terreno ni en cauces, debiendo

ser almacenados de forma adecuada para evitar su mezcla con agua y con otros residuos, y retirados por gestor autorizado.

- Otros residuos o restos de materiales producidos durante la obra (restos de materiales, escombros, trapos impregnados, etc.), deberán ser separados y retirados igualmente por gestores autorizados, o depositados en vertederos autorizados de acuerdo con las características de los mismos.
- Se tomarán las medidas necesarias para evitar vertidos o lixiviaciones de cualquier tipo por causa de la obra. No se verterán las lechadas de lavado en las inmediaciones de la obra.
- Se tomarán las medidas necesarias al objeto de impedir arrastres de materiales de escorrentía o erosión.
- La maquinaria utilizada durante los trabajos de construcción estará dotada de los medios necesarios para minimizar los ruidos y las emisiones gaseosas.
- Los aportes de materiales para la ejecución de la obra, que no procedan de la propia excavación, deberán proceder de canteras legalmente autorizadas.
- El volumen de tierras excedentes de la excavación, que no sea posible utilizar como material de relleno en la obra, por sus características, así como los productos procedentes de demoliciones serán retirados a cantera con plan de regeneración aprobado o a vertedero autorizado.
- Las especies vegetales que se vean afectadas por las obras, en su caso, deberán utilizarse para la revegetación, procurando que las condiciones de su nueva ubicación sean similares a las que tenían en un principio. Los criterios de restauración irán enfocados a la minimización del impacto visual y paisajístico con respecto al estado preoperacional.
- Una vez finalizada la obra, se procederá a la retirada de todas las instalaciones portátiles utilizadas, así como a la adecuación del emplazamiento mediante la eliminación o destrucción de todos los restos fijos de las obras, y en general cualquier cimentación de instalaciones utilizadas, en su caso, durante la ejecución de las obras. Estos escombros o restos de materiales serán retirados a vertedero autorizado. Se deberán descompactar los suelos agrícolas o forestales afectados por el movimiento de maquinaria, acopio de materiales, etc. y se deberán reponer las servidumbres de paso que hayan sido destruidas o afectadas durante la ejecución de la obra.
- Se evitará el vertido al mar de cualquier material o sustancia.

6. COMPROBACIÓN DEL REPLANTEO DE LAS OBRAS

Previamente al inicio de las obras, la Dirección facultativa procederá, en presencia del Coordinador de obras/ Representante Facultativo designado por la Administración y del Contratista, a efectuar la comprobación del replanteo.

El acto de comprobación de replanteo tendrá por objeto la disponibilidad de los terrenos y la viabilidad del proyecto,

debiendo reflejarse la conformidad o disconformidad del replanteo con los documentos contractuales del proyecto, con especial y expresa referencia a las características geométricas de la obra a la ocupación de los terrenos y a cualquier punto que pueda afectar al cumplimiento del contrato.

La Dirección facultativa entregará al Contratista una relación de puntos de referencia en el área de las obras y un plano general de replanteo en los que figurarán las coordenadas UTM de los vértices establecidos, y la cota 0,00 elegida.

Se establecerán las señales permanentes necesarias para que el Contratista pueda ejecutar las obras, siendo obligación suya la vigilancia y reposición de estas señales.

La comprobación comprenderá:

- La geometría en planta de la obra, definida en el plano de replanteo.
- Las coordenadas UTM de los vértices y de la cota 0,00 definidas en el plano de replanteo.
- El levantamiento topográfico y batimétrico de la superficie de los terrenos afectados por las obras.
- Comprobación de la viabilidad del proyecto.

La comprobación del replanteo deberá incluir, como mínimo el eje principal de los diversos tramos de obra, así como los puntos fijos o auxiliares necesarios para los sucesivos replanteos de detalle.

Cuando se reúnan las condiciones necesarias, la Dirección Facultativa hará constar explícitamente en el Acta la autorización de iniciación de las obras. El resultado de la comprobación del replanteo quedará plasmado en la correspondiente Acta que será firmada por las partes interesadas, quedando notificado el Contratista por el hecho de suscribirla.

La ejecución de las obras comenzará oficialmente el día siguiente de la firma del Acta de Comprobación del Replanteo, momento en el que se iniciará el cómputo del plazo de ejecución de las mismas que figure en el Contrato.

El Contratista podrá exponer todas sus dudas referentes al replanteo, pero una vez firmada el acta correspondiente quedará responsable de la exacta ejecución de las obras.

Los datos, cotas y puntos fijados se anotarán en un anejo al Acta de Comprobación del Replanteo; el cual se unirá al expediente de la obra, entregándose una copia al Contratista.

Todas las coordenadas de las obras estarán referidas a las fijadas como definitivas en esta Acta de Replanteo. Lo mismo ocurrirá con la cota 0,00 elegida.

El Contratista será responsable de la conservación de los puntos, señales y mojones, tanto terrestres como marítimos, manteniendo durante la ejecución de los trabajos los equipos necesarios para la realización del control topográfico de las unidades de obra que lo requieran a juicio de la Dirección de la Obra. Si en el transcurso de las

obras son destruidos algunos, deberá colocar otros bajo su responsabilidad y a su costa, comunicándolo por escrito a la Dirección facultativa que comprobará las coordenadas de los nuevos vértices o señales.

Si durante el transcurso de las obras hubiera habido variaciones en la topografía de los terrenos, no producidos por causas derivadas de la ejecución de las obras, la Dirección facultativa podría ordenar la realización de nuevos replanteos.

También se podrá ordenar por la Dirección facultativa la ejecución de replanteos de comprobación.

En la ejecución de estos replanteos se procederá con la misma sistemática que en el replanteo inicial.

La Dirección facultativa sistematizará normas para la comprobación de estos replanteos y podrá supeditar el progreso de los trabajos a los resultados de estas comprobaciones, lo cual, en ningún caso, inhibirá la total responsabilidad del Contratista, ni en cuanto a la correcta configuración y nivelación de las obras, ni en cuanto al cumplimiento de plazos parciales.

Los gastos ocasionados por todas las operaciones de comprobación del replanteo general y los de las operaciones de replanteo y levantamiento mencionados en estos apartados serán por cuenta del Contratista.

7. CONFRONTACIÓN DE PLANOS Y MEDIDAS

El Contratista deberá confrontar, inmediatamente después de recibidos, los planos y demás documentos que le hayan sido facilitados y deberá informar prontamente a la Dirección facultativa sobre cualquier duda, contradicción o error que hallase. Deberá comprobar las cotas y el correcto encaje de los aparatos, máquinas, equipos y accesorios antes de comenzar las obras y será responsable de cualquier error que hubiera podido evitar de haberlo hecho.

8. PRESCRIPCIONES EN CUANTO A LA EJECUCIÓN DE TRABAJOS

8.1 EXCAVACIÓN EN EXPLANACIONES, CIMENTACIONES, ZANJAS Y POZOS

Se define como excavación en explanaciones el conjunto de operaciones necesarias para conseguir obtener a partir del terreno natural las diferentes plataformas de urbanización de la planta.

Las dimensiones principales serán longitud y anchura en comparación con la altura.

En su realización se emplearán los medios mecánicos y manuales necesarios para su correcta ejecución.

Se define como excavación en cimentaciones, el conjunto de operaciones encaminadas a conseguir el emplazamiento adecuado de los aparatos que constituyen la planta a partir del terreno natural o de las plataformas obtenidas en la explanación antes mencionada.

Además de la maquinaria antes empleada será necesario el uso de retroexcavadoras.

Por último, se define como excavación en zanjas y pozos aquella en la que predomina o bien la longitud en el primer caso o bien la altura en el segundo.

8.2 PREPARACIÓN DEL TERRENO, DESBROCE Y DEMOLICIONES

La preparación del terreno y el desbroce consistirá en la extracción y almacenamiento de la tierra vegetal existente en el terreno. En esta operación estará incluida la separación del arbolado y el matorral que se llevará directamente a vertedero, o bien será quemado sin empleo de combustible en un lugar seguro a tal efecto.

El espesor de la tierra vegetal a excavar en cada zona será el que se tenga en cada sitio y, en todo caso, el que ordene la Dirección facultativa.

Los acopios de tierra vegetal se realizarán en lugares de fácil acceso dentro de la finca, que no interfieran en futuras obras de la planta para su conservación y posterior transporte al lugar de empleo.

Al excavar la tierra vegetal se pondrá especial cuidado en no contaminarla con barro, para lo cual se utilizará maquinaria ligera e incluso, si la tierra está seca, se podrán emplear motoniveladoras.

Los acopios se harán en caballones de altura no superior a dos (2) metros, con los taludes laterales lisos e inclinados para evitar la erosión y el encharcamiento.

La tierra vegetal que no se acopie para su uso posterior se llevará a vertedero, como si de un suelo inadecuado se tratase.

DEMOLICIONES

Comprenden las operaciones de derribo de todos los elementos de edificación o estructuras situadas en la zona de implantación de las obras, según prescriba la Dirección facultativa.

8.3 EXCAVACIÓN

Una vez terminadas las operaciones de despeje y desbroce, se iniciarán las obras de excavación de acuerdo con las dimensiones indicadas en los planos. La excavación continuará hasta llegar a la profundidad que se señale en dichos documentos y se obtengan una superficie firme y limpia, a nivel o escalonada. La Dirección facultativa podrá modificar tal profundidad si, a la vista de las condiciones del terreno, lo estima necesario, a fin de garantizar unas condiciones satisfactorias de la obra.

En cualquier caso y previos los exámenes y pruebas correspondientes, la Dirección facultativa determinará los materiales excavados aptos para su utilización posterior en las obras de este Proyecto.

Si apareciesen, al proceder a la excavación, materiales deleznables, blandos o inadecuados, se retirarán en la misma forma y condiciones que la excavación normal, según se especifica en este mismo artículo, siendo sustituidos por materiales adecuados.

La excavación se realizará con el mayor cuidado, al objeto de proteger a los trabajadores y no deteriorar muros y casas próximas, entibando cuando sea necesario.

8.4 REFINO

Se cumplirá lo prescrito en el artículo 341 del Pliego de Prescripciones Generales para Obras de Carreteras y Puentes (PG-3).

Los taludes en desmonte que hayan de quedar vistos o hayan de servir para hormigonar sobre ellos se refinarán en toda su sección. Estos refinos se harán siempre recortando y no creciendo, por lo cual habrá de darse de antemano a las explanaciones la anchura y taludes necesarios.

8.5 TERRAPLENES

Se ejecutarán de acuerdo a lo especificado en los artículos 330 y 340 del Pliego de Prescripciones Generales para Obras de Carreteras y Puentes (PG-3).

El espesor de tongada óptimo deberá, en cada caso, determinarse mediante ensayos previos de terraplenes.

En el núcleo y cimentación de terraplenes se utilizarán suelos adecuados o tolerables según el PG-3, compactados al 95% PN y en los 50 cm de coronación se emplearán suelos seleccionados compactados al 100% PN, excepto en las zonas ocupadas por jardinería en que se coronará con 30 cm de tierra vegetal.

Antes de extender una tongada se procederá, si fuera necesario, a la homogeneización y humectación. Todas las operaciones de aportación de agua se harán antes de la compactación.

8.6 RELLENOS

Se define como relleno el transporte, la extensión y compactación de materiales terrosos o pétreos, a realizar en zanjas, trasdós de obra de fábrica, o cualquier otra zona cuyas dimensiones no permiten la utilización de los mismos equipos de maquinaria con que se lleva a cabo normalmente la ejecución de terraplenes.

Los materiales de relleno se extenderán en tongadas sucesivas de espesor uniforme y sensiblemente horizontal. El espesor será lo suficientemente reducido para que, con los medios disponibles, se obtenga el grado de compactación exigido en este Pliego.

8.7 ENCOFRADOS Y CIMBRAS

Cumplirán lo prescrito en los artículos 680 y 681 respectivamente del PG-3 y en los correspondientes de la EHE-08.

Se autoriza el empleo de técnicas especiales de encofrado, cuya utilización y resultados se hallan sancionados como aceptables por la práctica, siempre que hayan sido previamente aprobadas por la Dirección facultativa.

Los encofrados, con sus ensambles, soportes o cimbras, deberán tener la resistencia y rigidez necesarias para

que no se produzcan, en ningún caso, movimientos locales ni de conjunto perjudiciales para la resistencia de las obras.

No se admitirán en los plomos y alineaciones errores superiores a tres centímetros (0,03 m).

Antes de empezar el hormigonado de una nueva zona deberán estar dispuestos todos los elementos que constituyen los encofrados y se realizarán cuantas comprobaciones sean necesarias para cerciorarse de la exactitud de su colocación.

Los enlaces de los distintos paños o elementos que forman los moldes serán sólidos y sencillos, de manera que el montaje pueda hacerse fácilmente y de forma que el atacado o vibrado del hormigón pueda realizarse perfectamente en todos los puntos.

La resistencia se determinará en las probetas de ensayo o, en su defecto, previa aprobación de la Dirección facultativa, podrá procederse al desencofrado o descimbramiento de acuerdo con los plazos que indica la norma vigente de la “Instrucción de Hormigón Estructural (EHE-08)”, pudiéndose desencofrar los elementos que no produzcan en el hormigón cargas de trabajo apreciables, en plazos de una tercera parte del valor de los anteriores.

Durante las operaciones de desencofrado y descimbramiento se cuidará de no producir sacudidas ni choques en la estructura y de que el descenso de los apoyos se haga de un modo uniforme.

Antes de retirar las cimbras, apeos y fondos, se comprobará que la sobrecarga total actuante más las de ejecución por peso de la maquinaria, de los materiales almacenados, etc., no supere el valor previsto en el cálculo como máximo.

Cuando al desencofrar se aprecian irregularidades en la superficie del hormigón, no se repasarán estas zonas defectuosas sin la autorización de la Dirección facultativa, quien resolverá, en cada caso, la forma de corregir el defecto.

Se utilizarán berenjenos para achaflanar todas las aristas vivas de las zonas de hormigón.

8.8 OBRAS DE HORMIGÓN

Los hormigones a emplear en las obras del presente Proyecto están definidos en este Pliego y en los Planos, y cumplirán, además de las prescripciones de la “Instrucción EHE-08”, las que se indican a continuación.

La dosificación de los áridos, cemento y agua se hará en peso, exigiéndose una precisión en la pesada de cada uno de los elementos, que dé un error inferior al dos por ciento (2%). Se exige que cada material tenga una báscula independiente. El final de cada pesada deberá ser automático, tanto para los áridos como para el agua y el cemento. Una vez por semana, como mínimo, se procederá por el Contratista a la comprobación de manera fehaciente para la Dirección facultativa de que la instalación de dosificación funciona correctamente.

Se emplearán los medios de transporte adecuados, de modo que no se produzca segregación, evaporación de agua o intrusión de cuerpos extraños en la mezcla. Se admite el uso de camiones hormigoneras en tiempos de transporte inferiores a una hora entre la carga del camión y la descarga en el tajo.

La velocidad de agitación de la amasadora está comprendida entre dos (2) y seis (6) revoluciones por minuto.

Se prohíbe la caída del hormigón en alturas superiores a dos (2) metros.

En caso de estructuras de pequeño canto y gran altura, tales como muros y otros elementos verticales, se colocará el hormigón mediante bomba, o bien, tubería a modo de "trompa de elefante", de tal manera que la caída del hormigón no sea superior a 2 metros.

No se permitirá el reamasado de la masa para corregir posibles defectos de segregación. No se permitirá la adición de agua, una vez que el hormigón haya salido de la hormigonera, para corregir posibles problemas de transporte.

El hormigón se verterá en tongadas cuyo espesor será inferior a la longitud de los vibradores que se utilicen, de tal modo que sus extremos penetren en la tongada, ya vibrada, inmediatamente inferior. En cualquier caso, es preceptivo que el hormigón se consolide mediante vibradores de frecuencia igual o mayor de seis mil (6.000) revoluciones por minuto. La distancia entre puntos de aplicación del vibrador será del orden de cincuenta (50) centímetros, salvo que se observe que entre cada dos puntos no quede bien vibrada la parte equidistante. En este caso, los puntos de aplicación se determinarán a la vista de las experiencias previas.

En las obras de hormigón armado, los hormigones se colocarán en tongadas de veinte (20) a treinta (30) centímetros.

En la ejecución de los elementos de superestructura se deberá disponer de un sistema de puesta en obra complementario, de tal modo que, al fallar el principal, pueda llegarse a conformar el hormigón que se esté colocando en junta perpendicular a la dirección de las armaduras principales del hormigón armado.

Los moldes habrán de retirarse de tal forma que no arranquen al separarse de la superficie de hormigón parte de la misma. Para ello el Contratista mantendrá siempre limpios los moldes, usando, si fuera preciso, algún desencofrante.

No se someterán las superficies vistas a más operaciones de acabado que la que proporciona un desencofrado cuidadoso, que en ningún caso será realizado antes de veinticuatro horas.

La terminación general del hormigón será fratasada o enlucida, excepto en aquellos sitios donde lo indiquen los planos o así lo decida la Dirección facultativa.

El curado del hormigón comenzará, a partir del desencofrado, a las veinticuatro (24) horas de colocado en las superficies libres. Se mantendrá húmeda la superficie del hormigón durante quince (15) días en verano y seis (6)

en invierno. Es aconsejable cubrir, con arpillera o similar, las superficies más expuestas al sol, para asegurar el mantenimiento de la humedad durante el tiempo de curado, o bien utilizar productos de curado previamente aprobados por la Dirección facultativa.

Cualquier junta de hormigón distinta de las previstas en el proyecto tendrá que ser aprobada previamente por la Dirección facultativa a propuesta del Contratista. Si hubiera necesidad de hacer alguna parada durante el hormigonado, la Dirección facultativa tomará la decisión que proceda en cuanto al tratamiento a dar a la junta dejada.

Se demolerán las partes de obra en que se compruebe que la resistencia característica de las probetas moldeadas y conservadas en obra es inferior al setenta y cinco por ciento (75%) de la fijada en estas prescripciones.

Cuando sea superior a dichas cantidades, pero inferior a la fijada, la Dirección facultativa podrá optar entre ordenar la demolición o aplicar a dicha parte de obra un descuento de porcentaje doble del defecto de resistencia característica en tanto por ciento.

TOLERANCIAS

Se admitirán las tolerancias recogidas en el Anejo 11 de la Instrucción EHE-08 para obras de hormigón.

TRANSPORTE DE HORMIGÓN EN OBRA

Se tendrá en cuenta lo establecido con carácter general en la Instrucción EHE-08.

Para comprobación de que el transporte se realiza en forma práctica adecuada, y que el tiempo máximo marcado desde la fabricación del hormigón a su puesta en obra es el correcto, las probetas se tomarán en obra. El Contratista dispondrá de las instalaciones adecuadas para que tal hecho sea posible, completando en obra la fase de curado.

En ningún caso se tolerará la colocación en obra de hormigones que acusen un principio de fraguado o presenten cualquier otra alteración.

Al cargar en los elementos de transporte no deberán formarse en las masas montones cónicos que favorezcan la segregación.

El transporte del hormigón al tajo, desde la central de hormigonado, se hará necesariamente en camiones hormigoneras.

PUESTA EN OBRA

El proceso de colocación del hormigón será aprobado por el Director de las Obras, quien, con antelación al comienzo del mismo, determinará las obras para las cuales no podrá procederse al hormigonado sin la presencia de un vigilante que el haya expresamente autorizado.

No se permitirá el vertido libre del hormigón desde alturas superiores a un metro y medio (1,5), quedando prohibido el arrojarlo con palas a gran distancia.

El hormigón fresco se protegerá siempre de aguas que puedan causar arrastre de los elementos.

Todo el hormigón se depositará de forma continua, de manera que se obtenga una estructura monolítica donde así viene indicado en los planos, dejando juntas de dilatación en los lugares expresamente indicados en los mismos. Cuando sea impracticable depositar el hormigón de modo continuo, se dejarán juntas de trabajo que hayan sido aprobadas y de acuerdo con las instrucciones que dicte el Director de las Obras.

El vibrado o apisonado se cuidará particularmente junto a los paramentos y rincones del encofrado, a fin de evitar la formación de coqueras.

En el hormigonado de bóvedas por capas sucesivas o dovelas, deberán adoptarse precauciones especiales, con el fin de evitar esfuerzos secundarios, a cuyo efecto se seguirán las instrucciones del Director de las Obras.

En los elementos verticales de gran espesor y armaduras espaciadas, podrá verterse el hormigón por capas, apasionándolos eficazmente y cuidando que envuelva perfectamente las armaduras.

En los demás casos, al verter el hormigón, se removerá enérgica y eficazmente, para que las armaduras queden perfectamente envueltas, cuidando especialmente los sitios en que se reúna gran cantidad de acero, y procurando que se mantengan los recubrimientos de las armaduras.

En losas, el extendido del hormigón se ejecutará por capas, de modo que el avance se realice en todo su espesor.

En vigas, el hormigonado se hará avanzando desde los extremos, llevándose en toda su altura y procurando que el frente vaya bastante recogido para que no se produzcan disgregaciones y la lechada escurra a lo largo del encofrado.

En pilares, el hormigonado se efectuará removiendo enérgicamente la masa para que no quede aire aprisionado y vaya asentado de modo uniforme. Cuando los pilares y elementos horizontales apoyados en ellos, se ejecuten de un modo continuo, se dejarán transcurrir por lo menos dos (2) horas, antes de proceder a construir los indicados elementos horizontales, a fin de que el hormigón de los pilares haya asentado definitivamente.

La consolidación del hormigón se ejecutará con igual o mayor intensidad que la empleada en la fabricación de probetas de ensayo. Esta operación deberá prolongarse, especialmente, junto a las paredes y rincones del encofrado hasta eliminar las posibles coqueras y conseguir que se inicie la refluxión de la pasta a la superficie. Se tendrá, sin embargo, especial cuidado de que los vibradores no toquen los encofrados, para evitar un posible movimiento de los mismos.

Si hay que colocar hormigón sumergido habrá que tener la autorización previa del Director de las Obras. En todo

caso habrá que cumplir las especificaciones siguientes:

- Para evitar la segregación de los materiales, el hormigón se colocará cuidadosamente, en una masa compacta y en su posición final mediante trompas de elefante por otros medios aprobados por el Director de las Obras, y no debe removerse una vez haya sido depositado.
- Cuando se usen trompas de elefante, su diámetro no será inferior a veinticinco (25) centímetros. Los medios para sostenerla serán tales que permitan un libre movimiento del extremo de descarga sobre la parte superior del hormigón y faciliten que se pueda bajar rápidamente cuando sea necesario cortar o retardar su descarga. La trampa se llenará de forma que no se produzca el deslavado del hormigón. El extremo de descarga estará, en todo momento, sumergido por completo en el hormigón, y el tubo final deberá contener una cantidad suficiente de mezcla para evitar la entrada de agua.

JUNTAS DE HORMIGONADO

Siempre que el hormigonado se vaya a interrumpir durante una o más jornadas, la ejecución de las juntas se ajustará a las siguientes prescripciones:

- En pilas y estribos se procurará llevar el hormigonado en continuo, en toda su altura hasta el plano de apoyo de vigas de enlace o dinteles. Cuando esto no sea posible, se permitirá una sola junta dispuesta en plano horizontal en toda la superficie y por debajo de la mitad de la altura.
- En losas no se permitirá ninguna junta, ni transversal ni longitudinal.

Al interrumpir el hormigonado, aunque sea por plazo menor de una hora, se dejará la superficie lo más irregular posible, cubriéndola con sacos húmedos para protegerla de los agentes atmosféricos.

Los forjados se ejecutarán en todo el ancho o bien por paños independientes, con juntas sobre los ejes de las vigas principales. En ningún caso medirán más de dos días entre la ejecución del forjado y la de sus vigas.

Se cuidará que las juntas creadas por las interrupciones del hormigonado queden normales a la dirección de los máximos esfuerzos de compresión y donde sus efectos sean menores para que las masas puedan deformarse libremente. El ancho de estas juntas deberá ser el necesario para que en su día puedan hormigonarse correctamente.

Al reanudar los trabajos, se limpiará la junta de toda suciedad, lechada o árido suelto que haya quedado suelto, primero con aire a presión, y luego con agua también a presión hasta dejar el árido visto; luego, antes de verter el nuevo hormigón se echará un mortero formado del propio hormigón pero sólo con finos. La Dirección facultativa podrá exigir, si lo considera necesarios, el empleo de productos intermedios tales como resinas "epoxi" para mejor adherencia de los hormigones, y conseguir una completa estanqueidad, o el empleo de la junta de Polivinilo.

VIBRADO

Es obligatorio el empleo de vibradores para mejorar la puesta en obra consiguiendo una mayor compacidad.

El vibrado se realizará teniendo en cuenta las siguientes prescripciones:

- El espesor de las tongadas será tal que al introducir la aguja vertical o ligeramente en la capa subyacente para asegurar la buena unión entre ambas.
- El proceso deberá prolongarse hasta que la lechada refluya a la superficie, y en forma que este presente un brillo uniforme en toda su extensión.
- Si se emplean vibradores de superficie, se aplicarán moviéndolos ligeramente y en forma lenta, de modo que el efecto alcance a toda la masa.
- Si se emplean vibradores internos, su frecuencia de trabajo no será inferior a seis mil revoluciones por minuto. La velocidad de penetración en la masa no será superior a 10 cm/seg.

Se autorizará el empleo de vibradores firmemente anclados a los moldes, con tal de que se distribuyan los aparatos en la forma conveniente para que su efecto se extienda a toda la masa.

No se permitirá que el vibrado afecte al hormigón parcialmente endurecido ni que se aplique el elemento de vibrado directamente a las armaduras.

CONSISTENCIA DEL HORMIGÓN

La consistencia del hormigón se define por uno cualquiera de los procedimientos descritos en los métodos de ensayo UNE-7102 y UNE-7103.

Por regla general, todos los hormigones que hayan de ser vibrados tendrán consistencia plástica (Cono de Abrams entre 2 y 6 cm).

La pérdida de asiento medida por el Cono de Abrams, entre el hormigón en la hormigonera y en los encofrados, deberá ser fijada por el Director de las Obras, y no debe ser superior, excepto en casos extraordinarios, a veinticinco (25) milímetros.

El Director de las Obras podrá autorizar el uso de hormigones armados vibrados de consistencia blanda, en aquellas zonas o nudos fuertemente armados, donde es difícil el acceso del hormigón.

Se prohíbe el empleo de hormigones de consistencia inferior a la blanda (Cono de Abrams mayor de 9 cm según Norma UNE-7103) en cualquier elemento que cumpla la misión resistente.

PRECAUCIONES ESPECIALES Y CURADO

El hormigonado se suspenderá siempre que se prevea que dentro de las cuarenta y ocho horas (48 h) siguientes puede descender la temperatura del ambiente por debajo de los cero grados (0 □C).

En los casos que por absoluta necesidad, haya que hormigonar en tiempo frío, será necesario un permiso previo

del Director de las Obras. En tal caso, se tomarán las medidas necesarias para garantizar que, durante el fraguado y primer endurecimiento del hormigón, no habrán de producirse deterioros locales ni mermas en las características resistentes.

Si no es posible garantizar que con las medidas adoptadas se ha conseguido evitar dicha pérdida de resistencia, el Director de las Obras podrá ordenar los ensayos de información o pruebas de carga que permitan conocer la resistencia real alcanzada en obra.

Cuando el hormigonado se efectúe en tiempo caluroso, se adoptarán las medidas oportunas para evitar una evaporación sensible del agua del amasado, tanto durante el transporte como en la colocación del hormigón.

Una vez puesto en obra el hormigón se protegerá del sol y del viento para evitar su desecación.

De no tener precauciones especiales, deberá suspender el hormigonado cuando la temperatura exterior sobrepase los 40º C.

Durante el fraguado y primer período de endurecimiento del hormigón, deberá asegurarse el mantenimiento de la humedad del mismo, adoptando para ello las medidas adecuadas como pueda ser su cubrición con sacos, arena, para u otros materiales análogos, que se mantendrán húmedos mediante riegos frecuentes.

Estas medidas se prolongarán durante siete días, si en conglomerante utilizado fuese cemento Portland-350 y quince días en el caso de que el cemento utilizado fuese de endurecimiento más lento. Estos plazos deberán aumentarse en un cincuenta por ciento (50%) en tiempo seco.

El curado podrá realizarse manteniendo húmedas las superficies de los elementos de hormigón, sea mediante riego directo que no produzca deslavado, o bien protegiendo las superficies mediante recubrimientos plásticos u otros productos que garanticen la retención de humedad de las masas, durante el período de endurecimiento.

BANDAS DE PVC EN JUNTAS

Dado que los efectos de retención son particularmente de tener en cuenta en esta obra y que la estanqueidad de la estructura es de una importancia primordial, las juntas han de cuidarse con el máximo rigor, de ahí que se extreme la atención en la colocación de las bandas de PVC. El encofrado en su cierre estará dispuesto de tal forma que no se produzcan deformaciones, perforaciones, o cualquier otro efecto que pueda ir a menoscabo del fin para el que es utilizada. En cualquier caso, se respetarán íntegramente las instrucciones de la casa suministradora de la banda, cuyo núcleo central ha de quedar dividido en dos partes iguales para los paramentos de los dos grupos de hormigón; estos paramentos han de ser lisos, para evitar la unión entre ambos cuerpos.

8.9 ARMADURAS

Tanto para la colocación como para el doblado y el control de calidad de las armaduras, se seguirán las

prescripciones de los artículos correspondientes de la EHE-08.

Las armaduras se doblarán ajustándose a los planos o instrucciones del Proyecto. Esta operación se realizará en frío y a velocidad moderada, preferente mente por medios mecánicos, no admitiéndose excepción para las barras endurecidas por estirado en frío o por tratamientos térmicos especiales.

Salvo expresa indicación en los planos del presente Proyecto, el doblado de las barras se realizará con radios interiores que cumplan las condiciones recogidas en la Instrucción EHE-08.

Los cercos o estribos podrán doblarse con radios inferiores a los que resultan de la limitación anterior, siempre que ello no origine en dichos elementos un principio de fisuración. No se admitirá el enderezamiento de codos.

Las armaduras se colocarán limpias, exentas de cascarilla, pintura, grasa o cualquier sustancia perjudicial. Se dispondrán de acuerdo con las indicaciones de los planos del Proyecto, sujetas entre sí al encofrado, de manera que no puedan experimentar movimientos durante el vertido y compactación del hormigón y permitan a éste envolverse a ellas y rellenar el encofrado sin dejar coqueras.

Podrá utilizarse tipos de acero diferentes en las barras principales y en los estribos y cercos, previa autorización del Director de las Obras.

La distancia de las barras a los paramentos será igual o superior al diámetro de la barra respetando las indicaciones de los planos correspondientes, y en ningún caso será inferior a dos centímetros (2 cm) ni superior a cuatro centímetros (4 cm). Esta última limitación no se aplicará a los elementos enterrados.

Salvo justificación especial, las barras corrugadas de las armaduras se anclarán por prolongación recta, pudiendo también emplearse patilla. Únicamente se autorizará el empleo de gancho en barras trabajando a tracción, siendo en cualquier caso preferible el uso de alguno de los dos sistemas anteriores.

Las longitudes de anclajes serán las definidas en la EHE-08.

Mientras sea posible no se dispondrán más empalmes que los indicados en los planos, y en cualquier caso deberán quedar alejados de las zonas en las que la armadura trabaje a su máxima carga.

El empalme podrá realizarse por solape o soldadura, no se admitirán otros tipos de empalme sin la previa justificación de que su resistencia a rotura es igual o superior a la de cualquiera de las barras empalmadas.

Durante la ejecución de la pieza se pondrá especial cuidado para que no coincidan en una misma sección empalmes de distintas barras. Si por exigencias de la pieza esto no fuera posible, se distanciarán los centros de los empalmes como mínimo una longitud equivalente a 20 ø (veinte) tomando para ø el valor de la barra más gruesa, si las hubiere de diferente sección.

El empalme por solape se realizará colocando las barras una sobre otra y zunchándolas con alambre en toda la

longitud del solape.

En barras corrugadas, la longitud de solape será igual o superior a la especificada para anclaje y no se dispondrán ganchos ni patillas.

El empalme podrá realizarse por soldadura siempre que las barras sean de calidad soldable, y que la unión se lleve a cabo de acuerdo con las normas de buena práctica para esta técnica; en tal caso los empalmes podrán ejecutarse:

- A tope al arco eléctrico, biselando previamente los extremos de las barras.
- A tope, por resistencia eléctrica según el método de incluir en su ciclo un período de forja.
- A solape con cordones longitudinales, siempre que las barras sean de diámetro igual o inferior a 25 mm.

Cualquiera que sea el tipo de soldadura elegido, habrá de cuidarse que el sobreespesor de la junta, en la zona de mayor recargue, no exceda del 10% del diámetro nominal del redondo empalmado.

No podrán disponerse empalmes por soldadura en tramos curvos del trazado de las armaduras, sin embargo, si se autoriza la presencia en una misma sección transversal de la pieza, de varios empalmes soldados a tope, siempre que su número no sea superior a la quinta parte del total de barras que constituyen la armadura en esa sección.

Si para mantener las distancias de las armaduras a los paramentos hubiera necesidad de emplear separadores, estos serán tacos de hormigón árido del empleado en la fabricación del mismo o cualquier otro material compacto, que no presente reactividad con el hormigón ni sea fácilmente alterable. A estos efectos queda prohibido el empleo de separadores de madera.

8.10 MORTERO DE CEMENTO

La mezcla podrá realizarse a mano o mecánicamente. En el primer caso, se hará sobre un piso impermeable.

El cemento y la arena se mezclará en seco hasta conseguir un producto homogéneo de color uniforme. A continuación, se añadirá la cantidad de agua estrictamente necesaria para que, una vez batida la masa, tenga la consistencia adecuada para su aplicación en obra.

Solamente se fabricará el mortero preciso para su uso inmediato, rechazándose todo aquel que no haya sido empleado dentro de los cuarenta y cinco (45) minutos que sigan a su amasadura.

8.11 IMPERMEABILIZACIONES

Se utilizarán productos de buena calidad y en buen estado, adecuados a la agresividad del medio al que estarán expuestos.

Se comprobará que la superficie sobre la que va a aplicar la impermeabilización esté exenta de polvo y/o materias

extrañas que impidan la adherencia, y presente una humedad inferior al 5 %.

Caso de que sea necesario regularizar la superficie a impermeabilizar, se podrá utilizar mortero de cemento 1:3.

Los productos deberán ser manejados con cuidado a fin de evitar su deterioro, y se colocarán perfectamente extendidos de modo que no se formen bolsas ni arrugas.

8.12 ENLUCIDOS

Los enlucidos se efectuarán con mortero de cemento. Se aplicarán sobre las fábricas frescas y antes del total fraguado de morteros y hormigones. Se humedecerá abundantemente la fábrica y seguidamente se extenderá el mortero igualando la superficie con la llana, dando un espesor mínimo de dos centímetros (0,02 m). A continuación, se frotará y alisará nuevamente con la llana, para conseguir la mayor impermeabilidad y el mínimo coeficiente de fricción posible.

Se regará abundantemente para conseguir un buen curado. Si, una vez seco, aparecen grietas o se nota por percusión que está despegado, se picará y rehará de nuevo a costa del Contratista.

8.13 TUBERÍAS DE POLIETILENO

La instalación de cada conducción comprende las operaciones de:

- Colocación de los tubos
- Ejecución de juntas
- Pruebas

Todo ello realizado de acuerdo con las presentes Prescripciones, con las alineaciones, cotas y dimensiones indicadas en los planos y con lo que, sobre el particular, ordene la Dirección facultativa.

8.13.1 Condiciones de suministro

Los tubos se deben suministrar a pie de obra en camiones con suelo plano, sin paletizar, y los accesorios en cajas adecuadas para ellos.

Los tubos se deben colocar sobre los camiones de forma que no se produzcan deformaciones por contacto con aristas vivas, cadenas, etc., y de forma que no queden tramos salientes innecesarios.

Los tubos y accesorios se deben cargar de forma que no se produzca ningún deterioro durante el transporte. Los tubos se deben apilar a una altura máxima de 1,5 m.

Se debe evitar la colocación de peso excesivo encima de los tubos, colocando las cajas de accesorios en la base del camión.

Cuando los tubos se suministren en rollos, se deben colocar de forma horizontal en la base del camión, o encima de los tubos suministrados en barras si los hubiera, cuidando de evitar su aplastamiento.

Los rollos de gran diámetro que, por sus dimensiones, la plataforma del vehículo no admita en posición horizontal, deben colocarse verticalmente, teniendo la precaución de que permanezcan el menor tiempo posible en esta posición.

Los tubos y accesorios se deben cargar y descargar cuidadosamente.

8.13.2 Recepción y control

Cada entrega de tubos o accesorios deberá ir acompañada de un albarán especificando la naturaleza, numero, tipo y referencia de las piezas que la componen, y deberán hacerse con el ritmo y plazo señalados.

Las piezas que hayan sufrido averías durante el trasporte o que presenten defectos serán rechazadas.

Las verificaciones y pruebas de recepción se ejecutarán en fábrica, sobre tubos cuya suficiente madurez sea garantizada por los fabricantes y la aceptación o rechazo de los tubos se regulará según lo que se establece a continuación:

- El fabricante avisará a la DF, con quince días de antelación, como mínimo, del comienzo de la fabricación, en su caso, y de la fecha en que se propone efectuar las pruebas preceptivas a que deben ser sometidos los tubos, piezas especiales y demás elementos de acuerdo con sus características normalizadas, comprobándose además dimensiones y pesos.
- En caso de no asistir a la DF por sí o por delegación a las pruebas obligatorias en fábrica, podrá exigir al contratista certificado de garantía de que se efectuaron, en forma satisfactoria, dichos ensayos.
- La DF, si lo estima necesario, podrá ordenar en cualquier momento la realización de ensayos sobre lotes, aunque hubiesen sido ensayados en fábrica, para lo cual el contratista, avisado previamente por escrito, facilitará los medios necesarios para realizar estos ensayos, de los que levantara acta, y los resultados obtenidos en ellos prevalecerán sobre cualquier otro anterior.

Documentación de los suministros:

Los tubos deben estar marcados a intervalos máximos de 1 m y al menos una vez por accesorio, con:

Los caracteres correspondientes a la designación normalizada.

La trazabilidad del tubo (información facilitada por el fabricante que indique la fecha de fabricación, en cifras o en código, y un número o código indicativo de la factoría de fabricación en caso de existir más de una).

Los caracteres de marcado deben estar impresos o grabados directamente sobre el tubo o accesorio de forma que sean legibles después de su almacenamiento, exposición a la intemperie, instalación y puesta en obra

El marcado no debe producir fisuras u otro tipo de defecto que influya desfavorablemente en el comportamiento funcional del tubo o accesorio.

Si se utiliza el sistema de impresión, el color de la información debe ser diferente al color base del tubo o accesorio.

El tamaño del marcado debe ser fácilmente legible sin aumento.

Los tubos y accesorios certificados por una tercera parte pueden estar marcados en consecuencia.

Ensayos:

La comprobación de las propiedades o características exigibles a este material se realiza según la normativa vigente.

8.13.3 Conservación, almacenamiento y manipulación

Debe evitarse el daño en las superficies y en los extremos de los tubos y accesorios. Deben utilizarse, si fuese posible, los embalajes de origen.

Debe evitarse el almacenamiento a la luz directa del sol durante largos periodos de tiempo.

Debe disponerse de una zona de almacenamiento que tenga el suelo liso y nivelado o un lecho plano de estructura de madera, con el fin de evitar cualquier curvatura o deterioro de los tubos.

Los tubos con embocadura y con accesorios montados previamente se deben disponer de forma que estén protegidos contra el deterioro y los extremos queden libres de cargas, por ejemplo, alternando los extremos con embocadura y los extremos sin embocadura o en capas adyacentes.

Los tubos en rollos se deben almacenar en pisos apilados uno sobre otro o verticalmente en soportes o estanterías especialmente diseñadas para este fin.

El desenrollado de los tubos debe hacerse tangencialmente al rollo, rodándolo sobre sí mismo. No debe hacerse jamás en espiral.

Debe evitarse todo riesgo de deterioro llevando los tubos y accesorios sin arrastrar hasta el lugar de trabajo, y evitando dejarlos caer sobre una superficie dura.

Cuando se utilicen medios mecánicos de manipulación, las técnicas empleadas deben asegurar que no producen daños en los tubos. Las eslingas de metal, ganchos y cadenas empleadas en la manipulación no deben entrar en contacto con el tubo.

Debe evitarse cualquier indicio de suciedad en los accesorios y en las bocas de los tubos, pues puede dar lugar, si no se limpia, a instalaciones defectuosas. Los extremos de los tubos se deben cubrir o proteger con el fin de evitar la entrada de suciedad en los mismos. La limpieza del tubo y de los accesorios se debe realizar siguiendo las instrucciones del fabricante.

El tubo se debe cortar con su correspondiente cortatubo.

8.13.4 Montaje

Las uniones de los tubos de PEAD se harán mediante soldadura a tope, y la instalación y manejo se efectuarán según lo indicado en la norma española UNE 53394 y la norma europea DVS 2207-1 por operario especializado.

En caso de estar justificado, será posible el empleo de manguitos electrosoldables, siendo de aplicación la normativa vigente al respecto. En este caso, se precisará de la autorización expresa de la Dirección de Obra y el contratista deberá realizar levantamiento topográfico de la posición exacta de cada manguito, facilitando a la Dirección de Obra dicha información.

Se deberá realizar un seguimiento de los parámetros de soldadura y registrarlos en el correspondiente documento. Debe existir una trazabilidad de las soldaduras. La máquina para soldadura a tope estará inspeccionada y ajustadas desde hace menos de un año. La documentación de la máquina y de sus inspecciones se adjuntarán a los registros de soldadura.

En ningún caso se efectuarán uniones mecánicas, debido a que los esfuerzos de tracción ejercidos por la tubería tras su montaje pueden hacer que el sistema no sea estanco. Por lo que las bridas de doble cámara están prohibidas en esta instalación.

Para intercalar elementos singulares en la instalación, como válvulas o T de registro, se colocará en la tubería un porta-brida de polietileno, soldado a la tubería a tope donde antes se ha alojado una brida loca de la medida adecuada al elemento a unir a la tubería. Serán de 316L.

Los codos dispondrán de anclajes de hormigón de hormigón armado HA-30/B/20/IIIc con acero B-500S en barras corrugadas

Los tubos se almacenarán en lugares apropiados alejados de productos químicos agresivos tales como disolventes, hidrocarburos, ácidos, etc.

En la manipulación de los tubos deben tomarse las precauciones adecuadas para no dañarlos rozándolos contra el suelo por golpes u otras acciones mecánicas. Especialmente deberá vigilarse que los tubos no reciban, durante su transporte o tendido, golpes contra cuerpos con aristas vivas.

Se deberá limpiar el interior de la tubería en caso de ser necesario.

La instalación de esta tubería se llevará a cabo por personal cualificado. La tubería se dejará en la zanja “serpenteando”, sin estirar, con el fin de que ella misma tenga capacidad de absorber las propias dilataciones y contracciones térmicas, ya que el coeficiente de dilatación térmica de los plásticos en general, es muy elevado.

8.13.5 Pruebas

Una vez instalada la tubería, antes de su recepción, se procederá a las pruebas preceptivas que se indican, así como a las que se establezcan por parte de la DF. La normativa de referencia es la UNE-EN 805:2000 y el MOPU del 74

Las pruebas de presión interna se realizarán por tramos que tengan una longitud aproximada de 500 m, aunque la DF puede fijar otras longitudes, y se llevarán a cabo a medida que va terminándose el montaje en cada tramo, sin esperar a tener toda la obra terminada.

Antes de empezar la prueba deben estar colocados en su posición definitiva todos los accesorios de la conducción. Si se prefiere la zanja puede estar parcialmente rellena, dejando siempre al descubierto las uniones. Se empezará por llenar lentamente de agua el tramo objeto de la prueba, dejando abierto todos los elementos que puedan dar salida al aire, los cuales se irán cerrando después sucesivamente de abajo hacia arriba una vez se haya comprobado que no existe aire en la conducción. A ser posible se dará entrada al agua por la parte baja, con lo cual se facilita la expulsión del aire por la parte alta. Si esto no fuera posible, el llenado se hará aún más lentamente para evitar que quede aire en la tubería. En el punto más alto de la conducción se colocará una válvula de purga para expulsión del aire y para comprobar que todo el tramo objeto de la prueba se encuentra comunicado debidamente.

Una vez llenado totalmente el tramo, se realiza una inspección inicial para comprobar que todas las uniones son estancas. El equipo necesario para la prueba de presión deberá tener los elementos apropiados para regular el aumento de presión. Se colocará en el punto más bajo de la tubería que se va a probar y estará provisto de dos manómetros previamente calibrados.

Los extremos del tramo que se quiere probar se cerrarán convenientemente y serán fácilmente desmontables, para poder continuar el montaje de la tubería. Si existen llaves intermedias en el tramo de prueba, deberán estar completamente abiertas.

La presión interior de prueba en zanja de la tubería será de 1,4 veces la presión máxima de trabajo en el punto más bajo del tramo en prueba. La presión se hará subir lentamente, no superando 1 Kg/cm2 por minuto. Una vez obtenida la presión de prueba se parará durante 30 minutos y se considerará la prueba satisfactoria cuando durante este tiempo, el manómetro no acuse un descenso superior a $(P/5)^{1/2}$, siendo P la presión de prueba en Kg/cm2. Cuando el descenso del manómetro sea superior, se corregirán los defectos observados, repasando las uniones que pierden agua.

Hay que tener en cuenta la dilatación de las tuberías de PE si están destapadas durante la prueba, sobre todo al mediodía, por lo que se aconseja realizar la prueba a primera hora de la mañana.

En casos especiales en los que la escasez de agua u otras causes hagan difícil el llenado de la tubería durante el montaje, se puede proponer razonadamente la utilización de otro sistema que permita probar las uniones con idéntica seguridad.

Se realizarán también pruebas de control de la soldadura a tope según la UNE-EN ISO 6259-1 y la UNE-EN 12814-1. Se ensayarán un 10% de las soldaduras a ejecutar que serán elegidas al azar por la Dirección de Obra. El contratista deberá realizar la nueva soldadura sin coste alguno para la obra.

En caso de que los resultados de los ensayos de soldadura sean negativos, se deberá incrementar el número de ensayos hasta el 50% de las soldaduras realizadas. Si de la totalidad de ensayos realizados sobre el 50% de las soldaduras se obtiene resultado negativo en el 50%, se desecharán todas las soldaduras y el contratista deberá ejecutar de nuevo la totalidad del tramo sin derecho a compensación ninguno. En caso de que no se alcance la cifra de ensayos negativos indicada, se estará a lo dispuesto por el Director de Obra.

Se avisará con la suficiente antelación de las pruebas a la DF para que esta pueda programar su presencia en las mismas.

8.14 TUBERÍAS AUXILIARES

Tuberías corrugadas para protección y canalizaciones varias

Se recomiendan las tuberías de P.V.C. corrugadas.

Se ejecutarán siguiendo las instrucciones al respecto del fabricante de las tuberías, no admitiéndose en ningún caso pinzamientos del tubo ni cambios bruscos de dirección doblándole, con plastificación del mismo.

8.15 ACOPLAMIENTOS ENTRE TUBERÍAS DE DIFERENTES MATERIALES

Las uniones entre tuberías de diferentes materiales deberán ser consistentes y resistir los esfuerzos de tracción.

Las uniones entre tuberías de polietileno con piezas de fundición o tubos de acero se harán siempre mediante bridas. Cuando los diámetros de las tuberías a unir sean diferentes se intercalará entre ellas un cono de reducción con bridas, una de cada diámetro. Estos acoplamientos deberán ser adecuadamente anclados siempre que sea necesario.

8.16 PASO DE TUBERÍAS A TRAVÉS DE OBRAS DE FÁBRICA

Se hará con piezas llamadas pasamuros y conexiones, y constará de un trozo de tubería continuación, pudiendo, o no, llevar en sus extremos una brida soldada.

En el centro aproximadamente, llevará soldada una pletina alrededor del tubo, denominada "collarete de estanquidad", las dimensiones de esta pletina, que podría ser redonda o cuadrada serán aproximadamente de unos 10 cm mayor que el diámetro de pasamuro al cual va soldada.

El montaje de estos pasamuros se hará de dos formas distintas, según se trate de atravesar paredes de tanques que contengan líquidos o gases y los que atraviesen muros de otra clase construcciones.

En el primer caso, el pasamuros se dejará bien cogido en la fábrica de hormigón al construirse ésta, de forma que hacia el centro del espesor de la pared quede situada la pletina llamada "collarete de estanquidad". Hacia dentro y fuera de la pared el pasamuro deberá sobresalir una longitud aproximada ente 5 y 15 cm a no ser que sea una pieza especial en la que esta longitud podrá ser mayor.

En el segundo caso en la obra de fábrica se dejará un agujero circular o cuadrado con unas dimensiones superiores entre 15 y 18 cm al diámetro del pasamuros, colocándose éste después, rellenando el hueco posteriormente de forma que el pasamuros quede perfectamente cogido a la fábrica.

8.17 LÁMINA GEOTEXTIL

Como fieltro anticontaminante se utilizará una lámina de peso mínimo 140 gramos por m^2. En cualquier caso se someterá el material a la aprobación de la Dirección facultativa.

Los geotextiles se suministrarán a obra en rollos o bobinas de dos a cuatro metros (2 a 4 m) de anchura. Los rollos llevarán un embalaje opaco para evitar su deterioro por la luz solar, e irán debidamente etiquetados indicando:

- Naturaleza del material
- Datos del fabricante
- Fecha de fabricación y número de envío
- Dimensiones de las láminas
- Espesor (bajo 2 KN/m^2) y/o peso por m^2.

En el transporte, carga y descarga se vigilará que no se produzcan daños mecánicos en las capas exteriores de los rollos (pinchazos, cortes, etc.).

Para almacenamiento de duración inferior a quince (15) días no es necesario adoptar precauciones especiales. Para almacenamientos de mayor duración, se respetarán las indicaciones del fabricante y los rollos se protegerán de la acción directa de los rayos solares.

En la ejecución se aplicará lo indicado en los artículos 290 y 422 del PG-3.

9. CRITERIOS DE MEDICIÓN Y ABONO

9.1 CRITERIOS GENERALES DE MEDICIÓN Y ABONO

9.1.1 Disposiciones de carácter general sobre medición y abono

Todas las unidades de obra se medirán y abonarán por longitud, superficie, volumen, peso o unidad, según estén especificadas en el Cuadro de Precios nº 1, y a los precios indicados en este cuadro (con aplicación del porcentaje

de baja ofrecido por el Contratista en el proceso de licitación).

Para las obras que, total o parcialmente, hayan de quedar posterior y definitivamente ocultas, el Contratista estará obligado a avisar a la Dirección facultativa con la suficiente antelación, a fin de que ésta pueda realizar las correspondientes mediciones y toma de datos.

En los precios de las distintas unidades de obra se entienden incluidos todos los trabajos, maquinaria, materiales, medios auxiliares, la mano de obra, y todas las operaciones directas o auxiliares necesarias para la correcta ejecución y acabado total de cualquier unidad de obra, así como de las pruebas, aunque no figuren todos ellos especificados en la descomposición o descripción de los precios.

Es obligación del Contratista la conservación de todas las obras objeto de este Proyecto y por consiguiente, la reparación o construcción a su costa, de aquellas partes que hayan sufrido daños por causas imputables al Contratista, o que se compruebe que no reúnen las condiciones exigidas en este Pliego. Esta obligación de conservar las obras se extiende igualmente a los acopios que se hayan certificado, correspondiendo por tanto al Contratista el almacenamiento, guarda y custodia de estos acopios y la reposición de aquellos que se hayan perdido, destruido o dañado por su causa.

Mensualmente la Administración extenderá al Contratista una certificación acreditativa de las obras ejecutadas durante el mes, la cual tendrá carácter provisional y a buena cuenta de la certificación final.

9.1.2 Desbroce y limpieza del terreno

Esta unidad de obra comprende el despeje, desbroce y la limpieza del terreno, incluso el desarbolado, de forma que el terreno quede preparado para realizar las obras. Cuando se indique en el cuadro de precios, también queda incluida la carga sobre camión y el transporte a vertedero.

9.1.3 Excavación en explanaciones, cimentaciones, zanjas y pozos

La medición de las excavaciones se expresará por el volumen que resulte de cubicar el espacio definido por la superficie del terreno natural y la superficie de la base del fondo de la excavación con la holgura y taludes descritos en el presente proyecto.

A efectos de medición y abono no se admitirán holguras mayores ni taludes más tendidos que los especificados en los planos, salvo autorización expresa de la Dirección facultativa, justificada por las características del terreno.

Están incluidas todas las operaciones necesarias, principales y auxiliares, necesarias para la realización de las excavaciones.

Están incluidos en los precios de las excavaciones el establecimiento de barandillas y otros medios de protección que sean necesarios; la instalación de señales de peligro, tanto durante el día como durante la noche; el establecimiento de pasos provisionales durante la ejecución de las obras y el apeo de las conducciones de agua,

electricidad y otros servicios y servidumbres que se descubren al ejecutar las obras.

Sólo serán de abono las excavaciones y los desmontes para la ejecución de las obras, con arreglo al Proyecto o a lo que fije, en su caso, la Dirección facultativa. No lo serán las que, por exceso, practique el Contratista, ya sea por su conveniencia para la marcha de las obras como para construcción de rampas descargadoras o cualquier otro motivo, ni las fábricas que hayan de construirse para rellenar tales excesos.

9.1.4 Transporte a vertedero

La medición del transporte se realizará por diferencia entre los volúmenes de excavación y los de relleno con tierras procedentes de la excavación que se abonan para la correspondiente obra de fábrica o tubería. Si en el Cuadro de Precios nº 1 se indica un coeficiente de esponjamiento, se aplicará dicho coeficiente al volumen obtenido. En caso contrario, no se medirá ni abonará el esponjamiento que sufran los productos excavados.

Los transportes de unas partes a otras de las obras serán por cuenta del Contratista.

En el transporte se entienden incluidas la carga y la descarga, pero no el canon de vertedero, que se abonará aparte, con cargo al concepto “Gestión de residuos de construcción y demolición”, de acuerdo con las condiciones que correspondan a dicho capítulo.

9.1.5 Rellenos compactados

Se abonarán los rellenos ejecutados y medidos por diferencia entre el volumen excavado que se abona y el que ocupa la obra de fábrica o tubería.

Sólo serán de abono los rellenos ejecutados con arreglo a lo definido en los documentos del proyecto. No serán de abono los rellenos que haya de realizar el Contratista por ejecución defectuosa de las obras o por su conveniencia.

En el precio de los rellenos se incluyen todas las operaciones precisas para realizarlos y compactarlos, cualquiera que sea el tipo de procedencia del material empleado.

9.1.6 Hormigones

Se abonarán los hormigones ejecutados de acuerdo con las prescripciones correspondientes del presente Pliego y según los precios especificados en el Cuadro de Precios nº 1.

No se abonarán excesos de hormigón sobre las secciones teóricas indicadas en los planos, tanto debido a los excesos injustificados de excavaciones como a los medios o métodos de puesta en obra.

Para la dosificación de los hormigones, las proporciones de cemento que figuran en la descomposición de precios sólo son indicativas. En todo caso, el Contratista tendrá la obligación de emplear el cemento necesario para obtener las resistencias características que se indican en el presente Pliego, sin que por ello pueda pedir

sobreprecio alguno. Ninguna variación en la procedencia de los áridos, propuesta por el Contratista y aprobada por la Dirección facultativa, significará un cambio de precio de la unidad de obra en que intervengan.

En el precio de los hormigones están incluidos todos los gastos de materiales, transporte, preparación, puesta en obra, vibrado, curado, pruebas y ensayos que sea preciso realizar, así como la ventilación, alumbrado, utilización de moldes y todas aquellas operaciones que se han definido en este Pliego.

9.1.7 Juntas

Las juntas de cualquier clase, excepto las que tienen asignado un precio en el Cuadro de Precios nº 1, van incluidas en las unidades de obra correspondientes y, por tanto, no se medirán ni abonarán expresamente.

Las juntas en obras de hormigón contempladas en el Cuadro de precios nº 1 se medirán y abonarán por metro lineal medido sobre la obra de hormigón en la que se realice la junta.

9.1.8 Encofrados

Los encofrados se medirán por metros cuadrados de superficies de hormigón encofradas. El precio incluye todos los elementos, mano de obra y medios auxiliares, necesarios para la correcta realización de la unidad de obra. Se consideran incluidos los apeos, cimbras, elementos de refuerzo y unión, atados, separadores, etc.; así como el coste del desencofrado y productos desencofrantes.

9.1.9 Armaduras y obras metálicas

Las armaduras que se utilicen en las obras de fábrica armadas, así como las estructuras y obras metálicas, se medirán por su peso teórico, deducido de los planos de detalle.

Sobre la medición real del despiece se aplicará un incremento del 4 % en concepto de despuntes, ataduras y exceso de laminación.

9.1.10 Muros de fábrica de ladrillo, tabiques, cubiertas, solados, enlucidos, enfoscados y alicatados

Se abonarán por metro cuadrado de obra completamente terminada, con arreglo a las condiciones y a los precios que para estas unidades se fijan en el Capítulo correspondiente del presupuesto, estando en ellos comprendidas las operaciones secundarias.

Todas las unidades de obra de este capítulo comprenden los materiales, mano de obra, operaciones y medios auxiliares para terminar la obra, elementos anexos como guardavivos, recibido y recorrido de cercos, herrajes de colgar, vierteaguas, cargaderos, etc., necesarios para el correcto funcionamiento y acabado de la unidad de obra.

9.1.11 Tuberías

Las tuberías de conducción cualquiera que sea su naturaleza, diámetro y precisión de pruebas, se medirán y valorarán por metro lineal a los precios que, para cada una de ellas, figuren en el Cuadro nº 1.

Los precios comprenden el suministro, transporte, manipulación y empleo de todos los materiales, maquinaria y mano de obra, colocación, pruebas, así como las uniones y acoplamientos de cualquier tipo, juntas mecánicas, uniones universales, bridas, soldaduras, tornillería, todas las piezas especiales, incluso codos, piezas reductoras, piezas de derivación, piezas de entronque en Y prefabricadas, tapones de cierre, accesorios y revestimientos de protección. Todos los costes se consideran repercutidos en el precio del metro de tubería.

Sólo los pasamuros, las válvulas y ventosas, y las piezas para las que se ha señalado un precio y una medición específicos en el Presupuesto, no se consideran incluidos en la medición y abono de las tuberías.

9.1.12 Aparatos de control, medida y dosificación

Los aparatos de control, medida y dosificación se abonarán a los precios que para los mismos figuren en el cuadro de precios nº 1, una vez instalados en obra y probado su funcionamiento.

9.1.13 Partidas alzadas a justificar

Las partidas alzadas "a justificar" se abonarán por el resultado de aplicar los precios unitarios correspondientes del Cuadro de Precios nº 1 y los precios elementales y auxiliares del Anejo de Justificación de precios o, en su defecto, los previamente aprobados por el órgano de contratación, a las mediciones efectuadas de la obra realmente efectuada, siempre que dicha obra se haya realizado de acuerdo con criterios aprobados por la Dirección facultativa. No se abonarán obras injustificadas o no previamente acordadas por escrito con la Dirección facultativa.

Se utilizan en actuaciones que no han sido consideradas como unidades de obra medibles y valorables, bien por no haber sido localizadas, o por no poder determinar su necesidad de ejecución hasta el comienzo de las obras.

9.1.14 Partidas alzadas de abono íntegro

Las partidas alzadas de abono íntegro tienen el mismo carácter que los precios unitarios, abonándose en su totalidad una vez efectuados los trabajos a que se refieren.

Se utilizan cuando se detecta escasez de datos concretos o fiables durante la fase de proyecto, relativos a alguna actividad que se prevé necesario ejecutar durante el transcurso de las obras.

9.1.15 Capítulo de Seguridad y Salud

El conjunto de medidas de seguridad y salud en el trabajo durante la ejecución de las obras, según el Plan de Seguridad aprobado y sus modificaciones, se abonará como una partida alzada, fraccionada de la siguiente forma:

Un noventa por ciento (90%) de la partida se abonará a cuenta del total, distribuida uniformemente entre el número de meses de duración de la obra, siempre que éstas se lleven a cabo de acuerdo con lo establecido en el Plan de Seguridad y con la aprobación del Coordinador de Seguridad. Cada mes se abonará la fracción correspondiente.

En caso de paralización de la obra no se abonará la fracción correspondiente al tiempo de paralización, sin perjuicio de que el Contratista deberá mantener todas las medidas de seguridad y salud necesarias durante este periodo.

Si se prolonga la obra más allá del plazo previsto de ejecución, una vez se haya abonado al Contratista el noventa por ciento de la partida, no se le abonará cantidad adicional alguna por este concepto, sin perjuicio de que el Contratista deberá mantener todas las medidas de seguridad y salud en el trabajo previstas, y salvo que en una eventual modificación del Contrato se pacte otra cosa al respecto entre las partes.

Si la obra se termina en un plazo inferior al previsto, la parte del 90 % de la partida no abonada se abonará a la terminación de la obra.

Un diez por ciento (10 %) de la partida se abonará en la certificación final, una vez realizada la recepción de la obra.

En ningún caso el Plan de seguridad y salud, incluyendo sus eventuales modificaciones, podrá establecer un precio conjunto diferente al establecido en el presupuesto del Proyecto, salvo que en una eventual modificación del Contrato se pacte otra cosa al respecto entre las partes.

Aunque en el presupuesto detallado del Estudio de seguridad y salud, expuesto en el correspondiente anejo a la Memoria, se empleen hipótesis no coincidentes con la forma real de ejecutar las medidas de seguridad y salud en las obras, esto no se podrá argüir como base para la modificación del precio del conjunto de medidas de seguridad y salud, al considerarse el presupuesto detallado del mencionado anejo como un documento meramente informativo.

9.1.16 Otras unidades de obra

Las unidades de obra no incluidas en el presente Capítulo se abonarán a los precios unitarios del Cuadro de Precios nº 1.

Si para la valoración de estas obras no bastasen los precios de dicho Cuadro, se fijarán precios nuevos, de acuerdo con lo establecido en las leyes y reglamentos que regulan la contratación y ejecución de obras públicas.

9.1.17 Unidades de obra incompleta

Cuando por alguna causa justificada fuera necesario valorar obras incompletas, se aplicarán los precios del Cuadro de Precios nº2 del proyecto. Las partidas que componen la descomposición del precio serán de abono, cuando esté acopiada la totalidad del material, incluidos los accesorios, o realizadas en su totalidad las labores u operaciones que determinan la definición de la partida.

9.1.18 Equipos Eléctricos

Las unidades de obra que correspondan a equipos eléctricos, se certificarán y abonaran de la siguiente forma:

- 50% A LA RECEPCIÓN DE LOS EQUIPOS EN OBRA
- 80% TRAS EL MONTAJE DE LOS EQUIPOS
- 90% TRAS LAS PRUEBAS DE FUNCIONAMIENTO
- 100% TRAS LA ENTREGA DE DOCUMENTACIÓN

Los Equipos Eléctricos correspondientes son los que se detallan a continuación:

- GRUPOBOMB "Bombeo de Superficie Eje Horizontal Q=350 m3/h – Hm =26 mca
- VALMAP400 "Válvula Mariposa DN400 Excéntrica Automatizada" (actuadores)
- VALMAP300 "Válvula Mariposa DN300 Excéntrica Automatizada" (actuadores)
- VALMAP150 "Válvula Mariposa DN150 Excéntrica Automatizada" (actuadores)
- ACHIQUE "Bomba Achique para drenaje casetas"
- ACCEINS "Accesorios Instrumentación"
- CUADROmodif "Modificación Cuadro añadir línea"
- CUADROB "Cuadro de Bombas y Gestión"
- CUADROC "Cuadro Cámara de Válvulas"
- MIMC010 "Comunicación señales con planta + Integración SCADA existente y Puesta en marcha
- INS_CLORACIÓN "Instrumentación de la PostCloración"

9.2 CRITERIOS ESPECÍFICOS POR UNIDADES DE OBRA

9.2.1 E02AM010: DESBROCE, LIMPIEZA Y ACONDICIONAMIENTO DEL TERRENO

CARACTERÍSTICAS TÉCNICAS

Desbroce y acondicionamiento del terreno con medios manuales o mecánicos, con corte y limpieza de árboles, arbustos, maleza, incluso extracción de tocones. Hasta una profundidad no menor que el espesor de la capa de tierra vegetal, considerando como mínima 25 cm. Incluso transporte de la maquinaria, retirada de los materiales excavados y carga a camión, transporte hasta acopio localizado, formación de acopio localizado para posterior reutilización en acondicionamiento de espacios. Se consideran incluidos en el precio los trabajos de acondicionamiento de accesos para las autogrúas y maquinaria específica para el montaje de forjados e instalación de nuevas vigas y placas prefabricadas.

NORMATIVA DE APLICACIÓN

Ejecución: **NTE-ADE. Acondicionamiento del terreno. Desmontes: Explanaciones**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Inspección ocular del terreno. Se comprobará la posible existencia de servidumbres, elementos enterrados, redes

de servicio o cualquier tipo de instalaciones que puedan resultar afectadas por las obras a iniciar.

- **DEL CONTRATISTA.**

Si existieran instalaciones en servicio que pudieran verse afectadas por los trabajos a realizar, solicitará de las correspondientes compañías suministradoras su situación y, en su caso, la solución a adoptar, así como las distancias de seguridad a tendidos aéreos de conducción de energía eléctrica.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo en el terreno. Remoción mecánica de los materiales de desbroce. Retirada y disposición mecánica de los materiales objeto de desbroce. Carga mecánica a camión.

- **CONDICIONES DE TERMINACIÓN.**

La superficie del terreno quedará limpia y en condiciones adecuadas para poder realizar el replanteo definitivo de la obra.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá, en proyección horizontal, la superficie realmente ejecutada según especificaciones de Proyecto, sin incluir los incrementos por excesos de excavación no autorizados.

9.2.2 E02CMA080: EXCAVACIÓN EN ZANJA O POZO EN CUALQUIER TIPO DE TERRENO

CARACTERÍSTICAS TÉCNICAS

Excavación en zanjas o pozos con medios mecánicos en cualquier clase de terreno, incluso roca, salvando servicios existentes y agotamiento en zonas sumergidas, entibación, limpieza de fondos, rasanteo y compactación de los mismos, extracción de productos a los bordes de la excavación, incluso ayudas de mano de obra.

NORMATIVA DE APLICACIÓN

Ejecución:

CTE. DB-SE-C Seguridad estructural: Cimientos.

CTE. DB-HS Salubridad

NTE-ADZ. Acondicionamiento del terreno. Desmontes: Pozos

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará la posible existencia de servidumbres, elementos enterrados, redes de servicio o cualquier tipo de

instalaciones que puedan resultar afectadas por las obras a iniciar. Se dispondrá de la información topográfica y geotécnica necesaria, recogida en el correspondiente estudio geotécnico del terreno realizado por un laboratorio acreditado en el área técnica correspondiente, y que incluirá, entre otros datos: tipo, humedad y compacidad o consistencia del terreno. Se dispondrán puntos fijos de referencia en lugares que puedan verse afectados por la excavación, a los cuales se referirán todas las lecturas de cotas de nivel y desplazamientos horizontales y verticales de los puntos del terreno. Se comprobará el estado de conservación de los edificios medianeros y de las construcciones próximas que puedan verse afectadas por las excavaciones.

- **DEL CONTRATISTA.**

Si existieran instalaciones en servicio que pudieran verse afectadas por los trabajos a realizar, solicitará de las correspondientes compañías suministradoras su situación y, en su caso, la solución a adoptar, así como las distancias de seguridad a tendidos aéreos de conducción de energía eléctrica. Notificará al director de obra, con la antelación suficiente, el comienzo de las excavaciones. En caso de realizarse cualquier tipo de entibación del terreno, presentará al director de obra, para su aprobación, los cálculos justificativos de la solución a adoptar.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo general y fijación de los puntos y niveles de referencia. Colocación de las camillas en las esquinas y extremos de las alineaciones. Excavación en sucesivas franjas horizontales y extracción de tierras. Refinado de fondos y laterales a mano, con extracción de las tierras. Carga a camión de las tierras excavadas.

CONDICIONES DE TERMINACIÓN.

El fondo de la excavación quedará nivelado, limpio y ligeramente apisonado.

CONSERVACIÓN Y MANTENIMIENTO.

Las excavaciones quedarán protegidas frente a filtraciones y acciones de erosión o desmoronamiento por parte de las aguas de escorrentía. Se tomarán las medidas oportunas para asegurar que sus características geométricas permanecen inamovibles. Mientras se efectúe la consolidación definitiva de las paredes y fondo de las excavaciones se conservarán las entibaciones realizadas, que sólo podrán quitarse, total o parcialmente, previa comprobación del director de obra, y en la forma y plazos que éste dictamine.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen teórico ejecutado según especificaciones de Proyecto, sin incluir los incrementos por excesos de excavación no autorizados, ni el relleno necesario para reconstruir la sección teórica por defectos imputables al Contratista. Se medirá la excavación una vez realizada y antes de que sobre ella se efectúe ningún tipo de relleno. Si el Contratista cerrase la excavación antes de conformada la medición, se entenderá que se

aviene a lo que unilateralmente determine el director de obra.

9.2.3 E02CMA081: EXCAVACIÓN MANUAL EN ZANJA

CARACTERÍSTICAS TÉCNICAS

Excavación en zanjas con medios manuales en cualquier clase de terreno, incluso roca, salvando servicios existentes y agotamiento en zonas sumergidas, limpieza de fondos, rasanteo y compactación de los mismos, extracción de productos a los bordes de la excavación, incluso ayudas de mano de obra.

NORMATIVA DE APLICACIÓN

Ejecución:

CTE. DB-SE-C Seguridad estructural: Cimientos.

NTE-ADZ. Acondicionamiento del terreno. Desmontes: Pozos

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará la posible existencia de servidumbres, elementos enterrados, redes de servicio o cualquier tipo de instalaciones que puedan resultar afectadas por las obras a iniciar. Se dispondrá de la información topográfica y geotécnica necesaria, recogida en el correspondiente estudio geotécnico del terreno realizado por un laboratorio acreditado en el área técnica correspondiente, y que incluirá, entre otros datos: tipo, humedad y compacidad o consistencia del terreno. Se dispondrán puntos fijos de referencia en lugares que puedan verse afectados por la excavación, a los cuales se referirán todas las lecturas de cotas de nivel y desplazamientos horizontales y verticales de los puntos del terreno. Se comprobará el estado de conservación de los edificios medianeros y de las construcciones próximas que puedan verse afectadas por las excavaciones.

- **DEL CONTRATISTA.**

Si existieran instalaciones en servicio que pudieran verse afectadas por los trabajos a realizar, solicitará de las correspondientes compañías suministradoras su situación y, en su caso, la solución a adoptar, así como las distancias de seguridad a tendidos aéreos de conducción de energía eléctrica. Notificará al director de obra, con la antelación suficiente, el comienzo de las excavaciones. En caso de realizarse cualquier tipo de entibación del terreno, presentará al director de obra, para su aprobación, los cálculos justificativos de la solución a adoptar.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo general y fijación de los puntos y niveles de referencia. Colocación de las camillas en las esquinas y extremos de las alineaciones. Excavación en sucesivas franjas horizontales y extracción de tierras. Refinado de

fondos y laterales a mano, con extracción de las tierras. Carga a camión de las tierras excavadas.

CONDICIONES DE TERMINACIÓN.

El fondo de la excavación quedará nivelado, limpio y ligeramente apisonado.

CONSERVACIÓN Y MANTENIMIENTO.

Las excavaciones quedarán protegidas frente a filtraciones y acciones de erosión o desmoronamiento por parte de las aguas de escorrentía. Se tomarán las medidas oportunas para asegurar que sus características geométricas permanecen inamovibles. Mientras se efectúe la consolidación definitiva de las paredes y fondo de las excavaciones se conservarán las entibaciones realizadas, que sólo podrán quitarse, total o parcialmente, previa comprobación del director de obra, y en la forma y plazos que éste dictamine.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen teórico ejecutado según especificaciones de Proyecto, sin incluir los incrementos por excesos de excavación no autorizados, ni el relleno necesario para reconstruir la sección teórica por defectos imputables al Contratista. Se medirá la excavación una vez realizada y antes de que sobre ella se efectúe ningún tipo de relleno. Si el Contratista cerrase la excavación antes de conformada la medición, se entenderá que se aviene a lo que unilateralmente determine el director de obra.

9.2.4 U01RM021: RELLENO DE ZANJAS CON MATERIAL PROCEDENTE EXCAVACIÓN

CARACTERÍSTICAS TÉCNICAS

Suministro y formación de relleno en zanjas, trasdós de muros, pozos y/o cimientos, etc., con material seleccionado procedente de excavación, incluyendo adecuación del material en obra (machaqueo, seleccionado, mezcla, etc.). Incluye vertido, extendido, rasanteo, humectación y compactados en tongadas de un espesor máximo de 20cm., hasta alcanzar el 98% del Próctor Modificado, barrido, limpieza.

NORMATIVA DE APLICACIÓN

Ejecución:

PG-3. Pliego de prescripciones técnicas generales para obras de carreteras y puentes de la Dirección General de Carreteras.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Cuando el relleno haya de asentarse sobre un terreno en el que existan corrientes de agua superficial o subálvea,

se desviarán las primeras y captarán y conducirán las últimas fuera del área donde vaya a construirse el relleno.

- **AMBIENTALES.**

Se comprobará que la temperatura ambiente no sea inferior a 2°C a la sombra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Extendido del material de relleno en tongadas de espesor uniforme. Humectación o desecación de cada tongada. Compactación.

- **CONDICIONES DE TERMINACIÓN.**

Las tierras o áridos de relleno habrán alcanzado el grado de compactación adecuado.

CONSERVACIÓN Y MANTENIMIENTO.

Las tierras o áridos utilizados como material de relleno quedarán protegidos de la posible contaminación por materiales extraños o por agua de lluvia, así como del paso de vehículos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá, en perfil compactado, el volumen realmente ejecutado según especificaciones de Proyecto, sin incluir los incrementos por excesos de excavación no autorizados.

9.2.5 U01RM022: RELLENO DE ZANJAS CON ARENA COMÚN

CARACTERÍSTICAS TÉCNICAS

Relleno envolvente y principal de zanjas para instalaciones, con arena de 0 a 5 mm de diámetro y compactación en tongadas sucesivas de 20 cm de espesor máximo con bandeja vibrante de guiado manual, hasta alcanzar una densidad seca no inferior al 95% de la máxima obtenida en el ensayo Proctor Modificado, realizado según UNE 103501. Incluso cinta o distintivo indicador de la instalación, barrido, limpieza.

NORMATIVA DE APLICACIÓN

Ejecución:

CTE. DB-SE-C Seguridad estructural: Cimientos.

CTE. DB-HS Salubridad.

NTE-ADZ. Acondicionamiento del terreno. Desmontes: Zanjas y pozos.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **AMBIENTALES.**

Se comprobará que la temperatura ambiente no sea inferior a 2°C a la sombra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Extendido del material de relleno en tongadas de espesor uniforme. Humectación o desecación de cada tongada. Compactación.

- **CONDICIONES DE TERMINACIÓN.**

Las tierras o áridos de relleno habrán alcanzado el grado de compactación adecuado.

CONSERVACIÓN Y MANTENIMIENTO.

Las tierras o áridos utilizados como material de relleno quedarán protegidos de la posible contaminación por materiales extraños o por agua de lluvia, así como del paso de vehículos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá, en perfil compactado, el volumen realmente ejecutado según especificaciones de Proyecto, sin incluir los incrementos por excesos de excavación no autorizados.

9.2.6 E01DSB100: DEMOLICIÓN DE MURO DE HORMIGÓN ARMADO

CARACTERÍSTICAS TÉCNICAS

Demolición de muros de hormigón armado de 30 cm de espesor, con compresor, incluso limpieza y retirada de escombros a pie de carga, sin transporte al vertedero y con parte proporcional de medios auxiliares, sin medidas de protección colectivas. Medición de superficie realmente ejecutada.

NORMATIVA DE APLICACIÓN

Ejecución:

NTE-ADD. Acondicionamiento del terreno. Desmontes: demoliciones

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se verificará que sobre el elemento a demoler no hay almacenados ni mobiliario utilizable ni materiales combustibles, explosivos o peligrosos; y que se ha procedido a su desratización o desinfección en caso de que fuese necesario. Deberán haberse concluido todas aquellas actuaciones previas previstas en el Proyecto de Derribo correspondiente: medidas de seguridad, anulación y neutralización por parte de las compañías suministradoras de las acometidas de instalaciones, trabajos de campo y ensayos, apeo y apuntalamientos

necesarios. Se habrán tomado las medidas de protección indicadas en el correspondiente Estudio de Seguridad y Salud, tanto en relación con los operarios encargados de la demolición como con terceras personas, viales, elementos públicos o edificios colindantes. Se dispondrá en obra de los medios necesarios para evitar la formación de polvo durante los trabajos de demolición y de los sistemas de extinción de incendios adecuados.

- **DEL CONTRATISTA.**

Habrá recibido por escrito la aprobación, por parte del director de la ejecución de la obra, de su programa de trabajo, conforme al Proyecto de Derribo.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Demolición del elemento. Corte de las armaduras. Fragmentación de los escombros en piezas manejables. Retirada y acopio de escombros. Limpieza de los restos de obra. Carga mecánica de escombros sobre camión o contenedor.

CONDICIONES DE TERMINACIÓN.

No quedarán partes inestables del elemento demolido parcialmente, y la zona de trabajo estará limpia de escombros.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen realmente demolido según especificaciones de Proyecto.

9.2.7 E01DSB101: DESMONTAJE DE MURO DE MAMPOSTERÍA

CARACTERÍSTICAS TÉCNICAS

Desmontaje para su reutilización de muro de mampostería de piedra, con mortero, con medios manuales y acopio del 80% del material para su reutilización, incluso limpieza y retirada de escombros a pie de carga.

NORMATIVA DE APLICACIÓN

Ejecución:

NTE-ADD. Acondicionamiento del terreno. Desmontes: demoliciones

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Las zonas a demoler habrán sido identificadas y marcadas. El elemento objeto de la demolición no estará sometido a la acción de cargas o empujes de tierras, y se verificará la estabilidad del resto de la estructura y elementos de su entorno, que estarán debidamente apuntalados. Deberán haberse concluido todas aquellas actuaciones previas

previstas en el Proyecto de Derribo correspondiente: medidas de seguridad, anulación y neutralización por parte de las compañías suministradoras de las acometidas de instalaciones, trabajos de campo y ensayos, apeo y apuntalamientos necesarios. Se habrán tomado las medidas de protección indicadas en el correspondiente Estudio de Seguridad y Salud, tanto en relación con los operarios encargados de la demolición como con terceras personas, viales, elementos públicos o edificios colindantes. Se dispondrá en obra de los medios necesarios para evitar la formación de polvo durante los trabajos de demolición y de los sistemas de extinción de incendios adecuados.

- **DEL CONTRATISTA.**

Habrá recibido por escrito la aprobación, por parte del director de la ejecución de la obra, de su programa de trabajo, conforme al Proyecto de Derribo.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Desmontaje del elemento. Clasificación y etiquetado. Acopio de los materiales a reutilizar. Carga manual del material a reutilizar sobre camión. Retirada y acopio de los restos de obra. Limpieza de los restos de obra. Carga manual de los restos de obra sobre camión o contenedor.

CONDICIONES DE TERMINACIÓN.

Las piezas desmontadas quedarán debidamente clasificadas e identificada su situación original.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen realmente desmontado según especificaciones de Proyecto.

9.2.8 E01AA020: APEO DE ESTRUCTURA HASTA 6 m

CARACTERÍSTICAS TÉCNICAS

Apeo de estructura, hasta una altura máxima de 6 m, mediante sopandas, puntales y durmientes metálicos, con parte proporcional de medios auxiliares y trabajos previos de limpieza para apoyos. Medición descontando huecos.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que los elementos constructivos que vayan a recibir las cargas que transmitan los apeos son capaces de resistirlas.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Preparación de la superficie de apoyo. Replanteo y corte de tablones. Colocación de los puntales. Instalación y

puesta en carga del apeo. Desmontaje y retirada del apeo tras la finalización de las obras.

CONDICIONES DE TERMINACIÓN.

El área de trabajo quedará libre de restos procedentes de los elementos utilizados en el apeo.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la superficie realmente ejecutada según especificaciones de Proyecto.

9.2.9 E04MEF012: ENCOFRADO METÁLICO PARA LOSA DE CIMENTACIÓN

CARACTERÍSTICAS TÉCNICAS

Suministro y montaje de sistema de encofrado recuperable metálico, para losa de cimentación, formado por paneles metálicos, amortizables en 200 usos, y posterior desmontaje del sistema de encofrado. Incluso elementos de sustentación, fijación y acodalamientos necesarios para su estabilidad y líquido desencofrante para evitar la adherencia del hormigón al encofrado. Se considera incluido en el precio la limpieza y preparación del plano de apoyo. Replanteo. Aplicación del líquido desencofrante. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y acodalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.

NORMATIVA DE APLICACIÓN

Ejecución: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Antes de proceder a la ejecución de los encofrados hay que asegurarse de que las excavaciones están no sólo abiertas, sino en las condiciones que convenga a las características y dimensiones del encofrado.

- **DEL CONTRATISTA.**

No podrá comenzar el montaje del encofrado sin la autorización por escrito del director de la ejecución de la obra, quien comprobará que el estado de conservación de su superficie y de las uniones, se ajusta al acabado del hormigón previsto en el proyecto.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Limpieza y preparación del plano de apoyo. Replanteo. Aplicación del líquido desencofrante. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y acodalamiento. Aplomado y nivelación del

encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado.

- **CONDICIONES DE TERMINACIÓN.**

Las superficies que vayan a quedar vistas no presentarán imperfecciones.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la superficie de encofrado en contacto con el hormigón realmente ejecutada según especificaciones de Proyecto.

9.2.10 U05LAH020: HORMIGÓN HM-20/B/20/IIa PARA LIMPIEZA Y NIVELACIÓN

CARACTERÍSTICAS TÉCNICAS

Hormigón en masa HM-20/B/20/IIa de resistencia característica a compresión 20 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, en elementos enterrados, o interiores sometidos a humedades relativas medias-altas (>65%) o a condensaciones, o elementos exteriores con alta precipitación, elaborado en central. Incluso vertido por medios manuales, vibrado y colocado. Incluso retirada de material sobrante y trabajo totalmente terminado, incluyendo medios y materiales auxiliares.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Vertido y compactación del hormigón. Curado del hormigón.

- **CONDICIONES DE TERMINACIÓN.**

El conjunto será monolítico y transmitirá correctamente las cargas al terreno.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerán y señalizarán las armaduras de espera.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen teórico ejecutado según especificaciones de Proyecto, sin incluir los incrementos por excesos de excavación no autorizados.

9.2.11 U05LAH022: HORMIGÓN HA-30/B/20/IIV PARA LOSAS

CARACTERÍSTICAS TÉCNICAS

Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-30/B/20/IV fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante.

Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios.

Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.

En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.

Se considera incluido en el precio:

-La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

-El regado y curado del hormigón una vez ejecutado.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Vertido y compactación del hormigón. Curado del hormigón.

- **CONDICIONES DE TERMINACIÓN.**

El conjunto será monolítico y transmitirá correctamente las cargas al terreno.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerán y señalizarán las armaduras de espera.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen teórico ejecutado según especificaciones de Proyecto, sin incluir los incrementos por excesos de excavación no autorizados.

9.2.12 U05LAH023: HORMIGÓN HA-25/B/20/IIa PARA LOSAS

CARACTERÍSTICAS TÉCNICAS

Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante.

Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras necesarios.

Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.

En caso de aparición de coqueras o defectos superficiales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.

Se considera incluido en el precio:

-La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

-El regado y curado del hormigón una vez ejecutado.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- AMBIENTALES.

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- DEL CONTRATISTA.

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- FASES DE EJECUCIÓN.

Vertido y compactación del hormigón. Curado del hormigón.

- CONDICIONES DE TERMINACIÓN.

El conjunto será monolítico y transmitirá correctamente las cargas al terreno.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerán y señalizarán las armaduras de espera.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen teórico ejecutado según especificaciones de Proyecto, sin incluir los incrementos por excesos de excavación no autorizados.

9.2.13 U05LAH024: HORMIGÓN HA-25/B/20/IIa PARA CIMENTACIÓN

CARACTERÍSTICAS TÉCNICAS

Suministro y colocación de hormigón para armar en elementos de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante.

Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de la zapata, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios.

Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado

incluyendo limpieza de tajos.

Se considera incluido en el precio:

-La existencia de la capa de hormigón de limpieza, que presentará un plano de apoyo horizontal y una superficie limpia.

-La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

-El regado y curado del hormigón una vez ejecutado.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Vertido y compactación del hormigón. Curado del hormigón.

- **CONDICIONES DE TERMINACIÓN.**

El conjunto será monolítico y transmitirá correctamente las cargas al terreno.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerán y señalizarán las armaduras de espera.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen teórico ejecutado según especificaciones de Proyecto, sin incluir los incrementos por

excesos de excavación no autorizados.

9.2.14 E04AB041: ACERO CORRUGADO ELABORADO B500SD

CARACTERÍSTICAS TÉCNICAS

Acero corrugado en redondos B-500-S, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.

NORMATIVA DE APLICACIÓN

Montaje: **Instrucción de Hormigón Estructural (EHE-08)**.

FASES DE EJECUCIÓN.

Corte y doblado de la armadura. Montaje y colocación de la armadura. Sujeción de la armadura.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se calculará el peso teórico de la armadura ejecutada según especificaciones de Proyecto.

9.2.15 U05LAH025: SOLERA HA-25/B/20/IIa

CARACTERÍSTICAS TÉCNICAS

Suministro y colocación de hormigón armado en Solera de hormigón armado HA-25/B/20/IIa de 15 cm de espesor fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se incluye en el precio la ejecución de juntas, aserrado y sellado de las mismas.

Se consideran incluido el suministro, vertido y capa de regularización de 5 cm de espesor previa colocación de lámina de polietileno de 1mm de espesor.

Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos así como el curado posterior.

En caso de aparición de coqueras o defectos superficiales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.

Se considera incluido en el precio:

-La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

-El regado y curado del hormigón una vez ejecutado.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que la superficie base presenta una planeidad adecuada, cumple los valores resistentes tenidos en cuenta en la hipótesis de cálculo, y no tiene blandones, bultos ni materiales sensibles a las heladas. El nivel freático no originará sobreempujes.

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Preparación de la superficie de apoyo del hormigón. Replanteo de las juntas de construcción y de dilatación. Tendido de niveles mediante toques, maestras de hormigón o reglas. Riego de la superficie base. Formación de juntas de construcción y de juntas perimetrales de dilatación. Vertido, extendido y vibrado del hormigón. Curado del hormigón. Replanteo de las juntas de retracción. Corte del hormigón. Limpieza final de las juntas de retracción.

- **CONDICIONES DE TERMINACIÓN.**

La superficie de la solera cumplirá las exigencias de planeidad y resistencia, y se dejará a la espera del solado.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el hormigón fresco frente a lluvias, heladas y temperaturas elevadas. No se superarán las cargas previstas.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la superficie realmente ejecutada según especificaciones de Proyecto, sin deducir la superficie ocupada por los pilares situados dentro de su perímetro.

9.2.16 E04MEF011: ENCOFRADO RECTO VERTICAL EN MUROS

CARACTERÍSTICAS TÉCNICAS

Suministro, Montaje y desmontaje de sistema de encofrado a una cara con acabado tipo industrial para revestir, realizado con paneles metálicos modulares, amortizables en 150 usos, para formación de muro de hormigón armado, de entre 3 y 6 m de altura y superficie plana, para contención de tierras. Incluso tubos para paso de instalaciones; pasamuros para paso de los tensores; elementos de sustentación, fijación y apuntalamiento necesarios para su estabilidad; y líquido desencofrante para evitar la adherencia del hormigón al encofrado.

Se considerea incluido en el precio de limpieza y preparación del plano de apoyo. Replanteo del encofrado sobre la cimentación. Replanteo de las juntas de construcción y de dilatación. Colocación de pasamuros para paso de los tensores y/o instalaciones. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y apuntalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. En caso de producirse coqueras o imperfecciones se dará conocimiento a la Dirección facultativa y se procederá a la reparación oportuna sin coste alguno.

Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos, incluido limpieza.

CRITERIO DE MEDICIÓN EN PROYECTO

Superficie medida según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- DEL SOPORTE.

El encofrado tendrá la rigidez y estabilidad necesarias para soportar las acciones de puesta en obra, y será suficientemente estanco.

FASES DE EJECUCIÓN.

Replanteo. Montaje del encofrado. Desmontaje del encofrado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la superficie de hormigón en contacto con el encofrado realmente ejecutada según especificaciones de Proyecto.

9.2.17 U05LAH021: HORMIGÓN HA-30/B/20/IIIa ALZADOS MUROS

CARACTERÍSTICAS TÉCNICAS

Ejecución de muro de sótano de hormigón armado, realizado con hormigón HA-25/B/20/IIa fabricado en central

con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con cubilote, incluso alambre de atar y separadores; espuma de poliuretano monocomponente, para sellado de los huecos pasamuros para paso de los tensores del encofrado.

Se comprobará la existencia de las armaduras de espera en el plano de apoyo del muro, que presentará una superficie horizontal y limpia.

Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.

En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Vertido y compactación del hormigón. Curado del hormigón.

- **CONDICIONES DE TERMINACIÓN.**

El conjunto será monolítico y transmitirá correctamente las cargas al terreno.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerán y señalizarán las armaduras de espera.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen teórico ejecutado según especificaciones de Proyecto, sin incluir los incrementos por excesos de excavación no autorizados.

9.2.18 CHH010: HORMIGÓN CICLÓPEO

CARACTERÍSTICAS TÉCNICAS

Hormigón ciclópeo, realizado con hormigón HM-15/P/40/I fabricado en central y vertido desde camión (60% de volumen) y piedra en rama de tamaño máximo 30 cm (40% de volumen), para mejora del terreno de cimentación existente.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Vertido y compactación del hormigón. Curado del hormigón.

- **CONDICIONES DE TERMINACIÓN.**

El conjunto será monolítico y transmitirá correctamente las cargas al terreno.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerán y señalizarán las armaduras de espera.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen teórico ejecutado según especificaciones de Proyecto, sin incluir los incrementos por

excesos de excavación no autorizados.

9.2.19 U05LAH027: CAPA DE COMPRESIÓN EN FORJADO

CARACTERÍSTICAS TÉCNICAS

Ejecución de capa de compresión de 5 cm de espesor y relleno de juntas en losas mediante hormigón para armar HA-25/B/20/IIIa de resistencia característica a compresión 25 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, y malla electrosoldada de 200x200x8 mm, en elementos exteriores cercanos a la costa (<5 Km), elaborado en central. Incluso vertido con grúa-pluma, vibrado y colocado. Según normas EHE-08 y NTE-EHL. Componentes del hormigón con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Vertido y compactación del hormigón. Curado del hormigón.

- **CONDICIONES DE TERMINACIÓN.**

El conjunto será monolítico y transmitirá correctamente las cargas al terreno.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerán y señalizarán las armaduras de espera.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen teórico ejecutado según especificaciones de Proyecto, sin incluir los incrementos por

excesos de excavación no autorizados.

9.2.20 U05LAH0282: PILAR PREFABRICADO DE HORMIGÓN

CARACTERÍSTICAS TÉCNICAS

Suministro, transporte y montaje de pilar prefabricado de hormigón armado HA-40 y acero B 500 S de sección constante 40x40 cm, de altura máxima 6 m, con esperas en la parte inferior para arranque del pilar y en la parte superior para solape del pilar superior, con cajeado sin hormigón para enjarje con forjado intermedio, encofrado y desencofrado, aplomado, vertido, vibrado, curado de hormigón, incluido relleno del cáliz, con ayuda de grúa telescópica para montaje, totalmente terminada. Según EHE-08 y CTE. Pilar prefabricado con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Vertido y compactación del hormigón. Curado del hormigón.

- **CONDICIONES DE TERMINACIÓN.**

El conjunto será monolítico y transmitirá correctamente las cargas al terreno.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerán y señalizarán las armaduras de espera.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen teórico ejecutado según especificaciones de Proyecto, sin incluir los incrementos por excesos de excavación no autorizados.

9.2.21 U05LAH0292: FORJADO DE PLACA ALVEOLAR

CARACTERÍSTICAS TÉCNICAS

Suministro, transporte y montaje de forjado de placa alveolar prefabricada de hormigón pretensado de canto 25 cm en piezas de 1,20 m de ancho, apoyado sobre jácenas no incluidas en este precio, con capa de compresión de 5 cm no incluida en este precio, para una sobrecarga permanente de 350 kg/m2 y de uso de 100 kg/m2. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobarán las condiciones de los elementos de apoyo de las placas alveolares en función de su naturaleza y se tendrá especial cuidado en su replanteo.

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo de la geometría de la planta. Montaje de las placas alveolares mediante grúa. Enlace de la losa con sus apoyos. Cortes, cajeados, taladros y huecos. Colocación de las armaduras con separadores homologados. Vertido y compactación del hormigón. Curado del hormigón.

- **CONDICIONES DE TERMINACIÓN.**

El conjunto será monolítico y transmitirá correctamente las cargas. La superficie quedará uniforme y sin irregularidades.

CONSERVACIÓN Y MANTENIMIENTO.

Se evitará la actuación sobre el elemento de acciones mecánicas no previstas en el cálculo.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá, en verdadera magnitud, desde las caras exteriores de los zunchos del perímetro, la superficie realmente ejecutada según especificaciones de Proyecto, deduciendo los huecos de superficie mayor de 6 m².

9.2.22 U05LAH0312: JÁCENAS PREFABRICADAS DE HORMIGÓN

CARACTERÍSTICAS TÉCNICAS

Suministro, transporte y montaje de jácenas de hormigón armado semiprefabricadas JR50/40 de sección 40x50 cm y 6 m de luz. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobarán las condiciones de los elementos de apoyo de las placas alveolares en función de su naturaleza y se tendrá especial cuidado en su replanteo.

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo de la geometría de la planta. Montaje de las placas alveolares mediante grúa. Enlace de la losa con sus

apoyos. Cortes, cajeados, taladros y huecos. Colocación de las armaduras con separadores homologados. Vertido y compactación del hormigón. Curado del hormigón.

- **CONDICIONES DE TERMINACIÓN.**

El conjunto será monolítico y transmitirá correctamente las cargas. La superficie quedará uniforme y sin irregularidades.

CONSERVACIÓN Y MANTENIMIENTO.

Se evitará la actuación sobre el elemento de acciones mecánicas no previstas en el cálculo.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá, en verdadera magnitud, desde las caras exteriores de los zunchos del perímetro, la superficie realmente ejecutada según especificaciones de Proyecto, deduciendo los huecos de superficie mayor de 6 m².

9.2.23 U05LAH0302: MURO PREFABRICADO NERVADO

CARACTERÍSTICAS TÉCNICAS

Suministro, transporte y montaje de depósito rectangular aéreo mediante módulos de muro prefabricado de hormigón armado, sección rectangular de 15 cm de espesor, de 5,00 m de altura y 2,00 m de ancho y una aleta perpendicular a la sección rectangular, fabricado con hormigón armado sulforresistente HA40/B/20/IV CEM I 42,5 SR monocapa gris, i/p.p. de montaje con ayuda de grúa autopropulsada telescópica y apeos, totalmente terminado. Según EHE-08 y CTE. Medición por m2 según planillas fabricación sin descontar huecos. Muro prefabricado con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobarán las condiciones de los elementos de apoyo de las placas alveolares en función de su naturaleza y se tendrá especial cuidado en su replanteo.

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo de la geometría de la planta. Montaje de las placas alveolares mediante grúa. Enlace de la losa con sus apoyos. Cortes, cajeados, taladros y huecos. Colocación de las armaduras con separadores homologados. Vertido y compactación del hormigón. Curado del hormigón.

- **CONDICIONES DE TERMINACIÓN.**

El conjunto será monolítico y transmitirá correctamente las cargas. La superficie quedará uniforme y sin irregularidades.

CONSERVACIÓN Y MANTENIMIENTO.

Se evitará la actuación sobre el elemento de acciones mecánicas no previstas en el cálculo.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá, en verdadera magnitud, desde las caras exteriores de los zunchos del perímetro, la superficie realmente ejecutada según especificaciones de Proyecto, deduciendo los huecos de superficie mayor de 6 m².

9.2.24 REVESIMP: REVESTIMIENTO INTERIOR CON MORTERO IMPERMEABILIZANTE

CARACTERÍSTICAS TÉCNICAS

Mortero impermeabilizante monocomponente, a base de cemento y resinas sintéticas , calidad alimentaria, apto para contacto en agua potable, transpirable e impermeable al agua, Sika Top® Seal-107 de SIKA o similar, sobre paramentos verticales y horizontales de hormigón, para alturas superiores a 2 m, con llana dentada en la primera capa y lisa en la segunda, con un consumo aproximado total de 2,0 kg/m2 en dos capas de 2 mm aproximadamente. Incluye limpieza del soporte, mano de fondo y mano de acabado, medida la superficie ejecutada. Cumple con RD 140/2003.

SikaTop® Seal-107 se utiliza para:

- Impermeabilización exterior e interior de estructuras de hormigón, mortero, bloque de hormigón y ladrillo.
- Protección de estructuras de hormigón contra los efectos de las sales de deshielo y los ciclos hielo-deshielo.
- Impermeabilización rígida de muros de cimentación tanto en obra nueva como en trabajos de reparación.

- Como revestimiento tapaporos.
- Impermeabilización interior de sótanos (no sujetos a presión hidrostática de agua).
- Como sellado de pequeñas fi suras en estructuras de hormigón (no sujetas a movimientos).
- Como mortero de regularización para trabajos de reparación.
- Impermeabilización de depósitos de agua potable.

SikaTop® Seal-107 puede utilizarse para protección de estructuras de hormigón:

- Adecuado para protección contra la penetracción (Principio 1, método 1.3 de la UNE-EN 1504-9).
- Adecuado para control de la humedad (Principio 2, método 2.2 de la UNE-EN 1504-9).
- Adecuado para aumentar la resistencia (Principio 8, método 8.2 de la UNE-EN 1504-9).

Características y Ventajas:

- Fácilmente aplicable a brocha o a llana.
- No requiere la adición de agua.
- Predosifi cado.
- Aplicable a mano o mediante proyección mecánica.
- Fácil mezclado y aplicación
- Excelente adherencia sobre soporte sano.
- Protege el hormigón frente a la carbonatación.
- Protege frente a la penetración de agua.
- No corroe ni acero ni metal.
- Repintable
- Aprobado para contacto con agua potable.

CERTIFICADOS Y NORMAS

Producto para la protección contra la penetración, control de humedad y aumento de resistividad para estructuras de hormigón según UNE-EN 1504- 2:2004 con declaración de prestaciones 01 07 01 01 002 0 000001 1053, con certificado de producción según el cuerpo notificador nº 0099-CPR-B15-0007, provisto del marcado CE.

Producto apto para contacto con agua potable, que cumple con los requisitos exigibles:

■ Migraciones específi cas dentro de los límites indicados en el Real Decreto 2207/1994 (B.O.E. de 18 de enero de 1995), según ensayo realizado en el Laboratorio Homologado por el Ministerio de Sanidad y Consumo «Ofi cina Técnica de Estudios y Controles. Joaquín Riera Tuebols, S. A.».

■ Fabricado con materias primas incluidas en las listas de sustancias permitidas para la fabricación de materiales y objetos plásticos destinados a entrar en contacto con agua potable (Real Decreto 118 / 2003. B.O.E. de 11 de febrero de 2003)

■ Este material es apto para su uso como impermeabilizante en contacto con agua potable, dispone de marcado CE y certificado de cumplimiento del Real Decreto 140/2003, de 7 de febrero, por el que se establecen los criterios sanitarios de la calidad del agua de consumo humano.

PROPIEDADES MECÁNICAS / FÍSICAS

Resistencia a compresión		(Según EN 196-1)
	3 días	~ 20 N/mm²
	28 días	~ 35 N/mm²
Resistencia a flexotracción		(Según EN 196-1)
	3 días	~ 6 N/mm²
	28 días	~ 10 N/mm²

Resistencia a tracción	Curado en agua: ~ 3,2 N / mm² después de 14 días Curado al aire: ~ 4,5 N / mm² después de 14 días	(Según DIN 53455)
Adherencia	1,0 N/mm²	
Modulo de elasticidad (E)	Estático: ~ 8.4 kN/mm²	

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- DEL SOPORTE.

Se comprobará que la superficie soporte está sana, limpia, exenta de grasas, aceites, polvo, lechadas, restos líquidos desencofrantes y partes mal adheridas.

- AMBIENTALES.

Se suspenderán los trabajos cuando la temperatura ambiente sea inferior a 5°C o superior a 30°C, llueva, exista

riesgo de helada, el sol incida directamente sobre la superficie o el soporte esté caliente.

EJECUCIÓN (DETALLES DE APLICACIÓN)

Consumo / Dosificación

Depende de la rugosidad del soporte, de la planeidad superficial y del espesor de capa aplicado. Como dato orientativo, ~ 1,8 kg/m2 /mm (excluyendo pérdidas y sobreconsumos debidos a la porosidad del soporte) 1 lote de 25 kg ~ 12.5 l de mortero.

Calidad del soporte

l soporte deberá estar estructuralmente sano, limpio, exento de grasas, aceites, polvo, partes huecas o mal adheridas, lechadas superfi ciales etc. La resistencia a tracción del hormigón debe ser > 1.0 N/mm2 .

Preparación del Soporte / Imprimación

- *General:*

El soporte deberá prepararse mediante medios mecánicos, con chorro de agua a presión, abujardado, chorro de arena, etc. y deberá humedecerse previamente hasta saturación.

- *Tapaporos / Rellenos de coqueras*

Se eliminarán todas las partículas mal adheridas con chorro de arena previo al relleno de poros y pequeñas coqueras.

- *Mortero de regularización*

Preparar y limpiar la superfi cie mediante medios mecánicos apropiados, como chorro de arena o equivalente para asegurar la eliminación de la lechada superfi cial, las superfi cies contaminadas y los revestimientos existentes y para dejar al descubierto las coqueras y nidos de grava. La superfi cie debe estar regularizada para asegurar la máxima adherencia

Condiciones de aplicación

Temperatura del soporte	mín. + 8°C/ máx. + 35°C
Temperatura ambiente	mín. + 8°C/ máx. + 35°C
Instrucciones de Aplicación	
Mezclado	Aplicación a brocha: A:B=1:4 (partes en peso) Aplicación a llana: A:B=1:4.5 (partes en peso)
Tiempo de mezclado	~ 3 minutos
Herramientas de mezclado	SikaTop® Seal-107 debe ser amasado utilizando preferiblemente una batidora eléctrica de baja velocidad (máx. 500 rpm). No se puede utilizar una hormigonera normal.

Método de aplicación / Herramientas

Homogeneizar el componente A antes de su uso. Verter aproximadamente la mitad del componente A en el recipiente de mezclado y añadir la parte B lentamente mientras se mezcla. Añadir la parte restante del componente A y continuar mezclando hasta que se consiga una consistencia uniforme y sin grumos. La superficie se deberá humedecer previamente hasta conseguir saturación sin brillo.

Como lechada: Aplicar el producto mezclado, bien mecánicamente, o a mano, utilizando una brocha de cerdas duras. Aplicar con pasadas en la misma dirección. Aplicar la segunda capa de SikaTop® Seal-107, con pasadas perpendiculares a la primera capa, tan pronto como la primera capa haya endurecido.

Como mortero: Cuando se aplique el SikaTop® Seal-107 con llana (p.e. para conseguir una superficie muy lisa), el producto se debe mezclar con una reducción del 10 % el componente A (~ 1A: 4.5B).

Se aplicará una segunda capa de SikaTop® Seal-107 tan pronto como la primera haya endurecido.

Para usarlo como tapaporos, presione bien la llana contra la superficie.

Limpieza de las herramientas

Los útiles y herramientas se limpiarán con agua inmediatamente después de su utilización. Una vez endurecido el producto solo podrá eliminarse por medios mecánicos

Vida de la mezcla

~ 30 minutos a + 20°C

Tiempo de espera entre capas / repintabilidad

Tiempo de espera entre capas

+ 10°C	~ 12 horas
+ 20°C	~ 6 horas
+ 30°C	~ 3 horas

- Si el tiempo de espera es superior a 24 horas, se debe hacer un pequeño chorreo superfi cial.

- SikaTop® Seal-107 puede ser repintado utilizando imprimaciones o pinturas de base disolvente.
- SikaTop® Seal-107 debe tener un tiempo mínimo de curado de 7 días antes de ser cubierto.

Notas de aplicación / límites

- El SikaTop® Seal-107 no es un tratamiento decorativo, en tiempo húmedo o después de la lluvia pueden aparecer efl uorescencias, esto no afecta a la calidad del producto.
- Evite la acción directa del sol y/o el viento fuerte. No añadir agua al mortero en ningún caso. Aplicarlo sobre el soporte sano, previamente preparado, sin exceder el espesor de capa máximo recomendado.
- Para impermeabilizaciones aplicar siempre al menos dos manos de producto, con un espesor medio total de 1.5 o 2.0 mm. En zonas con fuertes filtraciones se deben aplicar tres manos de producto.
- Proteger el mortero fresco de las heladas y la lluvia.
- El SikaTop® Seal-107 no es un revestimiento transitable, para capas transitables, utilice un mortero aditivado con Sika®-1 o SikaLátex®.
- Para trabajos de impermeabilización se debe prestar atención en no perforar el revestimiento con fi jaciones o anclajes. Estos se deben colocar por medio del pegado con SIkaDur®-31 CF o SikaFlex®-11 FC+ L
- os certificados del producto para contacto con agua potable se han obtenido para una relación de mezcla Componente A: Componente B = 1:4,5 y por tanto no son aplicables cuando, para obtener una consistencia más fl uida, se varíe la relación entre los componentes

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá la impermeabilización recién ejecutada frente al agua de lluvia.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la superficie realmente ejecutada según especificaciones de Proyecto.

9.2.25 U05LAH032: HORMIGÓN HA-30/B/20/IIIa PARA LOSAS

CARACTERÍSTICAS TÉCNICAS

Suministro y colocación de hormigón armado en losa de cubierta, realizada con hormigón HA-30/B/20/IIIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, y acero UNE-EN 10080 B 500 S, con una cuantía determinada en planos, memoria o pliegos, acabado superficial liso mediante regla vibrante.

Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios.

En esta unidad se consideran incluidas las armaduras para formación de foso de ascensor, refuerzos, pliegues, encuentros, arranques y esperas en muros, escaleras y rampas, cambios de nivel, alambre de atar, y separadores.

El precio incluye el suministro, la elaboración y el montaje de la ferralla necesaria pero no incluye el encofrado en caso de ser necesaria.

Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.

En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.

Se considera incluido en el precio:

-La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

-El regado y curado del hormigón una vez ejecutado.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón: **Instrucción de Hormigón Estructural (EHE-08)**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **AMBIENTALES.**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA.**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Vertido y compactación del hormigón. Curado del hormigón.

- **CONDICIONES DE TERMINACIÓN.**

El conjunto será monolítico y transmitirá correctamente las cargas al terreno.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerán y señalizarán las armaduras de espera.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen teórico ejecutado según especificaciones de Proyecto, sin incluir los incrementos por excesos de excavación no autorizados.

9.2.26 E09CP021: RECRECIDO PARA FORMACIÓN DE PENDIENTES

CARACTERÍSTICAS TÉCNICAS

Recrecido para formación de pendientes en cubiertas planas o similares, realizado con mortero y arena de río con dosificación 1:6 (M-5), con un espesor medio de 5-7 cm. Totalmente terminado, medido sobre superficie de cubierta en horizontal; incluyendo p.p. de ejecución de escocia perimetral, vertido, nivelado, medios auxiliares.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón:

- Instrucción de Hormigón Estructural (EHE-08).

CRITERIO DE MEDICIÓN

Se medirá la superficie realmente ejecutada según especificaciones de Proyecto.

9.2.27 GEO200 GEOTEXTIL 200 g/cm2

CARACTERÍSTICAS TÉCNICAS

Suministro y colocación de lámina geotextil no tejido compuesto de gramaje 200 gr/m2.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

DEL SOPORTE.

Se comprobará que las características del material sobre el que se va a extender el geotextil se corresponden con las previstas en el Proyecto. La superficie estará limpia, seca y exenta de material deleznable que pueda perforar el geotextil por punzonamiento.

FASES DE EJECUCIÓN.

Colocación del geotextil. Resolución de solapes y uniones. Fijación del geotextil.

CONSERVACIÓN Y MANTENIMIENTO

Se evitará el paso de personas y vehículos sobre los geotextiles colocados.

CRITERIO DE MEDICIÓN

Superficie medida según documentación gráfica de Proyecto.

9.2.28 E11ECB011: SOLADO BALDOSÍN CATALÁN

CARACTERÍSTICAS TÉCNICAS

Solado de baldosín catalán de 14x28 cm., (AIIb-AIII, s/UNE-EN-14411:2013) recibido con mortero de cemento CEM II/B-P 32,5 N y arena de río (M-5), i/cama de 2 cm. de arena de río, rejuntado con lechada de cemento CEM II/B-P 32,5 N 1/2 y limpieza, s/NTE-RSR-2, con marcado CE y DdP (declaración de prestaciones) según Reglamento UE 305/2011, medido en superficie realmente ejecutada.

NORMATIVA DE APLICACIÓN

- Instrucción de Hormigón Estructural (EHE-08).

- NTE-RSR-2 con marcado CE

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que la cubierta está completamente terminada.

- **AMBIENTALES.**

Se suspenderán los trabajos cuando llueva con intensidad, nieve o exista viento excesivo.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la superficie realmente ejecutada según especificaciones de Proyecto.

9.2.29 REVESIMP1: IMPERMEABILIZACIÓN LIQUIDA CUBIERTA. AQUAFLEX ROOF PREMIUM

CARACTERÍSTICAS TÉCNICAS

Impermeabilización líquida de cubiertas. Sistema Aquaflex Roof Premium "MAPEI SPAIN" o similar formado por dos capas de impermeabilizante líquido elástico monocomponente, Aquaflex Roof Premium "MAPEI SPAIN" o

similar, de color Gris, con un rendimiento de 1,5 kg/m², previa aplicación de imprimación bicomponente a base de resina epoxi en dispersión acuosa, Mapecoat I 600 W "MAPEI SPAIN" o similar, 0,4 kg/m². Incluida gestión de RCD en obra.

Aquaflex Roof Premium es una membrana líquida impermeabilizante, lista para su uso, formulada por los laboratorios de I+D de MAPEI, totalmente exenta de disolventes y de sustancias orgánicas volátiles (VOC). Una vez aplicado, Aquaflex Roof Premium crea en pocas horas una membrana continua, con una capacidad de elongación del 400%, resistente a los agentes atmosféricos, a los rayos ultravioleta y al agua estancada.

Además, Aquaflex Roof Premium, gracias a la adición de cargas especiales, es resistente al tránsito peatonal y puede aplicarse sobre superficies transitables sin la necesidad de posteriores capas protectoras. Aquaflex Roof Premium tiene una excelente adherencia sobre numerosos tipos de soportes y, gracias a su óptima elasticidad y capacidad de puenteo de fisuras. Es compatible con las solicitaciones dinámicas habituales presentes en las estructuras de cubierta. Las excelentes características mecánicas de Aquaflex Roof Premium se mantienen inalterables en el tiempo, lo que hace de él un producto duradero.

Aquaflex Roof Premium es fácil de usar, ya que se aplica a brocha, a rodillo o por pulverización, sobre superficies horizontales, verticales, inclinadas o con geometrías complejas. El producto es de secado muy rápido y pueden aplicarse varias capas en plazos breves, reduciendo al mínimo los tiempos de espera en obra.

Aquaflex Roof Premium está disponible en varios colores: gris (NCS S 3502), rojo teja y blanco altamente reflectante. Este último permite la reducción de la temperatura de la cubierta mejorando, por tanto, la eficiencia energética del edificio y, paralelamente, reduciendo el efecto «isla de calor», dado que posee un índice de reflexión solar (SRI) igual a 103.

Aquaflex Roof Premium cumple los requisitos de la norma EN 1504-9 (“Productos y sistemas para la protección y reparación de las estructuras de hormigón: definiciones, requisitos, control de calidad y evaluación de la conformidad. Principios generales para el uso de productos y sistemas”) y los requisitos mínimos de la norma EN 1504-2 como revestimiento (C) según los principios PI, MC e IR (“Sistemas de protección de las superficies de hormigón”).

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que la superficie soporte está sana, limpia, exenta de grasas, aceites, polvo, lechadas, restos líquidos desencofrantes y partes mal adheridas.

- **AMBIENTALES.**

Se suspenderán los trabajos cuando la temperatura ambiente sea inferior a 5°C o superior a 30°C, llueva, exista

riesgo de helada, el sol incida directamente sobre la superficie o el soporte esté caliente.

- APLICACIÓN

• No aplicar Aquaflex Roof Premium con temperaturas inferiores a +5°C o superiores a +35°C, o en caso de lluvia inminente

• En el caso de cubiertas sometidas a temperaturas severas, aplicar siempre la armadura de refuerzo Mapetex 50.

• No aplicar Aquaflex Roof Premium sobre soportes húmedos con humedad residual > 4% o sometidos a remontes de humedad.

• No aplicar si hubiera presencia de rocío sobre el soporte.

• No aplicar Aquaflex Roof Premium sobre soportes metálicos pintados.

• En caso de lluvia entre la aplicación de dos capas de Aquaflex Roof Premium, esperar al menos 12 horas antes de aplicar la segunda mano o, en cualquier caso, hasta que no quede humedad residual, para no afectar a la adherencia entre ambas capas.

• No utilizar sobre láminas bituminosas de reciente ejecución (< 6 meses); esperar, en todo caso, a la completa oxidación de las superficies a tratar.

FASES DE EJECUCIÓN.

Preparación de los soportes

Los soportes, tanto nuevos como ya existentes, deberán ser sólidos y estar secos, limpios y exentos de aceites, grasa, pinturas viejas, óxido, moho o de todo aquello que pudiera afectar a la adherencia. Los soportes cementosos o minerales en general deben estar limpios y secos y no tener humedad ascendente. Eliminar las partes sueltas de los soportes de hormigón y minerales en general. Los posibles huecos deberán repararse con MapeSlope, mortero cementoso nivelador y monocomponente. Los soportes cerámicos requieren la eliminación de cualquier cera, tratamiento hidrorrepelente, etc., mediante el tratamiento y/o lijado adecuado. En el caso de viejos pavimentos cerámicos cuyas juntas estén vacías, se repararán éstas utilizando Adesilex P4.

Si se aplica sobre membranas bituminosas existentes, lavar a fondo con agua la superficie y eliminar seguidamente el agua. Para aplicaciones sobre soportes metálicos, se deberá limpiar minuciosamente la superficie antes de aplicar el imprimador.

A continuación proceder a la imprimación del soporte usando los siguientes imprimadores:

TIPO DE SOPORTE	IMPRIMADOR
Hormigón y cementosos en general	**Mapecoat I 600 W** (diluido en agua 1:1)
Cerámica	
Metálico	
Lámina bituminosa autoprotegida mineral	
Lámina bituminosa sin protección	**Primer per Aquaflex**

Antes de la colocación de Aquaflex Roof Premium, prestar particular atención a las juntas de dilatación y a las de encuentros entre superficies horizontales y verticales, que deberán ser oportunamente impermeabilizadas mediante Mapeband Easy, banda en goma revestida de tejido no tejido, Mapeband SA, banda butílica autoadhesiva, o, como alternativa, Mapetex 50 (h 20), encoladas al soporte mediante el mismo Aquaflex Roof Premium. Las posibles juntas estructurales deben ser impermeabilizadas con Mapeband TPE, fijada con Adesilex PG4. Para el sellado de posibles bajantes utilizar el kit adecuado de la línea Drain.

Datos de aplicación:

DATOS DE APLICACIÓN	
Temperatura de aplicación permitida:	de +5°C a +35°C
Tiempo de espera, a +23°C - 50% de H.R.:	– entre **Mapecoat I 600 W** y la 1ª capa: aprox. 3-4 h o entre **Primer per Aquaflex** y la 1ª capa: aprox. 5-6 h – entre dos capas de **Aquaflex Roof Premium**: aprox. 2 h – para el tránsito: aprox. 24 h
Tiempo de espera, a +5°C - 50% de H.R.:	– entre **Mapecoat I 600 W** y la 1ª capa: aprox. 24 h o entre **Primer per Aquaflex** y la 1ª capa: aprox. 24 h – entre dos capas de **Aquaflex Roof Premium**: aprox. 24 h – para el tránsito: aprox. 48 h
Tiempo de espera, a +35°C - 50% de H.R.:	– entre **Mapecoat I 600 W** y la 1ª capa: aprox. 1-2 h o entre **Primer per Aquaflex** y la 1ª capa: aprox. 2-4 h – entre dos capas de **Aquaflex Roof Premium**: aprox. 1 h – para el tránsito: aprox. 24 h

Características mecánicas:

CARACTERÍSTICAS MECÁNICAS	
Alargamiento a rotura, a +23°C y al 50% de H.R. (EN ISO 37) (%):	400
Resistencia a tracción, a +23°C y al 50% de H.R. (EN ISO 37) (N/mm^2):	4

Preparación del Producto:

El producto se presenta listo para usar, aunque se recomienda mezclar el contenido del recipiente para obtener una completa homogeneidad del producto.

Aplicación del Producto:

Una vez convenientemente preparado e imprimado el soporte, aplicar Aquaflex Roof Premium con rodillo de pelo

largo, a brocha o por pulverización (para la elección de la máquina consultar con la Asistencia Técnica de Mapei).

Proceder a la aplicación de Aquaflex Roof Premium de manera uniforme en, como mínimo, dos capas. No aplicar la segunda capa de producto hasta que la primera esté completamente seca, y hacerlo de tal modo que las pasadas se crucen con las de la capa anterior.

En el caso de soportes con microfisuras o en correspondencia con solapes de láminas bituminosas, insertar Mapetex 50, tejido no-tejido de polipropileno, entre ambas capas de Aquaflex Roof Premium, tal y como se indica a continuación. Aplicar una capa abundante de producto y extender, acto seguido, Mapetex 50, comprimiéndolo con ayuda de una llana lisa o de un rodillo de púas para obtener su perfecta impregnación. Una vez que dicha capa esté completamente seca se podrá proceder a aplicar la siguiente capa de Aquaflex Roof Premium de tal manera que cubra totalmente Mapetex 50.

Limpieza de las herramientas:

Limpieza de las herramientas Las herramientas empleadas durante la aplicación de Aquaflex Roof Premium deben limpiarse con agua antes de su endurecimiento..

Consumo:

Los consumos indicados corresponden, por lo general, a la aplicación de una película uniforme sobre una superficie plana y podrían aumentar si la superficie del soporte fuera irregular.

– Como acabado protector o revestimiento reflectante sobre membranas bituminosas existentes: aprox. 0,9-1 kg/m².

– Como membrana impermeabilizante: 1,5-2 kg/m², que equivalen a aprox. 0,8-1 mm de espesor seco.

Prestaciones finales:

PRESTACIONES FINALES			
Características de prestaciones	**Método de ensayo**	**Requisitos según la norma EN 1504-2 revestimiento (C) principios PI, MC e IR**	**Resultados de las prestaciones de Aquaflex Roof Premium**
Adherencia al hormigón - después de 28 días, a +23°C y al 50% de H.R. (N/mm²):	EN 1542	Para sistemas flexibles sin tráfico: ≥ 0,8	2
Compatibilidad térmica a los ciclos de hielo-deshielo con sales de deshielo, medida como adherencia (N/mm²):	EN 13687-1		≥ 1,5
Compatibilidad térmica a los choques térmicos, medida como adherencia (N/mm²):	EN 13687-2		≥ 1,5
Puenteo de fisuras estático a +23°C, expresado como anchura máxima de la fisura (mm):	EN 1062-7	de clase A1 (0,1 mm) a clase A5 (2,5 mm)	Clase A5
Puenteo de fisuras estático a 0°C, expresado como anchura máxima de la fisura (mm):			Clase A5
Puenteo de fisuras estático a -10°C, expresado como anchura máxima de la fisura (mm):			Clase A5
Puenteo de fisuras dinámico a +23°C, expresado como resistencia a los ciclos de fisuración:		de clase B1 a clase B4.2	Clase B4.2
Puenteo de fisuras dinámico a -10°C, expresado como resistencia a los ciclos de fisuración:			Clase B4.1

Permeabilidad al vapor de agua - espesor de aire equivalente S_D (m):	EN ISO 7783-1	clase I: S_D < 5 m (permeable al vapor)	S_D = 1,5	Clase I
Impermeabilidad al agua expresada como absorción capilar (kg/m²·h^{0,5}):	EN 1062-3	< 0,1	< 0,01	
Permeabilidad al anhídrido carbónico (CO_2) - difusión de espesor de aire equivalente S_{DCO2} (m):	EN 1062-6	> 50	S_{DCO2} = 195 por 1 mm de espesor seco	
Exposición a los agentes atmosféricos artificiales:	EN 1062-11	Después de 2000 h de intemperie artificial: – abultamiento nulo según la EN ISO 4628-2 – fisuración nula según la EN ISO 4628-4 – descamación nula según la EN ISO 4628-5. Pueden aceptarse ligeras variaciones de color, pérdida de brillo y aparición de polvo.	Ningún abultamiento, fisuración o descamación. Ligera variación cromática	
Reacción al fuego:	EN 13501-1	Euroclase	B-s1-d0	
Resistencia al deslizamiento (método de ensayo del péndulo):	EN 13036-4	Clase I: > 40 unidades con ensayo en húmedo (superficies interiores húmedas) Clase II: > 40 unidades con ensayo en seco (superficies interiores secas) Clase III: > 55 unidades con ensayo en húmedo (en exterior) O bien de conformidad con las normativas nacionales	Clase II	
Resistencia al deslizamiento (μ):	Método B.C.R.A D.M. n. 236/89 art. 8.2.2	μ > 0,40 para elemento deslizante de cuero sobre pavimento seco μ > 0,40 para elemento deslizante de goma dura estándar sobre pavimento mojado		Seco / Mojado
			cuero	0,48 / 0,64
			goma	0,60 / *
			SBR 302 Nora T	0,45 / 0,75
			sintético	0,60 / 0,62

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá la impermeabilización recién ejecutada frente al agua de lluvia.

Aquaflex Roof Premium, conservado en los envases originales tiene un tiempo de conservación de 12 meses. Proteger de las heladas.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la superficie realmente ejecutada según especificaciones de Proyecto.

9.2.30 GRUPBOMB: BOMBEO DE SUPERFICIE DE EJE HORIZONTAL

CARACTERÍSTICAS TÉCNICAS

Unidad de suministro, transporte, instalación y probado de bomba horizontal de superficie, modelo NSCF 125-315/220/L45VCC4 o similar, sobre bancada, con instalación en paralelo de 2+1 bombas, que trabajando en simultáneo den un punto de trabajo de 350 m3/h a una altura manométrica de 26 mca. La unidad se certifica por bomba suministrada, siendo el total de las unidades completas a certificar igual a 3.

Datos Bomba + Motor:

- Boquilla de Aspiración DN150 PN10/16

- Boquilla de Impulsión DN125 PN10/16

- Motor WEG IE3 W22 - 180M -18,5 kW 400V Corriente Nominal 35,1 A Grado de Protección IP55 o similar

Incluso soporte de apoyo sobre solera de hormigón, bancada y tornillería en acero inoxidable A4. Incluido cable eléctrico hasta el cuadro.

9.2.31 APERHUECO: APERTURA Y REFUERZO DE MURO DE HORMIGÓN ARMADO

CARACTERÍSTICAS TÉCNICAS

Apertura de paso de DN470 sobre paramento vertical de hormigon armado en caseta de bombas existente mediante el empleo de corona circular. Colocación de pasamuros (no incluido en el precio), refuerzo con armado definido en planos, colocación de 2 cordones de junta hidroexpansiva a lo largo del perímetro de la perforación y a lo largo del perímetro del pasamuros, encofrado con maderas y posterior relleno con mortero de reparación estructural tipo Sika Monotop 412 S o similar, sellado de juntas entre el nuevo refuerzo y el prefabricado mediante la aplicación en ángulo de bandas impermeabilizantes tipo maxseal flex + drioxoro mesh o similar.

NORMATIVA DE APLICACIÓN

Ejecución:

NTE-ADD. Acondicionamiento del terreno. Desmontes: demoliciones

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se verificará que sobre el elemento a demoler no hay almacenados ni mobiliario utilizable ni materiales combustibles, explosivos o peligrosos; y que se ha procedido a su desratización o desinfección en caso de que fuese necesario. Deberán haberse concluido todas aquellas actuaciones previas previstas en el Proyecto de Derribo correspondiente: medidas de seguridad, anulación y neutralización por parte de las compañías suministradoras de las acometidas de instalaciones, trabajos de campo y ensayos, apeo y apuntalamientos necesarios. Se habrán tomado las medidas de protección indicadas en el correspondiente Estudio de Seguridad y Salud, tanto en relación con los operarios encargados de la demolición como con terceras personas, viales, elementos públicos o edificios colindantes. Se dispondrá en obra de los medios necesarios para evitar la formación de polvo durante los trabajos de demolición y de los sistemas de extinción de incendios adecuados.

- **DEL CONTRATISTA.**

Habrá recibido por escrito la aprobación, por parte del director de la ejecución de la obra, de su programa de trabajo, conforme al Proyecto de Derribo.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Demolición del elemento. Corte de las armaduras. Fragmentación de los escombros en piezas manejables. Retirada y acopio de escombros. Limpieza de los restos de obra. Carga mecánica de escombros sobre camión o contenedor.

CONDICIONES DE TERMINACIÓN.

No quedarán partes inestables del elemento demolido parcialmente, y la zona de trabajo estará limpia de escombros.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen realmente demolido según especificaciones de Proyecto.

9.2.32 TUBPEAD225: TUBERÍA PEAD DN225 PN10

CARACTERÍSTICAS TÉCNICAS

Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 225 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7

NORMATIVA DE APLICACIÓN

Instalación: **Normas de la compañía suministradora**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que su situación y recorrido se corresponden con los de Proyecto, y que hay espacio suficiente para su instalación.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo del recorrido de la tubería. Descenso y colocación de los tubos en el fondo de la zanja. Montaje, conexionado y comprobación de su correcto funcionamiento. Realización de pruebas de servicio.

CONDICIONES DE TERMINACIÓN.

La instalación tendrá resistencia mecánica. El conjunto será estanco.

PRUEBAS DE SERVICIO.

Prueba de resistencia mecánica y estanqueidad.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la longitud realmente ejecutada según especificaciones de Proyecto.

9.2.33 TUBPEAD280: TUBERÍA PEAD DN280 PN10

CARACTERÍSTICAS TÉCNICAS

Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 280 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7

NORMATIVA DE APLICACIÓN

Instalación: **Normas de la compañía suministradora**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que su situación y recorrido se corresponden con los de Proyecto, y que hay espacio suficiente para su instalación.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo del recorrido de la tubería. Descenso y colocación de los tubos en el fondo de la zanja. Montaje, conexionado y comprobación de su correcto funcionamiento. Realización de pruebas de servicio.

CONDICIONES DE TERMINACIÓN.

La instalación tendrá resistencia mecánica. El conjunto será estanco.

PRUEBAS DE SERVICIO.

Prueba de resistencia mecánica y estanqueidad.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la longitud realmente ejecutada según especificaciones de Proyecto.

9.2.34 TUBPEAD315: TUBERÍA PEAD DN315 PN10

CARACTERÍSTICAS TÉCNICAS

Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 315 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7

NORMATIVA DE APLICACIÓN

Instalación: **Normas de la compañía suministradora**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que su situación y recorrido se corresponden con los de Proyecto, y que hay espacio suficiente para su instalación.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo del recorrido de la tubería. Descenso y colocación de los tubos en el fondo de la zanja. Montaje, conexionado y comprobación de su correcto funcionamiento. Realización de pruebas de servicio.

CONDICIONES DE TERMINACIÓN.

La instalación tendrá resistencia mecánica. El conjunto será estanco.

PRUEBAS DE SERVICIO.

Prueba de resistencia mecánica y estanqueidad.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la longitud realmente ejecutada según especificaciones de Proyecto.

9.2.35 TUBPEAD400: TUBERÍA PEAD DN400 PN10

CARACTERÍSTICAS TÉCNICAS

Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 315 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7

NORMATIVA DE APLICACIÓN

Instalación: **Normas de la compañía suministradora**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- DEL SOPORTE.

Se comprobará que su situación y recorrido se corresponden con los de Proyecto, y que hay espacio suficiente para su instalación.

PROCESO DE EJECUCIÓN

- FASES DE EJECUCIÓN.

Replanteo del recorrido de la tubería. Descenso y colocación de los tubos en el fondo de la zanja. Montaje, conexionado y comprobación de su correcto funcionamiento. Realización de pruebas de servicio.

CONDICIONES DE TERMINACIÓN.

La instalación tendrá resistencia mecánica. El conjunto será estanco.

PRUEBAS DE SERVICIO.

Prueba de resistencia mecánica y estanqueidad.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la longitud realmente ejecutada según especificaciones de Proyecto.

9.2.36 VALMAP400: VÁLVULA MARIPOSA 400 EXCÉNTRICA AUTOMATIZADA

CARACTERÍSTICAS TÉCNICAS

Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 400, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación.

Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.

Características de diseño:

- Doble excéntrica, disco de cierre plano
- Versión estándar incluye reductor y volante
- Diseño según EN 593
- Preparado para actuador
- Medidas entre caras según EN 558 – 1 SERIE 14, 13 OPCIONAL
- Dimensiones de bridas según EN 1092-2
- Presiones nominales: PN 10 | PN 16 | PN 25 | PN 40

Características constructivas:

- Versión estándar con dispositivo de accionamiento: reductor y volante
- Clasificación de protección IP 68
- Preparado para instalación subterránea, montaje fácil del eje de extensión
- Preparado para el actuador
- Distancia entre bridas conforme a EN 558 – 1 SERIE 14
- Bridas conforme a EN 1092-2
- Presiones nominales: PN 10 | PN 16

Material, características técnicas

1 Asiento de acero inoxidable soldado y micropulido

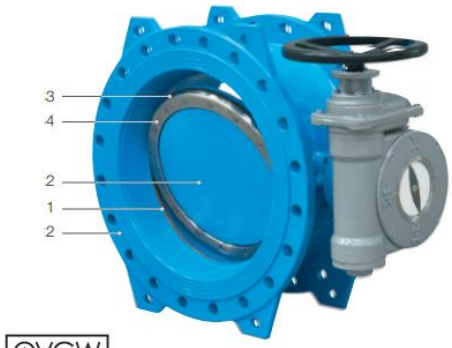
2 Cuerpo y disco de fundición dúctil recubierto de epoxi en polvo por dentro y por fuera

3 Junta de cierre de elastómero

4 Aro de sujeción de acero inoxidable

- Ejes de acero inoxidable
- Piezas de fijación internas y externas de acero inoxidable
- Cojinetes de bronce
- Volante de fundición recubierto de epoxi en polvo

Ref. 9881K



DVGW GEPRÜFT

Ref.	PFA (PN)	Diámetro nominal/DN														
		150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1400
9881K	10																*
	16																*

Accionada mediante actuado de la serie Ref. 9920 DE AUMA-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia. Incluidos gestión de RCD en obra.

Características constructivas

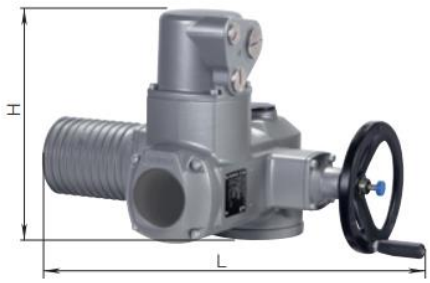
- En la versión estándar 400 V, 50 Hz, actuador eléctrico, interruptor de contador de trayecto para ambos finales de carrera facilmente ajustable, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático; volante para accionamiento de emergencia
- Tipo de conexión: EN ISO 5210 F10 / F14
- Tipo de accionamiento: EN ISO 5210 B3
- Categoría de protección del actuador: IP 68 Categoría de protección del interruptor: IP 66

- Otros diseños /actuadores a petición

Válvulas *E2*		Actuador						
DN	PFA (PN)	Modelo	Par de apriete máx.	L	B	H	Peso	
50-100	16	SA 07.6	60	514	300	288	21,0	
125-200		SA 10.2	120	536	312	290	23,5	
250-400		SA 14.2	250	725	375	316	50,0	
500-600		SA 14.6	500	728	375	316	50,0	

DN	Actuador rev/min	~ Tiempo de cierre
50-80	16	1,0 min
100-125	16	1,5 min
150-200	16	2,0 min
250	16	2,5 min
300-400	22	2,5 min
500-600	16	4,5 min

Actuador
Ref. 9920



CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Propuesta y aprobación expresa de la Dirección de Obra.

PROCESO DE EJECUCIÓN

- FASES DE EJECUCIÓN.

Presentación de fichas y modelos a la Dirección de obra, aprobación de la Dirección de Obra, suministros, montajes y pruebas.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.37 VALMAP300: VÁLVULA MARIPOSA 300 EXCÉNTRICA AUTOMATIZADA

CARACTERÍSTICAS TÉCNICAS

Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 300, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación.

Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.

Características de diseño:

- Doble excéntrica, disco de cierre plano
- Versión estándar incluye reductor y volante
- Diseño según EN 593
- Preparado para actuador
- Medidas entre caras según EN 558 – 1 SERIE 14, 13 OPCIONAL
- Dimensiones de bridas según EN 1092-2
- Presiones nominales: PN 10 | PN 16 | PN 25 | PN 40

Características constructivas:

- Versión estándar con dispositivo de accionamiento: reductor y volante
- Clasificación de protección IP 68
- Preparado para instalación subterránea, montaje fácil del eje de extensión
- Preparado para el actuador
- Distancia entre bridas conforme a EN 558 – 1 SERIE 14
- Bridas conforme a EN 1092-2
- Presiones nominales: PN 10 | PN 16

Material, características técnicas

1 Asiento de acero inoxidable soldado y micropulido

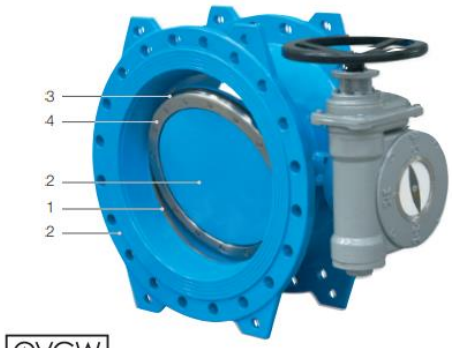
2 Cuerpo y disco de fundición dúctil recubierto de epoxi en polvo por dentro y por fuera

3 Junta de cierre de elastómero

4 Aro de sujeción de acero inoxidable

- Ejes de acero inoxidable
- Piezas de fijación internas y externas de acero inoxidable
- Cojinetes de bronce
- Volante de fundición recubierto de epoxi en polvo

Ref. 9881K



DVGW GEPRÜFT

Ref.	PFA (PN)	Diámetro nominal/DN														
		150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1400
9881K	10																*
	16																*

Accionada mediante actuado de la serie Ref. 9920 DE AUMA-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia. Incluidos gestión de RCD en obra.

Características constructivas

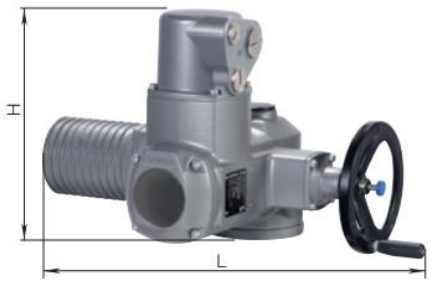
- En la versión estándar 400 V, 50 Hz, actuador eléctrico, interruptor de contador de trayecto para ambos finales de carrera facilmente ajustable, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático; volante para accionamiento de emergencia
- Tipo de conexión: EN ISO 5210 F10 / F14
- Tipo de accionamiento: EN ISO 5210 B3
- Categoría de protección del actuador: IP 68 Categoría de protección del interruptor: IP 66

- Otros diseños /actuadores a petición

Válvulas *E2*		Actuador						
DN	PFA (PN)	Modelo	Par de apriete máx.	L	B	H	Peso	
50-100	16	SA 07.6	60	514	300	288	21,0	
125-200		SA 10.2	120	536	312	290	23,5	
250-400		SA 14.2	250	725	375	316	50,0	
500-600		SA 14.6	500	728	375	316	50,0	

DN	Actuador rev/min	~ Tiempo de cierre
50-80	16	1,0 min
100-125	16	1,5 min
150-200	16	2,0 min
250	16	2,5 min
300-400	22	2,5 min
500-600	16	4,5 min

Actuador
Ref. 9920



CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Propuesta y aprobación expresa de la Dirección de Obra.

PROCESO DE EJECUCIÓN

- FASES DE EJECUCIÓN.

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CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.38 VALMAP150: VÁLVULA MARIPOSA 150 EXCÉNTRICA AUTOMATIZADA

CARACTERÍSTICAS TÉCNICAS

Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 150, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación. Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68.

Características de diseño:

- Doble excéntrica, disco de cierre plano
- Versión estándar incluye reductor y volante
- Diseño según EN 593
- Preparado para actuador
- Medidas entre caras según EN 558 – 1 SERIE 14, 13 OPCIONAL
- Dimensiones de bridas según EN 1092-2
- Presiones nominales: PN 10 | PN 16 | PN 25 | PN 40

Características constructivas:

- Versión estándar con dispositivo de accionamiento: reductor y volante
- Clasificación de protección IP 68
- Preparado para instalación subterránea, montaje fácil del eje de extensión
- Preparado para el actuador
- Distancia entre bridas conforme a EN 558 – 1 SERIE 14
- Bridas conforme a EN 1092-2
- Presiones nominales: PN 10 | PN 16

Material, características técnicas

1 Asiento de acero inoxidable soldado y micropulido

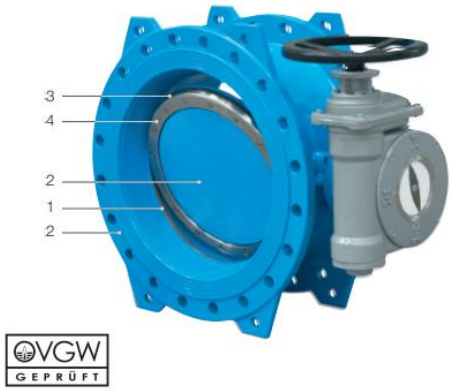
2 Cuerpo y disco de fundición dúctil recubierto de epoxi en polvo por dentro y por fuera

3 Junta de cierre de elastómero

4 Aro de sujeción de acero inoxidable

- Ejes de acero inoxidable
- Piezas de fijación internas y externas de acero inoxidable
- Cojinetes de bronce
- Volante de fundición recubierto de epoxi en polvo

Ref. 9881K



DVGW GEPRÜFT

Ref.	PFA (PN)	Diámetro nominal/DN														
		150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1400
9881K	10																*
	16																*

Accionada mediante actuado de la serie Ref. 9920 DE AUMA-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia. Incluidos gestión de RCD en obra.

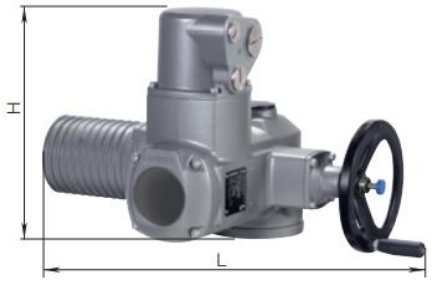
Características constructivas

- En la versión estándar 400 V, 50 Hz, actuador eléctrico, interruptor de contador de trayecto para ambos finales de carrera facilmente ajustable, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático; volante para accionamiento de emergencia
- Tipo de conexión: EN ISO 5210 F10 / F14
- Tipo de accionamiento: EN ISO 5210 B3
- Categoría de protección del actuador: IP 68 Categoría de protección del interruptor: IP 66
- Otros diseños /actuadores a petición

Válvulas *E2*		Actuador						
DN	PFA (PN)	Modelo	Par de apriete máx.	L	B	H	Peso	
50-100	16	SA 07.6	60	514	300	288	21,0	
125-200		SA 10.2	120	536	312	290	23,5	
250-400		SA 14.2	250	725	375	316	50,0	
500-600		SA 14.6	500	728	375	316	50,0	

DN	Actuador rev/min	~ Tiempo de cierre
50-80	16	1,0 min
100-125	16	1,5 min
150-200	16	2,0 min
250	16	2,5 min
300-400	22	2,5 min
500-600	16	4,5 min

Actuador
Ref. 9920



Accionada mediante actuador de la serie Ref. 9920 de AUMA-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia. Incluidos gestión de RCD en obra

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Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.39 VALMAP200: VÁLVULA MARIPOSA 200 MANUAL

CARACTERÍSTICAS TÉCNICAS

Suministro, colocación y probado de válvula de mariposa para agua potable AVK o equivalente, serie EVFL 75/21, DN 200, PN 10/16. Concéntrica, junta vulcanizada, embridada cuello largo. Distancia entre bridas EN 558, tabla 2, s.b. 14. Cuerpo de fundición dúctil EN-GJS-400. Junta de EPDM vulcanizado al cuerpo, certificado para agua potable. Eje y disco de acero inox DUPLEX, con revestimiento de epoxi de 200 micras.

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Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.40 VALMAP125: VÁLVULA MARIPOSA 125 MANUAL

CARACTERÍSTICAS TÉCNICAS

Suministro, colocación y probado de válvula de mariposa para agua potable AVK o equivalente, serie EVFL 75/21, DN 125, PN 10/16. Concéntrica, junta vulcanizada, embridada cuello largo. Distancia entre bridas EN 558, tabla 2, s.b. 14. Cuerpo de fundición dúctil EN-GJS-400. Junta de EPDM vulcanizado al cuerpo, certificado para agua potable. Eje y disco de acero inox DUPLEX, con revestimiento de epoxi de 200 micras. Incluso gestión RCD en

obra.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

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CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.41 CALDINOX: CALDERERÍA DE ACERO INOXIDABLE 316L

CARACTERÍSTICAS TÉCNICAS

Piezas especiales de calderería fabricadas en acero inoxidable AISI 316L formado por:

TRAMO ASPIRACIÓN:

- Conexión a 90º de los tramos de aspiración en ACERO AISI 316L DN280 con un desarrollo de 0,40 m (total 0,80 m).

- Colector Común a 90º que recibe las dos aspiraciones en ACERO AISI 316L DN280 de 3,60 m, del que salen tres conexiones en horizontal en inox DN150 con una longitud cada una de 0,4 m (total 1,20 m)

TRAMO IMPULSIÓN:

- Colector común en vertical elevado sobre la impulsión de las bombas con un desarrollo horizontal de 3,95 m realizado en ACERO AISI 316L DN315, con tres entradas a 90º para la conexión de la impulsión de las bombas en AISI 316L DN125 con una desarrollo cada una de 0,40 m (total 1,20 m).

- Salidas a conexión con tubos de impulsión a depósitos ejecutada mediante T en ACERO AISI 316L DN315 con un desarrollo de 1,10 m

- Tres tramos rectos verticales DN125 (uno por cada bomba) con una longitud total de 0,40 m para conexión de

las tres bombas con los accesorios.

Resumen de longitudes totales ACERO INOX AISI316L:

- DN 315 5,05 m (492,17 kg)

- DN 280 4,40 m (358,82 kg)

- DN 150 1,20 m (51,80 kg)

- DN 125 2,40 m (54,30 kg)

Incluido la ejecución de pìcajes en los colectores de Aspiración e Impulsión, para toma de muestras, cloración y labores de vaciado de colectores, en total se prevé la ejecución de 5 picajes en el tramo de impulsión y 3 en el tramo de aspiración.

Incluida la elaboración de planos de taller, tornillería en acero inoxidable A4 y material auxiliar.

9.2.42 AISI316BRIDA400 CONJUNTO DE BRIDA AISI 316L PARA PORTABRIDA 400

CARACTERÍSTICAS TÉCNICAS

Suministro y montaje de brida loca de DN400 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

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CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.43 AISI316BRIDA315 CONJUNTO DE BRIDA AISI 316L PARA PORTABRIDA 315

CARACTERÍSTICAS TÉCNICAS

Suministro y montaje de brida loca de DN315 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

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CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.44 AISI316BRIDA280 CONJUNTO DE BRIDA AISI 316L PARA PORTABRIDA 280

CARACTERÍSTICAS TÉCNICAS

Suministro y montaje de brida loca de DN280 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

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CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.45 AISI316BRIDA225 CONJUNTO DE BRIDA AISI 316L PARA PORTABRIDA 225

CARACTERÍSTICAS TÉCNICAS

Suministro y montaje de brida loca de DN225 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

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CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.46 VALRET VÁLVULA DE RETENCIÓN DE DISCO PARTIDO DN125

CARACTERÍSTICAS TÉCNICAS

Válvula de retención de disco partido marca AVK Serie 642ECV tipo wafer o similar, PN16 de DN 125, cuerpo en fundición dúctil EN-GJS-400, clapetas en acero INOX 316, eje en acero INOX 316, totalmente instalada.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

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PROCESO DE EJECUCIÓN

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CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.47 CARRANTIVIB: CARRETE ANTIVIBRATORIO DN125

CARACTERÍSTICAS TÉCNICAS

Suministro y montaje de carrete antivibratorio de DN125 y PN16 de cuerpo de simple onda con bridas locas de acero inoxidable AISI 316L y juntas en EPDM. Incluidos materiales auxiliares.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Propuesta y aprobación expresa de la Dirección de Obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

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CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.48 SOPINOXTUB: SOPORTE DE ACERO PARA TUBERÍAS

CARACTERÍSTICAS TÉCNICAS

Soporte metálico de acero inoxidable AISI 304 para apoyo de tramos de tubería formados por una placa de anclaje de dimensiones 300x300x10 con cuatro taladros para su anclaje a solera de hormigón mediante tacos mecánicos de fijación, IPN 200 o perfil con inercia similar de altura aproximada de 1,50 m para correcto apoyo de tuberías y abracedera formando un semicírculo constituida por una pletina de espesor 8 mm y largo 100 mm. Todas las soldaduras realizadas en taller. Incluido elaboración de planos de taller, tornillería de fijación a la solera, junta de EPDM para evitar contacto directo con las tuberías.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Propuesta y aprobación expresa de la Dirección de Obra.

PROCESO DE EJECUCIÓN

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CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.49 PASMUR280: PASAMUROS ESTANCO DN280 CON PORTABRIDA

CARACTERÍSTICAS TÉCNICAS

Pasamuros estanco de acero inoxidable AISI 316L de diámetro interior libre 280 mm y PN10. De longitud comprendida entre 34 y 40 cm con pletina intermedia concéntrica de altura 8 cm, terminado en uno de los extremos en brida de espesor 40 mm para posterior conexión de tubería. Incluido planos de taller.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- DEL SOPORTE.

Se comprobará que su situación se corresponde con la de Proyecto y que hay espacio suficiente para su colocación.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Colocación del pasamuros.

- **CONDICIONES DE TERMINACIÓN.**

La conexión a la red será correcta.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.50 PASMUR315: PASAMUROS ESTANCO DN315 CON PORTABRIDA

CARACTERÍSTICAS TÉCNICAS

Pasamuros estanco de acero inoxidable AISI 316L de diámetro interior libre 315 mm y PN10. De longitud comprendida entre 34 y 40 cm con pletina intermedia concéntrica de altura 8 cm, terminado en uno de los extremos en brida de espesor 40 mm para posterior conexión de tubería. Incluido planos de taller.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que su situación se corresponde con la de Proyecto y que hay espacio suficiente para su colocación.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Colocación del pasamuros.

- **CONDICIONES DE TERMINACIÓN.**

La conexión a la red será correcta.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.51 CARRETE315: CARRETE DE DESMONTAJE DN315 PN10 BB L<500 mm

CARACTERÍSTICAS TÉCNICAS

Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 315, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

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CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.52 CARRETE280: CARRETE DE DESMONTAJE DN280 PN10 BB L<500 mm

CARACTERÍSTICAS TÉCNICAS

Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 280, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Propuesta y aprobación expresa de la Dirección de Obra.

PROCESO DE EJECUCIÓN

- FASES DE EJECUCIÓN.

Presentación de fichas y modelos a la Dirección de obra, aprobación de la Dirección de Obra, suministros, montajes y pruebas.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.53 CARRETE225: CARRETE DE DESMONTAJE DN225 PN10 BB L<500 mm

CARACTERÍSTICAS TÉCNICAS

Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 225, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Propuesta y aprobación expresa de la Dirección de Obra.

PROCESO DE EJECUCIÓN

- FASES DE EJECUCIÓN.

Presentación de fichas y modelos a la Dirección de obra, aprobación de la Dirección de Obra, suministros, montajes y pruebas.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.54 CARRETE150: CARRETE DE DESMONTAJE DN150 PN10 BB L<500 mm

CARACTERÍSTICAS TÉCNICAS

Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 150, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Propuesta y aprobación expresa de la Dirección de Obra.

PROCESO DE EJECUCIÓN

- FASES DE EJECUCIÓN.

Presentación de fichas y modelos a la Dirección de obra, aprobación de la Dirección de Obra, suministros,

montajes y pruebas.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.55 CARRETE125: CARRETE DE DESMONTAJE DN125 PN10 BB L<500 mm

CARACTERÍSTICAS TÉCNICAS

Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 125, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Propuesta y aprobación expresa de la Dirección de Obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Presentación de fichas y modelos a la Dirección de obra, aprobación de la Dirección de Obra, suministros, montajes y pruebas.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá el revestimiento recién ejecutado.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.56 ACHIQUE: BOMBA DE ACHIQUE

CARACTERÍSTICAS TÉCNICAS

Bomba de achique de aguas limpias o ligeramente cargadas, modelo DXN07M/G-230V del fabricante CAPRARI

o similar, con las siguientes características

Q = 5 m3/h

Hm = 10 mca

Pasaje libre de 8mm como mínimo, diámetro de impulsión G 1 1/2". Motor de 0,75 kW a 50Hz monofásico con boya de nivel incorporada.

Cuerpo de Impulsión, placa de desgaste y rodete en hierro fundido EN-GJL200

Rejilla en aluminio

Junta de cierre EPDM

Rotor y Estátor - Chapa magnética

Cierre mecánico Cerámica / Grafito

Totalmente montada y conexionada a cuadro eléctrico.

9.2.57 IEH0121: CABLE MULTIPOLAR RV-K, 0,6/1 KV, ECA, COBRE CLASE 5 (-K) DE 4x50 mm² DE SECCIÓN

CARACTERÍSTICAS TÉCNICAS

Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 4x50 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobarán las separaciones mínimas de las conducciones con otras instalaciones.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Tendido del cable. Conexionado. Comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.58 IEH0121b: CABLE MULTIPOLAR RV-K, 0,6/1 KV, ECA, COBRE CLASE 5 (-K) DE 5G16 mm² DE SECCIÓN

CARACTERÍSTICAS TÉCNICAS

Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G16 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobarán las separaciones mínimas de las conducciones con otras instalaciones.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Tendido del cable. Conexionado. Comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.59 IEH010: CABLE UNIPOLAR H07V-K, 450/750 V, ECA, COBRE CLASE 5 (-K) DE 16 mm² DE SECCIÓN, CON AISLAMIENTO DE PVC (V)

CARACTERÍSTICAS TÉCNICAS

Cable unipolar H07V-K, siendo su tensión asignada de 450/750 V, reacción al fuego clase Eca, con conductor multifilar de cobre clase 5 (-K) de 16 mm² de sección, con aislamiento de PVC (V). Incluso accesorios y elementos de sujeción.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobarán las separaciones mínimas de las conducciones con otras instalaciones.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Tendido del cable. Conexionado. Comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.60 IEH012G: CABLE MULTIPOLAR RV-K, 0,6/1 KV, ECA, COBRE CLASE 5 (-K) DE 5G6 mm² DE SECCIÓN, CON AISLAMIENTO DE POLIETILENO RETICULADO (R)

CARACTERÍSTICAS TÉCNICAS

Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G6 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobarán las separaciones mínimas de las conducciones con otras instalaciones.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Tendido del cable. Conexionado. Comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.61 IEH012F: CABLE MULTIPOLAR RV-K, 0,6/1 KV, ECA, COBRE CLASE 5 (-K) DE 4X6 mm² DE SECCIÓN, CON AISLAMIENTO DE POLIETILENO RETICULADO (R)

CARACTERÍSTICAS TÉCNICAS

Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 4x6 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobarán las separaciones mínimas de las conducciones con otras instalaciones.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Tendido del cable. Conexionado. Comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.62 IEH012C: CABLE MULTIPOLAR RV-K, 0,6/1 KV, ECA, COBRE CLASE 5 (-K) DE 5G10 mm² DE SECCIÓN, CON AISLAMIENTO DE POLIETILENO RETICULADO (R)

CARACTERÍSTICAS TÉCNICAS

Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G10 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V).

Incluso accesorios y elementos de sujeción.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobarán las separaciones mínimas de las conducciones con otras instalaciones.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Tendido del cable. Conexionado. Comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.63 IEH012D: CABLE MULTIPOLAR RV-K, 0,6/1 KV, ECA,COBRE CLASE 5 (-K) DE 5G2,5 mm² DE SECCIÓN, CON AISLAMIENTO DE POLIETILENO RETICULADO (R)

CARACTERÍSTICAS TÉCNICAS

Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G2,5 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobarán las separaciones mínimas de las conducciones con otras instalaciones.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Tendido del cable. Conexionado. Comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.64 IEH012E: CABLE MULTIPOLAR RV-K, 0,6/1 KV, ECA, COBRE CLASE 5 (-K) DE 3G2,5 mm² DE SECCIÓN, CON AISLAMIENTO DE POLIETILENO RETICULADO (R)

CARACTERÍSTICAS TÉCNICAS

Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 3G2,5 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobarán las separaciones mínimas de las conducciones con otras instalaciones.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Tendido del cable. Conexionado. Comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.65 IEP025: CONDUCTOR DE TIERRA COBRE 35 mm2

CARACTERÍSTICAS TÉCNICAS

Suministro e instalación de conductor de tierra formado por cable rígido desnudo de cobre trenzado, de 35 mm² de sección. Incluso p/p de uniones realizadas con soldadura aluminotérmica, grapas y bornes de unión. Totalmente

montado, conexionado y probado.

Incluye: Replanteo del recorrido. Tendido del conductor de tierra. Conexionado del conductor de tierra mediante bornes de unión.

NORMATIVA DE APLICACIÓN

Instalación:

REBT. Reglamento Electrotécnico para Baja Tensión.

ITC-BT-18 y GUÍA-BT-18. Instalaciones de puesta a tierra.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que su situación y recorrido se corresponden con los de Proyecto, y que hay espacio suficiente para su instalación. Se comprobarán las separaciones mínimas de las conducciones con otras instalaciones.

FASES DE EJECUCIÓN.

Replanteo del recorrido. Tendido del conductor de tierra. Conexionado del conductor de tierra mediante bornes de unión.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la longitud realmente ejecutada según especificaciones de Proyecto

9.2.66 IEP021: TOMA DE TIERRA CON DOS PICAS DE ACERO COBREADO DE 2 m DE LONGITUD CADA UNA.

CARACTERÍSTICAS TÉCNICAS

Toma de tierra con dos picas de acero cobreado de 2 m de longitud cada una.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

ITC-BT-18 y GUÍA-BT-18. Instalaciones de puesta a tierra

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que su situación se corresponde con la de Proyecto.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo. Excavación con medios mecánicos. Eliminación de las tierras sueltas del fondo de la excavación. Hincado de la pica. Colocación de la arqueta de registro. Conexión del electrodo con la línea de enlace. Relleno del trasdós. Conexión a la red de tierra. Montaje, conexionado y comprobación de su correcto funcionamiento. Realización de pruebas de servicio..

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

PRUEBAS DE SERVICIO.

Prueba de medida de la resistencia de puesta a tierra.

Normativa de aplicación: GUÍA-BT-ANEXO 4. Verificación de las instalaciones eléctricas

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerán todos los elementos frente a golpes, materiales agresivos, humedades y suciedad.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.67 IEP021B: TOMA DE TIERRA CON UNA PICA DE ACERO COBREADO DE 2 m DE LONGITUD.

CARACTERÍSTICAS TÉCNICAS

Toma de tierra con una pica de acero cobreado de 2 m de longitud.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

ITC-BT-18 y GUÍA-BT-18. Instalaciones de puesta a tierra

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que su situación se corresponde con la de Proyecto.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo. Excavación con medios mecánicos. Eliminación de las tierras sueltas del fondo de la excavación. Hincado de la pica. Colocación de la arqueta de registro. Conexión del electrodo con la línea de enlace. Relleno del trasdós. Conexión a la red de tierra. Montaje, conexionado y comprobación de su correcto funcionamiento. Realización de pruebas de servicio..

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

PRUEBAS DE SERVICIO.

Prueba de medida de la resistencia de puesta a tierra.

Normativa de aplicación: GUÍA-BT-ANEXO 4. Verificación de las instalaciones eléctricas

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerán todos los elementos frente a golpes, materiales agresivos, humedades y suciedad.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.68 IEQ010: CONDENSADOR PARA 25 KVAR DE POTENCIA REACTIVA, ALIMENTACIÓN TRIFÁSICA A 400 V DE TENSIÓN Y 50 HZ DE FRECUENCIA, MODELO ACM-30-44.

CARACTERÍSTICAS TÉCNICAS

Condensador para 25 kVAr de potencia reactiva, alimentación trifásica a 400 V de tensión y 50 Hz de frecuencia, modelo ACM-30-440 "CIRCUTOR" o similar, con contactores e interruptor automático magnetotérmico.

NORMATIVA DE APLICACIÓN

Instalación: REBT. Reglamento Electrotécnico para Baja Tensión.

CRITERIO DE MEDICIÓN EN PROYECTO

Número de unidades previstas, según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que su situación se corresponde con la de Proyecto y que la zona de ubicación está completamente terminada.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Montaje y fijación. Conexionado y puesta en marcha.

CONDICIONES DE TERMINACIÓN.

Quedará protegido del posible acceso de personal no autorizado.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.69 IEO010: CANALIZACIÓN DE TUBO DE PVC, SERIE B, DE 32 mm DE DIÁMETRO, PARA INSTALACIÓN FIJA EN SUPERFICIE

CARACTERÍSTICAS TÉCNICAS

Canalización de tubo de PVC, serie B, de 32 mm de diámetro y 3 mm de espesor. Instalación fija en superficie. Incluso accesorios y piezas especiales.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

CRITERIO DE MEDICIÓN EN PROYECTO

Longitud medida según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que su situación y recorrido se corresponden con los de Proyecto, y que hay espacio suficiente para su instalación.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Replanteo y trazado de la zanja. Ejecución del lecho de arena para asiento del tubo. Colocación del tubo en la zanja. Tendido de cables. Conexionado. Ejecución del relleno envolvente.

CONDICIONES DE TERMINACIÓN.

La instalación podrá revisarse con facilidad.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la longitud realmente ejecutada según especificaciones de Proyecto.

9.2.70 IEO010B: CANALIZACIÓN DE TUBO CURVABLE, DE POLIETILENO DE DOBLE PARED, DE 63 MM DE DIÁMETRO, PARA CANALIZACIÓN ENTERRADA

CARACTERÍSTICAS TÉCNICAS

Canalización de tubo curvable, suministrado en rollo, de polietileno de doble pared (interior lisa y exterior corrugada), de color naranja, de 63 mm de diámetro nominal, resistencia a la compresión 450 N, colocado sobre lecho de arena de 5 cm de espesor, debidamente compactada y nivelada con pisón vibrante de guiado manual, relleno lateral compactando hasta los riñones y posterior relleno con la misma arena hasta 10 cm por encima de la generatriz superior de la tubería. Instalación enterrada. Incluso cinta de señalización.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

CRITERIO DE MEDICIÓN EN PROYECTO

Longitud medida según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que su situación y recorrido se corresponden con los de Proyecto, y que hay espacio suficiente para su instalación.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Replanteo y trazado de la zanja. Ejecución del lecho de arena para asiento del tubo. Colocación del tubo en la zanja. Tendido de cables. Conexionado. Ejecución del relleno envolvente.

CONDICIONES DE TERMINACIÓN.

La instalación podrá revisarse con facilidad.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la longitud realmente ejecutada según especificaciones de Proyecto.

9.2.71 UIA011: ARQUETA DE CONEXIÓN ELÉCTRICA, PREFABRICADA DE HORMIGÓN, SIN FONDO, REGISTRABLE, DE 30X30X30 cm DE MEDIDAS INTERIORES

CARACTERÍSTICAS TÉCNICAS

Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 30x30x30 cm de medidas interiores, con paredes rebajadas para la entrada de tubos, capaz de soportar una carga de 400 kN, con marco de chapa galvanizada y tapa de hormigón armado aligerado, de 39,5x38,5 cm, para arqueta de conexión eléctrica, capaz de soportar una carga de 125 kN; previa excavación con medios mecánicos y posterior relleno del trasdós con material granular.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

CRITERIO DE MEDICIÓN EN PROYECTO

Número de unidades previstas, según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que la ubicación se corresponde con la de Proyecto..

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Replanteo. Colocación de la arqueta prefabricada. Ejecución de taladros para conexionado de tubos. Conexionado de los tubos a la arqueta. Colocación de la tapa y los accesorios.

CONDICIONES DE TERMINACIÓN.

Será accesible.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes y obturaciones. Se taparán todas las arquetas para evitar accidentes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.72 UIA010: LÍNEA COLOCADA BAJO TUBO PROTECTOR DE POLIETILENO DE DOBLE PARED, DE 110 MM DE DIÁMETRO.

CARACTERÍSTICAS TÉCNICAS

Línea colocada bajo tubo protector de polietileno de doble pared, de 110 mm de diámetro.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

ITC-BT-14 y GUÍA-BT-14. Instalaciones de enlace. Línea general de alimentación.

UNE 20460-5-523. Instalaciones eléctricas en edificios. Parte 5: Selección e instalación de materiales eléctricos. Capítulo 523: Intensidades admisibles en sistemas de conducción de cables.

ITC-BT-19 y GUÍA-BT-19. Instalaciones interiores o receptoras. Prescripciones generales.

ITC-BT-20 y GUÍA-BT-20. Instalaciones interiores o receptoras. Sistemas de instalación.

ITC-BT-21 y GUÍA-BT-21. Instalaciones interiores o receptoras. Tubos y canales protectoras.

CRITERIO DE MEDICIÓN EN PROYECTO

Longitud medida según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que su situación y recorrido se corresponden con los de Proyecto, y que hay espacio suficiente para su instalación.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Replanteo y trazado de la zanja. Ejecución del lecho de arena para asiento del tubo. Colocación del tubo en la zanja. Tendido de cables. Conexionado. Ejecución del relleno envolvente.

CONDICIONES DE TERMINACIÓN.

Los registros serán fácilmente accesibles.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la longitud realmente ejecutada según especificaciones de Proyecto.

9.2.73 IIII010: LUMINARIA, DE 666X170X100 MM, PARA 2 LÁMPARAS FLUORESCENTES TL DE 18 W, CON CUERPO DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO.

CARACTERÍSTICAS TÉCNICAS

Luminaria, de 666x170x100 mm, para 2 lámparas fluorescentes TL de 18 W, con cuerpo de poliéster reforzado con fibra de vidrio; reflector interior de chapa de acero, acabado termoesmaltado, de color blanco; difusor de metacrilato; balasto electrónico; protección IP65 y rendimiento mayor del 65%. Instalación en la superficie del techo en garaje. Incluso lámparas.

CRITERIO DE MEDICIÓN EN PROYECTO

Número de unidades previstas, según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que su situación se corresponde con la de Proyecto. El paramento soporte estará completamente acabado.

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Replanteo. Montaje, conexionado y comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

El nivel de iluminación será adecuado y uniforme. La fijación al soporte será correcta.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes y salpicaduras.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.74 IIOA010: LUMINARIA DE EMERGENCIA ESTANCA, CON TUBO LINEAL FLUORESCENTE, 8 W - G5, FLUJO LUMINOSO 240 LÚMENES, CARCASA DE 405X134X134 MM,

CARACTERÍSTICAS TÉCNICAS

Luminaria de emergencia estanca, con tubo lineal fluorescente, 8 W - G5, flujo luminoso 240 lúmenes, carcasa de 405x134x134 mm, clase I, IP65, con baterías de Ni-Cd de alta temperatura, autonomía de 1 h, alimentación a 230 V, tiempo de carga 24 h. Instalación en superficie en garaje. Incluso accesorios y elementos de fijación.

CRITERIO DE MEDICIÓN EN PROYECTO

Número de unidades previstas, según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que su situación se corresponde con la de Proyecto. El paramento soporte estará completamente acabado.

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Replanteo. Montaje, conexionado y comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

El nivel de iluminación será adecuado y uniforme. La fijación al soporte será correcta.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes y salpicaduras.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.75 IEM026: INTERRUPTOR UNIPOLAR (1P) ESTANCO, CON GRADO DE PROTECCIÓN IP55, MONOBLOC, GAMA BÁSICA, INTENSIDAD ASIGNADA 10 AX

CARACTERÍSTICAS TÉCNICAS

Interruptor unipolar (1P) estanco, con grado de protección IP55, monobloc, gama básica, intensidad asignada 10 AX, tensión asignada 250 V, con tecla simple y caja, de color gris. Instalación en superficie.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

Normas de la compañía suministradora.

CRITERIO DE MEDICIÓN EN PROYECTO

Número de unidades previstas, según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

DEL SOPORTE.

Se comprobará que su situación se corresponde con la de Proyecto, que hay espacio suficiente para su instalación y que la zona de ubicación está completamente terminada.

DEL CONTRATISTA.

Las instalaciones eléctricas de baja tensión se ejecutarán por empresas instaladoras autorizadas para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Montaje, conexionado y comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

La instalación podrá revisarse con facilidad.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.76 ARQ8080100: ARQUETA DE CONEXIÓN ELÉCTRICA 80X80X100 CM, DIMENSIONES INTERIORES DE HORMIGÓN PREFABRICADO

CARACTERÍSTICAS TÉCNICAS

Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 80x80x110 cm de medidas interiores, con paredes rebajadas para la entrada de tubos, capaz de soportar una carga de 400 kN, con marco de chapa galvanizada y tapa de hormigón armado aligerado, de 89,5x88,5 cm, para arqueta de conexión eléctrica, capaz de soportar una carga de 125 kN; previa excavación con medios manuales y posterior relleno del trasdós con material granular.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

CRITERIO DE MEDICIÓN EN PROYECTO

Número de unidades previstas, según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que la ubicación se corresponde con la de Proyecto..

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Replanteo. Colocación de la arqueta prefabricada. Ejecución de taladros para conexionado de tubos. Conexionado de los tubos a la arqueta. Colocación de la tapa y los accesorios.

CONDICIONES DE TERMINACIÓN.

Será accesible.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes y obturaciones. Se taparán todas las arquetas para evitar accidentes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.77 TOMACOR2P: TOMA DE CORRIENTE 2P+T/16A.

CARACTERÍSTICAS TÉCNICAS

Suministro e instalación de toma de corriente monofasica 2P+T 16 A con toma de tierra lateral, formado por mecanismo de base de enchufe de 16 A de superficie, incluyendo p.p. de cajas de derivación estancas, elementos de sujeción y pequeño material. Totalmente montada y en funcionamiento.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

Normas de la compañía suministradora.

CRITERIO DE MEDICIÓN EN PROYECTO

Número de unidades previstas, según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

DEL SOPORTE.

Se comprobará que su situación se corresponde con la de Proyecto, que hay espacio suficiente para su instalación y que la zona de ubicación está completamente terminada.

DEL CONTRATISTA.

Las instalaciones eléctricas de baja tensión se ejecutarán por empresas instaladoras autorizadas para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Montaje, conexionado y comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

La instalación podrá revisarse con facilidad.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.78 TOMACORR3P: TOMA DE CORRIENTE 3P+N/32A.

CARACTERÍSTICAS TÉCNICAS

Suministro e instalación de toma de corriente monofasica 3P+T 32 A con toma de tierra lateral, formado por mecanismo de base de enchufe de 16 A de superficie, incluyendo p.p. de cajas de derivación estancas, elementos de sujeción y pequeño material. Totalmente montada y en funcionamiento.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

Normas de la compañía suministradora.

CRITERIO DE MEDICIÓN EN PROYECTO

Número de unidades previstas, según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

DEL SOPORTE.

Se comprobará que su situación se corresponde con la de Proyecto, que hay espacio suficiente para su instalación y que la zona de ubicación está completamente terminada.

DEL CONTRATISTA.

Las instalaciones eléctricas de baja tensión se ejecutarán por empresas instaladoras autorizadas para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Montaje, conexionado y comprobación de su correcto funcionamiento.

CONDICIONES DE TERMINACIÓN.

La instalación podrá revisarse con facilidad.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.79 ACCEININS: ACCESORIOS DE INSTRUMENTACIÓN

CARACTERÍSTICAS TÉCNICAS

Conjunto de accesorios para la instrumentación y control de niveles, entradas y salidas de depósito formado por medidores de caudal, interruptores de nivel, transmisor de presión, etc, formado por los siguientes componentes:

- Cinco Boyas depósito nuevo y duplicado señales + cinco boyas depósito existente

- Sonda de nivel por ultrasonidos y duplicado de sonda de nivel en depósito existente

- Dos detectores de flujo

- Dos detectores de fugas

- Presostato

- Finales carrera válvulas motorizadas (cuatro válvulas, ocho finales de carrera).

- Amplificadores, transductores y aislamientos galvánicos.

NORMATIVA DE APLICACIÓN

Equipos certificados para estar en contacto con agua potable.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

El contratista realizará propuesta y se requerirá aprobación expresa de la Dirección de Obra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Presentación de fichas y modelos a la Dirección de obra, aprobación de la Dirección de Obra, suministros, montajes y pruebas..

CONDICIONES DE TERMINACIÓN.

Pruebas finales, legalización (si procede) y puesta en marcha.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá de la humedad y del contacto con materiales agresivos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.80 CUADROMODIF: MODIFICACIÓN CUADRO

CARACTERÍSTICAS TÉCNICAS

Conjunto de equipos y operaciones para añadir nueva línea a cuadro existente respetando la misma tipología y elementos de las líneas existentes, formado por:

- Interruptor automático en caja moldeada, tetrapolar (4P), intensidad nominal 125 A, poder de corte 36 kA a 400 V

- Relé diferencial electrónico, modelo Vigirex RH99M 56173 "SCHNEIDER ELECTRIC"

- Transformador toroidal cerrado para relé diferencial, de 50 mm de diámetro útil para el paso de cables, tipo PA50, modelo 50438

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

El contratista realizará propuesta detallada de esquema unifilar con concreción de todos los componentes para revisión y aprobación por la dirección facultativa

Se comprobará que su situación se corresponde con la de Proyecto y que la zona de ubicación está completamente terminada.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Instalación nuevos elementos y conexionado.

- **CONDICIONES DE TERMINACIÓN.**

Verificaciones reglamentarias y pruebas de funcionamiento.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.81 CUADROB: CUADRO DE BOMBAS Y GESTIÓN

CARACTERÍSTICAS TÉCNICAS

Suministro, instalación y probado de funcionamiento de cuadro de mando, control y maniobra para estación de bombeo, ubicado en caseta. Estará formado por un armario de poliéster de dimensiones 800x600x300 mm, como mínimo, para montaje mural, con puerta transparente y contrapuerta, para arranque, protección y maniobra de dos bombas (1+1) de 15 kW, con alternancia de funcionamiento, con arranque mediante arrancador electrónico, protección térmica y protección diferencial independiente, conexión al cuadro de conmutación y al sistema de alarma, y cualquier otro elemento necesario para el correcto funcionamiento de las instalaciones y equipos a maniobrar. El cuadro cumplirá con las prescripciones del Pliego Eléctrico, así como con las demás prescripciones e indicaciones de los demás documentos del proyecto.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

El contratista realizará propuesta detallada de esquema unifilar con concreción de todos los componentes para revisión y aprobación por la dirección facultativa

Se comprobará que su situación se corresponde con la de Proyecto y que la zona de ubicación está completamente terminada.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Replanteo de la situación de la envolvente. Conexionado.

- **CONDICIONES DE TERMINACIÓN.**

Verificaciones reglamentarias y pruebas de funcionamiento.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.82 CUADROC: CUADRO CÁMARA DE VÁLVULAS

CARACTERÍSTICAS TÉCNICAS

Suministro, instalación de cuadro para cámara de válvulas, formado por un armario de poliéster de , para montaje mural. El cuadro cumplirá con las prescripciones del Pliego Eléctrico, así como con las demás prescripciones e indicaciones de los demás documentos del proyecto.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

El contratista realizará propuesta detallada de esquema unifilar con concreción de todos los componentes para revisión y aprobación por la dirección facultativa

Se comprobará que su situación se corresponde con la de Proyecto y que la zona de ubicación está completamente terminada.

Las instalaciones eléctricas de baja tensión se ejecutarán por instaladores autorizados en baja tensión, autorizados para el ejercicio de la actividad.

PROCESO DE EJECUCIÓN

- FASES DE EJECUCIÓN.

Replanteo de la situación de la envolvente.Conexionado.

- CONDICIONES DE TERMINACIÓN.

Verificaciones reglamentarias y pruebas de funcionamiento.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.83 MIMC010: COMUNICACIÓN SEÑALES CON LA PLANTA, INTEGRACIÓN CON EL SCADA EXISTENTE Y PUESTA EN MARCHA

CARACTERÍSTICAS TÉCNICAS

Unidad de comunicación de señalas con la planta existente e integración con el SCADA existente y puesta en marcha de la instalación.

NORMATIVA DE APLICACIÓN

REBT. Reglamento Electrotécnico para Baja Tensión.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

El contratista realizará propuesta de las modificaciones en el SCADA incluyendo todas las señales indicadas en la documentación para revisión y aprobación por la dirección facultativa

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Realización de propuesta, aprobación por la DO y ejecución. Formación a los responsables de la explotación sobre el funcionamiento y mantenimiento.

- **CONDICIONES DE TERMINACIÓN.**

Verificaciones reglamentarias y pruebas de funcionamiento.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.84 LEGAELEC: LEGALIZACIONES ELÉCTRICAS

CARACTERÍSTICAS TÉCNICAS

Conjunto de trámites para la legalización de las instalaciones eléctricas incluyendo derechos de enganche a transformador de compañía, obras de conexión, dirección de las obras de enlace, proyecto de legalización en baja, tasas, visados de proyecto, certificado de instalación, certificado de OCA en caso de ser necesario y todos los trámites necesarios para la puesta en servicio de las instalaciones

NORMATIVA DE APLICACIÓN

Redacción: REBT. Reglamento Electrotécnico para Baja Tensión.

FASES DE EJECUCIÓN.

Desplazamiento al ámbito de la obra. Inspección visual y toma de datos. Redacción del proyecto. Tramitaciones

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.85 INST_CLORACIÓN: INSTRUMENTACIÓN DE LA POSTCLORACIÓN

CARACTERÍSTICAS TÉCNICAS

Instrumentación de la postcloración, instalado y probado incluye los trabajos de la puesta a punto, con parte proporcional de pequeño material y tornilleria incluye los siguientes equipos o similares:

- ANALIZADOR 1770/3: dos puntos de consigna configurables en el panel , salida 4-20 mA, by-pass muestra, rotámetro con señal de falta muestra, bomba periatática para la solución tampon.

- BOMBA CENTRIFUGA PARA MUESTRA ANALIZADORES: Potencia 0,5 CV, monofásica, 230 V, protección IP 55, condensador y protección termoamperométrica de rearme automático. Conexión aspiración 1-1/4" y conexión impulsión 1".

- BOMBA DOSIFICADORA ELECTRÓNICA DIGITAL PZi4: cabezal autopurgante ARPZi4ATCF 6x8 W CE EUP, entrada de pulsos 4-20 mA para realizar un control proporcional, pantalla visual, caudal 1,6 l/h a 10 bar y 150 pulsos minuto o caudal 3,6l/h a 8 bar y 300 pulsos minuto. Alimentación electrica a 240 V AC50/60 Hz. Suminitro completo con vàlvulas y cable de señal.

- SOPORTES DE LAS BOMBAS

- CUADRO DE CONTROL ELÉCTRICO: Protección sobretensiones, magnetotèrmico para la bomba de muestra, control rearme automático en caso de fallo de caudal contiempos de paro/marcha regulables, funcionamiento en manual o automático según necesidad...

NORMATIVA DE APLICACIÓN

- CTE. DB-HS Salubridad.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Los equipos deberán ser aprobados por la dirección facultativa.

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Replanteo y montado Realización de pruebas de servicio.

CONDICIONES DE TERMINACIÓN.

Pruebas de funcionamiento.

Los tubos deberán instalarse dentro de tubos rígidos para evitar el pandeo de los mismos.

Adyacente a la zona donde se manipule cloro se colocará ducha con lavaojos

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente ejecutadas según especificaciones de Proyecto.

9.2.86 DEP_HIPO: DEPÓSITO HIPOCLORITO.

CARACTERÍSTICAS TÉCNICAS

Deposito dosificador de 1000 l con cubeto, modelo natural de polietileno, de 1020 mm de diámetro y 1180 mm de altura. Incluye pp de elementos de conexión y primera carga de producto químico.

CRITERIO DE MEDICIÓN EN PROYECTO

Número de unidades previstas, según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que el paramento soporte está completamente acabado

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Replanteo y trazado en el paramento soporte de la situación del aparato. Colocación, nivelación y fijación de los elementos de soporte. Nivelación, aplomado y colocación del depósito. Conexión con la instrumentación de cloración.

CONDICIONES DE TERMINACIÓN.

Quedará nivelado en ambas direcciones, en la posición prevista y fijado correctamente. Se garantizará la estanqueidad de las conexiones y el sellado de las juntas.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente colocadas según especificaciones de Proyecto.

9.2.87 DUCHA_SEG: DUCHA DE SEGURIDAD.

CARACTERÍSTICAS TÉCNICAS

Instalación de ducha de seguridad para lavado de proyección accidental de hipoclorito

CRITERIO DE MEDICIÓN EN PROYECTO

Número de unidades previstas, según documentación gráfica de Proyecto.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

Se comprobará que el paramento soporte está completamente acabado y que las instalaciones de agua fría y de salubridad están terminadas.

PROCESO DE EJECUCIÓN

FASES DE EJECUCIÓN.

Replanteo y trazado en el paramento soporte de la situación del aparato. Colocación, nivelación y fijación de los elementos de soporte. Nivelación, aplomado y colocación del aparato. Conexión a la red de agua fría y a la red de evacuación.

CONDICIONES DE TERMINACIÓN.

Quedará nivelado en ambas direcciones, en la posición prevista y fijado correctamente. Se garantizará la estanqueidad de las conexiones y el sellado de las juntas.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente colocadas según especificaciones de Proyecto.

9.2.88 IVN100: REJILLA DE VENTILACIÓN PARA PARED

CARACTERÍSTICAS TÉCNICAS

Suministro y colocación de rejilla de ventilación en pared, construida en aluminio con mosquitera con faldón de chapa de aluminio, de varias dimensiones, incluso perfiles, anclajes y herrajes, totalmente terminada.

NORMATIVA DE APLICACIÓN

Montaje: **CTE. DB-HS Salubridad**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que están terminados tanto el hueco de fachada como su revestimiento final.

- **AMBIENTALES.**

Se suspenderán los trabajos cuando llueva, nieve o la velocidad del viento sea superior a 50 km/h.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Marcado de los puntos de fijación. Colocación de la rejilla. Sellado de juntas perimetrales. Ajuste final.

- **CONDICIONES DE TERMINACIÓN.**

La rejilla tendrá planeidad y estará aplomada.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes y salpicaduras.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá, con las dimensiones del hueco, la superficie realmente ejecutada según especificaciones de Proyecto.

9.2.89 E14AP03CAB: PUERTA PRACTICABLE

CARACTERÍSTICAS TÉCNICAS

Suministro y montaje de puerta practicable de aluminio con marco de 40 mm de sección de 2 hojas, de aluminio lacado blanco de 60 micras, de 100x210 mm. de medidas totales. Con una transmitancia térmica de la carpintería máxima U=2,00 W/m2K). Compuesta por cerco, hojas y herrajes de deslizamiento y de seguridad. Elaborada en taller, totalmente montada y probada por la empresa instaladora mediante las correspondientes pruebas de servicio. Permeabilidad al aire según Norma UNE-EN 12207:2000-CLASE 4; Estanqueidad al agua según Norma UNE-EN 12208:2000-CLASE 9A; Resistencia al viento según Norma UNE-EN 12210:2000-CLASE C5. Instalada sobre precerco de aluminio, sellado de juntas ajuste final en obra y limpieza. Perfilería, juntas y herrajes con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011, norma UNE-EN 14351-1.

NORMATIVA DE APLICACIÓN

Instalación: **Normas de la compañía suministradora**.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la unidad totalmente ejecutada y terminada según especificaciones de Proyecto.

9.2.90 PRFV01: ESCALERA PRFV ACCESO LATERAL A DEPÓSITO

CARACTERÍSTICAS TÉCNICAS

Escalera de acceso a la cubierta, construida completamente en fibra de vídrio. La estructura se compone de:

-Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior con dos alturas de 2,65 m y 2,7 m.

-Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso. Con barandillas laterales de protección a ambos lados de 110 cm de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 110 m de altura.

Incluye formación de cimentación, soportes auxiliares de soportación y rigidización, medios de elevación, planos de taller.

NORMATIVA DE APLICACIÓN

Instalación: **Normas de la compañía suministradora**.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la unidad totalmente ejecutada y terminada según especificaciones de Proyecto.

9.2.91 PRFV02: ESCALERA PRFV ACCESO A DEPÓSITO

CARACTERÍSTICAS TÉCNICAS

Escalera de acceso al interior del depósito, construida completamente en fibra de vídrio con certificado para contacto con agua potable. La estructura se compone de:

-Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior.

-Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso desde el primer tramo y bastidor lateral de protección de 2 m de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 1 m de altura.

Incluye formación de cimentación, soportes auxiliares de soportación y rigidización, medios de elevación, planos de taller y gestión de RCD en obra.

NORMATIVA DE APLICACIÓN

Instalación: **Normas de la compañía suministradora**.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la unidad totalmente ejecutada y terminada según especificaciones de Proyecto.

9.2.92 PRFV04: ESCALERA PRFV ACCESO A CÁMARA DE LLAVES

CARACTERÍSTICAS TÉCNICAS

Escalera de acceso al cuarto de bombas, construida completamente en fibra de vídrio. La estructura se compone de:

-Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior.

-Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso. 1 tramo con barandillas laterales de protección de 110 cm de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 110 m de altura.

Incluye materiales auxiliares para anclaje, medios de elevación, soportes auxiliares de soportación y rigidización, planos de taller.

NORMATIVA DE APLICACIÓN

Instalación: **Normas de la compañía suministradora**.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la unidad totalmente ejecutada y terminada según especificaciones de Proyecto.

9.2.93 PRFV05: BARANDILLAS DE CUBIERTA

CARACTERÍSTICAS TÉCNICAS

Formación de barandilla de cubierta construida completamente con fibra de vidrio. La estructura se compone de:

- Balaustres de altura 110 cm formados con perfil estructural con interdistancia 1 metro.

- Pasamanos formado por perfil estructural

- Travesaño intermedio de rigidización fromado por perfil estructural.

- Pletina de PRFV para protección de remonte de impermeabilización.

Los balaustres dispondrán placa de anclaje para su conexión mediante anclaje mecánico al peto de cubierta ejecutado.

Incluido planos de taller, medios auxiliares de fijación, medios de elevación y gestión de RCD en obra.

NORMATIVA DE APLICACIÓN

Instalación: **Normas de la compañía suministradora**.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la unidad totalmente ejecutada y terminada según especificaciones de Proyecto.

9.2.94 PRFV06: TAPAS DE REGISTRO

CARACTERÍSTICAS TÉCNICAS

Suministro y montaje de tapa de acceso al depósito construido totalmente en PRFV. Constituido por:

- Marco perimetral

- Tapa grecada con perfilería estructural de refuerzo y asas para su manipulación

- perfilería intermedia de rigidización y apoyo para la tapa a disponer

Incluye, medios de elevación, planos de taller.

NORMATIVA DE APLICACIÓN

Instalación: **Normas de la compañía suministradora**.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la unidad totalmente ejecutada y terminada según especificaciones de Proyecto.

9.2.95 LINEAVIDA: LÍNEA DE VIDA HORIZONTAL

CARACTERÍSTICAS TÉCNICAS

Línea de vida horizontal Securope® de Fallprotec® conforme a la norma EN795C, o similar de idénticas

características y marca reconocida, fabricado acorde al sistema de control de calidad certificado por el organismo notificado APAVE según directiva europea 89/689/CEE Articulo 11, para un trazado total curvo de 158,65 metros, configurada para hasta 2 usuarios con sistema compuesto por:

• Soportes específicos para cubiertas, sin perforaciones.

• Absorbedor de energía integrado en el propio poste Diasafe.

• Altura del poste 32 cm (de la línea 42cm).

• Cable de acero inoxidable de 8mm construcción 7X7 resistencia 40kN

• Casquillos finales de 12mm resistencia 20kN. Inviolable (sin posible manipulación posterior)

• Placa de señalización obligatoria conforme a la norma EN795C.

NORMATIVA DE APLICACIÓN

Instalación: **Normas de la compañía suministradora**.

CONSERVACIÓN Y MANTENIMIENTO.

Se protegerá frente a golpes.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá la unidad totalmente ejecutada y terminada según especificaciones de Proyecto.

9.2.96 U01RM023: RELLENO CON MATERIAL PROCEDENTE DE LA EXCAVACIÓN

CARACTERÍSTICAS TÉCNICAS

Suministro y formación de relleno a cielo abierto en preparación de la explanada, con material seleccionado procedente de excavación, incluyendo adecuación del material en obra (machaqueo, seleccionado, mezcla, etc.). Incluye vertido, extendido, rasanteo, humectación y compactados en tongadas de un espesor máximo de 20cm., hasta alcanzar el 98% del Próctor Modificado, barrido, limpieza.

NORMATIVA DE APLICACIÓN

Ejecución PG-3. Pliego de prescripciones técnicas generales para obras de carreteras y puentes de la Dirección General de Carreteras.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **AMBIENTALES**

Se suspenderán los trabajos cuando la temperatura ambiente sea inferior a 2°C a la sombra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Extendido de las tierras en tongadas de espesor uniforme.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen realmente ejecutado según especificaciones de Proyecto.

9.2.97 ZAHZ325: RELLENO CON ZAHORRAS

CARACTERÍSTICAS TÉCNICAS

Relleno, extendido y apisonado de zahorras a cielo abierto por medios mecánicos, en tongadas de 30 cm de espesor, hasta conseguir un grado de compactación del 95% del proctor normal, incluido regado de las mismas, refino de taludes y con parte proporcional de medios auxiliares, considerando las zahorras a pie de tajo. Según CTE-DB-SE-C. Incluso transporte en camión desde la cantera a menos de 20 km hasta la obra.

NORMATIVA DE APLICACIÓN

Ejecución PG-3. Pliego de prescripciones técnicas generales para obras de carreteras y puentes de la Dirección General de Carreteras.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **AMBIENTALES**

Se suspenderán los trabajos cuando la temperatura ambiente sea inferior a 2°C a la sombra.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Extendido de las tierras en tongadas de espesor uniforme.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen realmente ejecutado según especificaciones de Proyecto.

9.2.98 PAVHORMFIB: PAVIMENTO CONTINUO DE HORMIGÓN EN MASA CON FIBRAS

CARACTERÍSTICAS TÉCNICAS

Pavimento continuo de hormigón en masa con fibras de 18 cm de espesor, con juntas, realizado con hormigón HM-20/B/20/I fabricado en central y vertido desde camión, extendido y vibrado manual, y fibras de polipropileno; tratado superficialmente con capa de rodadura de mortero decorativo de rodadura para pavimento de hormigón, color gris, rendimiento 3 kg/m², con acabado fratasado mecánico.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón Código Estructural.

Ejecución NTE-RSC. Revestimientos de suelos: Continuos.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE**

Se comprobará que se ha realizado un estudio de las características del suelo natural sobre el que se va a actuar y se ha procedido a la retirada o desvío de servicios, tales como líneas eléctricas y tuberías de abastecimiento de agua y de alcantarillado. Se comprobará que el terreno que forma la explanada que servirá de apoyo tiene la resistencia adecuada. Se comprobará que estén colocados los bordillos o, en su caso, los encofrados perimetrales.

- **AMBIENTALES**

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- **DEL CONTRATISTA**

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra. Garantizará que este tipo de trabajos sea realizado por personal cualificado y bajo el control de empresas especializadas.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Preparación de la superficie de apoyo del hormigón. Replanteo de las juntas de construcción, de dilatación y de retracción. Colocación de encofrados. Tendido de niveles. Riego de la superficie base. Vertido, extendido y vibrado del hormigón. Nivelado y fratasado manual del hormigón. Curado del hormigón. Aplicación manual del mortero coloreado endurecedor. Aplicación del desmoldeante hasta conseguir una cubrición total. Impresión del hormigón mediante moldes. Retirada de encofrados. Limpieza de la superficie de hormigón, mediante máquina hidrolimpiadora de agua a presión. Aplicación de la resina de acabado.

- **CONDICIONES DE TERMINACIÓN**

Tendrá planeidad. La evacuación de aguas será correcta. Tendrá buen aspecto.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá, en proyección horizontal, la superficie realmente ejecutada según especificaciones de Proyecto.

9.2.99 ACERA050: PAVIMENTO CONTINUO DE HORMIGÓN IMPRESO

CARACTERÍSTICAS TÉCNICAS

Pavimento continuo de hormigón impreso, con juntas, de 12 cm de espesor, realizado con hormigón HM-20/B/20/I fabricado en central y vertido desde camión, extendido y vibrado manual; acabado impreso en relieve y tratado superficialmente con mortero decorativo de rodadura para pavimento de hormigón, color blanco, rendimiento 4,5 kg/m²; desmoldeante en polvo, color burdeos y capa de sellado final con resina impermeabilizante.

NORMATIVA DE APLICACIÓN

Elaboración, transporte y puesta en obra del hormigón Código Estructural.

Ejecución NTE-RSC. Revestimientos de suelos: Continuos.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- DEL SOPORTE

Se comprobará que se ha realizado un estudio de las características del suelo natural sobre el que se va a actuar y se ha procedido a la retirada o desvío de servicios, tales como líneas eléctricas y tuberías de abastecimiento de agua y de alcantarillado. Se comprobará que el terreno que forma la explanada que servirá de apoyo tiene la resistencia adecuada. Se comprobará que estén colocados los bordillos o, en su caso, los encofrados perimetrales.

- AMBIENTALES

Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

- DEL CONTRATISTA

Dispondrá en obra de una serie de medios, en previsión de que se produzcan cambios bruscos de las condiciones ambientales durante el hormigonado o posterior periodo de fraguado, no pudiendo comenzarse el hormigonado de los diferentes elementos sin la autorización por escrito del director de la ejecución de la obra. Garantizará que este tipo de trabajos sea realizado por personal cualificado y bajo el control de empresas especializadas.

PROCESO DE EJECUCIÓN

- FASES DE EJECUCIÓN.

Preparación de la superficie de apoyo del hormigón. Replanteo de las juntas de construcción, de dilatación y de retracción. Colocación de encofrados. Tendido de niveles. Riego de la superficie base. Vertido, extendido y vibrado del hormigón. Nivelado y fratasado manual del hormigón. Curado del hormigón. Aplicación manual del mortero coloreado endurecedor. Aplicación del desmoldeante hasta conseguir una cubrición total. Impresión del hormigón

mediante moldes. Retirada de encofrados. Limpieza de la superficie de hormigón, mediante máquina hidrolimpiadora de agua a presión. Aplicación de la resina de acabado.

- **CONDICIONES DE TERMINACIÓN**

Tendrá planeidad. La evacuación de aguas será correcta. Tendrá buen aspecto.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá, en proyección horizontal, la superficie realmente ejecutada según especificaciones de Proyecto.

9.2.100 E01DSB102: MURO DE MAMPOSTERÍA CON MATERIAL REUTILIZADO

CARACTERÍSTICAS TÉCNICAS

Reconstrucción de muro de mampostería con material reutilizado del muro previamente desmontado, según capítulo 2 del presente presupuesto.

9.2.101 14.1: CARGA Y TRANSPORTE

CARACTERÍSTICAS TÉCNICAS

Transporte con camión de los productos procedentes de la construcción o demolición a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, kilometraje ilimitado, considerando el tiempo de espera para la carga a máquina en obra, ida, descarga y vuelta.

NORMATIVA DE APLICACIÓN

Gestión de residuos: **Regulación de la producción y gestión de los residuos de construcción y demolición**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que están perfectamente señalizadas sobre el terreno las zonas de trabajo y vías de circulación, para la organización del tráfico.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Carga a camión de los residuos. Transporte de residuos a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, con protección de las mismas mediante su cubrición con lonas o toldos.

- **CONDICIONES DE TERMINACIÓN.**

Las vías de circulación utilizadas durante el transporte quedarán completamente limpias de cualquier tipo de

restos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el volumen de residuos realmente transportado según especificaciones de Proyecto.

9.2.102 14.3: DESPIECE DE RESIDUOS PLÁSTICOS VOLUMINOSOS Y OTROS RESIDUOS

CARACTERÍSTICAS TÉCNICAS

Despiece manual de residuos de plástico voluminosos y otros residuos que deban ser tratados de forma previa a su carga y transporte a gestor autorizado

NORMATIVA DE APLICACIÓN

Gestión de residuos: Regulación de la producción y gestión de los residuos de construcción y demolición.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá, incluyendo el esponjamiento, el volumen de tierras realmente entregado según especificaciones de Proyecto.

9.2.103 14.7: BIDÓN 200L RESIDUOS PELIGROSOS TIERRAS.

CARACTERÍSTICAS TÉCNICAS

Suministro y ubicación en obra de bidón de 200 litros de capacidad para residuos peligrosos procedentes de la construcción o demolición, apto para almacenar tierras y piedras que contienen restos de sustancias peligrosas o están contaminados por ellas. Incluso marcado del recipiente con la etiqueta correspondiente.

NORMATIVA DE APLICACIÓN

Gestión de residuos: **Regulación de la producción y gestión de los residuos de construcción y demolición**.

PROCESO DE EJECUCIÓN

- FASES DE EJECUCIÓN.

Suministro y ubicación.

- CONDICIONES DE TERMINACIÓN.

Los bidones quedarán situados en un lugar protegido hasta el momento de su transporte.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente suministradas según especificaciones de Proyecto.

9.2.104 14.8: BIDÓN 200L RESIDUOS PELIGROSOS ENVASES.

CARACTERÍSTICAS TÉCNICAS

Suministro y ubicación en obra de bidón de 200 litros de capacidad para residuos peligrosos procedentes de la construcción o demolición, apto para almacenar envases que contienen restos de sustancias peligrosas o están contaminados por ellas. Incluso marcado del recipiente con la etiqueta correspondiente.

NORMATIVA DE APLICACIÓN

Gestión de residuos: **Regulación de la producción y gestión de los residuos de construcción y demolición**.

PROCESO DE EJECUCIÓN

- **FASES DE EJECUCIÓN.**

Suministro y ubicación.

- **CONDICIONES DE TERMINACIÓN.**

Los bidones quedarán situados en un lugar protegido hasta el momento de su transporte.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente suministradas según especificaciones de Proyecto.

9.2.105 14.9: CARGA Y TRANSPORTE BIDÓN 200 L RESIDUOS PELIGROSOS

CARACTERÍSTICAS TÉCNICAS

Transporte de bidón de 200 litros de capacidad con residuos peligrosos procedentes de la construcción o demolición, a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, considerando la carga y descarga de los bidones.

Incluye: Carga de bidones. Transporte de bidones a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos. Descarga de bidones.

NORMATIVA DE APLICACIÓN

Gestión de residuos: **Regulación de la producción y gestión de los residuos de construcción y demolición**.

CONDICIONES PREVIAS QUE HAN DE CUMPLIRSE ANTES DE LA EJECUCIÓN DE LAS UNIDADES DE OBRA

- **DEL SOPORTE.**

Se comprobará que están perfectamente señalizadas sobre el terreno las zonas de trabajo y vías de circulación, para la organización del tráfico.

PROCESO DE EJECUCIÓN

- FASES DE EJECUCIÓN.

Carga de bidones. Transporte de residuos a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos. Descarga de bidones.

- CONDICIONES DE TERMINACIÓN.

Las vías de circulación utilizadas durante el transporte quedarán completamente limpias de cualquier tipo de restos.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente transportadas según especificaciones de Proyecto.

9.2.106 14.10: COSTE DE VERTIDO DE BIDÓN DE 200 L DE RESIDUOS PELIGROSOS

CARACTERÍSTICAS TÉCNICAS

Canon de vertido por entrega a gestor autorizado de residuos peligrosos, de bidón de 200 litros de capacidad con residuos que contienen sustancias peligrosas o están contaminados por ellas procedentes de la construcción o demolición. Sin incluir del transporte.

NORMATIVA DE APLICACIÓN

Gestión de residuos: Regulación de la producción y gestión de los residuos de construcción y demolición.

CRITERIO DE MEDICIÓN EN OBRA Y CONDICIONES DE ABONO

Se medirá el número de unidades realmente entregadas según especificaciones de Proyecto.

9.2.107 SYSPRES: SEGURIDAD Y SALUD

CARACTERÍSTICAS TÉCNICAS

Conjunto de medidas de seguridad y salud en el trabajo durante la ejecución de las obras, según estudio de seguridad y salud y plan de seguridad y salud aprobado, incluso sus eventuales modificaciones.

9.2.108 SAN1402003: PUESTA EN SERVICIO, LIMPIEZA Y DESINFECCIÓN DE DEPÓSITO

CARACTERÍSTICAS TÉCNICAS

Partida alzada para la limpieza, desinfección y puesta en servicio de las instalaciones. Los trabajos comprenderán:

Limpieza y Desinfección (según estos métodos):

- Método por lavado (enjuagado) con agua potable sin adición de desinfectante, con o sin inyección de aire

- Método Estático utilizando agua potable con adición de desinfectante.

- Método Dinámico utilizando agua potable con adición de desinfectante

Para la elección del desinfectante se deberán respetar las directivas de la UE y reglamentos AELC, asi como, las reglamentaciones nacionales y locales. En todo caso se tendrán en cuenta la vida útil del producto, facilidad de utilización, tiempo de contacto necesario con los elementos a limpiar y desinfectar, y aspectos cualitativos del agua potable, pH, si se opta por la utilización de Hipoclorito de Calcio, se tendrá en cuanta la dureza del agua.

El procedimiento tendrá que ser aprobado por el director de obra.

Se consideran incluidos todos los trabajos necesarios para la puesta en servicio de las instalaciones.

10. FICHAS TÉCNICAS

10.1 FICHA TÉCNICA MAPECOAT I 600W

10.2 FICHA TÉCNICA AQUAFLEX ROOF PREMIUM

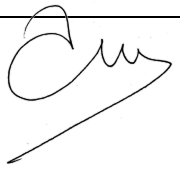
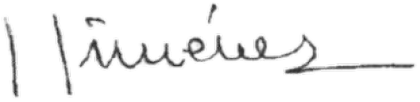
10.3 FICHA TÉCNICA SIKATOP SEAL-107

10.4 FICHA TÉCNICA VÁLVULA MARIPOSA HAWLE SERIE 9881

10.5 FICHA TÉCNICA BOMBA LOWARA NSCF 125-315/185

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

 **Redactor de proyecto:** Juan Carlos Arroyo Portero ICCP	 **Redactor adjunto:** Jesús Jiménez Cañas ICCP

Mapecoat I 600 W



Imprimador epoxídico transparente, bicomponente, en dispersión acuosa

CAMPOS DE APLICACIÓN
Mapecoat I 600 W está específicamente formulado como imprimador para **Mapefloor I 500 W**, cuando se utilice este último para la ejecución del revestimiento epoxídico autonivelante permeable al vapor (**Mapefloor System 53**).

Algunos ejemplos de aplicación
- Promotor de adherencia para soportes cementosos porosos y absorbentes.
- Imprimador para **Mapefloor I 500 W** (**Mapefloor System 53**).

CARACTERÍSTICAS TÉCNICAS
Mapecoat I 600 W es un imprimador bicomponente, transparente, a base de resinas epoxídicas en dispersión acuosa, según una fórmula desarrollada en los Laboratorios de I+D de MAPEI.

Tras su preparación y parcial disolución con agua, **Mapecoat I 600 W** puede aplicarse por pulverización, a rodillo o con sistema *airless,* en un espesor variable de 60 a 100 µm.

Mapecoat I 600 W puede aplicarse sobre soportes de hormigón desprovistos de barrera de vapor.

AVISOS IMPORTANTES
- No diluir **Mapecoat I 600 W** con disolventes.
- No aplicar **Mapecoat I 600 W** sobre soportes con partes friables.
- No aplicar **Mapecoat I 600 W** con temperaturas inferiores a +8°C o superiores a +35°C.

MODO DE APLICACIÓN
Preparación del soporte
Las superficies a tratar deben estar saneadas y compactas. Eliminar completamente del soporte todas las partes sueltas o en fase en desprendimiento, lechadas de cemento, pinturas, aceites, desencofrantes y contaminantes de cualquier tipo o naturaleza.
El hormigón que esté impregnado superficialmente de aceites y grasas, deberá limpiarse enérgicamente con una solución a 10% de agua y sosa o con jabones detergentes y, a continuación, enjuagarse con abundante agua limpia. No obstante, si dichas sustancias hubieran penetrado en profundidad en el soporte, será necesario eliminar el hormigón afectado mediante escarificación. Se procederá seguidamente al saneamiento del soporte mediante la aplicación de morteros especiales de la línea **Mapegrout**.

Preparación del producto como *imprimador* para Mapefloor I 500 W
Para la preparación, verter el componente A en el recipiente del componente B y mezclar ambos componentes con un taladro provisto de agitador, a bajo número de revoluciones, hasta obtener una mezcla homogénea. Diluir el producto con agua en una relación de 1:1 y volver a mezclar con agitador durante al menos 3 minutos.

Aplicación del producto como *imprimador* para Mapefloor I 500 W
Mapecoat I 600 W se aplica uniformemente en una

Mapecoat I 600 W

DATOS TÉCNICOS (valores característicos)

DATOS IDENTIFICATIVOS DEL PRODUCTO

	componente A	componente B
Color:	transparente	opalescente
Aspecto:	líquido	líquido
Densidad (g/cm³):	1,10	1,00
Viscosidad a +23°C (mPa·s):	1.600 ÷ 2.700 (# 2 - rpm 10)	7.000 (# 6 - rpm 20)

DATOS DE APLICACIÓN (a +23°C y al 50% de H.R.)

Relación de la mezcla:	componente A : componente B = 2,3 : 3,6
Color de la mezcla:	opalescente
Consistencia de la mezcla:	fluida
Contenido en sólidos (%):	70
Densidad de la mezcla (kg/m³):	1.100
Viscosidad de la mezcla (mPa·s):	4.500
Tiempo de trabajabilidad:	2-3 h
Temperatura de aplicación:	de +8°C a +35°C

PRESTACIONES FINALES

Formación de piel (+23°C y 50% de H.R.):	3-4 h (primera capa) 6-8 h (segunda capa)
Endurecimiento completo:	7 días

sola capa con rodillo de pelo medio o largo. Esperar 3-4 horas antes de aplicar **Mapefloor I 500 W** (**Mapefloor System 53**).

Limpieza
Las herramientas utilizadas para la preparación y aplicación de **Mapecoat I 600 W** deberán limpiarse inmediatamente después de su uso con agua fría; de lo contrario, una vez endurecido el producto, su eliminación sólo podrá realizarse con medios mecánicos.

CONSUMO
300-500 g/m^2, en función de la absorción del producto ya diluido.

PRESENTACIÓN
Unidades de 5,9 y 11,8 kg:
componente A = 2,3 kg y 4,6 kg;
componente B = 3,6 kg y 7,2 kg.

ALMACENAMIENTO
Mapecoat I 600 W se conserva durante 24 meses, en los envases originales, en ambientes secos y con una temperatura no inferior a +5°C.

INSTRUCCIONES DE SEGURIDAD PARA LA PREPARACIÓN Y LA PUESTA EN OBRA
Mapecoat I 600 W parte A es irritante para la piel y los ojos, puede causar sensibilización en contacto con la piel en personas propensas.
Mapecoat I 600 W parte B es corrosivo y puede causar daños oculares. El producto contiene resinas epoxídicas de bajo peso molecular que pueden causar sensibilización al juntarse con otros compuestos epoxídicos. Durante la aplicación se recomienda utilizar guantes y gafas de protección y tomar las precauciones habituales para la manipulación de productos químicos. En caso de contacto con los ojos o la piel lavar inmediata y abundantemente con agua y consultar a un médico.
Mapecoat I 600 W parte A también es peligroso para el medio acuático, se recomienda evitar su liberación en el medio ambiente.
Para una mayor y más completa información en referencia al uso seguro de nuestros productos se recomienda consultar la última versión de la Ficha de Seguridad.

PRODUCTO PARA USO PROFESIONAL.

ADVERTENCIA
Las indicaciones y las prescripciones arriba descritas, aun correspondiendo a nuestra mejor experiencia, deben considerarse, en cualquier caso, puramente indicativas y deberán confirmarse mediante aplicaciones prácticas concluyentes; por lo tanto, antes de emplear el producto, quien vaya a utilizarlo deberá determinar si es apropiado o no para el uso previsto y asumirá toda la responsabilidad que pudiera derivar de su uso.

Hacer referencia a la versión actualizada de la ficha técnica, disponible en la web www.mapei.com

Nuestro compromiso con el medio ambiente
Los productos MAPEI ayudan a proyectistas y constructores a realizar proyectos innovadores certificados LEED "The Leadership in Energy and Environmental Design" de acuerdo con el U.S. Green Building Council.
GREEN INNOVATION

Las referencias relativas a este producto están disponibles bajo solicitud y en la web de Mapei www.mapei.es y www.mapei.com

MEMORIA DESCRIPTIVA

Aplicación a rodillo, brocha, pulverización o con airless, en espesores variables de 60 a 100 µm, de *imprimador* epoxídico bicomponente, transparente, en dispersión acuosa (tipo **Mapecoat I 600 W** de MAPEI) para soportes cementosos, antes de la aplicación de sistemas resinosos permeables al vapor (tipo **Mapefloor I 500 W** de MAPEI).

El producto deberá tener las siguientes características de prestaciones:

Color de la mezcla:	opalescente
Consistencia de la mezcla:	fluida
Contenido en sólidos (%):	70
Densidad de la mezcla (kg/m^3):	1.100
Viscosidad de la mezcla (mPa·s):	4.500
Tiempo de trabajabilidad:	2-3 h
Temperatura de aplicación:	de +8°C a +35°C
Formación de piel a +23°C y 50% de H.R.:	3-4 h (primera capa) 6-8 h (segunda capa)
Endurecimiento completo:	7 días



Mapecoat I 600 W

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2017-3-2016 (E)

MAPEI®

EL COMPAÑERO MUNDIAL DE LOS CONSTRUCTORES

MAPEI

CONFORME A LA NORMA EUROPEA
EN 1504-2 (C)
PRINCIPIOS
PI-MC-IR
MAPEI
SISTEMAS DE PROTECCIÓN DE LA SUPERFICIE DEL HORMIGÓN

Aquaflex Roof Premium

CE
EN 1504-2



Membrana impermeabilizante poliuretánica, lista para su uso, en base acuosa, transitable y resistente al agua estancada, exento de VOC (sustancias orgánicas volátiles)

CAMPOS DE APLICACIÓN

Impermeabilización de:

- cubiertas planas, inclinadas, curvas y con formas complejas;
- cubiertas nuevas y reparación de las ya existentes;
- terrazas, balcones, pasillos y superficies transitables en general.

Aquaflex Roof Premium puede aplicarse sobre:

- hormigón;
- recrecidos cementosos o a base de aglomerantes especiales (**Topcem** o **Topcem Pronto**);
- cerámica y revestimientos pétreos;
- placas de fibrocemento;
- láminas bituminosas existentes;
- chapa galvanizada, cobre, aluminio, acero o hierro.

VENTAJAS

- Tecnología innovadora, impermeabilizante poliuretánico en base agua.
- Exento de sustancias orgánicas volátiles (VOC) y disolventes.
- Secado rápido.
- Listo para su uso, fácil de aplicar y con alta capacidad de distensión.
- Producto directamente transitable con propiedades antideslizantes (Certificado Clase 3 según la norma UNE-ENV 12633).
- Está disponible en color blanco con altos valores de reflectancia, con un índice de reflexión solar (SRI o Solar Reflectance Index), igual a 103.
- Producto con marcado CE de conformidad con la EN 1504-2.
- Producto resistente a la penetración de raíces según la norma UNE CEN/TS 14416.
- La versión HR, por su valor de SRI, contribuye al crédito «Heat Island Reduction» (Efecto Isla de Calor) previsto por el LEED V4 en la categoría SS (Sustainable Sites).

CARACTERÍSTICAS TÉCNICAS

Aquaflex Roof Premium es una membrana líquida impermeabilizante, lista para su uso, formulada por los laboratorios de I+D de MAPEI, totalmente exenta de disolventes y de sustancias orgánicas volátiles (VOC). Una vez aplicado, **Aquaflex Roof Premium** crea en pocas horas una membrana continua, con una capacidad de elongación del 400%, resistente a los agentes atmosféricos, a los rayos ultravioleta y al agua estancada.
Además, **Aquaflex Roof Premium**, gracias a la adición

Aquaflex Roof Premium



Reparación de las zonas hundidas con MapeSlope previa aplicación de Primer P3



Aplicación de Primer per Aquaflex sobre membrana bituminosa no protegida existente



Aplicación de Mapecoat I 600 W sobre baldosas debidamente preparadas

de cargas especiales, es resistente al tránsito peatonal y puede aplicarse sobre superficies transitables sin la necesidad de posteriores capas protectoras.
Aquaflex Roof Premium tiene una excelente adherencia sobre numerosos tipos de soportes y, gracias a su óptima elasticidad y capacidad de puenteo de fisuras (superior a 3 cm cuando está reforzado con **Mapetex 50**), es compatible con las solicitaciones dinámicas habituales presentes en las estructuras de cubierta.
Las excelentes características mecánicas de **Aquaflex Roof Premium** se mantienen inalterables en el tiempo, lo que hace de él un producto duradero.
Aquaflex Roof Premium es fácil de usar, ya que se aplica a brocha, a rodillo o por pulverización, sobre superficies horizontales, verticales, inclinadas o con geometrías complejas. El producto es de secado muy rápido y pueden aplicarse varias capas en plazos breves, reduciendo al mínimo los tiempos de espera en obra.

Aquaflex Roof Premium está disponible en varios colores: gris (NCS S 3502), rojo teja y blanco altamente reflectante. Este último permite la reducción de la temperatura de la cubierta mejorando, por tanto, la eficiencia energética del edificio y, paralelamente, reduciendo el efecto «isla de calor», dado que posee un índice de reflexión solar (SRI) igual a 103.

Aquaflex Roof Premium cumple los requisitos de la norma EN 1504-9 ("*Productos y sistemas para la protección y reparación de las estructuras de hormigón: definiciones, requisitos, control de calidad y evaluación de la conformidad. Principios generales para el uso de productos y sistemas*") y los requisitos mínimos de la norma EN 1504-2 como revestimiento (C) según los principios PI, MC e IR ("*Sistemas de protección de las superficies de hormigón*").

AVISOS IMPORTANTES

- No aplicar Aquaflex Roof Premium con temperaturas inferiores a +5°C o superiores a +35°C, o en caso de lluvia inminente.
- En el caso de cubiertas sometidas a temperaturas severas, aplicar siempre la armadura de refuerzo **Mapetex 50**.
- No aplicar **Aquaflex Roof Premium** sobre soportes húmedos con humedad residual > 4% o sometidos a remontes de humedad.
- No aplicar si hubiera presencia de rocío sobre el soporte.
- No aplicar **Aquaflex Roof Premium** sobre soportes metálicos pintados.
- En caso de lluvia entre la aplicación de dos capas de **Aquaflex Roof Premium**, esperar al menos 12 horas antes de aplicar la segunda mano o, en cualquier caso, hasta que no quede humedad residual, para no afectar a la adherencia entre ambas capas.
- No utilizar sobre láminas bituminosas de reciente ejecución (< 6 meses); esperar, en todo caso, a la completa oxidación de las superficies a tratar.

MODO DE APLICACIÓN

Preparación de los soportes

Los soportes, tanto nuevos como ya existentes, deberán ser sólidos y estar secos, limpios y exentos de aceites, grasa, pinturas viejas, óxido, moho o de todo aquello que pudiera afectar a la adherencia.
Los soportes cementosos o minerales en general deben estar limpios y secos y no tener humedad ascendente. Eliminar las partes sueltas de los soportes de hormigón y minerales en general. Los posibles huecos deberán repararse con **MapeSlope**, mortero cementoso nivelador y monocomponente.
Los soportes cerámicos requieren la eliminación de cualquier cera, tratamiento hidrorrepelente, etc., mediante el tratamiento y/o lijado adecuado. En el caso de viejos pavimentos cerámicos cuyas juntas estén vacías, se repararán éstas utilizando **Adesilex P4**.

Si se aplica sobre membranas bituminosas existentes, lavar a fondo con agua la superficie y eliminar seguidamente el agua.

Para aplicaciones sobre soportes metálicos, se deberá limpiar minuciosamente la superficie antes de aplicar el imprimador.

A continuación proceder a la imprimación del soporte usando los siguientes imprimadores:

TIPO DE SOPORTE	IMPRIMADOR
Hormigón y cementosos en general	**Mapecoat I 600 W** (diluido en agua 1:1)
Cerámica	
Metálico	
Lámina bituminosa autoprotegida mineral	
Lámina bituminosa sin protección	**Primer per Aquaflex**

NOTA: *en el caso que **MapeSlope** se utilice para reparar los "blandones" en una cubierta de lámina bituminosa no protegida, es posible utilizar **Primer per Aquaflex** para imprimar toda la superficie.*

Antes de la colocación de **Aquaflex Roof Premium**, prestar particular atención a las juntas de dilatación y a las de encuentros entre superficies horizontales y verticales, que deberán ser oportunamente impermeabilizadas mediante **Mapeband Easy**, banda en goma revestida de tejido no tejido, **Mapeband SA**, banda butílica autoadhesiva, o, como alternativa, **Mapetex 50** (h 20), encoladas al soporte mediante el mismo **Aquaflex Roof Premium**.
Las posibles juntas estructurales deben ser impermeabilizadas con **Mapeband TPE**, fijada con **Adesilex PG4**. Para el sellado de posibles bajantes utilizar el kit adecuado de la línea **Drain**.

DATOS TÉCNICOS (valores característicos)

DATOS IDENTIFICATIVOS DEL PRODUCTO	
Consistencia:	pastosa
Colores:	blanco altamente reflectante, gris (NCS S 3502) y rojo teja
Densidad (g/cm³):	1,25
Residuo sólido (%):	60
Viscosidad Brookfield (mPa·s):	20.000
DATOS DE APLICACIÓN	
Temperatura de aplicación permitida:	de +5°C a +35°C
Tiempo de espera, a +23°C - 50% de H.R.:	– entre **Mapecoat I 600 W** y la 1ª capa: aprox. 3-4 h o entre **Primer per Aquaflex** y la 1ª capa: aprox. 5-6 h – entre dos capas de **Aquaflex Roof Premium**: aprox. 2 h – para el tránsito: aprox. 24 h
Tiempo de espera, a +5°C - 50% de H.R.:	– entre **Mapecoat I 600 W** y la 1ª capa: aprox. 24 h o entre **Primer per Aquaflex** y la 1ª capa: aprox. 24 h – entre dos capas de **Aquaflex Roof Premium**: aprox. 24 h – para el tránsito: aprox. 48 h
Tiempo de espera, a +35°C - 50% de H.R.:	– entre **Mapecoat I 600 W** y la 1ª capa: aprox. 1-2 h o entre **Primer per Aquaflex** y la 1ª capa: aprox. 2-4 h – entre dos capas de **Aquaflex Roof Premium**: aprox. 1 h – para el tránsito: aprox. 24 h
CARACTERÍSTICAS MECÁNICAS	
Alargamiento a rotura, a +23°C y al 50% de H.R. (EN ISO 37) (%):	400
Resistencia a tracción, a +23°C y al 50% de H.R. (EN ISO 37) (N/mm²):	4

PRESTACIONES FINALES

Características de prestaciones	Método de ensayo	Requisitos según la norma EN 1504-2 revestimiento (C) principios PI, MC e IR	Resultados de las prestaciones de Aquaflex Roof Premium	
Adherencia al hormigón - después de 28 días, a +23°C y al 50% de H.R. (N/mm²):	EN 1542	Para sistemas flexibles sin tráfico: ≥ 0,8	2	
Compatibilidad térmica a los ciclos de hielo-deshielo con sales de deshielo, medida como adherencia (N/mm²):	EN 13687-1		≥ 1,5	
Compatibilidad térmica a los choques térmicos, medida como adherencia (N/mm²):	EN 13687-2		≥ 1,5	
Puenteo de fisuras estático a +23°C, expresado como anchura máxima de la fisura (mm):	EN 1062-7	de clase A1 (0,1 mm) a clase A5 (2,5 mm)	Clase A5	
Puenteo de fisuras estático a 0°C, expresado como anchura máxima de la fisura (mm):			Clase A5	
Puenteo de fisuras estático a -10°C, expresado como anchura máxima de la fisura (mm):			Clase A5	
Puenteo de fisuras dinámico a +23°C, expresado como resistencia a los ciclos de fisuración:		de clase B1 a clase B4.2	Clase B4.2	
Puenteo de fisuras dinámico a -10°C, expresado como resistencia a los ciclos de fisuración:			Clase B4.1	
Permeabilidad al vapor de agua - espesor de aire equivalente S_D (m):	EN ISO 7783-1	clase I: S_D < 5 m (permeable al vapor)	S_D = 1,5	Clase I
Impermeabilidad al agua expresada como absorción capilar (kg/m²·h^{0,5}):	EN 1062-3	< 0,1	< 0,01	
Permeabilidad al anhídrido carbónico (CO_2) - difusión de espesor de aire equivalente S_{DCO2} (m):	EN 1062-6	> 50	S_{DCO2} = 195 por 1 mm de espesor seco	
Exposición a los agentes atmosféricos artificiales:	EN 1062-11	Después de 2000 h de intemperie artificial: – abultamiento nulo según la EN ISO 4628-2 – fisuración nula según la EN ISO 4628-4 – descamación nula según la EN ISO 4628-5. Pueden aceptarse ligeras variaciones de color, pérdida de brillo y aparición de polvo.	Ningún abultamiento, fisuración o descamación. Ligera variación cromática	
Reacción al fuego:	EN 13501-1	Euroclase	B-s1-d0	
Resistencia al deslizamiento (método de ensayo del péndulo):	EN 13036-4	Clase I: > 40 unidades con ensayo en húmedo (superficies interiores húmedas) Clase II: > 40 unidades con ensayo en seco (superficies interiores secas) Clase III: > 55 unidades con ensayo en húmedo (en exterior) O bien de conformidad con las normativas nacionales	Clase II	

Resistencia al deslizamiento (μ):	Método B.C.R.A D.M. n. 236/89 art. 8.2.2	μ > 0,40 para elemento deslizante de cuero sobre pavimento seco μ > 0,40 para elemento deslizante de goma dura estándar sobre pavimento mojado		Seco	Mojado
			cuero	0,48	0,64
			goma	0,60	*
			SBR 302 Nora T	0,45	0,75
			sintético	0,60	0,62

* *Fuera de escala*



Soporte cementoso imprimado con Mapecoat I 600 W



Aplicación de la primera capa de Aquaflex Roof Premium



Aplicación de la segunda capa de Aquaflex Roof Premium

Aquaflex Roof Premium



Preparación del producto
El producto se presenta listo para usar, aunque se recomienda mezclar el contenido del recipiente para obtener una completa homogeneidad del producto.

Aplicación del producto
Una vez convenientemente preparado e imprimado el soporte, aplicar **Aquaflex Roof Premium** con rodillo de pelo largo, a brocha o por pulverización (para la elección de la máquina consultar con la Asistencia Técnica de Mapei).
Proceder a la aplicación de **Aquaflex Roof Premium** de manera uniforme en, como mínimo, dos capas. No aplicar la segunda capa de producto hasta que la primera esté completamente seca, y hacerlo de tal modo que las pasadas se crucen con las de la capa anterior. En el caso de soportes con microfisuras o en correspondencia con solapes de láminas bituminosas, insertar **Mapetex 50**, tejido no-tejido de polipropileno, entre ambas capas de **Aquaflex Roof Premium**, tal y como se indica a continuación. Aplicar una capa abundante de producto y extender, acto seguido, **Mapetex 50**, comprimiéndolo con ayuda de una llana lisa o de un rodillo de púas para obtener su perfecta impregnación. Una vez que dicha capa esté completamente seca se podrá proceder a aplicar la siguiente capa de **Aquaflex Roof Premium** de tal manera que cubra totalmente **Mapetex 50**.

Limpieza de las herramientas
Las herramientas empleadas durante la aplicación de **Aquaflex Roof Premium** deben limpiarse con agua antes de su endurecimiento.

CONSUMO
Los consumos indicados corresponden, por lo general, a la aplicación de una película uniforme sobre una superficie plana y podrían aumentar si la superficie del soporte fuera irregular.
– Como acabado protector o revestimiento reflectante sobre membranas bituminosas existentes: aprox. 0,9-1 kg/m^2.
– Como membrana impermeabilizante: 1,5-2 kg/m^2, que equivalen a aprox. 0,8-1 mm de espesor seco.

PRESENTACIÓN
Bidones de 5 y 20 kg.

COLORES
Blanco altamente reflectante, Gris (NCS S 3502) y Rojo teja.

ALMACENAMIENTO
Aquaflex Roof Premium, conservado en los envases originales tiene un tiempo de conservación de 12 meses. Proteger de las heladas.

INSTRUCCIONES DE SEGURIDAD PARA LA PREPARACIÓN Y LA PUESTA EN OBRA
Aquaflex Roof Premium no está clasificado como peligroso por la normativa actual en materia de mezclas. Se recomienda usar guantes y gafas protectoras, y seguir las precauciones habituales para la manipulación de productos químicos.
Para una ulterior y más completa información en referencia al uso seguro del producto, se recomienda consultar la última versión de la Ficha de Seguridad.

PRODUCTO PARA USO PROFESIONAL.

ADVERTENCIA
Las indicaciones y las prescripciones descritas, aun correspondiendo a nuestra mejor experiencia, deben considerarse en todo caso como puramente indicativas y deberán confirmarse mediante aplicaciones prácticas concluyentes; por tanto, antes de operar con el producto, quien pretenda utilizarlo deberá establecer si es el más o menos apropiado para el trabajo previsto y asume toda la responsabilidad que pueda derivarse de su uso.

Consultar siempre la última versión actualizada de la Ficha Técnica disponible en la página web www.mapei.com

INFORMACIÓN LEGAL
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Para la Ficha Técnica y la información más actualizada sobre la garantía, consultar nuestra web www.mapei.com.
CUALQUIER MODIFICACIÓN DEL TEXTO O DE LAS CONDICIONES CONTENIDAS EN ESTA FICHA TÉCNICA O DERIVADAS DE ELLA, INVALIDARÁ TODAS LAS CORRESPONDIENTES GARANTÍAS MAPEI.

Las referencias relativas a este producto están disponibles bajo solicitud y en las webs de Mapei www.mapei.es y www.mapei.com

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7469-01-2019 (E)

MAPEI®
EL COMPAÑERO MUNDIAL DE LOS CONSTRUCTORES

Construcción

SikaTop® Seal-107

Mortero de impermeabilización a base de cemento

Descripción del Producto

SikaTop® Seal-107 es un mortero impermeabilizante de dos componentes, a base de una mezcla de cemento que incorpora aditivos especiales y polímeros modificados.
SikaTop® Seal-107 cumple con los requerimientos de la UNE-ES 1504-2 como revestimiento de protección.

Usos

SikaTop® Seal-107 se utiliza para:

- Impermeabilización exterior e interior de estructuras de hormigón, mortero, bloque de hormigón y ladrillo.
- Protección de estructuras de hormigón contra los efectos de las sales de deshielo y los ciclos hielo-deshielo.
- Impermeabilización rígida de muros de cimentación tanto en obra nueva como en trabajos de reparación.
- Como revestimiento tapaporos.
- Impermeabilización interior de sótanos (no sujetos a presión hidrostática de agua).
- Como sellado de pequeñas fisuras en estructuras de hormigón (no sujetas a movimientos).
- Como mortero de regularización para trabajos de reparación.
- Impermeabilización de depósitos de agua potable.

SikaTop® Seal-107 puede utilizarse para protección de estructuras de hormigón:

- Adecuado para protección contra la penetracción (Principio 1, método 1.3 de la UNE-EN 1504-9).
- Adecuado para control de la humedad (Principio 2, método 2.2 de la UNE-EN 1504-9).
- Adecuado para aumentar la resistencia (Principio 8, método 8.2 de la UNE-EN 1504-9).

Características/Ventajas

- Fácilmente aplicable a brocha o a llana.
- No requiere la adición de agua.
- Predosificado.
- Aplicable a mano o mediante proyección mecánica.
- Fácil mezclado y aplicación
- Excelente adherencia sobre soporte sano.
- Protege el hormigón frente a la carbonatación.
- Protege frente a la penetración de agua.
- No corroe ni acero ni metal.
- Repintable
- Aprobado para contacto con agua potable.

Ensayos

Certificados/Normas	Producto para la protección contra la penetración, control de humedad y aumento de resistividad para estructuras de hormigón según UNE-EN 1504-2:2004 con declaración de prestaciones 01 07 01 01 002 0 000001 1053, con certificado de producción según el cuerpo notificador nº 0099-CPR-B15-0007, provisto del marcado CE. Producto apto para contacto con agua potable, que cumple con los requisitos exigibles: ■ Migraciones específicas dentro de los límites indicados en el Real Decreto 2207/1994 (B.O.E. de 18 de enero de 1995), según ensayo realizado en el Laboratorio Homologado por el Ministerio de Sanidad y Consumo «Oficina Técnica de Estudios y Controles. Joaquín Riera Tuebols, S. A.». ■ Fabricado con materias primas incluidas en las listas de sustancias permitidas para la fabricación de materiales y objetos plásticos destinados a entrar en contacto con agua potable (Real Decreto 118 / 2003. B.O.E. de 11 de febrero de 2003).

Datos del Producto

Forma

Apariencia/Colores	Comp. A: Líquido blanco. Comp. B: Polvo gris. Producto mezclado: Mortero gris claro.
Presentación	Lotes predosificados de 25 kg (bolsa de 20 kg y garrafa de 5 kg).

Almacenamiento

Condiciones de almacenamiento/ Conservación	6 meses desde su fecha de fabricación en sus envases de origen bien cerrados y no deteriorados, en ambiente seco y fresco. El componente líquido debe ser protegido de las heladas.

Datos Técnicos

Composición química	Comp. A: Polímeros líquidos y aditivos. Comp. B: Cemento Portland, áridos seleccionados y aditivos.
Densidad	Densidad de mortero fresco: ~ 2,00 kg/l.
Espesor de capa	Mín. 0,75 mm / Máx. 1,5 mm.
Coeficiente de dilatación térmica	13 x 10^{-6} °C.
Coeficiente de difusión al dioxido de carbono (μCO_2)	μCO_2 ~ 35.000.
Coeficiente de difusión al vapor de agua (μH_2O)	μH_2O ~ 500.

Propiedades mecánicas/físicas

Resistencia a compresión (Según EN 196-1)

3 días	~ 20 N/mm²
28 días	~ 35 N/mm²

Resistencia a flexotracción (Según EN 196-1)

3 días	~ 6 N/mm²
28 días	~ 10 N/mm²

Resistencia a tracción	Curado en agua: ~ 3,2 N / mm² después de 14 días Curado al aire: ~ 4,5 N / mm² después de 14 días	(Según DIN 53455)
Adherencia	1,0 N/mm²	
Modulo de elasticidad (E)	Estático: ~ 8.4 kN/mm²	

Información del Sistema

Detalles de Aplicación

Consumo/Dosificación	Depende de la rugosidad del soporte, de la planeidad superficial y del espesor de capa aplicado. Como dato orientativo, ~ 1,8 kg/m²/mm (excluyendo pérdidas y sobreconsumos debidos a la porosidad del soporte) 1 lote de 25 kg ~ 12.5 l de mortero.
Calidad del soporte	El soporte deberá estar estructuralmente sano, limpio, exento de grasas, aceites, polvo, partes huecas o mal adheridas, lechadas superficiales etc. La resistencia a tracción del hormigón debe ser > 1.0 N/mm².
Preparación del soporte/Imprimación	*General* El soporte deberá prepararse mediante medios mecánicos, con chorro de agua a presión, abujardado, chorro de arena, etc. y deberá humedecerse previamente hasta saturación. *Tapaporos / Rellenos de coqueras* Se eliminarán todas las partículas mal adheridas con chorro de arena previo al relleno de poros y pequeñas coqueras. *Mortero de regularización* Preparar y limpiar la superficie mediante medios mecánicos apropiados, como chorro de arena o equivalente para asegurar la eliminación de la lechada superficial, las superficies contaminadas y los revestimientos existentes y para dejar al descubierto las coqueras y nidos de grava. La superficie debe estar regularizada para asegurar la máxima adherencia.

Condiciones de Aplicación/Limitaciones

Temperatura del soporte	mín. + 8°C/ máx. + 35°C
Temperatura ambiente	mín. + 8°C/ máx. + 35°C

Instrucciones de Aplicación

Mezclado	Aplicación a brocha: A:B=1:4 (partes en peso) Aplicación a llana: A:B=1:4.5 (partes en peso)
Tiempo de mezclado	~ 3 minutos
Herramientas de mezclado	SikaTop® Seal-107 debe ser amasado utilizando preferiblemente una batidora eléctrica de baja velocidad (máx. 500 rpm). No se puede utilizar una hormigonera normal.

Método de aplicación/ Herramientas

Homogeneizar el componente A antes de su uso. Verter aproximadamente la mitad del componente A en el recipiente de mezclado y añadir la parte B lentamente mientras se mezcla. Añadir la parte restante del componente A y continuar mezclando hasta que se consiga una consistencia uniforme y sin grumos. La superficie se deberá humedecer previamente hasta conseguir saturación sin brillo.

Como lechada:
Aplicar el producto mezclado, bien mecánicamente, o a mano, utilizando una brocha de cerdas duras. Aplicar con pasadas en la misma dirección.

Aplicar la segunda capa de SikaTop® Seal-107, con pasadas perpendiculares a la primera capa, tan pronto como la primera capa haya endurecido.

Como mortero:
Cuando se aplique el SikaTop® Seal-107 con llana (p.e. para conseguir una superficie muy lisa), el producto se debe mezclar con una reducción del 10 % el componente A (~ 1A: 4.5B).

Se aplicará una segunda capa de SikaTop® Seal-107 tan pronto como la primera haya endurecido.

Para usarlo como tapaporos, presione bien la llana contra la superficie.

Limpieza de herramientas

Los útiles y herramientas se limpiarán con agua inmediatamente después de su utilización. Una vez endurecido el producto solo podrá eliminarse por medios mecánicos

Vida de la mezcla

~ 30 minutos a + 20°C

Tiempo de espera entre capas/Repintabilidad

Tiempo de espera entre capas

+ 10°C	~ 12 horas
+ 20°C	~ 6 horas
+ 30°C	~ 3 horas

Si el tiempo de espera es superior a 24 horas, se debe hacer un pequeño chorreo superficial.

SikaTop® Seal-107 puede ser repintado utilizando imprimaciones o pinturas de base disolvente.

SikaTop® Seal-107 debe tener un tiempo mínimo de curado de 7 días antes de ser cubierto.

Notas de aplicación/ Límites

El SikaTop® Seal-107 no es un tratamiento decorativo, en tiempo húmedo o después de la lluvia pueden aparecer efluorescencias, esto no afecta a la calidad del producto.

Evite la acción directa del sol y/o el viento fuerte. No añadir agua al mortero en ningún caso. Aplicarlo sobre el soporte sano, previamente preparado, sin exceder el espesor de capa máximo recomendado.

Para impermeabilizaciones aplicar siempre al menos dos manos de producto, con un espesor medio total de 1.5 o 2.0 mm. En zonas con fuertes filtraciones se deben aplicar tres manos de producto.

Proteger el mortero fresco de las heladas y la lluvia.

El SikaTop® Seal-107 no es un revestimiento transitable, para capas transitables, utilice un mortero aditivado con Sika®-1 o SikaLátex®.

Para trabajos de impermeabilización se debe prestar atención en no perforar el revestimiento con fijaciones o anclajes. Estos se deben colocar por medio del pegado con SIkaDur®-31 CF o SikaFlex®-11 FC+

Los certificados del producto para contacto con agua potable se han obtenido para una relación de mezcla Componente A: Componente B = 1:4,5 y por tanto no son aplicables cuando, para obtener una consistencia más fluida, se varíe la relación entre los componentes.

Detalles de Curado

Tratamiento de curado

Es esencial el curado del SikaTop® Seal-107 inmediatamente después de su aplicación durante un mínimo de 3 a 5 días para asegurar la hidratación completa del cemento y una fisuración mínima. Utilizar un film de polietileno u otros métodos adecuados

Notas

Todos los datos técnicos indicados en esta Hoja de Datos de Producto están basados en ensayos de laboratorio. Las medidas reales de estos datos pueden variar debido a circunstancias más allá de nuestro control.

Instrucciones de Seguridad e Higiene

Para cualquier información referida a cuestiones de seguridad en el uso, manejo, almacenamiento y eliminación de residuos de productos químicos, los usuarios deben consultar la versión más reciente de la Hoja de Seguridad del producto, que contiene datos físicos, ecológicos, toxicológicos y demás cuestiones relacionadas con la seguridad.

Notas Legales

Esta información y, en particular, las recomendaciones relativas a la aplicación y uso final del producto, están dadas de buena fe, basadas en el conocimiento actual y la experiencia de Sika de los productos cuando son correctamente almacenados, manejados y aplicados, en situaciones normales, dentro de su vida útil, de acuerdo a las recomendaciones de Sika. En la práctica, las posibles diferencias en los materiales, soportes y condiciones reales en el lugar de aplicación son tales, que no se puede deducir de la información del presente documento, ni de cualquier otra recomendación escrita, ni de consejo alguno ofrecido, ninguna garantía en términos de comercialización o idoneidad para propósitos particulares, ni obligación alguna fuera de cualquier relación legal que pudiera existir. El usuario de los productos debe realizar las pruebas para comprobar su idoneidad de acuerdo al uso que se le quiere dar. Sika se reserva el derecho de cambiar las propiedades de sus productos. Los derechos de propiedad de terceras partes deben ser respetados. Todos los pedidos se aceptan de acuerdo a los términos de nuestras vigentes Condiciones Generales de Venta y Suministro. Los usuarios deben de conocer y utilizar la versión última y actualizada de las Hojas de Datos de Productos local, copia de las cuales se mandarán a quién las solicite, o también se puede conseguir en la página «www.sika.es».

Oficinas centrales y Fabrica

Madrid 28108 - Alcobendas
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Carretera de Fuencarral, 72
Tels.: 916 57 23 75
Fax: 916 62 19 38

Oficinas centrales y Centro Logístico

Madrid 28108 - Alcobendas
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C/ Aragoneses, 17
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Fax: 916 62 19 38

Diseño y producción en instalaciones de Alcobendas (Madrid)

RESPONSIBLE CARE
El Compromiso de la Industria Química con el Desarrollo Sostenible

VÁLVULA DE MARIPOSA DOBLE EXCÉNTRICA-HAWLE



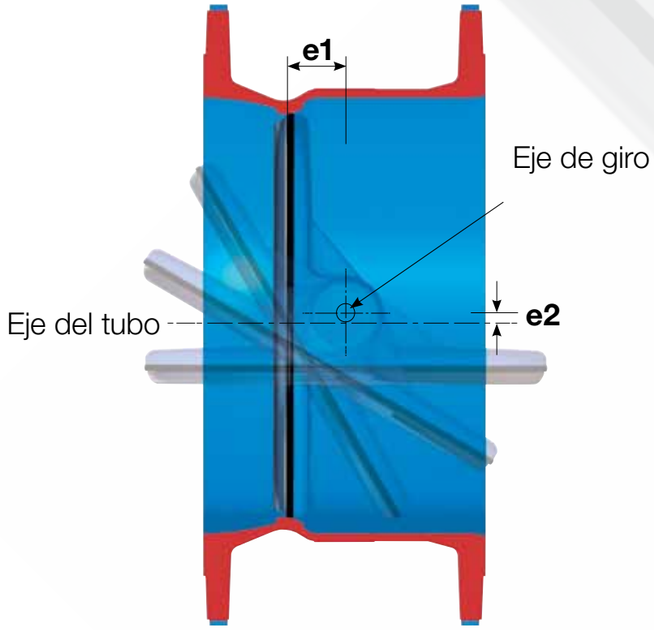
HAWLE. **MADE FOR GENERATIONS.**

BIENVENIDOS AL MUNDO DE HAWLE

Hawle es uno de los principales productores a nivel mundial de soluciones exigentes de griferías. Gracias a nuestra larga experiencia, nos hemos convertido en especialistas en la fabricación de tapas de cierre excéntricas dobles junto con los accesorios y piezas de equipamiento adicionales necesarios que por supuesto cumplen con la normativa y legislación vigente. Estos conocimientos técnicos los utilizamos también a la hora de desarrollar grifería a medida para aplicaciones especiales y condiciones de funcionamiento especiales.

Ya sea durante la planificación, el montaje o el mantenimiento, nuestros clientes de las áreas industriales y del suministro de agua pueden confiar en que nos encargaremos de sus necesidades y su especial situación. Esto nos lleva a una construcción de grifería que, por una parte, cumple de forma óptima con las necesidades individuales y, por otra, destaca por su calidad, eficacia y larga duración. Para nosotros es igual de importante la facilidad de uso que tenga cada producto individual.

Construcción de válvula de mariposa doble excéntrica Hawle



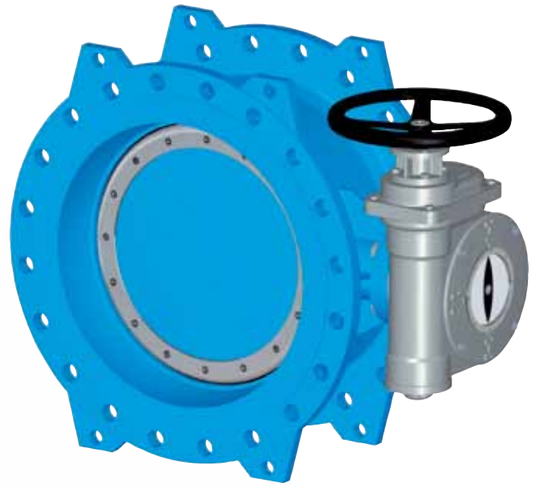
En la primera excentricidad (e1) el eje de giro de la placa de cierre está ubicado fuera del nivel de sellado. De esta manera se consigue un sellado sobre el área completa entre el asiento de sellado y la junta tórica. En la segunda excentricidad (e2) el eje de giro de la placa de cierre está colocado frente al eje del tubo. Debido a la segunda excentricidad, la junta tórica deja de estar en su asiento tras un pequeño movimiento de apertura. De esta manera se descarga rápidamente la presión sobre el sellado de goma en el área de la placa de cierre y así se evita desgastar la goma y provocar abrasión.

En estado abierto de la compuerta la junta tórica se encuentra completamente descomprimida y de esta manera no queda presionada de forma permanente, incluso cuando la compuerta se deja abierta durante años.

Ilustraciones, datos técnicos, dimensiones (todas en mm) y pesos (en kg.) indicados están sujetos a cambios sin previo aviso.

Ventajas de válvula de mariposa doble excéntrica:

- En posición abierta la junta tórica está descomprimida
- Las fuerzas máximas para la activación son muy reducidas
- Durante la activación de cierre / apertura la junta tórica no roza con el asiento de sellado
- Larga vida útil del sellado
- La sustitución del sellado es muy fácil y no requiere herramientas especializadas
- Superficie de 360° a diferencia de compuertas céntricas, por lo tanto se puede alcanzar un nivel de goteo de acuerdo con la normativa EN 12266-A (a prueba de goteo)

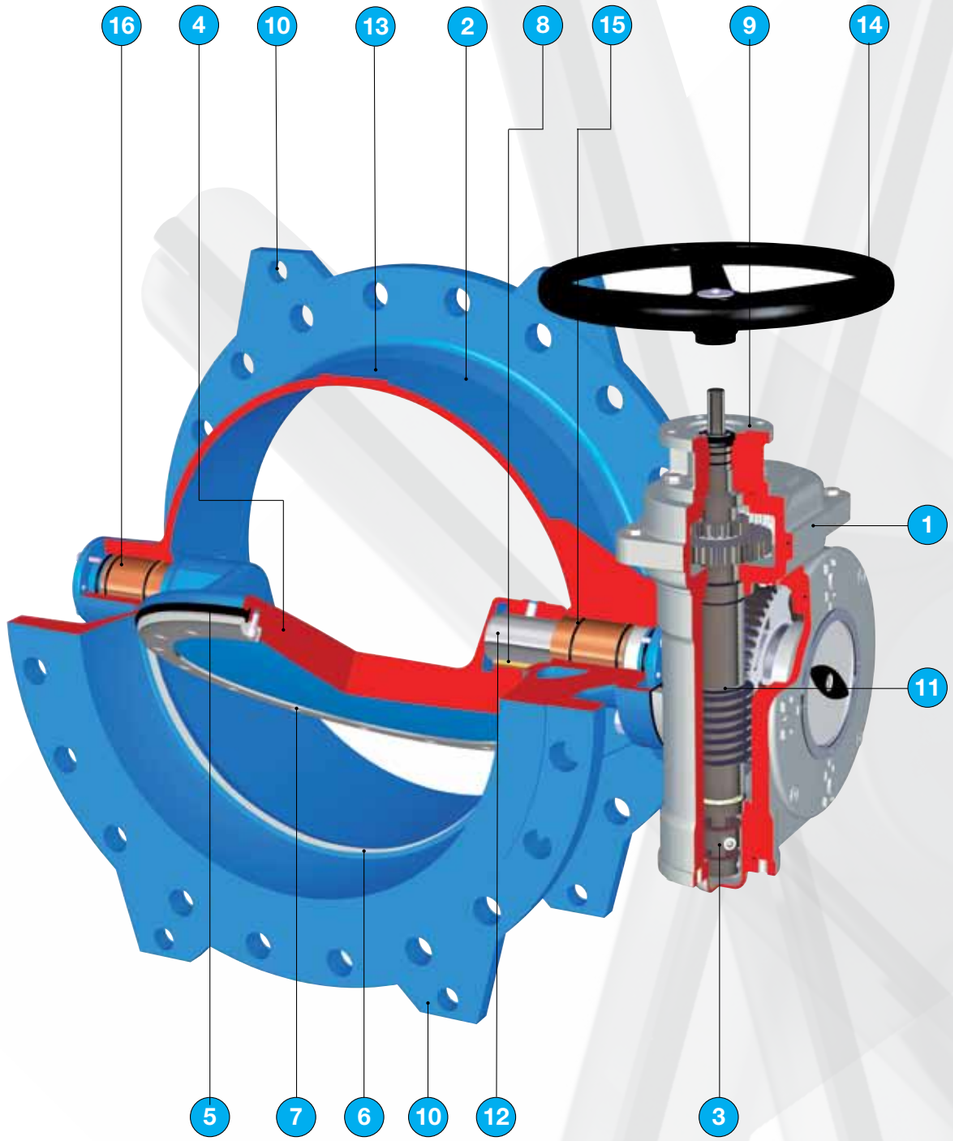


Datos técnicos

	VERSIÓN ESTÁNDAR
Ref.	9881 K
Construcción	Doble brida con doble excéntrica EN 593
Clase de protección	Engranaje y compuerta de acuerdo con IP 68
Dimensiones nominales	DN 150 - DN 1400
Rango de presión	PN 10, PN 16
Campo de aplicación	Agua potable, agua industrial, agua no tratada
Longitud de construcción	EN 558 – 1 Serie básica 14 (DIN 3202, F4), opcional: Serie básica 13
Bridas	EN 1092 – 2 PN 10 / 16
Cuerpo	Hierro fundido esferoidal
Disco de cierre	Hierro fundido esferoidal
Sellado de cierre	Goma EPDM
Eje	Acero inoxidable
Asiento de sellado	Acero inoxidable soldado y trabajado de forma precisa
Anillo de retención	Acero inoxidable (opcional: acero recubierto)
Fijaciones internas	Acero inoxidable
Fijaciones externas	Acero inoxidable
Casquillos de cojinete	Bronce
Recubrimiento cuerpo y disco	en el interior y en el exterior recubierto con polvos epoxi, grosor de capa mín. de 250 µm conforme a DIN 30677-2
Accionamiento	manual mediante engranaje de caracol y rueda (opcional: accionamiento eléctrico, neumático o hidráulico)
Temperatura del medio	según EN 1074
Color	RAL 5012
Dirección de cierre	cierre hacia la derecha (opcionalmente: cierre hacia la izquierda)
Engranaje	Posición 01 A con rueda. Otros diseños disponibles (vea la página 6)

Ilustraciones, datos técnicos, dimensiones (todas en mm) y pesos (en kg.) indicados están sujetos a cambios sin previo aviso.

CARACTERÍSTICAS CONSTRUCTIVAS

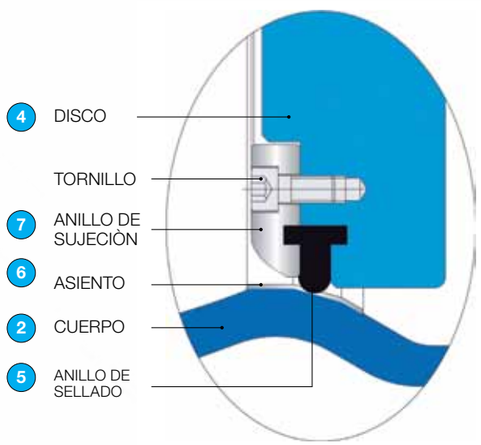


1 Engranaje: Clase de protección IP 68
Clase de protección del reductor IP 68, apto para su instalación en arqueta o directamente enterrado

2 Cuerpo
El asiento sellado micropulido y la superficie lisa del cuerpo se encargan de que la resistencia al flujo sea mínima

3 Tuerca de avance
El extremo inferior del eje helicoidal está provisto de una rosca; En este husillo roscado se aproxima y se aleja una tuerca de rodamiento situada en el interior. Al accionar el engranaje en dirección „abierta“ o „cerrada“ también se mueve dicha tuerca en la dirección del correspondiente tope y garantiza la posición final correcta del disco de cierre

4 Disco de cierre
El diseño optimizado del disco de cierre mejora los valores de pérdida de carga. El disco de cierre doble excéntrico facilita el accionamiento de la válvula y disminuye el desgaste de la junta



5 Sistema de obturación
Formado por el disco de cierre y una junta elástica con perfil en T fijada al disco de cierre mediante un aro de retención. En posición cerrada la junta de cierre presiona contra el asiento cónico del cuerpo permitiendo una obturación segura en ambas direcciones de flujo. En posición abierta la junta de cierre está totalmente distendida debido a la construcción doble excéntrica

6 Asiento del cuerpo
El asiento integrado, soldado y micropulido de acero inoxidable proporciona una superficie resistente a la corrosión y a la erosión; con este diseño cónico, especial del asiento se asegura una perfecta estanquidad al cierre

7 Aro de sujeción
Permite una óptima fijación de la junta de cierre al disco; el aro de sujeción se puede desmontar con facilidad para sustituir la junta de cierre sin necesidad de utilizar herramientas especiales ni de desmontar el disco completo

8 Conexión de eje
Conexión de enganche mecánico entre el disco y el eje mediante chaveta de ajuste

9 Brida superior
Todas las válvulas de mariposa vienen equipadas con bridas de acuerdo a la norma EN ISO 5210 y por ello están preparadas para diferentes tipos de opciones de accionamiento

10 Orificios de elevación y pies
Los orificios de elevación integrados facilitan una instalación segura y los pies garantizan un buen apoyo

11 Engranaje helicoidal
El engranaje está construido de tal manera que el disco puede ser manejado por un solo operario sin apenas esfuerzo

12 Ejes
El eje en dos piezas garantiza una sección de paso máxima

13 Número de serie
Cada válvula viene provista de un número de serie marcado en el cuerpo para un fácil seguimiento e identificación

14 Volante
Incluido en la entrega estándar

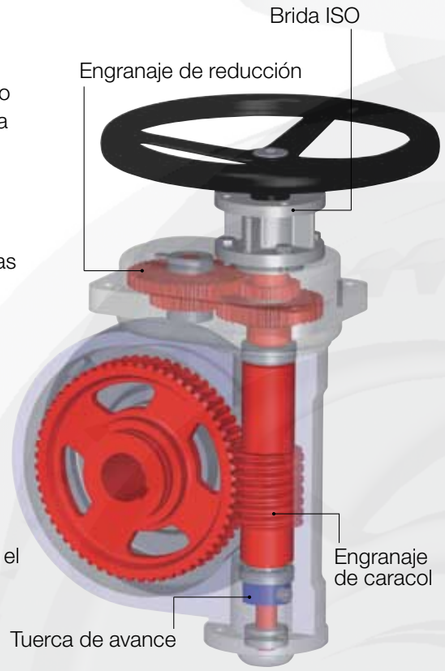
15 Sellado de eje
Un sistema de sellado de varias juntas tóricas garantiza un sellado sin necesidad de mantenimiento

16 Cojinetes autolubricantes
Centran el disco, evitan el desplazamiento axial y reducen la fricción de los ejes y por tanto las fuerzas de acción

Ilustraciones, datos técnicos, dimensiones (todas en mm) y pesos (en kg.) indicados están sujetos a cambios sin previo aviso.
Ilustraciones, datos técnicos, dimensiones (todas en mm) y pesos (en kg.) indicados están sujetos a cambios sin previo aviso.

ENGRANAJE

Se han desarrollado engranajes de caracol TK para el accionamiento de compuertas de cierre. Los engranajes de caracol permiten un cuarto de giro de la placa de cierre (abrir/cerrar). Un sistema de tuercas de avance asegura que el movimiento de la placa de cierre quede limitado en la posición de apertura y de cierre.
El diseño autolimitante del engranaje garantiza el funcionamiento sin problemas y el sellado de la compuerta de cierre en posición de cierre.
Nueve tamaños de engranaje diferentes cubren las necesidades de todas las dimensiones y etapas de presión de nuestras compuertas de cierre.



Características del diseño

- Diseño sólido
- Ajuste de fábrica con ángulo de giro de 90°
- Ajuste del tope final mediante sistema de tuercas de avance
- Fijado directamente en la carcasa de la compuerta sin brida intermedia
- Fijación mediante brida conforme a ISO 5211
- Engranaje de caracol autolimitante con juego mínimo
- La brida superior cumple con la normativa ISO 5210 y es adecuada para el montaje de accionamientos eléctricos
- Indicador de posición mecánico

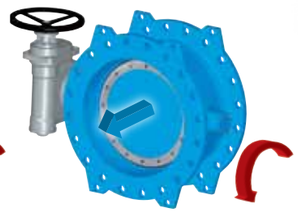
Posiciones posibles para el engranaje de caracol:

Dirección de flujo del medio

Dirección de apertura de la placa de cierre



Versión 01:
- Estándar
- Engranaje a la izquierda
- Apertura con dirección de flujo



Versión 02:
- Opcional
- Engranaje a la derecha
- Apertura con dirección de flujo



Versión 03:
- Opcional
- Engranaje a la izquierda
- Apertura con dirección de flujo



Versión 04:
- Opcional
- Engranaje a la derecha
- Apertura con dirección de flujo

Posiciones posibles para la volante:



Diseño A:
- Standard
- Volante en la parte superior



Diseño B:
- Opcional
- Volante a la derecha



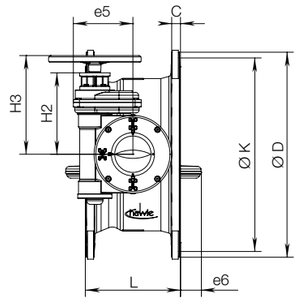
Diseño C:
- Opcional
- Volante izquierda

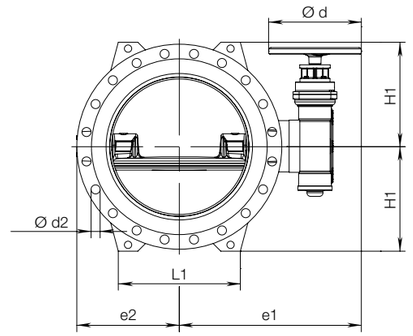


Diseño D:
- Opcional
- Volante inferior

Ilustraciones, datos técnicos, dimensiones (todas en mm) y pesos (en kg.) indicados están sujetos a cambios sin previo aviso.

DATOS TÉCNICOS
VÁLVULA DE MARIPOSA CON VOLANTE, REF. 9881K





Presión nominal PN 10

DN	PFA (PN)	L Serie 14	L1	e1	e2	e5	e6	Ø d	Ø D	Ø K	C	Tornillos Cont.	Tornillos Ø d2	H1	H2	H3	Nº de vueltas abrir /cerrar	Peso
150		210	-	378	151	134	0	245	285	240	19,0	8	23	143	145	212	11,25	45
200		230	180	405	177	134	0	245	340	295	20,0	8	23	180	145	212	11,25	60
250		250	220	481	214	158	5	245	405	350	22,0	12	23	213	165	239	10	95
300		270	280	503	237	158	11	245	460	400	24,5	12	23	242	165	239	10	115
350		290	320	595	283	175	28	370	505	460	24,5	16	23	264	186	271	12,5	155
400		310	335	626	297	175	43	370	565	515	24,5	16	28	293	186	271	12,5	165
450		330	380	670	333	198	57	370	615	565	25,5	20	28	320	287	372	36,25	220
500	10	350	400	701	344	244	67	370	670	620	26,5	20	28	345	336	420	43,5	285
600		390	440	749	414	244	98	370	780	725	30,0	20	31	400	336	420	43,5	350
700		430	540	838	511	313	126	370	895	840	32,5	24	31	460	399	484	104	575
800		470	610	855	530	313	153	370	1015	950	35,0	24	34	520	399	484	104	680
900		510	670	965	618	365	181	370	1115	1050	37,5	28	34	568	435	519	192,5	980
1000		550	740	1039	650	365	206	370	1230	1160	40,0	28	37	625	435	519	192,5	1155
1100		590	750	1022	720	365	237	370	1355	1270	53,5	32	37	695	435	519	192,5	1558
1200		630	900	1251	782	515	264	485	1455	1380	45,0	32	41	738	576	625	362,5	1965
1400		710	1160	1349	917	515	323	485	1675	1500	46,0	36	44	848	538	625	362,5	2690

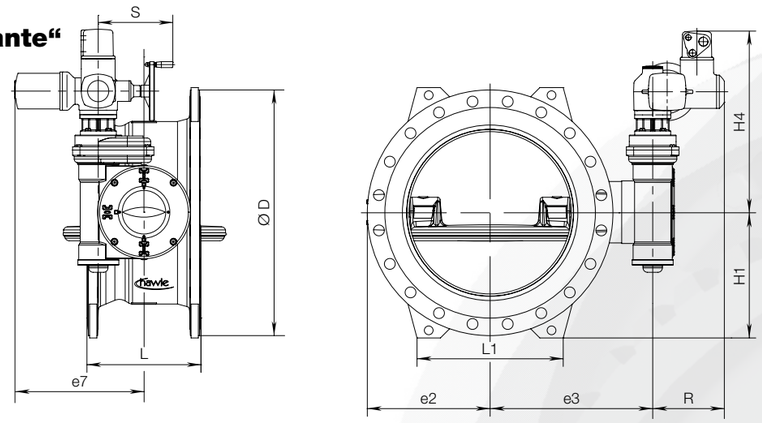
Presión nominal PN 16

DN	PFA (PN)	L Serie 14	L1	e1	e2	e5	e6	Ø d	Ø D	Ø K	C	Tornillos Cont.	Tornillos Ø d2	H1	H2	H3	Nº de vueltas abrir /cerrar	Peso
150		210	-	378	151	134	0	245	285	240	19,0	8	23	143	145	212	11,25	45
200		230	180	405	177	134	0	245	340	295	20,0	12	23	180	145	212	11,25	60
250		250	220	481	214	158	6	245	405	355	22,0	12	28	213	165	239	10	95
300		270	280	503	237	158	11	245	460	410	24,5	12	28	242	165	239	10	115
350		290	320	595	283	175	28	370	520	470	26,5	16	28	272	186	271	12,5	162
400		310	335	626	297	198	43	370	580	525	28,0	16	31	300	287	372	36,25	204
450		330	380	670	333	198	57	370	640	585	30,0	20	31	330	287	372	36,25	240
500		350	400	721	344	244	67	370	715	650	31,5	20	34	370	336	420	43,5	325
600	16	390	500	779	414	244	98	370	840	770	36,0	20	37	432	336	420	43,5	435
700		430	540	838	511	313	126	370	910	840	39,5	24	37	467	399	484	104	610
800		470	615	928	530	313	153	370	1025	950	43,0	24	41	525	399	484	104	780
900		510	675	1007	618	365	181	370	1125	1050	46,5	28	41	573	435	519	192,5	1065
1000		550	740	1039	650	365	206	370	1255	1170	50,0	28	44	638	435	519	192,5	1320
1100		590	750	1091	720	365	237	370	1355	1270	53,5	32	44	696	435	519	192,5	1558
1200		630	900	1251	782	515	264	485	1485	1390	57,0	32	50	753	576	625	362,5	2375
1400		710	1160	1349	917	515	323	485	1685	1590	60,0	36	50	848	538	625	362,5	2870

Ilustraciones, datos técnicos, dimensiones (todas en mm) y pesos (en kg.) indicados están sujetos a cambios sin previo aviso.

DATOS TÉCNICOS
VÁLVULA DE MARIPOSA CON ACTUADOR ELÉCTRICO, REF. 9881K

Ampliación de la tabla
„Válvula de mariposa con volante“



Presión nominal PN 10

DN	PFA (PN)	L Serie 14	L1	e2	e3	e7	H1	H4	Ø D	R	S	Engranaje (brida)	Nº de vueltas abrir /cerrar	Modelos AUMA	Peso
150		210	-	151	255	336	143	424	285	237	249	TK1 (F10)	11,25	SA 07.6	64
200		230	180	177	282	336	180	424	340	237	249	TK1 (F10)	11,25	SA 07.6	79
250		250	220	214	358	377	213	453	405	247	254	TK2 (F10)	10	SA 10.2	118
300		270	280	237	380	377	242	453	460	247	254	TK2 (F10)	10	SA 10.2	138
350		290	320	283	410	392	264	474	505	247	254	TK3 (F10)	12,5	SA 10.2	176
400		310	335	297	441	392	293	474	565	247	254	TK3-R D4 (F10)	12,5	SA 10.2	186
450		330	380	333	460	392	320	575	615	247	254	TK3-R D4 (F10)	36,25	SA 10.2	241
500	10	350	400	344	516	438	345	624	670	247	254	TK4-R D4 (F10)	43,5	SA 10.2	306
600		390	440	414	556	438	400	624	780	247	254	TK4-R D4 (F10)	43,5	SA 10.2	371
700		430	540	468	613	472	460	687	895	247	254	TK5-R D5 (F10)	104	SA 10.2	596
800		470	610	530	670	472	520	687	1015	247	254	TK5-R D5 (F10)	104	SA 10.2	701
900		510	670	578	740	524	568	722	1115	247	254	TK6-R D6 (F10)	192,5	SA 10.2	1001
1000		550	740	650	797	524	625	722	1230	247	254	TK6-R D6 (F10)	192,5	SA 10.2	1176
1100		590	750	720	837	524	695	722	1355	247	254	TK6-R D6 (F10)	192,5	SA 10.2	1579
1200		630	900	782	941	572	738	828	1455	247	254	TK7-R D7 (F10)	362,5	SA 10.2	1984
1400		710	1160	917	1061	674	848	1051	1675	285	330	TK7-R D7 (F14)	362,5	SA 14.2	2770

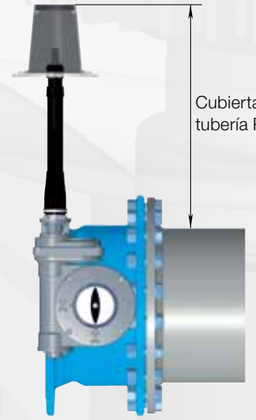
Presión nominal PN 16

DN	PFA (PN)	L Serie 14	L1	e2	e3	e7	H1	H4	Ø D	R	S	Engranaje (brida)	Nº de vueltas abrir /cerrar	Modelos AUMA	Peso
150		210	-	151	255	336	143	424	285	237	249	TK1 (F10)	11,25	SA 07.6	64
200		230	180	177	282	336	180	424	340	247	254	TK1 (F10)	11,25	SA 07.6	83
250		250	220	214	358	377	213	453	405	247	254	TK2 (F10)	10	SA 10.2	118
300		270	280	237	380	377	242	453	460	247	254	TK2 (F10)	10	SA 10.2	138
350		290	320	283	410	392	272	474	520	247	254	TK3 (F10)	12,5	SA 10.2	183
400		310	335	297	441	392	300	474	580	247	254	TK3-R D4 (F10)	12,5	SA 10.2	225
450		330	380	333	460	392	330	575	640	247	254	TK3-R D4 (F10)	36,25	SA 10.2	261
500		350	400	344	516	438	370	624	715	247	254	TK4-R D4 (F10)	43,5	SA 10.2	346
600	16	390	440	414	556	438	432	624	840	247	254	TK4-R D4 (F10)	43,5	SA 10.2	456
700		430	540	468	613	472	467	687	910	247	254	TK5-R D5 (F10)	104	SA 10.2	631
800		470	610	530	670	472	525	687	1025	247	254	TK5-R D5 (F10)	104	SA 10.2	801
900		510	670	578	740	524	573	722	1125	247	254	TK6-R D6 (F10)	192,5	SA 10.2	1086
1000		550	740	650	797	524	638	722	1255	247	254	TK6-R D6 (F10)	192,5	SA 10.2	1341
1100		590	750	720	837	524	696	722	1355	247	254	TK6-R D6 (F10)	192,5	SA 10.2	1579
1200		630	900	782	941	572	753	828	1485	247	254	TK7-R D7 (F10)	362,5	SA 10.2	2394
1400		710	1160	917	1061	674	848	1051	1685	285	330	TK7-R D7 (F14)	362,5	SA 14.2	2930

Ilustraciones, datos técnicos, dimensiones (todas en mm) y pesos (en kg.) indicados están sujetos a cambios sin previo aviso.

VÁLVULA DE MARIPOSA CON GRIFERÍA INTEGRADA

Ampliación de la tabla
„Válvula de mariposa con volante“






rígido


telescópico

DN	Grifería integrada 9000*E2* DN 200 - Inamovible				
	HEKR00561000	**HEKR00561250**	**HEKR00561500**	**HEKR00562000**	**HEKR00562500**
	Cubierta de tubería RD (m)	**Cubierta de tubería RD** (m)	**Cubierta de tubería RD** (m)	**Cubierta de tubería RD** (m)	**Cubierta de tubería RD** (m)
150	0,76	1,01	1,26	1,76	2,26
200	0,73	0,98	1,23	1,73	2,23
250	0,73	0,98	1,23	1,73	2,23
300	0,70	0,95	1,20	1,70	2,20
350	0,69	0,94	1,19	1,69	2,19
400 PN 10	0,66	0,91	1,16	1,66	2,16
400 PN 16	0,77	1,02	1,27	1,77	2,27
450	0,75	1,00	1,25	1,75	2,25
500	0,77	1,02	1,27	1,77	2,27
600	0,72	0,97	1,22	1,72	2,22
700	0,74	0,99	1,24	1,74	2,24
800	0,69	0,94	1,19	1,69	2,19
900	0,67	0,92	1,17	1,67	2,17
1000	0,62	0,87	1,12	1,62	2,12
1100	0,59	0,84	1,09	1,59	2,09
1200	0,62	0,87	1,12	1,62	2,12
1400	0,52	0,77	1,02	1,52	2,02

DN	Grifería integrada 9500*E2* DN 200 - Telescópica					
	HEKR0056135180		**HEKR0056200250**		**HEKR0056250350**	
	Cubierta de tubería RD (m)		**Cubierta de tubería RD** (m)		**Cubierta de tubería RD** (m)	
	min.	**max.**	**min.**	**max.**	**min.**	**max.**
150	1,12	1,57	1,73	2,25	2,22	3,25
200	1,09	1,54	1,70	2,22	2,19	3,22
250	1,09	1,54	1,70	2,22	2,19	3,22
300	1,06	1,51	1,67	2,19	2,16	3,19
350	1,05	1,50	1,66	2,18	2,15	3,18
400 PN 10	1,02	1,47	1,63	2,15	2,12	3,15
400 PN 16	1,13	1,58	1,74	2,26	2,23	3,26
450	1,11	1,56	1,72	2,24	2,21	3,24
500	1,13	1,58	1,74	2,26	2,23	3,26
600	1,08	1,53	1,69	2,21	2,18	3,21
700	1,10	1,55	1,71	2,23	2,20	3,23
800	1,05	1,50	1,66	2,18	2,15	3,18
900	1,03	1,48	1,64	2,16	2,13	3,16
1000	0,98	1,43	1,59	2,11	2,08	3,11
1100	0,95	1,40	1,56	2,08	2,05	3,08
1200	0,98	1,43	1,59	2,11	2,08	3,11
1400	0,88	1,33	1,49	2,01	1,98	3,01

Ilustraciones, datos técnicos, dimensiones (todas en mm) y pesos (en kg.) indicados están sujetos a cambios sin previo aviso.

GAMA DE PRODUCTOS PARA INCREMENTAR EL AGUA + CONDUCTO DE TRANSPORTE DE AGUA

Válvulas de retención con palanca y contrapeso

Nr. 9883



Destacan por su construcción corta, su volumen reducido y su bajo peso.
La placa de cierre de doble excéntrica se mantiene en posición abierta. El ángulo de apertura de la placa de cierre depende de la velocidad de la corriente.
Las compuertas de retención con manilla y contrapeso se pueden integrar de forma vertical u horizontal.
Debido a la variación en peso, se puede adaptar a las condiciones de funcionamiento específicas de cada caso.
Estas compuertas están disponibles en metal o en material de sellado blando.

DN 150 - DN 1400 PN 10, PN 16, PN 25

Válvulas de retención con palanca y contrapeso con amortiguación hidráulica

Nr. 9884



Cuando se alcanza el flujo de retención de la compuerta, antes de que se cierre la placa de cierre, la compuerta se cierra con un golpe y se forma un golpe de presión.
Las compuertas de retención con amortiguación hidráulica permiten un cierre sin golpes y evitan que se produzca un golpe de presión en la carrera de cierre completa.
La velocidad de cierre se ajusta según las condiciones de funcionamiento. Todos los componentes de la compuerta de retención están pensados para los altos niveles de carga durante la amortiguación.
Estas compuertas están disponibles en metal o en material de sellado blando.

DN 150 - DN 1000 PN 10, PN 16, PN 25

Válvula de retención con asiento oblicuo

Nr. 9885 / 9886



En el caso de las compuertas con retención y asiento inclinado, la superficie de apoyo en relación al plano vertical está inclinada. De esta manera se reduce el ángulo de apertura y el tiempo de cierre. Estas compuertas de retención se pueden usar para todo tipo de casos donde se tenga que evitar el reflujo. Tenemos a disposición también compuertas de retención de asiento inclinado con una amortiguación de extremo externa. La ventaja de esta compuerta de retención se encuentra en el mejor comportamiento de cierre debido al menor ángulo de apertura de la placa de cierre. Esto permite tiempos de cierre menores en comparación con otros tipos de compuertas de retención. No se requiere una palanca ni un contrapeso. Estas compuertas están disponibles en metal (9885) o en material de sellado blando (9886).

DN 200 - DN 1200 PN 10, PN 16, PN 25

Ilustraciones, datos técnicos, dimensiones (todas en mm) y pesos (en kg.) indicados están sujetos a cambios sin previo aviso.

Válvulas de retención axiales

Nr. 9887



Las válvulas de retención de ruido reducido permiten, gracias a su concepción, un cierre rápido y sin golpes. Un disco de válvula con muelle y una carrera corta de cierre permiten reaccionar rápidamente en caso de cambio de caudal. De esta manera se minimizan los golpes de presión y se alcanza un proceso de cierre rápido.

El paso optimizado permite que en posición abierta el corte transversal completo de la tubería esté disponible alrededor de la placa de válvula y garantiza de esta manera la menor pérdida posible de presión. Estas válvulas son aptas para grandes velocidades de corriente.

DN 100 - DN 1000 PN 10, PN 16, PN 25, PN 40

Junta de desmontaje

Nr. 9810



Son piezas moldeadas con brida con las que se puede alcanzar una compensación longitudinal en sistemas de conductos de tuberías con bridas.
Se han desarrollado con el objetivo de aumentar la flexibilidad de la planificación del montaje de sistemas de conductos de tuberías, además de facilitar el mantenimiento de la grifería con bridas.

DN 50 - DN 1600 PN 10, PN 16, PN 25

Válvulas de pie con filtro

Nr. 9888



Se encuentran integradas en el conducto de aspiración de la bomba. Las válvulas de pie evitan que se escurran las columnas de agua en caso de una parada de bomba.

DN 100 - DN 1000 PN 10, PN 16, PN 25

Ilustraciones, datos técnicos, dimensiones (todas en mm) y pesos (en kg.) indicados están sujetos a cambios sin previo aviso.

VARIANTES DE CONSTRUCCIÓN DE LAS VÁLVULAS DE MARIPOSA



Estándar con volante
Nr. 9881K

Accesorios de las compuertas estándar



Actuador
Nr. 9920



Cuadradillo
Nr. 2161



Adaptador
Nr. 9211
para eje de extensión
(instalación subterránea) E2, DN 200

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E-Mail: hawle@hawle.at
www.hawle.com

LOWARA
a xylem brand

NSCF 125-315/185/W45VCC4

Technical data

Company name
Contacto
Phone number
e-mail address

Características de funcionamiento

1	Tipo inst.	Bombas de un solo rodete en paralelo		Fluido	Agua potable		
2	N° de bombas	2		Temperatura de funcionamiento t A°C		18	
3	Flujo nominal	m³/h	350	Max/Min Operating Temperature	°C	120 / -10	
4	Cabezal nominal	m	21	Valor pH a t A		7	
5	Altura estática	m	8	Densidad a t A	kg/m³	999	
6	V	kPa	0	Viscosidad cinematica a t A	mm²/s	1,052	
7	Temperatura ambiente	°C	20	Presión de vapor en t A	kPa	100	
8	NPSH disponible	m	0	Altura		0	

Datos bomba

9	Lubrication	Standard, Grease lubrication					
10	Execution	Standard coupling		Ø Rodete	Máx.	mm	334
11	Diseño	Horizontal			Diseñado	mm	277
12	Velocidad de funcionamiento	1470 rpm	Etapas 1		Min.	mm	277
13	Boquilla de aspiración	DN150 / PN10/16 / EN1092-2 (NSC)		Caudal	Nominal	m³/h	386,7
14	Boquilla de descarga	DN125 / PN10/16 / EN1092-2 (NSC)			Max-	m³/h	317,8
15	Maxima presion en la carcasa	kPa			Min-	m³/h	43,9
16	Max. Presion de trabajo	kPa	250,5	Altura de impulsión	Nominal	m	23,9
17	Tipo de rodete	Radial impeller			en Qmax	m	11,8
18	Altura H(Q=0)	m	26		en Qmin	m	25,8
19	Potencia del eje motor máxima	kW	13,9	Potencia en el eje		kW	30,4
20	Pump weight	kg	152	Rendimiento		%	83
21	Total weight	kg	434,9	NPSH 3%		m	1,9

Materiales

	Bomba		Cierre mecánico	
22				
23	Volute Casing	Cast Iron, EN 1561 - GJL-250, ASTM Class 35	Single mechanical seal, without shaft sleeve	
24	Impulsor	Cast Iron, EN 1561 - GJL-200, ASTM Class 30	eMG12 - Ø48mm	BQ7EGG-WA
25	Casing Cover	Cast Iron, EN 1561 - GJL-250, ASTM Class 35	Mechanical seal diameter	48 mm
26	Eje	Stainless steel, 1.4057, AISI 431	1. Rotating ring	Carbon graphite resin impregnated
27	anillo de desgaste	Stainless steel, 1.4301, AISI 304	2. Stationary ring	SiC, silicon carbide, sintered press.less
28	Impeller lock nut and washer	A4 (1.4401)	3. Secondary seal	Ethylene propylene rubber (EPDM)
29	Impeller key	Stainless steel, 1.4571, AISI 316Ti	4. Springs	CrNiMo - Steel
30	Fill and drain plugs	Stainless steel, 1.4571, AISI 316Ti	5. Others	EPDM - WRAS
31	Bearing bracket	Cast Iron, EN 1561 - GJL-250, ASTM Class 35	Gaskets of the pump	Ethylene propylene rubber (EPDM)
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				

Datos del motor

42	Fabricante	WEG			
43	Ejecución	IE3 motors - Cast Iron Frame - Premium Efficiency			
44	Tipo	W22 - 180 M - 18,5kW			
45	Pot. Nominal.	18,5 kW	Corriente nominal	35,1 A	
46	Velocidad nominal	1470 rpm	Tensión nominal	400 V	
47	Tamaño de construcción	180M	Factor de servicio	1	
48	Weight kg	172,0	Grado de protección	IP55	

Acoplamiento

Fabricante		Flender			
Serie		Standard Coupling - Type B			
Diámetro del eje		Bomba 42 mm	Motor 48 mm		
Tamaño de construcción		110			
Longitud de desmontaje	mm	4			
Weight	kg	3,3			
Protección del acoplamiento		GBmCOUPLGUARD ES42-230-16 A4			1,7 kg

Placa base

49	Nombre	BASEFRAME_NSC80-4_C00	
50	Weight kg	105,9	

Remarks

LOWARA
a xylem brand

NSCF 125-315/185/W45VCC4

Performance curve

Company name
Contacto
Phone number
e-mail address

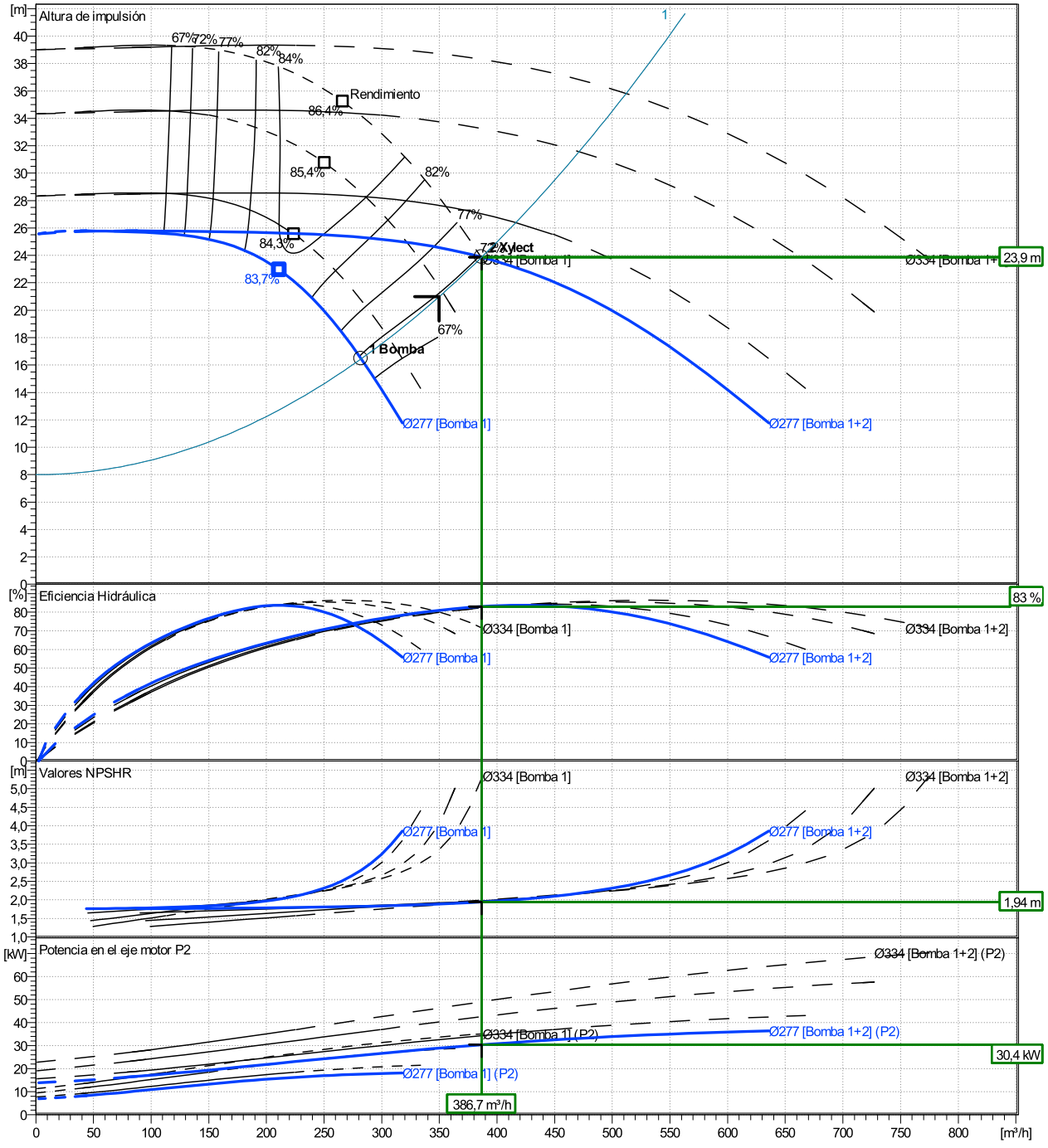
	Ø	Capacidad de la bomba Gama de funcionamiento		η	Cabezal de la bomba		η	Potencia al eje P2		η	Frecuencia	Hz	50
		Min.	Máx.	Máx.	H(Q=0)		Máx.	P2(Q=0)		Máx.	Velocidad de funcionamiento	rpm	1470
	mm	m³/h	m³/h	m³/h	m		m	kW		kW	Flujo nominal	m³/h	350
Actual	277	43,9	318	211	25,6		22,9		13,9	15,8	Cabezal nominal	m	21
Min.	0	/	/	211	25,6		22,9		/	15,8	V	kPa	0
Máx.	334	/	/	267	39		35,2		/	29,4	Altura estática	m	8

Potencia referida a:

hydr. Performance acceptance acc. To EN ISO 9906 Class Grade 3B

Agua potable [100%] ; 18°C; 999kg/m³; 1,05mm²/s

MEI: >=0,70 - according to Ecodesign Directive 2009/125/EC and Regulation (EU) No.547/2012



Proyecto		**Creado por**	Roger Torregrosa Llorens **Última actualización** 2/6/2021
Bloque	NSCF 125-315/185/W45VCC4	**Creado el**	2/6/2021

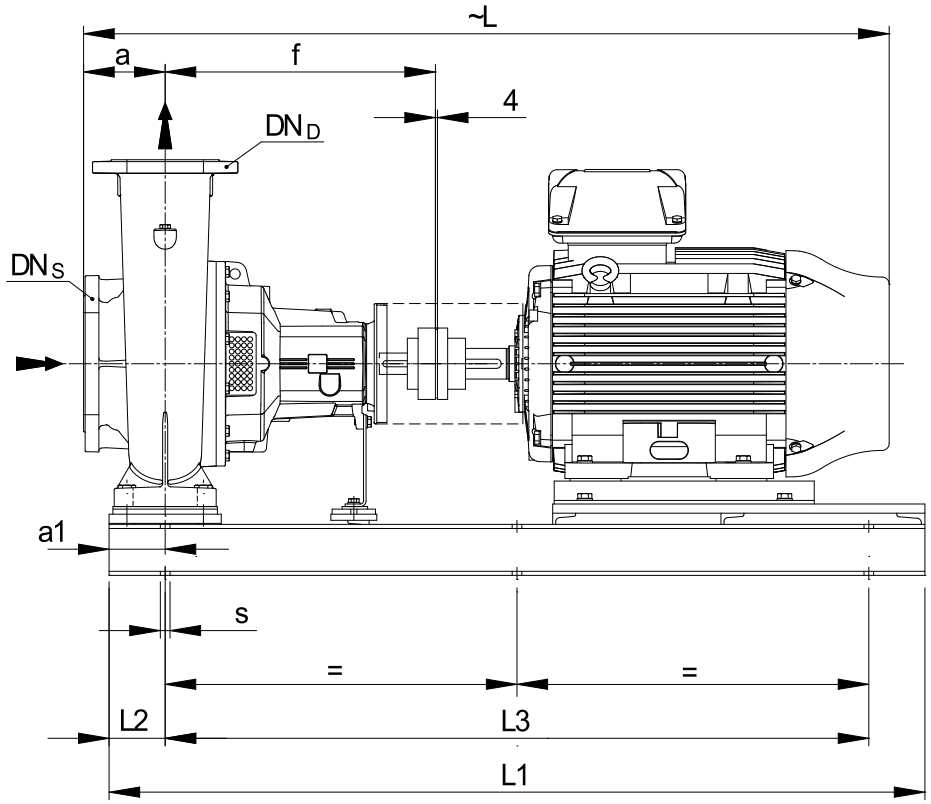
LOWARA
a xylem brand

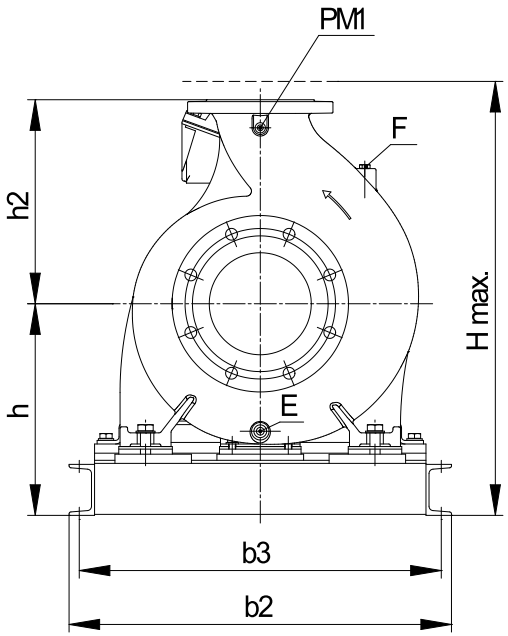
NSCF 125-315/185/W45VCC4

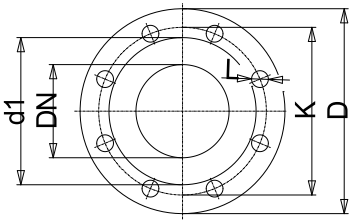
Medidas

Company name
Contacto
Phone number
e-mail address

Frame mounted
Standard coupling
W22 - 180 M - 18,5kW







Value C, D may vary from Standard

Medidas			[mm]
a	140	L2	110
a1	110	L3	1210
b2	670	PM1	1/4"
b3	630	s	6xØ19
CTO	0	Trim	0
DNd	125	Volumen	0,67683
DNs	150		
E	3/8"		
F	3/8"		
f	530		
Guard	224		
h	400		
h2	355		
Hmax	755		
L	1338		
L1	1430		

Peso	(+/- 5%)
Bomba	152 kg
Acoplamiento	3,3
Placa base	106
Motor	172
Total weight	434,9 kg

Connections			
Boquilla de aspiración		Boquilla de descarga	
DN150		DN125	
PN10/16		PN10/16	
EN1092-2 (NSC)		EN1092-2 (NSC)	
C	26	C	26
D	285	D	255
d1	211	d1	184
K	240	K	210
L	23	L	19
z	8	z	8

Dimensions and weight without obligation

Proyecto		Creado por	Roger Torregrosa Llorens	Ultima actualización 2/6/2021
Bloque	NSCF 125-315/185/W45VCC4	Creado el	2/6/2021	

DOCUMENTO IV: PRESUPUESTO

ÍNDICE GENERAL PRESUPUESTO

CUADRO DE PRECIOS Nº1

CUADRO DE PRECIOS Nº2

MEDICIONES

PRESUPUESTO

RESUMEN DEL PRESUPUESTO

CUADRO DE PRECIOS Nº1

CUADRO DE PRECIOS 1

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0001	14.1	m³	Transporte con camión de los productos procedentes de la construcción o demolición a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, kilometraje ilimitado, considerando el tiempo de espera para la carga a máquina en obra, ida, descarga y vuelta.	DIEZ EUROS con TREINTA Y OCHO CÉNTIMOS	10,38
0002	14.3	m³	Despiece manual de residuos de plástico voluminosos y otros residuos que deban ser tratados de forma previa a su carga y transporte a gestor autorizado	NOVENTA Y CINCO EUROS con SETENTA Y SEIS CÉNTIMOS	95,76
0003	14.7	Ud	Suministro y ubicación en obra de bidón de 200 litros de capacidad para residuos peligrosos procedentes de la construcción o demolición, apto para almacenar tierras y piedras que contienen sustancias peligrosas. Incluso marcado del recipiente con la etiqueta correspondiente.	CIENTO SESENTA Y SEIS EUROS con NOVENTA Y DOS CÉNTIMOS	166,92
0004	14.8	Ud	Suministro y ubicación en obra de bidón de 200 litros de capacidad para residuos peligrosos procedentes de la construcción o demolición, apto para almacenar envases que contienen restos de sustancias peligrosas o están contaminados por ellas. Incluso marcado del recipiente con la etiqueta correspondiente.	CIENTO SESENTA Y SEIS EUROS con NOVENTA Y DOS CÉNTIMOS	166,92

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0005	14.9	Ud	Transporte de bidón de 200 litros de capacidad con residuos peligrosos procedentes de la construcción o demolición, a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, considerando la carga y descarga de los bidones. Incluye: Carga de bidones. Transporte de bidones a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos. Descarga de bidones.	CIENTO DIEZ EUROS con TRECE CÉNTIMOS	110,13
0006	ACCEININS	PA	Conjunto de accesorios para la instrumentación y control de niveles, entradas y salidas de depósito formado por medidores de caudal, interruptores de nivel, transmisores de presión , etc, formado por los siguientes componentes: - Cinco Boyas depósito nuevo y duplicado señales + cinco boyas depósito existente - Sonda de nivel por ultrasonidos y duplicado de sonda de nivel en depósito existente - Dos detectores de flujo - Dos detectores de fugas - Presostato - Finales carrera válvulas motorizadas (cuatro válvulas, ocho finales de carrera). - Amplificadores, transductores y aislamientos galvánicos.	SEIS MIL CUATROCIENTOS SESENTA Y NUEVE EUROS con VEINTIOCHO CÉNTIMOS	6.469,28
0007	ACERA050	m2	Pavimento continuo de hormigón impreso, con juntas, de 12 cm de espesor, realizado con hormigón HM-20/B/20/I fabricado en central y vertido desde camión, extendido y vibrado manual; acabado impreso en relieve y tratado superficialmente con mortero decorativo de rodadura para pavimento de hormigón, color blanco, rendimiento 4,5 kg/m²; desmoldeante en polvo, color burdeos y capa de sellado final con resina impermeabilizante.	SETENTA Y TRES EUROS con OCHENTA Y TRES CÉNTIMOS	73,83

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0008	ACHIQUE	Ud	Bomba de achique de aguas limpias o ligeramente cargadas, modelo DXN07M/G-230V del fabricante CAPRARI o similar, con las siguientes características Q = 5 m3/h Hm = 10 mca Pasaje libre de 8mm como mínimo, diámetro de impulsión G 1 1/2". Motor de 0,75 kW a 50Hz monofásico con boya de nivel incorporada. Cuerpo de Impulsión, placa de desgaste y rodete en hierro fundido EN-GJL200 Rejilla en aluminio Junta de cierre EPDM Rotor y Estátor - Chapa magnética Cierre mecánico Cerámica / Grafito Totalmente montada y conexionada a cuadro eléctrico.	OCHOCIENTOS CUARENTA Y SIETE EUROS con SETENTA Y TRES CÉNTIMOS	847,73
0009	AISI316BRIDA225	Ud	Suministro y montaje de brida loca de DN225 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.	SEISCIENTOS TREINTA Y UN EUROS con SEIS CÉNTIMOS	631,06
0010	AISI316BRIDA280	Ud	Suministro y montaje de brida loca de DN280 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.	SETECIENTOS CINCUENTA Y CUATRO EUROS con CUARENTA Y CUATRO CÉNTIMOS	754,44
0011	AISI316BRIDA315	Ud	Suministro y montaje de brida loca de DN315 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.	OCHOCIENTOS SETENTA Y NUEVE EUROS con TREINTA Y NUEVE CÉNTIMOS	879,39
0012	AISI316BRIDA400	Ud	Suministro y montaje de brida loca de DN400 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.	MIL NOVENTA Y DOS EUROS con CINCUENTA Y CUATRO CÉNTIMOS	1.092,54

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0013	APERHUECO	Ud	Apertura de paso de DN470 sobre paramento vertical de hormigon armado en caseta de bombas existente mediante el empleo de corona circular. Colocación de pasamuros (no incluido en el precio), refuerzo con armado definido en planos, colocación de 2 cordones de junta hidroexpansiva a lo largo del perímetro de la perforación y a lo largo del perímetro del pasamuros, encofrado con maderas y posterior relleno con mortero de reparación estructural tipo Sika Monotop 412 S o similar, sellado de juntas entre el nuevo refuerzo y el prefabricado mediante la aplicación en ángulo de bandas impermeabilizantes tipo maxseal flex + drioxoro mesh o similar.	MIL CUATROCIENTOS CUARENTA Y UN EUROS con SETENTA Y TRES CÉNTIMOS	1.441,73
0014	ARQ8080100	Ud	Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 80x80x110 cm de medidas interiores, con paredes rebajadas para la entrada de tubos, capaz de soportar una carga de 400 kN, con marco de chapa galvanizada y tapa de hormigón armado aligerado, de 89,5x88,5 cm, para arqueta de conexión eléctrica, capaz de soportar una carga de 125 kN; previa excavación con medios manuales y posterior relleno del trasdós con material granular.	TRESCIENTOS TREINTA Y NUEVE EUROS con TREINTA Y CINCO CÉNTIMOS	339,35
0015	BALIZA700	Ud	Baliza circular con distribución de luz radialmente simétrica, de 150 mm de diámetro y 700 mm de altura, para led de 15 W, con cuerpo de aluminio inyectado, aluminio y acero inoxidable, vidrio con borosilicato, reflector de aluminio puro anodizado, clase de protección I, grado de protección IP65, aislamiento clase F, con placa de anclaje y pernos. Incluso lámparas, base de hormigón en masa HM-20/B/20/IIa para anclaje de la baliza, totalmente terminado.	CUATROCIENTOS CINCUENTA Y NUEVE EUROS con VEINTISÉIS CÉNTIMOS	459,26

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0016	CALDINOX	Ud	Piezas especiales de calderería fabricadas en acero inoxidable AISI 316L formado por: TRAMO ASPIRACIÓN: - Conexión a 90º de los tramos de aspiración en ACERO AISI 316L DN280 con un desarrollo de 0,40 m (total 0,80 m). - Colector Común a 90º que recibe las dos aspiraciones en ACERO AISI 316L DN280 de 3,60 m, del que salen tres conexiones en horizontal en inox DN150 con una longitud cada una de 0,4 m (total 1,20 m) TRAMO IMPULSIÓN: - Colector común en vertical elevado sobre la impulsión de las bombas con un desarrollo horizontal de 3,95 m realizado en ACERO AISI 316L DN315, con tres entradas a 90º para la conexión de la impulsión de las bombas en AISI 316L DN125 con una desarrollo cada una de 0,40 m (total 1,20 m). - Salidas a conexión con tubos de impulsión a depósitos ejecutada mediante T en ACERO AISI 316L DN315 con un desarrollo de 1,10 m - Tres tramos rectos verticales DN125 (uno por cada bomba) con una longitud total de 0,40 m para conexión de las tres bombas con los accesorios. Resumen de longitudes totales ACERO INOX AISI316L: - DN 315 5,05 m (492,17 kg) - DN 280 4,40 m (358,82 kg) - DN 150 1,20 m (51,80 kg) - DN 125 2,40 m (54,30 kg) Incluido la ejecución de pìcajes en los colectores de Aspiración e Impulsión, para toma de muestras, cloración y labores de vaciado de colectores, en total se prevé la ejecución de 5 picajes en el tramo de impulsión y 3 en el tramo de aspiración. Incluida la elaboración de planos de taller, tornillería en acero inoxidable A4 y material auxiliar.	VEINTICUATRO MIL CUATROCIENTOS CINCUENTA Y OCHO EUROS con CUARENTA Y NUEVE CÉNTIMOS	24.458,49
0017	CARRANTIVIB	Ud	Suministro y montaje de carrete antivibratorio de DN125 y PN16 de cuerpo de simple onda con bridas locas de acero inoxidable AISI 316L y juntas en EPDM. Incluidos materiales auxiliares.	DOSCIENTOS TREINTA Y UN EUROS con TREINTA Y CUATRO CÉNTIMOS	231,34
0018	CARRETE125	Ud	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 125, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.	TRESCIENTOS VEINTE EUROS con VEINTISIETE CÉNTIMOS	320,27

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0019	CARRETE150	Ud	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 150, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.	TRESCIENTOS SESENTA Y DOS EUROS con OCHO CÉNTIMOS	362,08
0020	CARRETE225	Ud	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 225, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.	SEISCIENTOS NOVENTA Y CUATRO EUROS con CUARENTA Y NUEVE CÉNTIMOS	694,49
0021	CARRETE280	Ud	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 280, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.	OCHOCIENTOS VEINTIÚN EUROS con CINCUENTA Y CUATRO CÉNTIMOS	821,54
0022	CARRETE315	Ud	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 315, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.	MIL CUARENTA Y SIETE EUROS con NOVENTA Y DOS CÉNTIMOS	1.047,92
0023	CHH010	m3	Hormigón ciclópeo, realizado con hormigón HM-15/P/40/I fabricado en central y vertido desde camión (60% de volumen) y piedra en rama de tamaño máximo 30 cm (40% de volumen), para mejora del terreno de cimentación existente.	DOSCIENTOS VEINTIDÓS EUROS con VEINTICINCO CÉNTIMOS	222,25

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0024	CUADROB	Ud	Suministro, instalación y probado de funcionamiento de cuadro de mando, control y maniobra para estación de bombeo, ubicado en caseta. Estará formado por un armario de poliéster de dimensiones 800x600x300 mm, como mínimo, para montaje mural, con puerta transparente y contrapuerta, para arranque, protección y maniobra de dos bombas (1+1) de 15 kW, con alternancia de funcionamiento, con arranque mediante arrancador electrónico, protección térmica y protección diferencial independiente, conexión al cuadro de conmutación y al sistema de alarma, y cualquier otro elemento necesario para el correcto funcionamiento de las instalaciones y equipos a maniobrar. El cuadro cumplirá con las prescripciones del Pliego Eléctrico, así como con las demás prescripciones e indicaciones de los demás documentos del proyecto.	DIECISÉIS MIL SEISCIENTOS TREINTA Y NUEVE EUROS con SESENTA Y NUEVE CÉNTIMOS	16.639,69
0025	CUADROC	Ud	Suministro, instalación de cuadro para cámara de vávulas, formado por un armario de poliéster de , para montaje mural. El cuadro cumplirá con las prescripciones del Pliego Eléctrico, así como con las demás prescripciones e indicaciones de los demás documentos del proyecto.	DOS MIL CIENTO CUARENTA EUROS con SETENTA Y CUATRO CÉNTIMOS	2.140,74
0026	CUADROmodif	Ud	Conjunto de equipos y operaciones para añadir nueva línea a cuadro existente respetando la misma tipología y elementos de las líneas existentes, formado por: - Interruptor automático en caja moldeada, tetrapolar (4P), intensidad nominal 125 A, poder de corte 36 kA a 400 V - Relé diferencial electrónico, modelo Vigirex RH99M 56173 "SCHNEIDER ELECTRIC" - Transformador toroidal cerrado para relé diferencial, de 50 mm de diámetro útil para el paso de cables, tipo PA50, modelo 50438	DOS MIL OCHOCIENTOS CINCO EUROS con DIEZ CÉNTIMOS	2.805,10
0027	DEP_HIPO	Ud	Deposito dosificador de 1000 l con cubeto, modelo natural de polietileno, de 1020 mm de diámetro y 1180 mm de altura.Incluye pp de elementos de conexión y primera carga de producto químico.	MIL QUINIENTOS DIECIOCHO EUROS con NOVENTA Y DOS CÉNTIMOS	1.518,92
0028	DUCHA_SEG	Ud	Instalación de ducha de seguridad para lavado de proyección accidental de hipoclorito	DOS MIL SEISCIENTOS NOVENTA Y CINCO EUROS con	2.695,68

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
				SESENTA Y OCHO CÉNTIMOS	
0029	E01AA020	m2	Apeo de estructura, hasta una altura máxima de 6 m, mediante sopandas, puntales y durmientes metálicos, con parte proporcional de medios auxiliares y trabajos previos de limpieza para apoyos. Medición descontando huecos.		143,79
				CIENTO CUARENTA Y TRES EUROS con SETENTA Y NUEVE CÉNTIMOS	
0030	E01DSB100	m2	Demolición de muros de hormigón armado de 30 cm de espesor, con compresor, incluso limpieza y retirada de escombros a pie de carga, sin transporte al vertedero y con parte proporcional de medios auxiliares, sin medidas de protección colectivas. Medición de superficie realmente ejecutada.		102,94
				CIENTO DOS EUROS con NOVENTA Y CUATRO CÉNTIMOS	
0031	E01DSB101	m3	Desmontaje para su reutilización de muro de mampostería de piedra, con mortero, con medios manuales y acopio del 80% del material para su reutilización, incluso limpieza y retirada de escombros a pie de carga.		255,98
				DOSCIENTOS CINCUENTA Y CINCO EUROS con NOVENTA Y OCHO CÉNTIMOS	
0032	E01DSB102		Reconstrucción de muro de mampostería con material reutilizado del muro previamente desmontado, según capítulo 2 del presente presupuesto.		254,48
				DOSCIENTOS CINCUENTA Y CUATRO EUROS con CUARENTA Y OCHO CÉNTIMOS	
0033	E02AM010	m²	Desbroce y acondicionamiento del terreno con medios manuales o mecánicos, con corte y limpieza de árboles, arbustos, maleza, incluso extracción de tocones. Hasta una profundidad no menor que el espesor de la capa de tierra vegetal, considerando como mínima 25 cm. Incluso transporte de la maquinaria, retirada de los materiales excavados y carga a camión, transporte hasta acopio localizado, formación de acopio localizado para posterior reutilización en acondicionamiento de espacios. Se consideran incluidos en el precio los trabajos de acondicionamiento de accesos para las autogrúas y maquinaria específica para el montaje de forjados e instalación de nuevas vigas y placas prefabricadas.		2,24
				DOS EUROS con VEINTICUATRO CÉNTIMOS	

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0034	E02CMA080	m³	Excavación en zanjas o pozos con medios mecánicos en cualquier clase de terreno, incluso roca, salvando servicios existentes y agotamiento en zonas sumergidas, entibación, limpieza de fondos, rasanteo y compactación de los mismos, extracción de productos a los bordes de la excavación, incluso ayudas de mano de obra.	CUARENTA Y CINCO EUROS con CINCUENTA Y SIETE CÉNTIMOS	45,57
0035	E02CMA081	m³	Excavación en zanjas con medios manuales en cualquier clase de terreno, incluso roca, salvando servicios existentes y agotamiento en zonas sumergidas, limpieza de fondos, rasanteo y compactación de los mismos, extracción de productos a los bordes de la excavación, incluso ayudas de mano de obra.	SESENTA Y OCHO EUROS con CATORCE CÉNTIMOS	68,14
0036	E04AB041	kg	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.	DOS EUROS con SETENTA Y DOS CÉNTIMOS	2,72
0037	E04MEF011	m²	Suministro, Montaje y desmontaje de sistema de encofrado a dos caras con acabado tipo industrial para revestir, realizado con paneles metálicos modulares, amortizables en 150 usos, para formación de muro de hormigón armado, de entre 3 y 6 m de altura y superficie plana, para contención de tierras. Incluso tubos para paso de instalaciones; pasamuros para paso de los tensores; elementos de sustentación, fijación y apuntalamiento necesarios para su estabilidad; y líquido desencofrante para evitar la adherencia del hormigón al encofrado. Se considerea incluido en el precio de limpieza y preparación del plano de apoyo. Replanteo del encofrado sobre la cimentación. Replanteo de las juntas de construcción y de dilatación. Colocación de pasamuros para paso de los tensores y/o instalaciones. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y apuntalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. En caso de producirse coqueras o imperfecciones se dará conocimiento a la Dirección facultativa y se procederá a la reparación oportuna sin coste alguno. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.	SESENTA Y SIETE EUROS con SESENTA Y NUEVE	67,69

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
				CÉNTIMOS	
0038	E04MEF012	m²	Suministro y montaje de sistema de encofrado recuperable metálico, para losa de cimentación, formado por paneles metálicos, amortizables en 200 usos, y posterior desmontaje del sistema de encofrado. Incluso elementos de sustentación, fijación y acodalamientos necesarios para su estabilidad y líquido desencofrante para evitar la adherencia del hormigón al encofrado. Se considerea incluido en el precio la limpieza y preparación del plano de apoyo. Replanteo. Aplicación del líquido desencofrante. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y acodalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.	TREINTA Y SEIS EUROS con OCHO CÉNTIMOS	36,08
0039	E09CP021	m²	Recrecido para formación de pendientes en cubiertas planas o similares, realizado con mortero y arena de río con dosificación 1:6 (M-5), con un espesor medio de 5-7 cm. Totalmente terminado, medido sobre superficie de cubierta en horizontal; incluyendo p.p. de ejecución de escocia perimetral, vertido, nivelado, medios auxiliares.	CATORCE EUROS con OCHENTA Y CINCO CÉNTIMOS	14,85
0040	E11ECB011	m²	Solado de baldosín catalán de 14x28 cm., (AIIb-AIII, s/UNE-EN-14411:2013) recibido con mortero de cemento CEM II/B-P 32,5 N y arena de río (M-5), i/cama de 2 cm. de arena de río, rejuntado con lechada de cemento CEM II/B-P 32,5 N 1/2 y limpieza, s/NTE-RSR-2, con marcado CE y DdP (declaración de prestaciones) según Reglamento UE 305/2011, medido en superficie realmente ejecutada.	VEINTISÉIS EUROS con SESENTA Y OCHO CÉNTIMOS	26,68

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0041	E14AP03cab	ud	Suministro y montaje de puerta practicable de aluminio con marco de 40 mm de sección de 2 hojas, de aluminio lacado blanco de 60 micras, de 100x210 mm. de medidas totales. Con una transmitancia térmica de la carpintería máxima U=2,00 W/m2K). Compuesta por cerco, hojas y herrajes de deslizamiento y de seguridad. Elaborada en taller, totalmente montada y probada por la empresa instaladora mediante las correspondientes pruebas de servicio. Permeabilidad al aire según Norma UNE-EN 12207:2000-CLASE 4; Estanqueidad al agua según Norma UNE-EN 12208:2000-CLASE 9A; Resistencia al viento según Norma UNE-EN 12210:2000-CLASE C5. Instalada sobre precerco de aluminio, sellado de juntas ajuste final en obra y limpieza. Perfilería, juntas y herrajes con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011, norma UNE-EN 14351-1.	SEISCIENTOS OCHO EUROS con CUARENTA Y NUEVE CÉNTIMOS	608,49
0042	GEO200	m²	Suministro y colocación de lámina geotextil no tejido compuesto de gramaje 200 gr/m2.	TRES EUROS con OCHENTA Y DOS CÉNTIMOS	3,82
0043	GRUPBOMB	Ud	Unidad de suministro, transporte, instalación y probado de bomba horizontal de superficie, modelo NSCF 125-315/220/L45VCC4 o similar, sobre bancada, con instalación en paralelo de 2+1 bombas, que trabajando en simultáneo den un punto de trabajo de 350 m3/h a una altura manométrica de 26 mca. La unidad se certifica por bomba suministrada, siendo el total de las unidades completas a certificar igual a 3. Datos Bomba + Motor: - Boquilla de Aspiración DN150 PN10/16 - Boquilla de Impulsión DN125 PN10/16 - Motor WEG IE3 W22 - 180M -18,5 kW 400V Corriente Nominal 35,1 A Grado de Protección IP55 o similar Incluso soporte de apoyo sobre solera de hormigón, bancada y tornillería en acero inoxidable A4. Incluido cable eléctrico hasta el cuadro.	VEINTINUEVE MIL QUINIENTOS TREINTA Y SIETE EUROS	29.537,00
0044	IEH010	m	Cable unipolar H07V-K, siendo su tensión asignada de 450/750 V, reacción al fuego clase Eca, con conductor multifilar de cobre clase 5 (-K) de 16 mm² de sección, con aislamiento de PVC (V). Incluso accesorios y elementos de sujeción.	OCHO EUROS con OCHO CÉNTIMOS	8,08

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0045	IEH0121	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 4x50 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	CINCUENTA Y CUATRO EUROS con TREINTA Y CUATRO CÉNTIMOS	54,34
0046	IEH0121b	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G16 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	VEINTITRÉS EUROS con TRES CÉNTIMOS	23,03
0047	IEH012c	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G10 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	DIECISÉIS EUROS con DIECISIETE CÉNTIMOS	16,17
0048	IEH012d	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G2,5 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	SIETE EUROS con CUARENTA Y NUEVE CÉNTIMOS	7,49
0049	IEH012e	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 3G2,5 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	SEIS EUROS con VEINTIOCHO CÉNTIMOS	6,28
0050	IEH012f	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 4x6 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	DIEZ EUROS	10,00

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0051	IEH012g	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G6 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	ONCE EUROS con CUARENTA CÉNTIMOS	11,40
0052	IEL010	m	Línea colocada bajo tubo protector de polietileno de doble pared, de 110 mm de diámetro.	VEINTE EUROS con DIEZ CÉNTIMOS	20,10
0053	IEM026	Ud	Interruptor unipolar (1P) estanco, con grado de protección IP55, monobloc, gama básica, intensidad asignada 10 AX, tensión asignada 250 V, con tecla simple y caja, de color gris. Instalación en superficie.	DIECIOCHO EUROS con TREINTA Y OCHO CÉNTIMOS	18,38
0054	IEO010	m	Canalización de tubo de PVC, serie B, de 32 mm de diámetro y 3 mm de espesor. Instalación fija en superficie. Incluso accesorios y piezas especiales.	CUATRO EUROS con OCHENTA Y SEIS CÉNTIMOS	4,86
0055	IEO010b	m	Canalización de tubo curvable, suministrado en rollo, de polietileno de doble pared (interior lisa y exterior corrugada), de color naranja, de 63 mm de diámetro nominal, resistencia a la compresión 450 N, colocado sobre lecho de arena de 5 cm de espesor, debidamente compactada y nivelada con pisón vibrante de guiado manual, relleno lateral compactando hasta los riñones y posterior relleno con la misma arena hasta 10 cm por encima de la generatriz superior de la tubería. Instalación enterrada. Incluso cinta de señalización.	SIETE EUROS con CINCUENTA Y TRES CÉNTIMOS	7,53
0056	IEP021	Ud	Toma de tierra con dos picas de acero cobreado de 2 m de longitud cada una.	DOSCIENTOS CATORCE EUROS con NOVENTA Y DOS CÉNTIMOS	214,92
0057	IEP021b	Ud	Toma de tierra con una pica de acero cobreado de 2 m de longitud.	CIENTO SESENTA Y SIETE EUROS con TREINTA CÉNTIMOS	167,30

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0058	IEP025	m	Suministro e instalación de conductor de tierra formado por cable rígido desnudo de cobre trenzado, de 35 mm² de sección. Incluso p/p de uniones realizadas con soldadura aluminotérmica, grapas y bornes de unión. Totalmente montado, conexionado y probado. Incluye: Replanteo del recorrido. Tendido del conductor de tierra. Conexionado del conductor de tierra mediante bornes de unión.	SEIS EUROS con SETENTA Y CINCO CÉNTIMOS	6,75
0059	IEQ010	Ud	Condensador para 25 kVAr de potencia reactiva, alimentación trifásica a 400 V de tensión y 50 Hz de frecuencia, modelo ACM-30-440 "CIRCUTOR" o similar, con contactores e interruptor automático magnetotérmico.	OCHOCIENTOS OCHENTA Y DOS EUROS con TREINTA Y OCHO CÉNTIMOS	882,38
0060	III010	Ud	Luminaria, de 666x170x100 mm, para 2 lámparas fluorescentes TL de 18 W, con cuerpo de poliéster reforzado con fibra de vidrio; reflector interior de chapa de acero, acabado termoesmaltado, de color blanco; difusor de metacrilato; balasto electrónico; protección IP65 y rendimiento mayor del 65%. Instalación en la superficie del techo en garaje. Incluso lámparas.	SETENTA Y TRES EUROS con SETENTA Y SIETE CÉNTIMOS	73,77

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0061	INST_CLORACION	Ud	Instrumentación de la postcloración, instalado y probado incluye los trabajos de la puesta a punto, con parte proporcinal de pequeño material y tornilleria incluye los siguientes equipos: - ANALIZADOR 1770/3: dos puntos de consigna configurables en el panel , salida 4-20 mA, by-pass muestra, rotámetro con señal de falta muestra, bomba periatática para la solución tampon. - BOMBA CENTRIFUGA PARA MUESTRA ANALIZADORES: Potencia 0,5 CV, monofásica, 230 V, protección IP 55, condensador y protección termoamperométrica de rearme automático. Conexión aspiración 1-1/4" y conexión impulsión 1". - BOMBA DOSIFICADORA ELECTRONICA DIGITAL PZi4: cabezal autopurgante ARPZi4ATCF 6x8 W CE EUP, entrada de pulsos 4-20 mA para realizar un control proporcional, pantalla visual, caudal 1,6 l/h a 10 bar y 150 pulsos minuto o caudal 3,6l/h a 8 bar y 300 pulsos minuto. Alimentación electrica a 240 V AC50/60 Hz. Suminitro completo con vàlvulas y cable de señal. - SOPORTES DE LAS BOMBAS - CUADRO DE CONTROL ELECTRICO: Protección sobretensiones, magnetotèrmico para la bomba de muestra, control rearme automático en caso de fallo de caudal contiempos de paro/marcha regulables, funcionamiento en manual o automático según necesidad.	DIEZ MIL SEISCIENTOS TRES EUROS con DIECIOCHO CÉNTIMOS	10.603,18
0062	IOA010	Ud	Luminaria de emergencia estanca, con tubo lineal fluorescente, 8 W - G5, flujo luminoso 240 lúmenes, carcasa de 405x134x134 mm, clase I, IP65, con baterías de Ni-Cd de alta temperatura, autonomía de 1 h, alimentación a 230 V, tiempo de carga 24 h. Instalación en superficie en garaje. Incluso accesorios y elementos de fijación.	CIENTO CUARENTA Y CINCO EUROS con DIECISIETE CÉNTIMOS	145,17
0063	IVN100	m²	Suministro y colocación de rejilla de ventilación en pared, construida en aluminio con mosquitera con faldón de chapa de aluminio, de varias dimensiones, incluso perfiles, anclajes y herrajes, totalmente terminada.	CIENTO DIECIOCHO EUROS con TREINTA Y UN CÉNTIMOS	118,31

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0064	LEGALELEC	PA	Conjunto de trámites para la legalización de las instalaciones eléctricas incluyendo derechos de enganche a transformador de compañía, obras de conexión, dirección de las obras de enlace, proyecto de legalización en baja, tasas, visados de proyecto, certificado de instalación, certificado de OCA en caso de ser necesario y todos los trámites necesarios para la puesta en servicio de las instalaciones	CUATRO MIL EUROS	4.000,00
0065	LINEAVIDA	Ud	Línea de vida horizontal Securope® de Fallprotec® conforme a la norma EN795C, o similar de idénticas características y marca reconocida, fabricado acorde al sistema de control de calidad certificado por el organismo notificado APAVE según directiva europea 89/689/CEE Articulo 11, para un trazado total curvo de 62.88 metros, configurada para hasta 2 usuarios con sistema compuesto por: • Soportes específicos para cubiertas, sin perforaciones. • Absorbedor de energía integrado en el propio poste Diasafe. • Altura del poste 32 cm (de la línea 42cm). • Cable de acero inoxidable de 8mm construcción 7X7 resistencia 40kN • Casquillos finales de 12mm resistencia 20kN. Inviolable (sin posible manipulación posterior) • Placa de señalización obligatoria conforme a la norma EN795C.	DOCE MIL DOSCIENTOS CINCUENTA Y SEIS EUROS con CINCUENTA Y SIETE CÉNTIMOS	12.256,57
0066	MIMC010	Ud	Unidad de comunicación de señalas con la planta existente e integración con el SCADA existente y puesta en marcha de la instalación.	CINCO MIL DOSCIENTOS CINCUENTA Y TRES EUROS con SETENTA Y DOS CÉNTIMOS	5.253,72
0067	PASMUR280	Ud	Pasamuros estanco de acero inoxidable AISI 316L de diámetro interior libre 280 mm y PN10. De longitud comprendida entre 34 y 40 cm con pletina intermedia concéntrica de altura 8 cm, terminado en uno de los extremos en brida de espesor 40 mm para posterior conexión de tubería. Incluido planos de taller.	QUINIENTOS NOVENTA Y CINCO EUROS con TRES CÉNTIMOS	595,03

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0068	PASMUR315	Ud	Pasamuros estanco de acero inoxidable AISI 316L de diámetro interior libre 315 mm y PN10. De longitud comprendida entre 34 y 40 cm con pletina intermedia concéntrica de altura 8 cm, terminado en uno de los extremos en brida de espesor 40 mm para posterior conexión de tubería. Incluido planos de taller.	SETECIENTOS SIETE EUROS con NOVENTA CÉNTIMOS	707,90
0069	PAVHORMFIB	m2	Pavimento continuo de hormigón en masa con fibras de 18 cm de espesor, con juntas, realizado con hormigón HM-20/B/20/I fabricado en central y vertido desde camión, extendido y vibrado manual, y fibras de polipropileno; tratado superficialmente con capa de rodadura de mortero decorativo de rodadura para pavimento de hormigón, color gris, rendimiento 3 kg/m², con acabado fratasado mecánico.	OCHENTA Y CINCO EUROS con TREINTA Y SEIS CÉNTIMOS	85,36
0070	PLETINAALM	m	Remate lateral de cubierta formado por chapa de aluminio plegada de 35 cm de desarrollo según planos de detalle y espesor 1 mm, anclada a capa de compresión mediante la disposición de anclajes mecánicos de longitud mínima 60 mm y M6 de acero inoxidable A4. Montado antes de aplicar la capa de impermeabilización. Incluido formación de rebosadero en punto bajo con mismo material.	QUINCE EUROS con TRECE CÉNTIMOS	15,13
0071	PRFV01	Ud	Escalera de acceso a la cubierta, construida completamente en fibra de vídrio. La estructura se compone de: -Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior con dos alturas de 2,65 m y 2,7 m. -Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso. Con barandillas laterales de protección a ambos lados de 110 cm de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 110 m de altura. Incluye formación de cimentación, soportes auxiliares de soportación y rigidización, medios de elevación, planos de taller.	SEIS MIL SETECIENTOS SETENTA Y UN EUROS con OCHENTA Y SIETE CÉNTIMOS	6.771,87

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0072	PRFV02	Ud	Escalera de acceso al interior del depósito, construida completamente en fibra de vídrio con certificado para contacto con agua potable. La estructura se compone de: -Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior. -Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso desde el primer tramo y bastidor lateral de protección de 2 m de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 1 m de altura. Incluye formación de cimentación, soportes auxiliares de soportación y rigidización, medios de elevación, planos de taller.	CINCO MIL NOVECIENTOS NOVENTA Y OCHO EUROS con CINCUENTA Y SIETE CÉNTIMOS	5.998,57
0073	PRFV04	Ud	Escalera de acceso al cuarto de bombas, construida completamente en fibra de vídrio. La estructura se compone de: -Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior. -Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso. 1 tramo con barandillas laterales de protección de 110 cm de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 110 m de altura. Incluye materiales auxiliares para anclaje, medios de elevación, soportes auxiliares de soportación y rigidización, planos de taller.	MIL NOVECIENTOS CUARENTA Y DOS EUROS con DIECINUEVE CÉNTIMOS	1.942,19
0074	PRFV05	Ud	Formación de barandilla de cubierta construida completamente con fibra de vidrio. La estructura se compone de: - Balaustres de altura 110 cm formados con perfil estructural con interdistancia 1 metro. - Pasamanos formado por perfil estructural - Travesaño intermedio de rigidización fromado por perfil estructural. - Pletina de PRFV para protección de remonte de impermeabilización. Los balaustres dispondrán placa de anclaje para su conexión mediante anclaje mecánico al peto de cubierta ejecutado. Incluido planos de taller, medios auxiliares de fijación, medios de elevación y gestión de RCD en obra.		3.067,16

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
				TRES MIL SESENTA Y SIETE EUROS con DIECISÉIS CÉNTIMOS	
0075	PRFV06	Ud	Suministro y montaje de tapa de acceso al depósito construido totalmente en PRFV. Constituido por: - Marco perimetral - Tapa grecada con perfilería estructural de refuerzo y asas para su manipulación - Perfileria intermedia de rigidización y apoyo para la tapa a disponer Incluye, medios de elevación, planos de taller.		1.258,54
				MIL DOSCIENTOS CINCUENTA Y OCHO EUROS con CINCUENTA Y CUATRO CÉNTIMOS	
0076	REVESIMP	m²	Mortero impermeabilizante monocomponente, a base de cemento y resinas sintéticas , calidad alimentaria, apto para contacto en agua potable, transpirable e impermeable al agua, Sika Top® Seal-107 de SIKA o similar, sobre paramentos verticales y horizontales de hormigón, para alturas superiores a 2 m, con llana dentada en la primera capa y lisa en la segunda, con un consumo aproximado total de 2,0 kg/m2 en dos capas de 2 mm aproximadamente. Incluye limpieza del soporte, mano de fondo y mano de acabado, medida la superficie ejecutada. Cumple con RD 140/2003.		18,04
				DIECIOCHO EUROS con CUATRO CÉNTIMOS	
0077	REVESIMP1	m²	Impermeabilización líquida de cubiertas. Sistema Aquaflex Roof Premium "MAPEI SPAIN" o similar formado por dos capas de impermeabilizante líquido elástico monocomponente, Aquaflex Roof Premium "MAPEI SPAIN" o similar, de color Gris, con un rendimiento de 1,5 kg/m², previa aplicación de imprimación bicomponente a base de resina epoxi en dispersión acuosa, Mapecoat I 600 W "MAPEI SPAIN" o similar, 0,4 kg/m². Incluidos remontes en la medición.		33,09
				TREINTA Y TRES EUROS con NUEVE CÉNTIMOS	

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0078	SAN1402003	PA	Partida alzada para la limpieza, desinfección y puesta en servicio de las instalaciones. Los trabajos comprenderán: Limpieza y Desinfección (según estos métodos): - Método por lavado (enjuagado) con agua potable sin adición de desinfectante, con o sin inyección de aire - Método Estático utilizando agua potable con adición de desinfectante. - Método Dinámico utilizando agua potable con adición de desinfectante Para la elección del desinfectante se deberán respetar las directivas de la UE y reglamentos AELC, asi como, las reglamentaciones nacionales y locales. En todo caso se tendrán en cuenta la vida útil del producto, facilidad de utilización, tiempo de contacto necesario con los elementos a limpiar y desinfectar, y aspectos cualitativos del agua potable, pH, si se opta por la utilización de Hipoclorito de Calcio, se tendrá en cuanta la dureza del agua. El procedimiento tendrá que ser aprobado por el director de obra. Se consideran incluidos todos los trabajos necesarios para la puesta en servicio de las instalaciones.	TRES MIL QUINIENTOS EUROS	3.500,00
0079	SOPINOXTUB	Ud	Soporte metálico de acero inoxidable AISI 304 para apoyo de tramos de tubería formados por una placa de anclaje de dimensiones 300x300x10 con cuatro taladros para su anclaje a solera de hormigón mediante tacos mecánicos de fijación, IPN 200 o perfil con inercia similar de altura aproximada de 1,50 m para correcto apoyo de tuberías y abracedera formando un semicírculo constituida por una pletina de espesor 8 mm y largo 100 mm. Todas las soldaduras realizadas en taller. Incluido elaboración de planos de taller, tornillería de fijación a la solera, junta de EPDM para evitar contacto directo con las tuberías.	MIL SETECIENTOS SESENTA Y CUATRO EUROS con NOVENTA Y SIETE CÉNTIMOS	1.764,97
0080	SYSPRES	Ud	Conjunto de medidas de seguridad y salud en el trabajo durante la ejecución de las obras, según estudio de seguridad y salud y plan de seguridad y salud aprobado, incluso sus eventuales modificaciones.	VEINTICUATRO MIL CUATROCIENTOS VEINTINUEVE EUROS con TREINTA Y DOS CÉNTIMOS	24.429,32

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0081	TOMACOR2P	Ud	Suministro e instalación de toma de corriente monofasica 2P+T 16 A con toma de tierra lateral, formado por mecanismo de base de enchufe de 16 A de superficie, incluyendo p.p. de cajas de derivación estancas, elementos de sujeción y pequeño material. Totalmente montada y en funcionamiento.	SETENTA Y OCHO EUROS con TREINTA Y SEIS CÉNTIMOS	78,36
0082	TOMACORR3P	Ud	Suministro e instalación de toma de corriente monofasica 3P+T 32 A con toma de tierra lateral, formado por mecanismo de base de enchufe de 16 A de superficie, incluyendo p.p. de cajas de derivación estancas, elementos de sujeción y pequeño material. Totalmente montada y en funcionamiento.	CIENTO ONCE EUROS con CINCUENTA Y DOS CÉNTIMOS	111,52
0083	TUBPEAD225	m	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 225 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7	TREINTA Y SIETE EUROS con TREINTA Y NUEVE CÉNTIMOS	37,39
0084	TUBPEAD280	m	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 280 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7	CUARENTA Y NUEVE EUROS con OCHENTA Y CUATRO CÉNTIMOS	49,84
0085	TUBPEAD315	m	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 315 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7		123,56

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
				CIENTO VEINTITRÉS EUROS con CINCUENTA Y SEIS CÉNTIMOS	
0086	TUBPEAD400	m	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 315 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7		177,16
				CIENTO SETENTA Y SIETE EUROS con DIECISÉIS CÉNTIMOS	
0087	U01RM021	m³	Suministro y formación de relleno en zanjas, trasdós de muros, pozos y/o cimientos, etc., con material seleccionado procedente de excavación, incluyendo adecuación del material en obra (machaqueo, seleccionado, mezcla, etc.). Incluye vertido, extendido, rasanteo, humectación y compactados en tongadas de un espesor máximo de 20cm., hasta alcanzar el 98% del Próctor Modificado, barrido, limpieza.		9,17
				NUEVE EUROS con DIECISIETE CÉNTIMOS	
0088	U01RM022	m³	Relleno envolvente y principal de zanjas para instalaciones, con arena de 0 a 5 mm de diámetro y compactación en tongadas sucesivas de 20 cm de espesor máximo con bandeja vibrante de guiado manual, hasta alcanzar una densidad seca no inferior al 95% de la máxima obtenida en el ensayo Proctor Modificado, realizado según UNE 103501. Incluso cinta o distintivo indicador de la instalación, barrido, limpieza.		54,43
				CINCUENTA Y CUATRO EUROS con CUARENTA Y TRES CÉNTIMOS	
0089	U01RM023	m3	Suministro y formación de relleno a cielo abierto en preparación de la explanada, con material seleccionado procedente de excavación, incluyendo adecuación del material en obra (machaqueo, seleccionado, mezcla, etc.). Incluye vertido, extendido, rasanteo, humectación y compactados en tongadas de un espesor máximo de 20cm., hasta alcanzar el 98% del Próctor Modificado, barrido, limpieza.		17,56
				DIECISIETE EUROS con CINCUENTA Y SEIS CÉNTIMOS	
0090	U02HC011	m³	Suministro y colocación de hormigón no estructural en limpieza en capa de 10 cm de espesor, rellenos y protección de elementos. Incluye elaboración con dosificación de cemento 150Kg/m3 y tamaño máximo de árido 20 mm., suministro y transporte a pie de obra, replanteo, vertido, extendido, nivelado y curado, barrido, limpieza.		263,80

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
				DOSCIENTOS SESENTA Y TRES EUROS con OCHENTA CÉNTIMOS	
0091	U05LAH020	m³	Hormigón en masa HM-20/B/20/IIa de resistencia característica a compresión 20 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, en elementos enterrados, o interiores sometidos a humedades relativas medias-altas (>65%) o a condensaciones, o elementos exteriores con alta precipitación, elaborado en central. Incluso vertido por medios manuales, vibrado y colocado. Incluso retirada de material sobrante y trabajo totalmente terminado, incluyendo medios y materiales auxiliares.		284,54
				DOSCIENTOS OCHENTA Y CUATRO EUROS con CINCUENTA Y CUATRO CÉNTIMOS	
0092	U05LAH022	m³	Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-30/B/20/IV fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.		305,63
				TRESCIENTOS CINCO EUROS con SESENTA Y TRES CÉNTIMOS	

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0093	U05LAH023	m³	Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras necesarios. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficiales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.	DOSCIENTOS NOVENTA Y CUATRO EUROS con SESENTA Y CINCO CÉNTIMOS	294,65
0094	U05LAH024	m³	Suministro y colocación de hormigón para armar en elementos de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de la zapata, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. Se considera incluido en el precio: -La existencia de la capa de hormigón de limpieza, que presentará un plano de apoyo horizontal y una superficie limpia. -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.		294,62

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
				DOSCIENTOS NOVENTA Y CUATRO EUROS con SESENTA Y DOS CÉNTIMOS	
0095	U05LAH025	m²	Suministro y colocación de hormigón armado en Solera de hormigón armado HA-25/B/20/IIa de 15 cm de espesor fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se incluye en el precio la ejecución de juntas, aserrado y sellado de las mismas. Se consideran incluido el suministro, vertido y capa de regularización de 5 cm de espesor previa colocación de lámina de polietileno de 1mm de espesor. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos así como el curado posterior. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.		96,77
				NOVENTA Y SEIS EUROS con SETENTA Y SIETE CÉNTIMOS	
0096	U05LAH026	m³	Ejecución de muro de sótano de hormigón armado, realizado con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con cubilote, incluso alambre de atar y separadores; espuma de poliuretano monocomponente, para sellado de los huecos pasamuros para paso de los tensores del encofrado. Se comprobará la existencia de las armaduras de espera en el plano de apoyo del muro, que presentará una superficie horizontal y limpia. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.		306,14
				TRESCIENTOS SEIS EUROS con CATORCE CÉNTIMOS	

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0097	U05LAH027	m³	Ejecución de capa de compresión de 5 cm de espesor y relleno de juntas en losas mediante hormigón para armar HA-25/B/20/IIIa de resistencia característica a compresión 25 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, y malla electrosoldada de 200x200x8 mm, en elementos exteriores cercanos a la costa (<5 Km), elaborado en central. Incluso vertido con grúa-pluma, vibrado y colocado. Según normas EHE-08 y NTE-EHL. Componentes del hormigón con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011.	TRESCIENTOS SETENTA Y SEIS EUROS con SESENTA CÉNTIMOS	376,60
0098	U05LAH0282	Ud	Suministro, transporte y montaje de pilar prefabricado de hormigón armado HA-40 y acero B 500 S de sección constante 40x40 cm, de altura máxima 6 m, con esperas en la parte inferior para arranque del pilar y en la parte superior para solape del pilar superior, con cajeado sin hormigón para enjarje con forjado intermedio, encofrado y desencofrado, aplomado, vertido, vibrado, curado de hormigón, incluido relleno del cáliz, con ayuda de grúa telescópica para montaje, totalmente terminada. Según EHE-08 y CTE. Pilar prefabricado con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.	DOS MIL CUARENTA Y UN EUROS con SEIS CÉNTIMOS	2.041,06
0099	U05LAH0292	m²	Suministro, transporte y montaje de forjado de placa alveolar prefabricada de hormigón pretensado de canto 25 cm en piezas de 1,20 m de ancho, apoyado sobre jácenas no incluidas en este precio, con capa de compresión de 5 cm no incluida en este precio, para una sobrecarga permanente de 350 kg/m2 y de uso de 100 kg/m2. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.	CIENTO OCHENTA Y TRES EUROS con CATORCE CÉNTIMOS	183,14

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0100	U05LAH0302	Ud	Suministro, transporte y montaje de depósito rectangular aéreo mediante módulos de muro prefabricado de hormigón armado, sección rectangular de 15 cm de espesor, de 5,00 m de altura y 2,00 m de ancho y una aleta perpendicular a la sección rectangular, fabricado con hormigón armado sulforresistente HA40/B/20/IV CEM I 42,5 SR monocapa gris, i/p.p. de montaje con ayuda de grúa autopropulsada telescópica y apeos, totalmente terminado. Según EHE-08 y CTE. Medición por m2 según planillas fabricación sin descontar huecos. Muro prefabricado con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.	CUATRO MIL SEISCIENTOS NOVENTA EUROS con NOVENTA CÉNTIMOS	4.690,90
0101	U05LAH0312	m	Suministro, transporte y montaje de jácenas de hormigón armado semiprefabricadas JR50/40 de sección 40x50 cm y 6 m de luz. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.	OCHOCIENTOS TREINTA Y NUEVE EUROS con OCHENTA Y SEIS CÉNTIMOS	839,86

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0102	U05LAH032	m³	Suministro y colocación de hormigón armado en losa de cubierta, realizada con hormigón HA-30/B/20/IIIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, y acero UNE-EN 10080 B 500 S, con una cuantía determinada en planos, memoria o pliegos, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios. En esta unidad se consideran includas las armaduras para formación de foso de ascensor, refuerzos, pliegues, encuentros, arranques y esperas en muros, escaleras y rampas, cambios de nivel, alambre de atar, y separadores. El precio incluye el suministro, la elaboración y el montaje de la ferralla necesaria pero no incluye el encofrado en caso de ser necesaria. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.	TRESCIENTOS CINCO EUROS con NOVENTA Y CINCO CÉNTIMOS	305,95
0103	UIA011	ud	Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 30x30x30 cm de medidas interiores, con paredes rebajadas para la entrada de tubos, capaz de soportar una carga de 400 kN, con marco de chapa galvanizada y tapa de hormigón armado aligerado, de 39,5x38,5 cm, para arqueta de conexión eléctrica, capaz de soportar una carga de 125 kN; previa excavación con medios mecánicos y posterior relleno del trasdós con material granular.	SETENTA Y UN EUROS con UN CÉNTIMOS	71,01

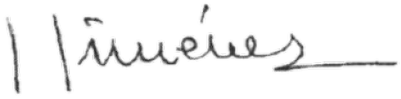
Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0104	VALMAP125	Ud	Suministro, colocación y probado de válvula de mariposa para agua potable AVK o equivalente, serie EVFL 75/21, DN 125, PN 10/16. Concéntrica, junta vulcanizada, embridada cuello largo. Distancia entre bridas EN 558, tabla 2, s.b. 14. Cuerpo de fundición dúctil EN-GJS-400. Junta de EPDM vulcanizado al cuerpo, certificado para agua potable. Eje y disco de acero inox DUPLEX, con revestimiento de epoxi de 200 micras.	MIL CUATROCIENTOS SESENTA Y DOS EUROS con SESENTA Y CUATRO CÉNTIMOS	1.462,64
0105	VALMAP150	Ud	Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 150, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación. Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.	SEIS MIL CIENTO OCHO EUROS con SETENTA Y CINCO CÉNTIMOS	6.108,75
0106	VALMAP200	Ud	Suministro, colocación y probado de válvula de mariposa para agua potable AVK o equivalente, serie EVFL 75/21, DN 200, PN 10/16. Concéntrica, junta vulcanizada, embridada cuello largo. Distancia entre bridas EN 558, tabla 2, s.b. 14. Cuerpo de fundición dúctil EN-GJS-400. Junta de EPDM vulcanizado al cuerpo, certificado para agua potable. Eje y disco de acero inox DUPLEX, con revestimiento de epoxi de 200 micras.	DOS MIL DOSCIENTOS TREINTA Y OCHO EUROS con CINCUENTA Y NUEVE CÉNTIMOS	2.238,59

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
0107	VALMAP300	Ud	Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 300, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación. Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.	ONCE MIL TRESCIENTOS UN EUROS con SESENTA Y OCHO CÉNTIMOS	11.301,68
0108	VALMAP400	Ud	Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 400, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación. Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.	TRECE MIL TRESCIENTOS OCHO EUROS con VEINTICINCO CÉNTIMOS	13.308,25
0109	VALRET	Ud	Válvula de retención de disco partido marca AVK Serie 642ECV tipo wafer o similar, PN16 de DN 125, cuerpo en fundición dúctil EN-GJS-400, clapetas en acero INOX 316, eje en acero INOX 316, totalmente instalada.		607,87

Nº	CÓDIGO	UD.	RESUMEN	PRECIO EN LETRA	IMPORTE
				SEISCIENTOS SIETE EUROS con OCHENTA Y SIETE CÉNTIMOS	
0110	ZAHZ325	m3	Relleno, extendido y apisonado de zahorras a cielo abierto por medios mecánicos, en tongadas de 30 cm de espesor, hasta conseguir un grado de compactación del 95% del proctor normal, incluido regado de las mismas, refino de taludes y con parte proporcional de medios auxiliares, considerando las zahorras a pie de tajo. Según CTE-DB-SE-C. Incluso transporte en camión desde la cantera a menos de 20 km hasta la obra.	OCHENTA Y SIETE EUROS con CINCO CÉNTIMOS	87,05

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

 **Redactor de proyecto:** Juan Carlos Arroyo Portero ICCP	 **Redactor adjunto:** Jesús Jiménez Cañas ICCP

CUADRO DE PRECIOS Nº2

CUADRO DE PRECIOS 2

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0001	14.1	m³	Transporte con camión de los productos procedentes de la construcción o demolición a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, kilometraje ilimitado, considerando el tiempo de espera para la carga a máquina en obra, ida, descarga y vuelta.	
			Maquinaria	9,88
			Resto de obra y materiales	0,50
			TOTAL PARTIDA.....	**10,38**
0002	14.3	m³	Despiece manual de residuos de plástico voluminosos y otros residuos que deban ser tratados de forma previa a su carga y transporte a gestor autorizado	
			Mano de obra.....	41,20
			Resto de obra y materiales	54,56
			TOTAL PARTIDA.....	**95,76**
0003	14.7	Ud	Suministro y ubicación en obra de bidón de 200 litros de capacidad para residuos peligrosos procedentes de la construcción o demolición, apto para almacenar tierras y piedras que contienen sustancias peligrosas. Incluso marcado del recipiente con la etiqueta correspondiente.	
			Mano de obra.....	5,35
			Resto de obra y materiales	161,57
			TOTAL PARTIDA.....	**166,92**
0004	14.8	Ud	Suministro y ubicación en obra de bidón de 200 litros de capacidad para residuos peligrosos procedentes de la construcción o demolición, apto para almacenar envases que contienen restos de sustancias peligrosas o están contaminados por ellas. Incluso marcado del recipiente con la etiqueta correspondiente.	
			Mano de obra.....	5,35
			Resto de obra y materiales	161,57
			TOTAL PARTIDA.....	**166,92**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0005	14.9	Ud	Transporte de bidón de 200 litros de capacidad con residuos peligrosos procedentes de la construcción o demolición, a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, considerando la carga y descarga de los bidones. Incluye: Carga de bidones. Transporte de bidones a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos. Descarga de bidones.	
			Resto de obra y materiales	110,13
			TOTAL PARTIDA.....	**110,13**
0006	ACCEININS	PA	Conjunto de accesorios para la instrumentación y control de niveles, entradas y salidas de depósito formado por medidores de caudal, interruptores de nivel, transmisores de presión , etc, formado por los siguientes componentes: - Cinco Boyas depósito nuevo y duplicado señales + cinco boyas depósito existente - Sonda de nivel por ultrasonidos y duplicado de sonda de nivel en depósito existente - Dos detectores de flujo - Dos detectores de fugas - Presostato - Finales carrera válvulas motorizadas (cuatro válvulas, ocho finales de carrera). - Amplificadores, transductores y aislamientos galvánicos.	
			Mano de obra.....	692,16
			Resto de obra y materiales	5.777,12
			TOTAL PARTIDA.....	**6.469,28**
0007	ACERA050	m2	Pavimento continuo de hormigón impreso, con juntas, de 12 cm de espesor, realizado con hormigón HM-20/B/20/I fabricado en central y vertido desde camión, extendido y vibrado manual; acabado impreso en relieve y tratado superficialmente con mortero decorativo de rodadura para pavimento de hormigón, color blanco, rendimiento 4,5 kg/m²; desmoldeante en polvo, color burdeos y capa de sellado final con resina impermeabilizante.	
			Mano de obra.....	23,10
			Maquinaria	1,17
			Resto de obra y materiales	49,56
			TOTAL PARTIDA.....	**73,83**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0008 ACHIQUE Ud

Bomba de achique de aguas limpias o ligeramente cargadas, modelo DXN07M/G-230V del fabricante CAPRARI o similar, con las siguientes características
Q = 5 m3/h
Hm = 10 mca
Pasaje libre de 8mm como mínimo, diámetro de impulsión G 1 1/2". Motor de 0,75 kW a 50Hz monofásico con boya de nivel incorporada.
Cuerpo de Impulsión, placa de desgaste y rodete en hierro fundido EN-GJL200
Rejilla en aluminio
Junta de cierre EPDM
Rotor y Estátor - Chapa magnética
Cierre mecánico Cerámica / Grafito
Totalmente montada y conexionada a cuadro eléctrico.

Mano de obra	115,36
Resto de obra y materiales	732,37
TOTAL PARTIDA	**847,73**

0009 AISI316BRIDA225 Ud

Suministro y montaje de brida loca de DN225 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.

Mano de obra	23,51
Resto de obra y materiales	607,55
TOTAL PARTIDA	**631,06**

0010 AISI316BRIDA280 Ud

Suministro y montaje de brida loca de DN280 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.

Mano de obra	23,51
Resto de obra y materiales	730,93
TOTAL PARTIDA	**754,44**

0011 AISI316BRIDA315 Ud

Suministro y montaje de brida loca de DN315 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.

Mano de obra	23,51
Resto de obra y materiales	855,88
TOTAL PARTIDA	**879,39**

0012 AISI316BRIDA400 Ud

Suministro y montaje de brida loca de DN400 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.

Mano de obra	23,51
Resto de obra y materiales	1.069,03
TOTAL PARTIDA	**1.092,54**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0013 APERHUECO Ud Apertura de paso de DN470 sobre paramento vertical de hormigon armado en caseta de bombas existente mediante el empleo de corona circular. Colocación de pasamuros (no incluido en el precio), refuerzo con armado definido en planos, colocación de 2 cordones de junta hidroexpansiva a lo largo del perímetro de la perforación y a lo largo del perímetro del pasamuros, encofrado con maderas y posterior relleno con mortero de reparación estructural tipo Sika Monotop 412 S o similar, sellado de juntas entre el nuevo refuerzo y el prefabricado mediante la aplicación en ángulo de bandas impermeabilizantes tipo maxseal flex + drioxoro mesh o similar.

Mano de obra	50,44
Resto de obra y materiales	1.391,29
TOTAL PARTIDA	**1.441,73**

0014 ARQ8080100 Ud Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 80x80x110 cm de medidas interiores, con paredes rebajadas para la entrada de tubos, capaz de soportar una carga de 400 kN, con marco de chapa galvanizada y tapa de hormigón armado aligerado, de 89,5x88,5 cm, para arqueta de conexión eléctrica, capaz de soportar una carga de 125 kN; previa excavación con medios manuales y posterior relleno del trasdós con material granular.

Mano de obra	34,02
Maquinaria	2,05
Resto de obra y materiales	303,28
TOTAL PARTIDA	**339,35**

0015 BALIZA700 Ud Baliza circular con distribución de luz radialmente simétrica, de 150 mm de diámetro y 700 mm de altura, para led de 15 W, con cuerpo de aluminio inyectado, aluminio y acero inoxidable, vidrio con borosilicato, reflector de aluminio puro anodizado, clase de protección I, grado de protección IP65, aislamiento clase F, con placa de anclaje y pernos. Incluso lámparas, base de hormigón en masa HM-20/B/20/IIa para anclaje de la baliza, totalmente terminado.

Mano de obra	51,95
Resto de obra y materiales	407,31
TOTAL PARTIDA	**459,26**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0016 CALDINOX Ud

Piezas especiales de calderería fabricadas en acero inoxidable AISI 316L formado por:
TRAMO ASPIRACIÓN:
- Conexión a 90º de los tramos de aspiración en ACERO AISI 316L DN280 con un desarrollo de 0,40 m (total 0,80 m).
- Colector Común a 90º que recibe las dos aspiraciones en ACERO AISI 316L DN280 de 3,60 m, del que salen tres conexiones en horizontal en inox DN150 con una longitud cada una de 0,4 m (total 1,20 m)
TRAMO IMPULSIÓN:
- Colector común en vertical elevado sobre la impulsión de las bombas con un desarrollo horizontal de 3,95 m realizado en ACERO AISI 316L DN315, con tres entradas a 90º para la conexión de la impulsión de las bombas en AISI 316L DN125 con una desarrollo cada una de 0,40 m (total 1,20 m).
- Salidas a conexión con tubos de impulsión a depósitos ejecutada mediante T en ACERO AISI 316L DN315 con un desarrollo de 1,10 m
- Tres tramos rectos verticales DN125 (uno por cada bomba) con una longitud total de 0,40 m para conexión de las tres bombas con los accesorios.
Resumen de longitudes totales ACERO INOX AISI316L:
- DN 315 5,05 m (492,17 kg)
- DN 280 4,40 m (358,82 kg)
- DN 150 1,20 m (51,80 kg)
- DN 125 2,40 m (54,30 kg)
Incluido la ejecución de pìcajes en los colectores de Aspiración e Impulsión, para toma de muestras, cloración y labores de vaciado de colectores, en total se prevé la ejecución de 5 picajes en el tramo de impulsión y 3 en el tramo de aspiración.
Incluida la elaboración de planos de taller, tornillería en acero inoxidable A4 y material auxiliar.

Mano de obra	247,44
Maquinaria	351,30
Resto de obra y materiales	23.859,75
TOTAL PARTIDA	**24.458,49**

0017 CARRANTIVIB Ud

Suministro y montaje de carrete antivibratorio de DN125 y PN16 de cuerpo de simple onda con bridas locas de acero inoxidable AISI 316L y juntas en EPDM. Incluidos materiales auxiliares.

Mano de obra	18,29
Resto de obra y materiales	213,05
TOTAL PARTIDA	**231,34**

0018 CARRETE125 Ud

Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 125, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
			Mano de obra.....	18,29
			Resto de obra y materiales	301,98
			TOTAL PARTIDA.....	**320,27**
0019	CARRETE150	Ud	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 150, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.	
			Mano de obra.....	18,29
			Resto de obra y materiales	343,79
			TOTAL PARTIDA.....	**362,08**
0020	CARRETE225	Ud	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 225, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.	
			Mano de obra.....	18,29
			Resto de obra y materiales	676,20
			TOTAL PARTIDA.....	**694,49**
0021	CARRETE280	Ud	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 280, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.	
			Mano de obra.....	18,29
			Resto de obra y materiales	803,25
			TOTAL PARTIDA.....	**821,54**
0022	CARRETE315	Ud	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 315, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.	
			Mano de obra.....	18,29
			Resto de obra y materiales	1.029,63
			TOTAL PARTIDA.....	**1.047,92**
0023	CHH010	m3	Hormigón ciclópeo, realizado con hormigón HM-15/P/40/I fabricado en central y vertido desde camión (60% de volumen) y piedra en rama de tamaño máximo 30 cm (40% de volumen), para mejora del terreno de cimentación existente.	
			Mano de obra.....	15,24
			Resto de obra y materiales	207,01
			TOTAL PARTIDA.....	**222,25**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0024	CUADROB	Ud	Suministro, instalación y probado de funcionamiento de cuadro de mando, control y maniobra para estación de bombeo, ubicado en caseta. Estará formado por un armario de poliéster de dimensiones 800x600x300 mm, como mínimo, para montaje mural, con puerta transparente y contrapuerta, para arranque, protección y maniobra de dos bombas (1+1) de 15 kW, con alternancia de funcionamiento, con arranque mediante arrancador electrónico, protección térmica y protección diferencial independiente, conexión al cuadro de conmutación y al sistema de alarma, y cualquier otro elemento necesario para el correcto funcionamiento de las instalaciones y equipos a maniobrar. El cuadro cumplirá con las prescripciones del Pliego Eléctrico, así como con las demás prescripciones e indicaciones de los demás documentos del proyecto.	
			Mano de obra.....	1.440,00
			Resto de obra y materiales	15.199,69
			TOTAL PARTIDA.....	**16.639,69**
0025	CUADROC	Ud	Suministro, instalación de cuadro para cámara de vávulas, formado por un armario de poliéster de , para montaje mural. El cuadro cumplirá con las prescripciones del Pliego Eléctrico, así como con las demás prescripciones e indicaciones de los demás documentos del proyecto.	
			Mano de obra.....	180,00
			Resto de obra y materiales	1.960,74
			TOTAL PARTIDA.....	**2.140,74**
0026	CUADROmodif	Ud	Conjunto de equipos y operaciones para añadir nueva línea a cuadro existente respetando la misma tipología y elementos de las líneas existentes, formado por: - Interruptor automático en caja moldeada, tetrapolar (4P), intensidad nominal 125 A, poder de corte 36 kA a 400 V - Relé diferencial electrónico, modelo Vigirex RH99M 56173 "SCHNEIDER ELECTRIC" - Transformador toroidal cerrado para relé diferencial, de 50 mm de diámetro útil para el paso de cables, tipo PA50, modelo 50438	
			Mano de obra.....	1.440,00
			Resto de obra y materiales	1.365,10
			TOTAL PARTIDA.....	**2.805,10**
0027	DEP_HIPO	Ud	Deposito dosificador de 1000 l con cubeto, modelo natural de polietileno, de 1020 mm de diámetro y 1180 mm de altura.Incluye pp de elementos de conexión y primera carga de producto químico.	
			Mano de obra.....	173,04
			Resto de obra y materiales	1.345,88
			TOTAL PARTIDA.....	**1.518,92**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0028	DUCHA_SEG	Ud	Instalación de ducha de seguridad para lavado de proyección accidental de hipoclorito	
			Mano de obra	173,04
			Resto de obra y materiales	2.522,64
			TOTAL PARTIDA	**2.695,68**
0029	E01AA020	m2	Apeo de estructura, hasta una altura máxima de 6 m, mediante sopandas, puntales y durmientes metálicos, con parte proporcional de medios auxiliares y trabajos previos de limpieza para apoyos. Medición descontando huecos.	
			Mano de obra	135,00
			Maquinaria	1,94
			Resto de obra y materiales	6,85
			TOTAL PARTIDA	**143,79**
0030	E01DSB100	m2	Demolición de muros de hormigón armado de 30 cm de espesor, con compresor, incluso limpieza y retirada de escombros a pie de carga, sin transporte al vertedero y con parte proporcional de medios auxiliares, sin medidas de protección colectivas. Medición de superficie realmente ejecutada.	
			Mano de obra	71,03
			Maquinaria	27,01
			Resto de obra y materiales	4,90
			TOTAL PARTIDA	**102,94**
0031	E01DSB101	m3	Desmontaje para su reutilización de muro de mampostería de piedra, con mortero, con medios manuales y acopio del 80% del material para su reutilización, incluso limpieza y retirada de escombros a pie de carga.	
			Mano de obra	229,39
			Maquinaria	14,40
			Resto de obra y materiales	12,19
			TOTAL PARTIDA	**255,98**
0032	E01DSB102		Reconstrucción de muro de mampostería con material reutilizado del muro previamente desmontado, según capítulo 2 del presente presupuesto.	
			Mano de obra	222,07
			Resto de obra y materiales	32,41
			TOTAL PARTIDA	**254,48**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0033	E02AM010	m²	Desbroce y acondicionamiento del terreno con medios manuales o mecánicos, con corte y limpieza de árboles, arbustos, maleza, incluso extracción de tocones. Hasta una profundidad no menor que el espesor de la capa de tierra vegetal, considerando como mínima 25 cm. Incluso transporte de la maquinaria, retirada de los materiales excavados y carga a camión, transporte hasta acopio localizado, formación de acopio localizado para posterior reutilización en acondicionamiento de espacios. Se consideran incluidos en el precio los trabajos de acondicionamiento de accesos para las autogrúas y maquinaria específica para el montaje de forjados e instalación de nuevas vigas y placas prefabricadas.	
			Mano de obra	1,38
			Maquinaria	0,75
			Resto de obra y materiales	0,11
			TOTAL PARTIDA	**2,24**
0034	E02CMA080	m³	Excavación en zanjas o pozos con medios mecánicos en cualquier clase de terreno, incluso roca, salvando servicios existentes y agotamiento en zonas sumergidas, entibación, limpieza de fondos, rasanteo y compactación de los mismos, extracción de productos a los bordes de la excavación, incluso ayudas de mano de obra.	
			Mano de obra	19,72
			Maquinaria	23,68
			Resto de obra y materiales	2,17
			TOTAL PARTIDA	**45,57**
0035	E02CMA081	m³	Excavación en zanjas con medios manuales en cualquier clase de terreno, incluso roca, salvando servicios existentes y agotamiento en zonas sumergidas, limpieza de fondos, rasanteo y compactación de los mismos, extracción de productos a los bordes de la excavación, incluso ayudas de mano de obra.	
			Mano de obra	64,89
			Resto de obra y materiales	3,25
			TOTAL PARTIDA	**68,14**
0036	E04AB041	kg	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.	
			Mano de obra	0,63
			Resto de obra y materiales	2,09
			TOTAL PARTIDA	**2,72**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0037 E04MEF011 m²

Suministro, Montaje y desmontaje de sistema de encofrado a dos caras con acabado tipo industrial para revestir, realizado con paneles metálicos modulares, amortizables en 150 usos, para formación de muro de hormigón armado, de entre 3 y 6 m de altura y superficie plana, para contención de tierras. Incluso tubos para paso de instalaciones; pasamuros para paso de los tensores; elementos de sustentación, fijación y apuntalamiento necesarios para su estabilidad; y líquido desencofrante para evitar la adherencia del hormigón al encofrado.
Se considerea incluido en el precio de limpieza y preparación del plano de apoyo. Replanteo del encofrado sobre la cimentación. Replanteo de las juntas de construcción y de dilatación. Colocación de pasamuros para paso de los tensores y/o instalaciones. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y apuntalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. En caso de producirse coqueras o imperfecciones se dará conocimiento a la Dirección facultativa y se procederá a la reparación oportuna sin coste alguno.
Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.

Mano de obra	30,59
Maquinaria	29,70
Resto de obra y materiales	7,40
TOTAL PARTIDA	**67,69**

0038 E04MEF012 m²

Suministro y montaje de sistema de encofrado recuperable metálico, para losa de cimentación, formado por paneles metálicos, amortizables en 200 usos, y posterior desmontaje del sistema de encofrado. Incluso elementos de sustentación, fijación y acodalamientos necesarios para su estabilidad y líquido desencofrante para evitar la adherencia del hormigón al encofrado. Se considerea incluido en el precio la limpieza y preparación del plano de apoyo. Replanteo. Aplicación del líquido desencofrante. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y acodalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.

Mano de obra	11,73
Maquinaria	19,03
Resto de obra y materiales	5,32
TOTAL PARTIDA	**36,08**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0039	E09CP021	m²	Recrecido para formación de pendientes en cubiertas planas o similares, realizado con mortero y arena de río con dosificación 1:6 (M-5), con un espesor medio de 5-7 cm. Totalmente terminado, medido sobre superficie de cubierta en horizontal; incluyendo p.p. de ejecución de escocia perimetral, vertido, nivelado, medios auxiliares.	
			Mano de obra	4,38
			Maquinaria	1,30
			Resto de obra y materiales	9,17
			TOTAL PARTIDA	**14,85**
0040	E11ECB011	m²	Solado de baldosín catalán de 14x28 cm., (AIIb-AIII, s/UNE-EN-14411:2013) recibido con mortero de cemento CEM II/B-P 32,5 N y arena de río (M-5), i/cama de 2 cm. de arena de río, rejuntado con lechada de cemento CEM II/B-P 32,5 N 1/2 y limpieza, s/NTE-RSR-2, con marcado CE y DdP (declaración de prestaciones) según Reglamento UE 305/2011, medido en superficie realmente ejecutada.	
			Mano de obra	10,17
			Resto de obra y materiales	16,49
			TOTAL PARTIDA	**26,68**
0041	E14AP03cab	ud	Suministro y montaje de puerta practicable de aluminio con marco de 40 mm de sección de 2 hojas, de aluminio lacado blanco de 60 micras, de 100x210 mm. de medidas totales. Con una transmitancia térmica de la carpintería máxima U=2,00 W/m2K). Compuesta por cerco, hojas y herrajes de deslizamiento y de seguridad. Elaborada en taller, totalmente montada y probada por la empresa instaladora mediante las correspondientes pruebas de servicio. Permeabilidad al aire según Norma UNE-EN 12207:2000-CLASE 4; Estanqueidad al agua según Norma UNE-EN 12208:2000-CLASE 9A; Resistencia al viento según Norma UNE-EN 12210:2000-CLASE C5. Instalada sobre precerco de aluminio, sellado de juntas ajuste final en obra y limpieza. Perfilería, juntas y herrajes con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011, norma UNE-EN 14351-1.	
			Mano de obra	17,72
			Resto de obra y materiales	590,77
			TOTAL PARTIDA	**608,49**
0042	GEO200	m²	Suministro y colocación de lámina geotextil no tejido compuesto de gramaje 200 gr/m2.	
			Mano de obra	1,28
			Resto de obra y materiales	2,54
			TOTAL PARTIDA	**3,82**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0043 GRUPBOMB Ud

Unidad de suministro, transporte, instalación y probado de bomba horizontal de superficie, modelo NSCF 125-315/220/L45VCC4 o similar, sobre bancada, con instalación en paralelo de 2+1 bombas, que trabajando en simultáneo den un punto de trabajo de 350 m3/h a una altura manométrica de 26 mca. La unidad se certifica por bomba suministrada, siendo el total de las unidades completas a certificar igual a 3.
Datos Bomba + Motor:
- Boquilla de Aspiración DN150 PN10/16
- Boquilla de Impulsión DN125 PN10/16
- Motor WEG IE3 W22 - 180M -18,5 kW 400V Corriente Nominal 35,1 A Grado de Protección IP55 o similar
Incluso soporte de apoyo sobre solera de hormigón, bancada y tornillería en acero inoxidable A4. Incluido cable eléctrico hasta el cuadro.

Mano de obra	604,58
Maquinaria	117,10
Resto de obra y materiales	28.815,32
TOTAL PARTIDA	**29.537,00**

0044 IEH010 m

Cable unipolar H07V-K, siendo su tensión asignada de 450/750 V, reacción al fuego clase Eca, con conductor multifilar de cobre clase 5 (-K) de 16 mm² de sección, con aislamiento de PVC (V). Incluso accesorios y elementos de sujeción.

Mano de obra	4,21
Resto de obra y materiales	3,87
TOTAL PARTIDA	**8,08**

0045 IEH0121 m

Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 4x50 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.

Mano de obra	4,21
Resto de obra y materiales	50,13
TOTAL PARTIDA	**54,34**

0046 IEH0121b m

Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G16 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.

Mano de obra	4,21
Resto de obra y materiales	18,82
TOTAL PARTIDA	**23,03**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0047	IEH012c	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G10 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	
			Mano de obra	4,21
			Resto de obra y materiales	11,96
			TOTAL PARTIDA	**16,17**
0048	IEH012d	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G2,5 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	
			Mano de obra	4,21
			Resto de obra y materiales	3,28
			TOTAL PARTIDA	**7,49**
0049	IEH012e	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 3G2,5 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	
			Mano de obra	4,21
			Resto de obra y materiales	2,07
			TOTAL PARTIDA	**6,28**
0050	IEH012f	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 4x6 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	
			Mano de obra	4,21
			Resto de obra y materiales	5,79
			TOTAL PARTIDA	**10,00**
0051	IEH012g	m	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G6 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	
			Mano de obra	4,21
			Resto de obra y materiales	7,19
			TOTAL PARTIDA	**11,40**
0052	IEL010	m	Línea colocada bajo tubo protector de polietileno de doble pared, de 110 mm de diámetro.	
			Mano de obra	9,29
			Maquinaria	0,43
			Resto de obra y materiales	10,38
			TOTAL PARTIDA	**20,10**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0053	IEM026	Ud	Interruptor unipolar (1P) estanco, con grado de protección IP55, monobloc, gama básica, intensidad asignada 10 AX, tensión asignada 250 V, con tecla simple y caja, de color gris. Instalación en superficie.	
			Mano de obra	8,72
			Resto de obra y materiales	9,66
			TOTAL PARTIDA	**18,38**
0054	IEO010	m	Canalización de tubo de PVC, serie B, de 32 mm de diámetro y 3 mm de espesor. Instalación fija en superficie. Incluso accesorios y piezas especiales.	
			Mano de obra	3,14
			Resto de obra y materiales	1,72
			TOTAL PARTIDA	**4,86**
0055	IEO010b	m	Canalización de tubo curvable, suministrado en rollo, de polietileno de doble pared (interior lisa y exterior corrugada), de color naranja, de 63 mm de diámetro nominal, resistencia a la compresión 450 N, colocado sobre lecho de arena de 5 cm de espesor, debidamente compactada y nivelada con pisón vibrante de guiado manual, relleno lateral compactando hasta los riñones y posterior relleno con la misma arena hasta 10 cm por encima de la generatriz superior de la tubería. Instalación enterrada. Incluso cinta de señalización.	
			Mano de obra	4,33
			Maquinaria	0,28
			Resto de obra y materiales	2,92
			TOTAL PARTIDA	**7,53**
0056	IEP021	Ud	Toma de tierra con dos picas de acero cobreado de 2 m de longitud cada una.	
			Mano de obra	17,31
			Maquinaria	0,86
			Resto de obra y materiales	196,75
			TOTAL PARTIDA	**214,92**
0057	IEP021b	Ud	Toma de tierra con una pica de acero cobreado de 2 m de longitud.	
			Mano de obra	17,31
			Resto de obra y materiales	149,99
			TOTAL PARTIDA	**167,30**
0058	IEP025	m	Suministro e instalación de conductor de tierra formado por cable rígido desnudo de cobre trenzado, de 35 mm² de sección. Incluso p/p de uniones realizadas con soldadura aluminotérmica, grapas y bornes de unión. Totalmente montado, conexionado y probado. Incluye: Replanteo del recorrido. Tendido del conductor de tierra. Conexionado del conductor de tierra mediante bornes de unión.	
			Mano de obra	3,50
			Resto de obra y materiales	3,25

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
			TOTAL PARTIDA	**6,75**
0059	IEQ010	Ud	Condensador para 25 kVAr de potencia reactiva, alimentación trifásica a 400 V de tensión y 50 Hz de frecuencia, modelo ACM-30-440 "CIRCUTOR" o similar, con contactores e interruptor automático magnetotérmico.	
			Mano de obra	130,07
			Resto de obra y materiales	752,31
			TOTAL PARTIDA	**882,38**
0060	III010	Ud	Luminaria, de 666x170x100 mm, para 2 lámparas fluorescentes TL de 18 W, con cuerpo de poliéster reforzado con fibra de vidrio; reflector interior de chapa de acero, acabado termoesmaltado, de color blanco; difusor de metacrilato; balasto electrónico; protección IP65 y rendimiento mayor del 65%. Instalación en la superficie del techo en garaje. Incluso lámparas.	
			Mano de obra	19,49
			Resto de obra y materiales	54,28
			TOTAL PARTIDA	**73,77**
0061	INST_CLORACION	Ud	Instrumentación de la postcloración, instalado y probado incluye los trabajos de la puesta a punto, con parte proporcinal de pequeño material y tornilleria incluye los siguientes equipos: - ANALIZADOR 1770/3: dos puntos de consigna configurables en el panel , salida 4-20 mA, by-pass muestra, rotámetro con señal de falta muestra, bomba periatática para la solución tampon. - BOMBA CENTRIFUGA PARA MUESTRA ANALIZADORES: Potencia 0,5 CV, monofásica, 230 V, protección IP 55, condensador y protección termoamperométrica de rearme automático. Conexión aspiración 1-1/4" y conexión impulsión 1". - BOMBA DOSIFICADORA ELECTRONICA DIGITAL PZi4: cabezal autopurgante ARPZi4ATCF 6x8 W CE EUP, entrada de pulsos 4-20 mA para realizar un control proporcional, pantalla visual, caudal 1,6 l/h a 10 bar y 150 pulsos minuto o caudal 3,6l/h a 8 bar y 300 pulsos minuto. Alimentación electrica a 240 V AC50/60 Hz. Suminitro completo con vàlvulas y cable de señal. - SOPORTES DE LAS BOMBAS - CUADRO DE CONTROL ELECTRICO: Protección sobretensiones, magnetotèrmico para la bomba de muestra, control rearme automático en caso de fallo de caudal contiempos de paro/marcha regulables, funcionamiento en manual o automático según necesidad.	
			Mano de obra	922,88
			Resto de obra y materiales	9.680,30
			TOTAL PARTIDA	**10.603,18**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0062	IOA010	Ud	Luminaria de emergencia estanca, con tubo lineal fluorescente, 8 W - G5, flujo luminoso 240 lúmenes, carcasa de 405x134x134 mm, clase I, IP65, con baterías de Ni-Cd de alta temperatura, autonomía de 1 h, alimentación a 230 V, tiempo de carga 24 h. Instalación en superficie en garaje. Incluso accesorios y elementos de fijación.	
			Mano de obra	12,98
			Resto de obra y materiales	132,19
			TOTAL PARTIDA	**145,17**
0063	IVN100	m²	Suministro y colocación de rejilla de ventilación en pared, construida en aluminio con mosquitera con faldón de chapa de aluminio, de varias dimensiones, incluso perfiles, anclajes y herrajes, totalmente terminada.	
			Mano de obra	14,66
			Resto de obra y materiales	103,65
			TOTAL PARTIDA	**118,31**
0064	LEGALELEC	PA	Conjunto de trámites para la legalización de las instalaciones eléctricas incluyendo derechos de enganche a transformador de compañía, obras de conexión, dirección de las obras de enlace, proyecto de legalización en baja, tasas, visados de proyecto, certificado de instalación, certificado de OCA en caso de ser necesario y todos los trámites necesarios para la puesta en servicio de las instalaciones	
			Sin descomposición	
			Resto de obra y materiales	4.000,00
			TOTAL PARTIDA	**4.000,00**
0065	LINEAVIDA	Ud	Línea de vida horizontal Securope® de Fallprotec® conforme a la norma EN795C, o similar de idénticas características y marca reconocida, fabricado acorde al sistema de control de calidad certificado por el organismo notificado APAVE según directiva europea 89/689/CEE Articulo 11, para un trazado total curvo de 62.88 metros, configurada para hasta 2 usuarios con sistema compuesto por: • Soportes específicos para cubiertas, sin perforaciones. • Absorbedor de energía integrado en el propio poste Diasafe. • Altura del poste 32 cm (de la línea 42cm). • Cable de acero inoxidable de 8mm construcción 7X7 resistencia 40kN • Casquillos finales de 12mm resistencia 20kN. Inviolable (sin posible manipulación posterior) • Placa de señalización obligatoria conforme a la norma EN795C.	
			Mano de obra	417,92
			Resto de obra y materiales	11.838,65
			TOTAL PARTIDA	**12.256,57**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0066	MIMC010	Ud	Unidad de comunicación de señalas con la planta existente e integración con el SCADA existente y puesta en marcha de la instalación.	
			Mano de obra	4.468,67
			Resto de obra y materiales	785,05
			TOTAL PARTIDA	**5.253,72**
0067	PASMUR280	Ud	Pasamuros estanco de acero inoxidable AISI 316L de diámetro interior libre 280 mm y PN10. De longitud comprendida entre 34 y 40 cm con pletina intermedia concéntrica de altura 8 cm, terminado en uno de los extremos en brida de espesor 40 mm para posterior conexión de tubería. Incluido planos de taller.	
			Mano de obra	19,19
			Resto de obra y materiales	575,84
			TOTAL PARTIDA	**595,03**
0068	PASMUR315	Ud	Pasamuros estanco de acero inoxidable AISI 316L de diámetro interior libre 315 mm y PN10. De longitud comprendida entre 34 y 40 cm con pletina intermedia concéntrica de altura 8 cm, terminado en uno de los extremos en brida de espesor 40 mm para posterior conexión de tubería. Incluido planos de taller.	
			Mano de obra	19,19
			Resto de obra y materiales	688,71
			TOTAL PARTIDA	**707,90**
0069	PAVHORMFIB	m2	Pavimento continuo de hormigón en masa con fibras de 18 cm de espesor, con juntas, realizado con hormigón HM-20/B/20/I fabricado en central y vertido desde camión, extendido y vibrado manual, y fibras de polipropileno; tratado superficialmente con capa de rodadura de mortero decorativo de rodadura para pavimento de hormigón, color gris, rendimiento 3 kg/m², con acabado fratasado mecánico.	
			Mano de obra	23,10
			Maquinaria	1,17
			Resto de obra y materiales	61,09
			TOTAL PARTIDA	**85,36**
0070	PLETINAALM	m	Remate lateral de cubierta formado por chapa de aluminio plegada de 35 cm de desarrollo según planos de detalle y espesor 1 mm, anclada a capa de compresión mediante la disposición de anclajes mecánicos de longitud mínima 60 mm y M6 de acero inoxidable A4. Montado antes de aplicar la capa de impermeabilización. Incluido formación de rebosadero en punto bajo con mismo material.	
			Mano de obra	5,50
			Resto de obra y materiales	9,63
			TOTAL PARTIDA	**15,13**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0071 PRFV01 Ud

Escalera de acceso a la cubierta, construida completamente en fibra de vídrio. La estructura se compone de:
-Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior con dos alturas de 2,65 m y 2,7 m.
-Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso. Con barandillas laterales de protección a ambos lados de 110 cm de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 110 m de altura.
Incluye formación de cimentación, soportes auxiliares de soportación y rigidización, medios de elevación, planos de taller.

Mano de obra	522,40
Maquinaria	262,00
Resto de obra y materiales	5.987,47
TOTAL PARTIDA	**6.771,87**

0072 PRFV02 Ud

Escalera de acceso al interior del depósito, construida completamente en fibra de vídrio con certificado para contacto con agua potable. La estructura se compone de:
-Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior.
-Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso desde el primer tramo y bastidor lateral de protección de 2 m de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 1 m de altura.
Incluye formación de cimentación, soportes auxiliares de soportación y rigidización, medios de elevación, planos de taller.

Mano de obra	417,92
Maquinaria	196,50
Resto de obra y materiales	5.384,15
TOTAL PARTIDA	**5.998,57**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0073 PRFV04 Ud

Escalera de acceso al cuarto de bombas, construida completamente en fibra de vídrio. La estructura se compone de:
-Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior.
-Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso. 1 tramo con barandillas laterales de protección de 110 cm de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 110 m de altura.
Incluye materiales auxiliares para anclaje, medios de elevación, soportes auxiliares de soportación y rigidización, planos de taller.

Mano de obra	261,20
Maquinaria	131,00
Resto de obra y materiales	1.549,99
TOTAL PARTIDA	**1.942,19**

0074 PRFV05 Ud

Formación de barandilla de cubierta construida completamente con fibra de vidrio. La estructura se compone de:
- Balaustres de altura 110 cm formados con perfil estructural con interdistancia 1 metro.
- Pasamanos formado por perfil estructural
- Travesaño intermedio de rigidización fromado por perfil estructural.
- Pletina de PRFV para protección de remonte de impermeabilización.
Los balaustres dispondrán placa de anclaje para su conexión mediante anclaje mecánico al peto de cubierta ejecutado.
Incluido planos de taller, medios auxiliares de fijación, medios de elevación y gestión de RCD en obra.

Mano de obra	182,85
Maquinaria	98,25
Resto de obra y materiales	2.786,06
TOTAL PARTIDA	**3.067,16**

0075 PRFV06 Ud

Suministro y montaje de tapa de acceso al depósito construido totalmente en PRFV. Constituido por:
- Marco perimetral
- Tapa grecada con perfilería estructural de refuerzo y asas para su manipulación
- Perfileria intermedia de rigidización y apoyo para la tapa a disponer
Incluye, medios de elevación, planos de taller.

Mano de obra	104,48
Maquinaria	49,13
Resto de obra y materiales	1.104,93
TOTAL PARTIDA	**1.258,54**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0076	REVESIMP	m²	Mortero impermeabilizante monocomponente, a base de cemento y resinas sintéticas , calidad alimentaria, apto para contacto en agua potable, transpirable e impermeable al agua, Sika Top® Seal-107 de SIKA o similar, sobre paramentos verticales y horizontales de hormigón, para alturas superiores a 2 m, con llana dentada en la primera capa y lisa en la segunda, con un consumo aproximado total de 2,0 kg/m2 en dos capas de 2 mm aproximadamente. Incluye limpieza del soporte, mano de fondo y mano de acabado, medida la superficie ejecutada. Cumple con RD 140/2003.	
			Mano de obra.....	7,98
			Resto de obra y materiales	10,06
			TOTAL PARTIDA.....	**18,04**
0077	REVESIMP1	m²	Impermeabilización líquida de cubiertas. Sistema Aquaflex Roof Premium "MAPEI SPAIN" o similar formado por dos capas de impermeabilizante líquido elástico monocomponente, Aquaflex Roof Premium "MAPEI SPAIN" o similar, de color Gris, con un rendimiento de 1,5 kg/m², previa aplicación de imprimación bicomponente a base de resina epoxi en dispersión acuosa, Mapecoat I 600 W "MAPEI SPAIN" o similar, 0,4 kg/m². Incluidos remontes en la medición.	
			Mano de obra.....	2,31
			Resto de obra y materiales	30,78
			TOTAL PARTIDA.....	**33,09**
0078	SAN1402003	PA	Partida alzada para la limpieza, desinfección y puesta en servicio de las instalaciones. Los trabajos comprenderán: Limpieza y Desinfección (según estos métodos): - Método por lavado (enjuagado) con agua potable sin adición de desinfectante, con o sin inyección de aire - Método Estático utilizando agua potable con adición de desinfectante. - Método Dinámico utilizando agua potable con adición de desinfectante Para la elección del desinfectante se deberán respetar las directivas de la UE y reglamentos AELC, asi como, las reglamentaciones nacionales y locales. En todo caso se tendrán en cuenta la vida útil del producto, facilidad de utilización, tiempo de contacto necesario con los elementos a limpiar y desinfectar, y aspectos cualitativos del agua potable, pH, si se opta por la utilización de Hipoclorito de Calcio, se tendrá en cuanta la dureza del agua. El procedimiento tendrá que ser aprobado por el director de obra. Se consideran incluidos todos los trabajos necesarios para la puesta en servicio de las instalaciones.	
			Sin descomposición	
			Resto de obra y materiales	3.500,00

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
			TOTAL PARTIDA.....	**3.500,00**
0079	SOPINOXTUB	Ud	Soporte metálico de acero inoxidable AISI 304 para apoyo de tramos de tubería formados por una placa de anclaje de dimensiones 300x300x10 con cuatro taladros para su anclaje a solera de hormigón mediante tacos mecánicos de fijación, IPN 200 o perfil con inercia similar de altura aproximada de 1,50 m para correcto apoyo de tuberías y abracedera formando un semicírculo constituida por una pletina de espesor 8 mm y largo 100 mm. Todas las soldaduras realizadas en taller. Incluido elaboración de planos de taller, tornillería de fijación a la solera, junta de EPDM para evitar contacto directo con las tuberías.	
			Mano de obra.....	130,61
			Resto de obra y materiales	1.634,36
			TOTAL PARTIDA.....	**1.764,97**
0080	SYSPRES	Ud	Conjunto de medidas de seguridad y salud en el trabajo durante la ejecución de las obras, según estudio de seguridad y salud y plan de seguridad y salud aprobado, incluso sus eventuales modificaciones.	
			Sin descomposición	
			Resto de obra y materiales	24.429,32
			TOTAL PARTIDA.....	**24.429,32**
0081	TOMACOR2P	Ud	Suministro e instalación de toma de corriente monofasica 2P+T 16 A con toma de tierra lateral, formado por mecanismo de base de enchufe de 16 A de superficie, incluyendo p.p. de cajas de derivación estancas, elementos de sujeción y pequeño material. Totalmente montada y en funcionamiento.	
			Mano de obra.....	30,93
			Resto de obra y materiales	47,43
			TOTAL PARTIDA.....	**78,36**
0082	TOMACORR3P	Ud	Suministro e instalación de toma de corriente monofasica 3P+T 32 A con toma de tierra lateral, formado por mecanismo de base de enchufe de 16 A de superficie, incluyendo p.p. de cajas de derivación estancas, elementos de sujeción y pequeño material. Totalmente montada y en funcionamiento.	
			Mano de obra.....	30,93
			Resto de obra y materiales	80,59
			TOTAL PARTIDA.....	**111,52**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0083	TUBPEAD225	m	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 225 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7	
			Mano de obra	5,91
			Maquinaria	2,20
			Resto de obra y materiales	29,28
			TOTAL PARTIDA	**37,39**
0084	TUBPEAD280	m	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 280 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7	
			Mano de obra	5,91
			Maquinaria	2,20
			Resto de obra y materiales	41,73
			TOTAL PARTIDA	**49,84**
0085	TUBPEAD315	m	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 315 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7	
			Mano de obra	5,91
			Maquinaria	2,20
			Resto de obra y materiales	115,45
			TOTAL PARTIDA	**123,56**
0086	TUBPEAD400	m	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 315 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7	
			Mano de obra	5,91
			Maquinaria	2,20
			Resto de obra y materiales	169,05
			TOTAL PARTIDA	**177,16**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0087	U01RM021	m³	Suministro y formación de relleno en zanjas, trasdós de muros, pozos y/o cimientos, etc., con material seleccionado procedente de excavación, incluyendo adecuación del material en obra (machaqueo, seleccionado, mezcla, etc.). Incluye vertido, extendido, rasanteo, humectación y compactados en tongadas de un espesor máximo de 20cm., hasta alcanzar el 98% del Próctor Modificado, barrido, limpieza.	
			Mano de obra	5,20
			Maquinaria	3,23
			Resto de obra y materiales	0,74
			TOTAL PARTIDA	**9,17**
0088	U01RM022	m³	Relleno envolvente y principal de zanjas para instalaciones, con arena de 0 a 5 mm de diámetro y compactación en tongadas sucesivas de 20 cm de espesor máximo con bandeja vibrante de guiado manual, hasta alcanzar una densidad seca no inferior al 95% de la máxima obtenida en el ensayo Proctor Modificado, realizado según UNE 103501. Incluso cinta o distintivo indicador de la instalación, barrido, limpieza.	
			Mano de obra	12,30
			Maquinaria	1,74
			Resto de obra y materiales	40,39
			TOTAL PARTIDA	**54,43**
0089	U01RM023	m3	Suministro y formación de relleno a cielo abierto en preparación de la explanada, con material seleccionado procedente de excavación, incluyendo adecuación del material en obra (machaqueo, seleccionado, mezcla, etc.). Incluye vertido, extendido, rasanteo, humectación y compactados en tongadas de un espesor máximo de 20cm., hasta alcanzar el 98% del Próctor Modificado, barrido, limpieza.	
			Mano de obra	1,75
			Maquinaria	14,97
			Resto de obra y materiales	0,84
			TOTAL PARTIDA	**17,56**
0090	U02HC011	m³	Suministro y colocación de hormigón no estructural en limpieza en capa de 10 cm de espesor, rellenos y protección de elementos. Incluye elaboración con dosificación de cemento 150Kg/m3 y tamaño máximo de árido 20 mm., suministro y transporte a pie de obra, replanteo, vertido, extendido, nivelado y curado, barrido, limpieza.	
			Mano de obra	11,30
			Maquinaria	20,49
			Resto de obra y materiales	232,01
			TOTAL PARTIDA	**263,80**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0091 U05LAH020 m³ Hormigón en masa HM-20/B/20/IIa de resistencia característica a compresión 20 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, en elementos enterrados, o interiores sometidos a humedades relativas medias-altas (>65%) o a condensaciones, o elementos exteriores con alta precipitación, elaborado en central. Incluso vertido por medios manuales, vibrado y colocado. Incluso retirada de material sobrante y trabajo totalmente terminado, incluyendo medios y materiales auxiliares.

Mano de obra	6,56
Maquinaria	8,20
Resto de obra y materiales	269,78
TOTAL PARTIDA	**284,54**

0092 U05LAH022 m³ Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-30/B/20/IV fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante.
Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios.
Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.
En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.
Se considera incluido en el precio:
-La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.
-El regado y curado del hormigón una vez ejecutado.

Mano de obra	6,10
Maquinaria	9,10
Resto de obra y materiales	290,43
TOTAL PARTIDA	**305,63**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0093 U05LAH023 m³ Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante.
Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras necesarios.
Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.
En caso de aparición de coqueras o defectos superficiales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.
Se considera incluido en el precio:
-La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.
-El regado y curado del hormigón una vez ejecutado.

Mano de obra	6,10
Maquinaria	9,10
Resto de obra y materiales	279,45
TOTAL PARTIDA	**294,65**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0094 U05LAH024 m³ Suministro y colocación de hormigón para armar en elementos de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante.
Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de la zapata, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios.
Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.
Se considera incluido en el precio:
-La existencia de la capa de hormigón de limpieza, que presentará un plano de apoyo horizontal y una superficie limpia.
-La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.
-El regado y curado del hormigón una vez ejecutado.

Mano de obra	7,04
Maquinaria	8,13
Resto de obra y materiales	279,45
TOTAL PARTIDA	**294,62**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0095 U05LAH025 m²

Suministro y colocación de hormigón armado en Solera de hormigón armado HA-25/B/20/IIa de 15 cm de espesor fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se incluye en el precio la ejecución de juntas, aserrado y sellado de las mismas.
Se consideran incluido el suministro, vertido y capa de regularización de 5 cm de espesor previa colocación de lámina de polietileno de 1mm de espesor.
Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos así como el curado posterior.
En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.
Se considera incluido en el precio:
-La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.
-El regado y curado del hormigón una vez ejecutado.

Mano de obra	16,61
Maquinaria	10,10
Resto de obra y materiales	70,06
TOTAL PARTIDA	**96,77**

0096 U05LAH026 m³

Ejecución de muro de sótano de hormigón armado, realizado con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con cubilote, incluso alambre de atar y separadores; espuma de poliuretano monocomponente, para sellado de los huecos pasamuros para paso de los tensores del encofrado.
Se comprobará la existencia de las armaduras de espera en el plano de apoyo del muro, que presentará una superficie horizontal y limpia.
Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.
En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.
Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.

Mano de obra	4,69
Maquinaria	11,00

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
			Resto de obra y materiales	290,45
			TOTAL PARTIDA.....	**306,14**
0097	U05LAH027	m³	Ejecución de capa de compresión de 5 cm de espesor y relleno de juntas en losas mediante hormigón para armar HA-25/B/20/IIIa de resistencia característica a compresión 25 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, y malla electrosoldada de 200x200x8 mm, en elementos exteriores cercanos a la costa (<5 Km), elaborado en central. Incluso vertido con grúa-pluma, vibrado y colocado. Según normas EHE-08 y NTE-EHL. Componentes del hormigón con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011.	
			Mano de obra.....	7,04
			Maquinaria	7,87
			Resto de obra y materiales	361,69
			TOTAL PARTIDA.....	**376,60**
0098	U05LAH0282	Ud	Suministro, transporte y montaje de pilar prefabricado de hormigón armado HA-40 y acero B 500 S de sección constante 40x40 cm, de altura máxima 6 m, con esperas en la parte inferior para arranque del pilar y en la parte superior para solape del pilar superior, con cajeado sin hormigón para enjarje con forjado intermedio, encofrado y desencofrado, aplomado, vertido, vibrado, curado de hormigón, incluido relleno del cáliz, con ayuda de grúa telescópica para montaje, totalmente terminada. Según EHE-08 y CTE. Pilar prefabricado con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.	
			Mano de obra.....	252,63
			Maquinaria	295,85
			Resto de obra y materiales	1.492,58
			TOTAL PARTIDA.....	**2.041,06**
0099	U05LAH0292	m²	Suministro, transporte y montaje de forjado de placa alveolar prefabricada de hormigón pretensado de canto 25 cm en piezas de 1,20 m de ancho, apoyado sobre jácenas no incluidas en este precio, con capa de compresión de 5 cm no incluida en este precio, para una sobrecarga permanente de 350 kg/m2 y de uso de 100 kg/m2. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.	
			Mano de obra.....	23,04
			Maquinaria	26,92
			Resto de obra y materiales	133,18
			TOTAL PARTIDA.....	**183,14**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0100 U05LAH0302 Ud Suministro, transporte y montaje de depósito rectangular aéreo mediante módulos de muro prefabricado de hormigón armado, sección rectangular de 15 cm de espesor, de 5,00 m de altura y 2,00 m de ancho y una aleta perpendicular a la sección rectangular, fabricado con hormigón armado sulforresistente HA40/B/20/IV CEM I 42,5 SR monocapa gris, i/p.p. de montaje con ayuda de grúa autopropulsada telescópica y apeos, totalmente terminado. Según EHE-08 y CTE. Medición por m2 según planillas fabricación sin descontar huecos. Muro prefabricado con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.

Mano de obra	599,94
Maquinaria	696,59
Resto de obra y materiales	3.394,37
TOTAL PARTIDA	**4.690,90**

0101 U05LAH0312 m Suministro, transporte y montaje de jácenas de hormigón armado semiprefabricadas JR50/40 de sección 40x50 cm y 6 m de luz. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.

Mano de obra	107,46
Maquinaria	124,69
Resto de obra y materiales	607,71
TOTAL PARTIDA	**839,86**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0102 U05LAH032 m³ Suministro y colocación de hormigón armado en losa de cubierta, realizada con hormigón HA-30/B/20/IIIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, y acero UNE-EN 10080 B 500 S, con una cuantía determinada en planos, memoria o pliegos, acabado superficial liso mediante regla vibrante.
Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios.
En esta unidad se consideran incluidas las armaduras para formación de foso de ascensor, refuerzos, pliegues, encuentros, arranques y esperas en muros, escaleras y rampas, cambios de nivel, alambre de atar, y separadores.
El precio incluye el suministro, la elaboración y el montaje de la ferralla necesaria pero no incluye el encofrado en caso de ser necesaria.
Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.
En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.
Se considera incluido en el precio:
-La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.
-El regado y curado del hormigón una vez ejecutado.

Mano de obra	4,69
Maquinaria	10,82
Resto de obra y materiales	290,44
TOTAL PARTIDA	**305,95**

0103 UIA011 ud Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 30x30x30 cm de medidas interiores, con paredes rebajadas para la entrada de tubos, capaz de soportar una carga de 400 kN, con marco de chapa galvanizada y tapa de hormigón armado aligerado, de 39,5x38,5 cm, para arqueta de conexión eléctrica, capaz de soportar una carga de 125 kN; previa excavación con medios mecánicos y posterior relleno del trasdós con material granular.

Mano de obra	26,18
Maquinaria	0,61
Resto de obra y materiales	44,22
TOTAL PARTIDA	**71,01**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0104 VALMAP125 Ud Suministro, colocación y probado de válvula de mariposa para agua potable AVK o equivalente, serie EVFL 75/21, DN 125, PN 10/16. Concéntrica, junta vulcanizada, embridada cuello largo. Distancia entre bridas EN 558, tabla 2, s.b. 14. Cuerpo de fundición dúctil EN-GJS-400. Junta de EPDM vulcanizado al cuerpo, certificado para agua potable. Eje y disco de acero inox DUPLEX, con revestimiento de epoxi de 200 micras.

Mano de obra	62,69
Resto de obra y materiales	1.399,95
TOTAL PARTIDA	**1.462,64**

0105 VALMAP150 Ud Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 150, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación.
Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68.
Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.

Mano de obra	62,69
Resto de obra y materiales	6.046,06
TOTAL PARTIDA	**6.108,75**

0106 VALMAP200 Ud Suministro, colocación y probado de válvula de mariposa para agua potable AVK o equivalente, serie EVFL 75/21, DN 200, PN 10/16. Concéntrica, junta vulcanizada, embridada cuello largo. Distancia entre bridas EN 558, tabla 2, s.b. 14. Cuerpo de fundición dúctil EN-GJS-400. Junta de EPDM vulcanizado al cuerpo, certificado para agua potable. Eje y disco de acero inox DUPLEX, con revestimiento de epoxi de 200 micras.

Mano de obra	62,69
Resto de obra y materiales	2.175,90
TOTAL PARTIDA	**2.238,59**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE

0107 VALMAP300 Ud Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 300, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación.
Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.

Mano de obra	135,83
Maquinaria	87,83
Resto de obra y materiales	11.078,02
TOTAL PARTIDA	**11.301,68**

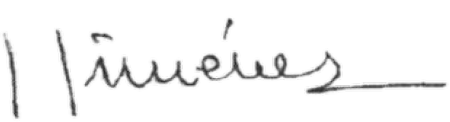
0108 VALMAP400 Ud Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 400, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación.
Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.

Mano de obra	135,83
Maquinaria	87,83
Resto de obra y materiales	13.084,59
TOTAL PARTIDA	**13.308,25**

Nº	CÓDIGO	UD.	RESUMEN	IMPORTE
0109	VALRET	Ud	Válvula de retención de disco partido marca AVK Serie 642ECV tipo wafer o similar, PN16 de DN 125, cuerpo en fundición dúctil EN-GJS-400, clapetas en acero INOX 316, eje en acero INOX 316, totalmente instalada.	
			Mano de obra	18,29
			Resto de obra y materiales	589,58
			TOTAL PARTIDA	**607,87**
0110	ZAHZ325	m3	Relleno, extendido y apisonado de zahorras a cielo abierto por medios mecánicos, en tongadas de 30 cm de espesor, hasta conseguir un grado de compactación del 95% del proctor normal, incluido regado de las mismas, refino de taludes y con parte proporcional de medios auxiliares, considerando las zahorras a pie de tajo. Según CTE-DB-SE-C. Incluso transporte en camión desde la cantera a menos de 20 km hasta la obra.	
			Mano de obra	1,75
			Maquinaria	21,65
			Resto de obra y materiales	63,65
			TOTAL PARTIDA	**87,05**

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

 **Redactor de proyecto:** Juan Carlos Arroyo Portero ICCP	 **Redactor adjunto:** Jesús Jiménez Cañas ICCP

MEDICIONES

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C01	**MOVIMIENTO DE TIERRAS**					
E02AM010	**m² Desbroce, limpieza y acondicionamiento del terreno**					
	Desbroce y acondicionamiento del terreno con medios manuales o mecánicos, con corte y limpieza de árboles, arbustos, maleza, incluso extracción de tocones. Hasta una profundidad no menor que el espesor de la capa de tierra vegetal, considerando como mínima 25 cm. Incluso transporte de la maquinaria, retirada de los materiales excavados y carga a camión, transporte hasta acopio localizado, formación de acopio localizado para posterior reutilización en acondicionamiento de espacios. Se consideran incluidos en el precio los trabajos de acondicionamiento de accesos para las autogrúas y maquinaria específica para el montaje de forjados e instalación de nuevas vigas y placas prefabricadas.					
	DESBROCE PARCELA	1	4.310,00			4.310,00
						4.310,00
E02CMA080	**m³ Excavación en zanja o pozo en cualquier tipo de terreno**					
	Excavación en zanjas o pozos con medios mecánicos en cualquier clase de terreno, incluso roca, salvando servicios existentes y agotamiento en zonas sumergidas, entibación, limpieza de fondos, rasanteo y compactación de los mismos, extracción de productos a los bordes de la excavación, incluso ayudas de mano de obra.					
	DEPOSITO PREFABRICADO					
	HL Losa	1	68,10			68,10
	HL Zapatas	1	4,34			4,34
	HA Losa	1	204,30			204,30
	HA Muros	1	147,00			147,00
	HA Zapatas		47,70			47,70
	CASETA DE BOMBAS					
	Solera	1	35,00	0,35		12,25
	HL Zapatas Corridas	1	2,88			2,88
	HA Muros	1	29,23			29,23
	HA Zapatas Corridas	1	17,28			17,28
	CAMARA DE LLAVES					
	HL Losa	1	12,00		0,10	1,20
	HA Losa	1	12,00		0,30	3,60
	HA Muros	1	12,00		1,47	17,64
	EXCAVACIÓN HASTA COTA EST. GEOTÉCNICO					
	Excavación hasta -1,80 m (Superficie x espesor)	1	705,00		1,80	1.269,00
	Deducción Excavación Depósito	-1	471,44			-471,44
	INSTALACIÓN HIDRÁULICA					
	Tubería de Rebose entre Depósitos	1	30,00	0,60	2,50	45,00
	Aspiración Dep. Prefabricado (Tramo 1)	1	60,00	0,60	3,00	108,00
	Aspiración Dep. Prefabricado (Tramo 2)	1	30,00	0,60	3,00	54,00
	Impulsión Recirculación a Dep. Prefabricado	1	135,00	0,60	3,00	243,00
	Conexión a Bombeo Existente	1	89,00	0,60	3,00	160,20
	Suministro IDAM - Dep. Prefabricado	1	65,00	0,60	3,00	117,00
	CONDUCCIONES ELÉCTRICAS					
	Bombeo a Edificio Proceso	1	50,00	0,60	1,20	36,00
	Cámara de Llaves a Bombeo	1	80,00	0,60	1,20	57,60
	Excavación Instalación Balizas	1	190,00	0,30	0,40	22,80
						2.196,68
E02CMA081	**m³ Excavación manual en zanja**					
	Excavación en zanjas con medios manuales en cualquier clase de terreno, incluso roca, salvando servicios existentes y agotamiento en zonas sumergidas, limpieza de fondos, rasanteo y compactación de los mismos, extracción de productos a los bordes de la excavación, incluso ayudas de mano de obra.					
		1	20,00	0,60	2,70	32,40
		1	135,00	0,40	0,20	10,80
						43,20

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
U01RM021	m³ Relleno de zanjas con material procendente de la excavación					
	Suministro y formación de relleno en zanjas, trasdós de muros, pozos y/o cimientos, etc., con material seleccionado procedente de excavación, incluyendo adecuación del material en obra (machaqueo, seleccionado, mezcla, etc.). Incluye vertido, extendido, rasanteo, humectación y compactados en tongadas de un espesor máximo de 20cm., hasta alcanzar el 98% del Próctor Modificado, barrido, limpieza.					
	INSTALACIÓN HIDRÁULICA					
	TUBERIA DE REBOSE ENTRE DEPOSITOS	1	30,00	0,60	2,07	37,26
	ASPIRACION DEP. PREFABRICADO (TRAMO 1)	1	60,00	0,60	2,52	90,72
	ASPIRACION DEP. PREFABRICADO (TRAMO 2)	1	30,00	0,60	2,52	45,36
	IMPULSION RECIRCULACION A DEP. PREFA.	1	135,00	0,60	2,49	201,69
	CONEXIÓN A BOMBEO EXISTENTE	1	89,00	0,60	2,49	132,97
	SUMINISTRO IDAM - DEPOSITO	1	65,00	0,60	2,40	93,60
	CONDUCCIONES ELÉCTRICAS					
	CASETA DE BOMBAS	1	50,00	0,60	0,90	27,00
	CAMARA DE LLAVES	1	80,00	0,60	0,90	43,20
	Excavación Instalación Balizas	1	190,00	0,30	0,20	11,40
						683,20
U01RM022	m³ Relleno de zanjas con arena común					
	Relleno envolvente y principal de zanjas para instalaciones, con arena de 0 a 5 mm de diámetro y compactación en tongadas sucesivas de 20 cm de espesor máximo con bandeja vibrante de guiado manual, hasta alcanzar una densidad seca no inferior al 95% de la máxima obtenida en el ensayo Proctor Modificado, realizado según UNE 103501. Incluso cinta o distintivo indicador de la instalación, barrido, limpieza.					
	INSTALACIÓN HIDRÁULICA					
	TUBERIA DE REBOSE ENTRE DEPOSITOS	1	30,00	0,60	0,43	7,74
		-1	30,00	0,04		-1,20
	ASPIRACION DEP. PREFABRICADO (TRAMO 1)	1	60,00	0,60	0,48	17,28
		-1	60,00	0,06		-3,60
	ASPIRACION DEP. PREFABRICADO (TRAMO 2)	1	30,00	0,60	0,48	8,64
		-1	30,00	0,06		-1,80
	IMPULSION RECIRCULACION A DEP. PREFA.	1	135,00	0,60	0,52	42,12
		-1	135,00	0,08		-10,80
	CONEXIÓN A BOMBEO EXISTENTE	1	89,00	0,60	0,52	27,77
		-1	89,00	0,08		-7,12
	SUMINISTRO IDAM - DEPOSITO	1	65,00	0,60	0,60	23,40
		-1	65,00	0,13		-8,45
	CONDUCCIONES ELÉCTRICAS					
	CASETA DE BOMBAS	1	50,00	0,60	0,30	9,00
	CAMARA DE LLAVES	1	80,00	0,60	0,30	14,40
	Excavación Instalación Balizas	1	190,00	0,30	0,20	11,40
						128,78

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C02	**DEMOLICIONES Y APEOS**					
E01DSB100	**m2 Demolición de muro de hormigón armado**					
	Demolición de muros de hormigón armado de 30 cm de espesor, con compresor, incluso limpieza y retirada de escombros a pie de carga, sin transporte al vertedero y con parte proporcional de medios auxiliares, sin medidas de protección colectivas. Medición de superficie realmente ejecutada.					
	Muro	1	2,50	1,63		4,08
						4,08
E01DSB101	**m3 Desmontaje de muro de mampostería**					
	Desmontaje para su reutilización de muro de mampostería de piedra, con mortero, con medios manuales y acopio del 80% del material para su reutilización, incluso limpieza y retirada de escombros a pie de carga.					
	Demolición Muro de Piedra					
	Conexión IDAM - Dep. Prefabricado	1	35,00	0,30	1,50	15,75
						15,75
E01AA020	**m2 Apeo de estructura hasta 6 m**					
	Apeo de estructura, hasta una altura máxima de 6 m, mediante sopandas, puntales y durmientes metálicos, con parte proporcional de medios auxiliares y trabajos previos de limpieza para apoyos. Medición descontando huecos.					
	Apeo Muro	1	3,70	1,63		6,03
	Apeo forjado PB (25% del total)	0,25	40,00			10,00
	Apeo forjado PCUB (25% del total)	0,25	40,00			10,00
						26,03

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C03	**CIMENTACIONES Y CONTENCIONES**					
C03.01	**DEPOSITO PREFABRICADO**					
E04MEF012	**m² Encofrado metálico para losa de cimentación**					
	Suministro y montaje de sistema de encofrado recuperable metálico, para losa de cimentación, formado por paneles metálicos, amortizables en 200 usos, y posterior desmontaje del sistema de encofrado. Incluso elementos de sustentación, fijación y acodalamientos necesarios para su estabilidad y líquido desencofrante para evitar la adherencia del hormigón al encofrado. Se considerea incluido en el precio la limpieza y preparación del plano de apoyo. Replanteo. Aplicación del líquido desencofrante. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y acodalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.					
	DEPÓSITO PREFABRICADO					
	Encofrado losa de cimentación	1	31,68			31,68
						31,68
U05LAH020	**m³ Hormigón HM-20/B/20/IIa para limpieza y nivelación**					
	Hormigón en masa HM-20/B/20/IIa de resistencia característica a compresión 20 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, en elementos enterrados, o interiores sometidos a humedades relativas medias-altas (>65%) o a condensaciones, o elementos exteriores con alta precipitación, elaborado en central. Incluso vertido por medios manuales, vibrado y colocado. Incluso retirada de material sobrante y trabajo totalmente terminado, incluyendo medios y materiales auxiliares.					
	DEPÓSITO PREFABRICADO					
	HL Losa	1	68,10			68,10
	HL Zapatas	15	0,29			4,35
						72,45
U05LAH022	**m³ Hormigón HA-30/B/20/IV para losas**					
	Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-30/B/20/IV fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.					
	DEPÓSITO PREFABRICADO					
	HA Losa de Fondo Depósito	1	526,04	0,30		157,81
						157,81

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
U05LAH023	**m³ Hormigón HA-25/B/20/IIa para losas**					
	Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras necesarios. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficiales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.					
	DEPÓSITO PREFABRICADO					
	HA Zapata Corrida Muros Depósito	1	155,00	0,30		46,50
						46,50
U05LAH024	**m³ Hormigón HA-25/B/20/IIa para cimentación**					
	Suministro y colocación de hormigón para armar en elementos de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de la zapata, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. Se considera incluido en el precio: -La existencia de la capa de hormigón de limpieza, que presentará un plano de apoyo horizontal y una superficie limpia. -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.					
	DEPÓSITO PREFABRICADO					
	HA Zapatas Aisladas	15	1,70	1,70	1,10	47,69
						47,69
E04AB041	**kg Acero corrugado elaborado B500SD**					
	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.					
	DEPÓSITO PREFABRICADO (LOSA)					
	ARM. BASE. Armadura superior e inferior- Ø12 c/15 cm	26,6	684,00	0,89		16.193,02
	REF.SUP DIRECCIÓN X					
	Ø16 c/15 cm - Longitud 3.0 m	27,3	3,30	1,58		142,34
	Ø20 c/15 cm - Longitud 3.5 m	21,3	3,80	2,47		199,92
	Ø25 c/15 cm - Longitud 3.2 m	28	3,50	3,85		377,30
	Ø16 c/15 cm - Longitud 3.5 m	12	3,80	1,58		72,05
	Ø16 c/15 cm - Longitud 3.0 m	24,6	3,30	1,58		128,26
	Ø10 c/15 cm - Longitud 18.45 m	10	18,45	0,62		114,39

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
	Ø10 c/15 cm - Longitud 18.45 m	10	18,45	0,62		114,39
	Ø16 c/15 cm - Longitud 3.3 m	31,3	3,60	1,58		178,03
	Ø25 c/15 cm - Longitud 3.5 m	66,6	3,80	3,85		974,36
	Ø16 c/15 cm - Longitud 3.3 m	31,3	3,60	1,58		178,03
	REF. INF DIRECCIÓN X					
	Ø20 c/15 cm - Longitud 4.25 m	24,6	4,25	2,47		258,24
	Ø12 c/15 cm - Longitud 4.80 m	112	4,80	0,89		478,46
	REF. SUP. DIRECCIÓN Y					
	Ø20 c/15 cm - Longitud 4.30 m	14,3	4,30	2,47		151,88
	Ø25 c/15 cm - Longitud 4.30 m	153,3	4,30	3,85		2.537,88
	Ø20 c/15 cm - Longitud 4.30 m	14,3	4,30	2,47		151,88
	Ø10 c/15 cm - Longitud 9.6 m	15,6	9,60	0,62		92,85
	Ø20 c/15 cm - Longitud 4.30 m	27,6	4,30	2,47		293,14
	Ø25 c/15 cm - Longitud 4.30 m	126,6	4,30	3,85		2.095,86
	Ø20 c/15 cm - Longitud 4.30 m	27,6	4,30	2,47		293,14
	Ø10 c/15 cm - Longitud 4.30 m	15,6	9,60	0,62		92,85
	REF. INF DIRECCIÓN Y					
	Ø20 c/15 cm - Longitud 5.60 m	27	5,60	2,47		373,46
	Ø16 c/15 cm - Longitud 5.60 m	103,8	5,60	1,58		918,42
	Ø16 c/15 cm - Longitud 5.60 m	28,3	5,60	1,58		250,40
	A. REF LOSA BAJO MUROS					
	4Ø12	4	1,00	0,89	155,00	551,80
	4Ø12	4	1,00	0,89	155,00	551,80
	Ø10 c/10 cm	40	1,00	0,62	155,00	3.844,00
	Ø8 c/10 cm	62	1,00	0,40	155,00	3.844,00
	Incremento despunte - 15%	0,15	35.452,15			5.317,82
	DEPÓSITO PREFABRICADO (ZAPATAS)					
	Armadura inferior Ø20 c/10 cm	255	1,00	2,47		629,85
	Armadura superior Ø16 c/15 cm	339	1,00	1,58		535,62
	Armadura inferior Ø16 c/10 cm	255	1,00	1,58		402,90
	Incremento despunte - 15%	0,15	1.568,37			235,26
						42.573,60

C03.02 CASETA DE BOMBAS

U05LAH020 **m³ Hormigón HM-20/B/20/IIa para limpieza y nivelación**

Hormigón en masa HM-20/B/20/IIa de resistencia característica a compresión 20 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, en elementos enterrados, o interiores sometidos a humedades relativas medias-altas (>65%) o a condensaciones, o elementos exteriores con alta precipitación, elaborado en central. Incluso vertido por medios manuales, vibrado y colocado. Incluso retirada de material sobrante y trabajo totalmente terminado, incluyendo medios y materiales auxiliares.

	CAMARA DE BOMBAS					
	HL Zapata Corrida	1	24,00	1,20	0,10	2,88
						2,88

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
U05LAH025	m² Solera HA-25/B/20/IIa					
	Suministro y colocación de hormigón armado en Solera de hormigón armado HA-25/B/20/IIa de 15 cm de espesor fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se incluye en el precio la ejecución de juntas, aserrado y sellado de las mismas.					
	Se consideran incluido el suministro, vertido y capa de regularización de 5 cm de espesor previa colocación de lámina de polietileno de 1mm de espesor.					
	Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos así como el curado posterior.					
	En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.					
	Se considera incluido en el precio:					
	-La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.					
	-El regado y curado del hormigón una vez ejecutado.					
	SOLERA	1	28,16	0,20		5,63
						5,63
E04MEF011	m² Encofrado recto vertical en muros					
	Suministro, Montaje y desmontaje de sistema de encofrado a dos caras con acabado tipo industrial para revestir, realizado con paneles metálicos modulares, amortizables en 150 usos, para formación de muro de hormigón armado, de entre 3 y 6 m de altura y superficie plana, para contención de tierras. Incluso tubos para paso de instalaciones; pasamuros para paso de los tensores; elementos de sustentación, fijación y apuntalamiento necesarios para su estabilidad; y líquido desencofrante para evitar la adherencia del hormigón al encofrado.					
	Se considerea incluido en el precio de limpieza y preparación del plano de apoyo. Replanteo del encofrado sobre la cimentación. Replanteo de las juntas de construcción y de dilatación. Colocación de pasamuros para paso de los tensores y/o instalaciones. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y apuntalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. En caso de producirse coqueras o imperfecciones se dará conocimiento a la Dirección facultativa y se procederá a la reparación oportuna sin coste alguno.					
	Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.					
	CASETA DE BOMBAS					
	MURO H=2,76	2	2,76	2,00		11,04
	MURO H=4,06	1	4,06	7,00		28,42
	MURO H=4,06	2	4,06	3,00		24,36
	MURO H=2,76	1	2,76	7,00		19,32
						83,14

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
U05LAH026	m³ Hormigón HA-30/B/IIIa alzado muros					
	Ejecución de muro de sótano de hormigón armado, realizado con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con cubilote, incluso alambre de atar y separadores; espuma de poliuretano monocomponente, para sellado de los huecos pasamuros para paso de los tensores del encofrado. Se comprobará la existencia de las armaduras de espera en el plano de apoyo del muro, que presentará una superficie horizontal y limpia. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.					
	MUROS CASETA BOMBAS					
	MURO H=2,76	2	2,76	2,00	0,30	3,31
	MURO H=4,06	1	4,06	7,00	0,30	8,53
	MURO H=4,06	2	4,06	3,00	0,30	7,31
	MURO H=2,76	1	2,76	7,00	0,30	5,80
						24,95
E04AB041	kg Acero corrugado elaborado B500SD					
	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.					
	Armadura vertical 01 Ø12 c/15 cm	13,3	13,00	4,06	0,89	624,76
	Armadura vertical 02 Ø12 c/15 cm	13,3	11,02	2,76	0,89	360,02
	Armadura horizontal 01 Ø12 c/15 cm	13,3	4,06	13,00	0,89	624,76
	Armadura horizontal 02 Ø12 c/15 cm	13,3	2,76	11,02	0,89	360,02
	Incremento despunte - 15%	0,15	1.969,56			295,43
						2.264,99
C03.03	CAMARA DE LLAVES					
U05LAH020	m³ Hormigón HM-20/B/20/IIa para limpieza y nivelación					
	Hormigón en masa HM-20/B/20/IIa de resistencia característica a compresión 20 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, en elementos enterrados, o interiores sometidos a humedades relativas medias-altas (>65%) o a condensaciones, o elementos exteriores con alta precipitación, elaborado en central. Incluso vertido por medios manuales, vibrado y colocado. Incluso retirada de material sobrante y trabajo totalmente terminado, incluyendo medios y materiales auxiliares.					
	HL ZAPATA CORRIDA	1	12,00		0,30	3,60
						3,60

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
E04MEF011	**m² Encofrado recto vertical en muros**					
	Suministro, Montaje y desmontaje de sistema de encofrado a dos caras con acabado tipo industrial para revestir, realizado con paneles metálicos modulares, amortizables en 150 usos, para formación de muro de hormigón armado, de entre 3 y 6 m de altura y superficie plana, para contención de tierras. Incluso tubos para paso de instalaciones; pasamuros para paso de los tensores; elementos de sustentación, fijación y apuntalamiento necesarios para su estabilidad; y líquido desencofrante para evitar la adherencia del hormigón al encofrado.					
	Se considerea incluido en el precio de limpieza y preparación del plano de apoyo. Replanteo del encofrado sobre la cimentación. Replanteo de las juntas de construcción y de dilatación. Colocación de pasamuros para paso de los tensores y/o instalaciones. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y apuntalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. En caso de producirse coqueras o imperfecciones se dará conocimiento a la Dirección facultativa y se procederá a la reparación oportuna sin coste alguno.					
	Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.					
	MURO	1	1,50	10,00		15,00
	MURO	1	1,30	4,00		5,20
						20,20
U05LAH026	**m³ Hormigón HA-30/B/IIIa alzado muros**					
	Ejecución de muro de sótano de hormigón armado, realizado con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con cubilote, incluso alambre de atar y separadores; espuma de poliuretano monocomponente, para sellado de los huecos pasamuros para paso de los tensores del encofrado.					
	Se comprobará la existencia de las armaduras de espera en el plano de apoyo del muro, que presentará una superficie horizontal y limpia.					
	Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.					
	En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material.					
	Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.					
	MURO	1	14,00	3,80	0,25	13,30
						13,30

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
U05LAH023	m³ Hormigón HA-25/B/20/IIa para losas					
	Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras necesarios. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficiales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.					
	HA LOSA	1	12,00	0,30		3,60
						3,60
E04AB041	kg Acero corrugado elaborado B500SD					
	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.					
	LOSA CAMARA DE LLAVES					
	Armadura base superior e inferior Ø12 c/15 cm - DIR Y	13,3	0,89	11,25		133,17
	Armadura base superior e inferior Ø12 c/15 cm - DIR X	13,3	0,89	11,25		133,17
	Incremento despunte - 15%	0,15	266,34			39,95
	MUROS CAMARA DE LLAVES					
	Armadura vertical 01 Ø12 c/15 cm	93,3	4,05	0,89		336,30
	Armadura vertical 02 Ø12 c/15 cm	93,3	4,05	0,89		336,30
	Armadura horizontal 01 Ø12 c/15 cm	27	14,00	0,89		336,42
	Armadura horizontal 02 Ø12 c/15 cm	27	14,00	0,89		336,42
	ZUNCHO-Coronación					
	Estribos Ø8 c/0.15	93,3	1,00	0,40		37,32
	6Ø12	6	14,00	0,89		74,76
	Despunte - 15%	0,15	1.457,55			218,63
						1.982,44
C03.04	**RELLENO HORMIGÓN CICLÓPEO**					
CHH010	m3 Hormigón ciclópeo					
	Hormigón ciclópeo, realizado con hormigón HM-15/P/40/I fabricado en central y vertido desde camión (60% de volumen) y piedra en rama de tamaño máximo 30 cm (40% de volumen), para mejora del terreno de cimentación existente.					
	SUPERFICIE DEPÓSITO +0,5 m	1	30,80	22,80	1,20	842,69
		-15	1,70	1,70	1,10	-47,69
						795,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C04	**ESTRUCTURAS DE HORMIGÓN**					
C04.01	**DEPÓSITO PREFABRICADO**					
U05LAH027	**m³ Capa de compresión en forjado**					
	Ejecución de capa de compresión de 5 cm de espesor y relleno de juntas en losas mediante hormigón para armar HA-25/B/20/IIIa de resistencia característica a compresión 25 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, y malla electrosoldada de 200x200x8 mm, en elementos exteriores cercanos a la costa (<5 Km), elaborado en central. Incluso vertido con grúa-pluma, vibrado y colocado. Según normas EHE-08 y NTE-EHL. Componentes del hormigón con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011.					
	Capa de compresión		573,00	0,05		28,65
						28,65
U05LAH0282	**Ud Pilar prefabricado de hormigón**					
	Suministro, transporte y montaje de pilar prefabricado de hormigón armado HA-40 y acero B 500 S de sección constante 40x40 cm, de altura máxima 6 m, con esperas en la parte inferior para arranque del pilar y en la parte superior para solape del pilar superior, con cajeado sin hormigón para enjarje con forjado intermedio, encofrado y desencofrado, aplomado, vertido, vibrado, curado de hormigón, incluido relleno del cáliz, con ayuda de grúa telescópica para montaje, totalmente terminada. Según EHE-08 y CTE. Pilar prefabricado con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.					
			15			15,00
						15,00
U05LAH0292	**m² Forjado de placa alveolar**					
	Suministro, transporte y montaje de forjado de placa alveolar prefabricada de hormigón pretensado de canto 25 cm en piezas de 1,20 m de ancho, apoyado sobre jácenas no incluidas en este precio, con capa de compresión de 5 cm no incluida en este precio, para una sobrecarga permanente de 350 kg/m2 y de uso de 100 kg/m2. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.					
			573,00			573,00
						573,00
U05LAH0312	**m Jácenas prefabricadas de hormigón**					
	Suministro, transporte y montaje de jácenas de hormigón armado semiprefabricadas JR50/40 de sección 40x50 cm y 6 m de luz. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.					
			84,00			84,00
						84,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
U05LAH0302	**Ud Muro prefabricado nervado**					
	Suministro, transporte y montaje de depósito rectangular aéreo mediante módulos de muro prefabricado de hormigón armado, sección rectangular de 15 cm de espesor, de 5,00 m de altura y 2,00 m de ancho y una aleta perpendicular a la sección rectangular, fabricado con hormigón armado sulforresistente HA40/B/20/IV CEM I 42,5 SR monocapa gris, i/p.p. de montaje con ayuda de grúa autopropulsada telescópica y apeos, totalmente terminado. Según EHE-08 y CTE. Medición por m2 según planillas fabricación sin descontar huecos. Muro prefabricado con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.					
		48				48,00
						48,00
REVESIMP	**m² Revestimiento interior con mortero impermeabilizante**					
	Mortero impermeabilizante monocomponente, a base de cemento y resinas sintéticas , calidad alimentaria, apto para contacto en agua potable, transpirable e impermeable al agua, Sika Top® Seal-107 de SIKA o similar, sobre paramentos verticales y horizontales de hormigón, para alturas superiores a 2 m, con llana dentada en la primera capa y lisa en la segunda, con un consumo aproximado total de 2,0 kg/m2 en dos capas de 2 mm aproximadamente. Incluye limpieza del soporte, mano de fondo y mano de acabado, medida la superficie ejecutada. Cumple con RD 140/2003.					
	IMPERMEABILIZACIÓN INTERIOR (2 CAPAS):					
	- Perímetro Interior Depósito	1	91,96		4,60	423,02
	- Solera Depósito	1	530,58			530,58
	- Pilares x 15	15	2,00		4,60	138,00
						1.091,60
C04.02	**CASETA DE BOMBAS**					

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
U05LAH032	m³ Hormigón HA-30/B/20/IIIa para losas					
	Suministro y colocación de hormigón armado en losa de cubierta, realizada con hormigón HA-30/B/20/IIIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, y acero UNE-EN 10080 B 500 S, con una cuantía determinada en planos, memoria o pliegos, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios. En esta unidad se consideran includas las armaduras para formación de foso de ascensor, refuerzos, pliegues, encuentros, arranques y esperas en muros, escaleras y rampas, cambios de nivel, alambre de atar, y separadores. El precio incluye el suministro, la elaboración y el montaje de la ferralla necesaria pero no incluye el encofrado en caso de ser necesaria. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.					
	LOSA DEPÓSITO		35,00	0,30		10,50
						10,50
E04AB041	kg Acero corrugado elaborado B500SD					
	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.					
	LOSA CASETA DE BOMBAS					
	A.Base superior e inferior-DIR X (Ø12 c/15 cm)	93,3	5,00	0,89		415,19
	A.Base superior e inferior-DIR Y (Ø12 c/15 cm)	66,6	7,00	0,89		414,92
	Despunte 15%	0,15	830,11			124,52
						954,63
C04.03	**CÁMARA DE LLAVES**					

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
U05LAH032	**m³ Hormigón HA-30/B/20/IIIa para losas**					
	Suministro y colocación de hormigón armado en losa de cubierta, realizada con hormigón HA-30/B/20/IIIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, y acero UNE-EN 10080 B 500 S, con una cuantía determinada en planos, memoria o pliegos, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios. En esta unidad se consideran includas las armaduras para formación de foso de ascensor, refuerzos, pliegues, encuentros, arranques y esperas en muros, escaleras y rampas, cambios de nivel, alambre de atar, y separadores. El precio incluye el suministro, la elaboración y el montaje de la ferralla necesaria pero no incluye el encofrado en caso de ser necesaria. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.					
	LOSA		12,00	0,25	3,00	
						3,00
E04AB041	**kg Acero corrugado elaborado B500SD**					
	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.					
	LOSA CAMARA LLAVES					
	A.Base superior e inferior-DIR X (Ø12 c/15 cm)	53,3	0,89	3,00	142,31	
	A.Base superior e inferior-DIR Y (Ø12 c/15 cm)	40	0,89	4,00	142,40	
	Despunte 15%	0,15	284,71		42,71	
						327,42

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C05	**CUBIERTA**					
C05.01	**DEPOSITO PREFABRICADO**					
E09CP021	**m² Recrecido para formación de pendientes**					
	Recrecido para formación de pendientes en cubiertas planas o similares, realizado con mortero y arena de río con dosificación 1:6 (M-5), con un espesor medio de 5-7 cm. Totalmente terminado, medido sobre superficie de cubierta en horizontal; incluyendo p.p. de ejecución de escocia perimetral, vertido, nivelado, medios auxiliares.					
	Superficie Cubierta	1	681,00			681,00
						681,00
GEO200	**m² Geotextil 200 gr/m2**					
	Suministro y colocación de lámina geotextil no tejido compuesto de gramaje 200 gr/m2.					
	Superficie Cubierta	1	681,00			681,00
						681,00
E11ECB011	**m² Solado baldosín catalán**					
	Solado de baldosín catalán de 14x28 cm., (AIIb-AIII, s/UNE-EN-14411:2013) recibido con mortero de cemento CEM II/B-P 32,5 N y arena de río (M-5), i/cama de 2 cm. de arena de río, rejuntado con lechada de cemento CEM II/B-P 32,5 N 1/2 y limpieza, s/NTE-RSR-2, con marcado CE y DdP (declaración de prestaciones) según Reglamento UE 305/2011, medido en superficie realmente ejecutada.					
	Superficie Cubierta	1	681,00			681,00
						681,00
PLETINAALM	**m Pletina plegada de aluminio vierteaguas**					
	Remate lateral de cubierta formado por chapa de aluminio plegada de 35 cm de desarrollo según planos de detalle y espesor 1 mm, anclada a capa de compresión mediante la disposición de anclajes mecánicos de longitud mínima 60 mm y M6 de acero inoxidable A4. Montado antes de aplicar la capa de impermeabilización. Incluido formación de rebosadero en punto bajo con mismo material.					
	Perímetro Cubierta	1	94,94			94,94
						94,94
REVESIMP1	**m² Impermeabilización Líquida Cubierta AQUAFLEX ROOF PREMIUM**					
	Impermeabilización líquida de cubiertas. Sistema Aquaflex Roof Premium "MAPEI SPAIN" o similar formado por dos capas de impermeabilizante líquido elástico monocomponente, Aquaflex Roof Premium "MAPEI SPAIN" o similar, de color Gris, con un rendimiento de 1,5 kg/m², previa aplicación de imprimación bicomponente a base de resina epoxi en dispersión acuosa, Mapecoat I 600 W "MAPEI SPAIN" o similar, 0,4 kg/m². Incluidos remontes en la medición.					
	Superficie Cubierta	1	681,00			681,00
						681,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C05.02	**CASETA DE BOMBAS**					
E09CP021	**m² Recrecido para formación de pendientes**					
	Recrecido para formación de pendientes en cubiertas planas o similares, realizado con mortero y arena de río con dosificación 1:6 (M-5), con un espesor medio de 5-7 cm. Totalmente terminado, medido sobre superficie de cubierta en horizontal; incluyendo p.p. de ejecución de escocia perimetral, vertido, nivelado, medios auxiliares.					
	Superficie Cubierta	1	21,00			21,00
						21,00
GEO200	**m² Geotextil 200 gr/m2**					
	Suministro y colocación de lámina geotextil no tejido compuesto de gramaje 200 gr/m2.					
	Superficie Cubierta	1	21,00			21,00
						21,00
E11ECB011	**m² Solado baldosín catalán**					
	Solado de baldosín catalán de 14x28 cm., (AIIb-AIII, s/UNE-EN-14411:2013) recibido con mortero de cemento CEM II/B-P 32,5 N y arena de río (M-5), i/cama de 2 cm. de arena de río, rejuntado con lechada de cemento CEM II/B-P 32,5 N 1/2 y limpieza, s/NTE-RSR-2, con marcado CE y DdP (declaración de prestaciones) según Reglamento UE 305/2011, medido en superficie realmente ejecutada.					
	Superficie Cubierta	1	21,00			21,00
						21,00
PLETINAALM	**m Pletina plegada de aluminio vierteaguas**					
	Remate lateral de cubierta formado por chapa de aluminio plegada de 35 cm de desarrollo según planos de detalle y espesor 1 mm, anclada a capa de compresión mediante la disposición de anclajes mecánicos de longitud mínima 60 mm y M6 de acero inoxidable A4. Montado antes de aplicar la capa de impermeabilización. Incluido formación de rebosadero en punto bajo con mismo material.					
	Perímetro Cubierta	1	20,00			20,00
						20,00
REVESIMP1	**m² Impermeabilización Líquida Cubierta AQUAFLEX ROOF PREMIUM**					
	Impermeabilización líquida de cubiertas. Sistema Aquaflex Roof Premium "MAPEI SPAIN" o similar formado por dos capas de impermeabilizante líquido elástico monocomponente, Aquaflex Roof Premium "MAPEI SPAIN" o similar, de color Gris, con un rendimiento de 1,5 kg/m², previa aplicación de imprimación bicomponente a base de resina epoxi en dispersión acuosa, Mapecoat I 600 W "MAPEI SPAIN" o similar, 0,4 kg/m². Incluidos remontes en la medición.					
	Superficie Cubierta	1	21,00			21,00
						21,00
C05.03	**CAMARA DE LLAVES**					
E09CP021	**m² Recrecido para formación de pendientes**					
	Recrecido para formación de pendientes en cubiertas planas o similares, realizado con mortero y arena de río con dosificación 1:6 (M-5), con un espesor medio de 5-7 cm. Totalmente terminado, medido sobre superficie de cubierta en horizontal; incluyendo p.p. de ejecución de escocia perimetral, vertido, nivelado, medios auxiliares.					
	Superficie Cubierta	1	12,00			12,00
						12,00

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
GEO200	**m² Geotextil 200 gr/m2**					
	Suministro y colocación de lámina geotextil no tejido compuesto de gramaje 200 gr/m2.					
	Superficie Cubierta	1	12,00			12,00
						12,00
E11ECB011	**m² Solado baldosín catalán**					
	Solado de baldosín catalán de 14x28 cm., (AIIb-AIII, s/UNE-EN-14411:2013) recibido con mortero de cemento CEM II/B-P 32,5 N y arena de río (M-5), i/cama de 2 cm. de arena de río, rejuntado con lechada de cemento CEM II/B-P 32,5 N 1/2 y limpieza, s/NTE-RSR-2, con marcado CE y DdP (declaración de prestaciones) según Reglamento UE 305/2011, medido en superficie realmente ejecutada.					
	Superficie Cubierta	1	12,00			12,00
						12,00
PLETINAALM	**m Pletina plegada de aluminio vierteaguas**					
	Remate lateral de cubierta formado por chapa de aluminio plegada de 35 cm de desarrollo según planos de detalle y espesor 1 mm, anclada a capa de compresión mediante la disposición de anclajes mecánicos de longitud mínima 60 mm y M6 de acero inoxidable A4. Montado antes de aplicar la capa de impermeabilización. Incluido formación de rebosadero en punto bajo con mismo material.					
	Perímetro Cubierta	1	14,00			14,00
						14,00
REVESIMP1	**m² Impermeabilización Líquida Cubierta AQUAFLEX ROOF PREMIUM**					
	Impermeabilización líquida de cubiertas. Sistema Aquaflex Roof Premium "MAPEI SPAIN" o similar formado por dos capas de impermeabilizante líquido elástico monocomponente, Aquaflex Roof Premium "MAPEI SPAIN" o similar, de color Gris, con un rendimiento de 1,5 kg/m², previa aplicación de imprimación bicomponente a base de resina epoxi en dispersión acuosa, Mapecoat I 600 W "MAPEI SPAIN" o similar, 0,4 kg/m². Incluidos remontes en la medición.					
	Superficie Cubierta	1	12,00			12,00
						12,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C06	**INSTALACIÓN HIDRÁULICA**					
GRUPBOMB	**Ud Bombeo de superficie de eje horizontal**					
	Unidad de suministro, transporte, instalación y probado de bomba horizontal de superficie, modelo NSCF 125-315/220/L45VCC4 o similar, sobre bancada, con instalación en paralelo de 2+1 bombas, que trabajando en simultáneo den un punto de trabajo de 350 m3/h a una altura manométrica de 26 mca. La unidad se certifica por bomba suministrada, siendo el total de las unidades completas a certificar igual a 3. Datos Bomba + Motor: - Boquilla de Aspiración DN150 PN10/16 - Boquilla de Impulsión DN125 PN10/16 - Motor WEG IE3 W22 - 180M -18,5 kW 400V Corriente Nominal 35,1 A Grado de Protección IP55 o similar Incluso soporte de apoyo sobre solera de hormigón, bancada y tornillería en acero inoxidable A4. Incluido cable eléctrico hasta el cuadro.					
	Bomba 1	1				1,00
	Bomba 2	1				1,00
	Bomba 3	1				1,00
						3,00
APERHUECO	**Ud Apertura y refuerzo de muro de hormigón armado**					
	Apertura de paso de DN470 sobre paramento vertical de hormigon armado en caseta de bombas existente mediante el empleo de corona circular. Colocación de pasamuros (no incluido en el precio), refuerzo con armado definido en planos, colocación de 2 cordones de junta hidroexpansiva a lo largo del perímetro de la perforación y a lo largo del perímetro del pasamuros, encofrado con maderas y posterior relleno con mortero de reparación estructural tipo Sika Monotop 412 S o similar, sellado de juntas entre el nuevo refuerzo y el prefabricado mediante la aplicación en ángulo de bandas impermeabilizantes tipo maxseal flex + drioxoro mesh o similar.					
	CONEXIÓN BOMBEO EXISTENTE	1				1,00
						1,00
TUBPEAD225	**m Tubería PEAD DN225 PN10**					
	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 225 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7					
	TUBERIA DE REBOSE ENTRE DEPOSITOS	1	30,00			30,00
						30,00
TUBPEAD280	**m Tubería PEAD DN280 PN10**					
	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 280 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7					
	ASPIRACION DEP. PREFABRICADO					
	Desde depósito a camara de llaves	1	12,00			12,00
	Tramo Horizontal hasta caseta bombas	1	78,00			78,00
						90,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
TUBPEAD315	**m Tubería PEAD DN315 PN10**					
	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 315 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7					
	IMPULSION RECIRCULACION A DEP. PREFA.					
	Tramo Horizontal	1	125,00			125,00
	Acceso a depósito	1	10,00			10,00
	CONEXIÓN A BOMBEO EXISTENTE					
	Desde deposito a camara de llaves	1	12,00			12,00
	Tramo horizontal hasta caseta bombeo	1	77,00			77,00
						224,00
TUBPEAD400	**m Tubería PEAD DN400 PN10**					
	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 315 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7					
	SUMINISTRO IDAM - DEPOSITO	1	65,00			65,00
						65,00
VALMAP400	**Ud Válvula mariposa DN400 excéntrica automatizada**					
	Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 400, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación. Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.					
	Conexión IDAM dep. prefabricado	1				1,00
						1,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
VALMAP300	**Ud Válvula mariposa DN300 excéntrica automatizada**					
	Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 300, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación. Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.					
	Salida Colector Impulsión:					
	- A depósito Existente	1				1,00
	- A depósito prefabricado	1				1,00
	Cámara de llaves:					
	- Aspiración recirculación	1				1,00
	- Conexion Impulsion Existente	1				1,00
						4,00
VALMAP150	**Ud Válvula mariposa DN150 excéntrica automatizada**					
	Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 150, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación. Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.					
	Tramo aspiración	3				3,00
						3,00
VALMAP200	**Ud Válvula mariposa DN200 manual**					
	Suministro, colocación y probado de válvula de mariposa para agua potable AVK o equivalente, serie EVFL 75/21, DN 200, PN 10/16. Concéntrica, junta vulcanizada, embridada cuello largo. Distancia entre bridas EN 558, tabla 2, s.b. 14. Cuerpo de fundición dúctil EN-GJS-400. Junta de EPDM vulcanizado al cuerpo, certificado para agua potable. Eje y disco de acero inox DUPLEX, con revestimiento de epoxi de 200 micras.					
	Válvula Mariposa "Trasvase Caudales entre depositos"	1				1,00
						1,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
VALMAP125	**Ud Válvula mariposa DN125 manual**					
	Suministro, colocación y probado de válvula de mariposa para agua potable AVK o equivalente, serie EVFL 75/21, DN 125, PN 10/16. Concéntrica, junta vulcanizada, embridada cuello largo. Distancia entre bridas EN 558, tabla 2, s.b. 14. Cuerpo de fundición dúctil EN-GJS-400. Junta de EPDM vulcanizado al cuerpo, certificado para agua potable. Eje y disco de acero inox DUPLEX, con revestimiento de epoxi de 200 micras.					
	Tramo impulsión	3				3,00
						3,00
CALDINOX	**Ud Calderería de acero inoxidable 316L**					
	Piezas especiales de calderería fabricadas en acero inoxidable AISI 316L formado por: TRAMO ASPIRACIÓN: - Conexión a 90º de los tramos de aspiración en ACERO AISI 316L DN280 con un desarrollo de 0,40 m (total 0,80 m). - Colector Común a 90º que recibe las dos aspiraciones en ACERO AISI 316L DN280 de 3,60 m, del que salen tres conexiones en horizontal en inox DN150 con una longitud cada una de 0,4 m (total 1,20 m) TRAMO IMPULSIÓN: - Colector común en vertical elevado sobre la impulsión de las bombas con un desarrollo horizontal de 3,95 m realizado en ACERO AISI 316L DN315, con tres entradas a 90º para la conexión de la impulsión de las bombas en AISI 316L DN125 con una desarrollo cada una de 0,40 m (total 1,20 m). - Salidas a conexión con tubos de impulsión a depósitos ejecutada mediante T en ACERO AISI 316L DN315 con un desarrollo de 1,10 m - Tres tramos rectos verticales DN125 (uno por cada bomba) con una longitud total de 0,40 m para conexión de las tres bombas con los accesorios. Resumen de longitudes totales ACERO INOX AISI316L: - DN 315 5,05 m (492,17 kg) - DN 280 4,40 m (358,82 kg) - DN 150 1,20 m (51,80 kg) - DN 125 2,40 m (54,30 kg) Incluido la ejecución de pìcajes en los colectores de Aspiración e Impulsión, para toma de muestras, cloración y labores de vaciado de colectores, en total se prevé la ejecución de 5 picajes en el tramo de impulsión y 3 en el tramo de aspiración. Incluida la elaboración de planos de taller, tornillería en acero inoxidable A4 y material auxiliar.					
	Colector Aspiracion-Impulsion	1				1,00
						1,00
AISI316BRIDA400	**Ud Conjunto brida AISI 316L para portabrida 400**					
	Suministro y montaje de brida loca de DN400 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.					
	Tramo IDAM - Depósito	1				1,00
						1,00
AISI316BRIDA315	**Ud Conjunto brida AISI 316L para portabrida 315**					
	Suministro y montaje de brida loca de DN315 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.					
	Tramo Deposito Bombeo existente	1				1,00
	Tramo Impulsión	2				2,00
						3,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
AISI316BRIDA280	**Ud Conjunto brida AISI 316L para portabrida 280**					
	Suministro y montaje de brida loca de DN280 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.					
	Tramo ASpiración desde depósito	1				1,00
						1,00
AISI316BRIDA225	**Ud Conjunto brida AISI 316L para portabrida 225**					
	Suministro y montaje de brida loca de DN225 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.					
	Tramo trasvase de caudal	1				1,00
						1,00
VALRET	**Ud Válvula de retención de disco partido DN125**					
	Válvula de retención de disco partido marca AVK Serie 642ECV tipo wafer o similar, PN16 de DN 125, cuerpo en fundición dúctil EN-GJS-400, clapetas en acero INOX 316, eje en acero INOX 316, totalmente instalada.					
	Salidas impulsión bombas	3				3,00
						3,00
CARRANTIVIB	**Ud Carrete antivibratorio DN125**					
	Suministro y montaje de carrete antivibratorio de DN125 y PN16 de cuerpo de simple onda con bridas locas de acero inoxidable AISI 316L y juntas en EPDM. Incluidos materiales auxiliares.					
	Impulsión Salida Bombas	3				3,00
						3,00
SOPINOXTUB	**Ud Soporte de acero para tuberías**					
	Soporte metálico de acero inoxidable AISI 304 para apoyo de tramos de tubería formados por una placa de anclaje de dimensiones 300x300x10 con cuatro taladros para su anclaje a solera de hormigón mediante tacos mecánicos de fijación, IPN 200 o perfil con inercia similar de altura aproximada de 1,50 m para correcto apoyo de tuberías y abracedera formando un semicírculo constituida por una pletina de espesor 8 mm y largo 100 mm. Todas las soldaduras realizadas en taller. Incluido elaboración de planos de taller, tornillería de fijación a la solera, junta de EPDM para evitar contacto directo con las tuberías.					
	Soporte tubo impulsión a Dep. Existente	1				1,00
	Soporte entre bombas	2				2,00
	Soporte T conexión impulsiones a depósitos	1				1,00
						4,00
PASMUR280	**Ud Pasamuros estanco DN280 con portabrida**					
	Pasamuros estanco de acero inoxidable AISI 316L de diámetro interior libre 280 mm y PN10. De longitud comprendida entre 34 y 40 cm con pletina intermedia concéntrica de altura 8 cm, terminado en uno de los extremos en brida de espesor 40 mm para posterior conexión de tubería. Incluido planos de taller.					
	Aspiración	2				2,00
						2,00
PASMUR315	**Ud Pasamuros estanco DN315 con portabrida**					
	Pasamuros estanco de acero inoxidable AISI 316L de diámetro interior libre 315 mm y PN10. De longitud comprendida entre 34 y 40 cm con pletina intermedia concéntrica de altura 8 cm, terminado en uno de los extremos en brida de espesor 40 mm para posterior conexión de tubería. Incluido planos de taller.					
	Impulsión	2				2,00
	Conexión bombeo existente	2				2,00
						4,00

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
CARRETE315	**Ud Carrete de desmontaje DN315 PN10 BB L<500 mm**					
	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 315, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.					
	Impulsion	2				2,00
						2,00
CARRETE280	**Ud Carrete de desmontaje DN280 PN10 BB L<500 mm**					
	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 280, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.					
	COnexión aspiraciones a calderería	2				2,00
						2,00
CARRETE225	**Ud Carrete de desmontaje DN225 PN10 BB L<500 mm**					
	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 225, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.					
	Tramo aspiración 1	1				1,00
	Tramo aspiración 2	1				1,00
						2,00
CARRETE150	**Ud Carrete de desmontaje DN150 PN10 BB L<500 mm**					
	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 150, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.					
	Tramo aspiración	3				3,00
						3,00
CARRETE125	**Ud Carrete de desmontaje DN125 PN10 BB L<500 mm**					
	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 125, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.					
	Tramo Impulsión	3				3,00
						3,00
ACHIQUE	**Ud Bomba de achique**					
	Bomba de achique de aguas limpias o ligeramente cargadas, modelo DXN07M/G-230V del fabricante CAPRARI o similar, con las siguientes características Q = 5 m3/h Hm = 10 mca Pasaje libre de 8mm como mínimo, diámetro de impulsión G 1 1/2". Motor de 0,75 kW a 50Hz monofásico con boya de nivel incorporada. Cuerpo de Impulsión, placa de desgaste y rodete en hierro fundido EN-GJL200 Rejilla en aluminio Junta de cierre EPDM Rotor y Estátor - Chapa magnética Cierre mecánico Cerámica / Grafito Totalmente montada y conexionada a cuadro eléctrico.					
	Caseta de Bombas	1				1,00
	Cámara de Llaves	1				1,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
						2,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C07	**INSTALACIÓN ELÉCTRICA Y DE CONTROL**					
IEH0121	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 4x50 mm² de sección**					
	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 4x50 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.					
		m				90,00
IEH0121b	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 5G16 mm² de sección**					
	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G16 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.					
		m				27,00
IEH010	**Cable unipolar H07V-K, 450/750 V, Eca, cobre clase 5 (-K) de 16 mm² de sección, con aislamiento de PVC (V)**					
	Cable unipolar H07V-K, siendo su tensión asignada de 450/750 V, reacción al fuego clase Eca, con conductor multifilar de cobre clase 5 (-K) de 16 mm² de sección, con aislamiento de PVC (V). Incluso accesorios y elementos de sujeción.					
		m				280,00
IEH012g	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 5G6 mm² de sección, con aislamiento de polietileno reticulado (R)**					
	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G6 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.					
		m				80,00
IEH012f	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 4x6 mm² de sección, con aislamiento de polietileno reticulado (R)**					
	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 4x6 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.					
		m				280,00
IEH012c	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 5G10 mm² de sección, con aislamiento de polietileno reticulado (R)**					
	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G10 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.					
		m				5,00
IEH012d	**Cable multipolar RV-K, 0,6/1 kV, Eca,cobre clase 5 (-K) de 5G2,5 mm² de sección, con aislamiento de polietileno reticulado (R)**					
	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G2,5 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.					
		m				14,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
IEH012e	**Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 3G2,5 mm² de sección, con aislamiento de polietileno reticulado (R)**	m				
	Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 3G2,5 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.					
						36,00
IEP025	**Conductor de tierra de cobre 35 mm2**	m				
	Suministro e instalación de conductor de tierra formado por cable rígido desnudo de cobre trenzado, de 35 mm² de sección. Incluso p/p de uniones realizadas con soldadura aluminotérmica, grapas y bornes de unión. Totalmente montado, conexionado y probado. Incluye: Replanteo del recorrido. Tendido del conductor de tierra. Conexionado del conductor de tierra mediante bornes de unión.					
						18,00
IEP021	**Toma de tierra con dos picas de acero cobreado de 2 m de longitud cada una.**	Ud				
	Toma de tierra con dos picas de acero cobreado de 2 m de longitud cada una.					
						2,00
IEP021b	**Toma de tierra con una pica de acero cobreado de 2 m de longitud.**	Ud				
	Toma de tierra con una pica de acero cobreado de 2 m de longitud.					
						6,00
IEQ010	**Condensador para 25 kVAr de potencia reactiva, alimentación trifásica a 400 V de tensión y 50 Hz de frecuencia, modelo ACM-30-44**	Ud				
	Condensador para 25 kVAr de potencia reactiva, alimentación trifásica a 400 V de tensión y 50 Hz de frecuencia, modelo ACM-30-440 "CIRCUTOR" o similar, con contactores e interruptor automático magnetotérmico.					
						1,00
IEO010	**Canalización de tubo de PVC, serie B, de 32 mm de diámetro, para instalación fija en superficie**	m				
	Canalización de tubo de PVC, serie B, de 32 mm de diámetro y 3 mm de espesor. Instalación fija en superficie. Incluso accesorios y piezas especiales.					
						31,00
IEO010b	**Canalización de tubo curvable, de polietileno de doble pared, de 63 mm de diámetro, para canalización enterrada**	m				
	Canalización de tubo curvable, suministrado en rollo, de polietileno de doble pared (interior lisa y exterior corrugada), de color naranja, de 63 mm de diámetro nominal, resistencia a la compresión 450 N, colocado sobre lecho de arena de 5 cm de espesor, debidamente compactada y nivelada con pisón vibrante de guiado manual, relleno lateral compactando hasta los riñones y posterior relleno con la misma arena hasta 10 cm por encima de la generatriz superior de la tubería. Instalación enterrada. Incluso cinta de señalización.					
						280,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
UIA011	**Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 30x30x30 cm de medidas interiores**	ud				
	Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 30x30x30 cm de medidas interiores, con paredes rebajadas para la entrada de tubos, capaz de soportar una carga de 400 kN, con marco de chapa galvanizada y tapa de hormigón armado aligerado, de 39,5x38,5 cm, para arqueta de conexión eléctrica, capaz de soportar una carga de 125 kN; previa excavación con medios mecánicos y posterior relleno del trasdós con material granular.					
						19,00
IEL010	**Línea colocada bajo tubo protector de polietileno de doble pared, de 110 mm de diámetro.**	m				
	Línea colocada bajo tubo protector de polietileno de doble pared, de 110 mm de diámetro.					
						156,00
III010	**Luminaria, de 666x170x100 mm, para 2 lámparas fluorescentes TL de 18 W, con cuerpo de poliéster reforzado con fibra de vidrio**	Ud				
	Luminaria, de 666x170x100 mm, para 2 lámparas fluorescentes TL de 18 W, con cuerpo de poliéster reforzado con fibra de vidrio; reflector interior de chapa de acero, acabado termoesmaltado, de color blanco; difusor de metacrilato; balasto electrónico; protección IP65 y rendimiento mayor del 65%. Instalación en la superficie del techo en garaje. Incluso lámparas.					
						4,00
IOA010	**Luminaria de emergencia estanca, con tubo lineal fluorescente, 8 W - G5, flujo luminoso 240 lúmenes, carcasa de 405x134x134 mm,**	Ud				
	Luminaria de emergencia estanca, con tubo lineal fluorescente, 8 W - G5, flujo luminoso 240 lúmenes, carcasa de 405x134x134 mm, clase I, IP65, con baterías de Ni-Cd de alta temperatura, autonomía de 1 h, alimentación a 230 V, tiempo de carga 24 h. Instalación en superficie en garaje. Incluso accesorios y elementos de fijación.					
						2,00
IEM026	**Interruptor unipolar (1P) estanco, con grado de protección IP55, monobloc, gama básica, intensidad asignada 10 AX**	Ud				
	Interruptor unipolar (1P) estanco, con grado de protección IP55, monobloc, gama básica, intensidad asignada 10 AX, tensión asignada 250 V, con tecla simple y caja, de color gris. Instalación en superficie.					
						2,00
ARQ8080100	**Arqueta de conexión eléctrica 80x80x100 cm, dimensiones interiores de Hormigón Prefabricado**	Ud				
	Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 80x80x110 cm de medidas interiores, con paredes rebajadas para la entrada de tubos, capaz de soportar una carga de 400 kN, con marco de chapa galvanizada y tapa de hormigón armado aligerado, de 89,5x88,5 cm, para arqueta de conexión eléctrica, capaz de soportar una carga de 125 kN; previa excavación con medios manuales y posterior relleno del trasdós con material granular.					
						8,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
TOMACOR2P	Ud Toma de corriente 2P+T/16A					
	Suministro e instalación de toma de corriente monofasica 2P+T 16 A con toma de tierra lateral, formado por mecanismo de base de enchufe de 16 A de superficie, incluyendo p.p. de cajas de derivación estancas, elementos de sujeción y pequeño material. Totalmente montada y en funcionamiento.					
						2,00
TOMACORR3P	Ud Toma de corriente 3P+N+T/32A					
	Suministro e instalación de toma de corriente monofasica 3P+T 32 A con toma de tierra lateral, formado por mecanismo de base de enchufe de 16 A de superficie, incluyendo p.p. de cajas de derivación estancas, elementos de sujeción y pequeño material. Totalmente montada y en funcionamiento.					
						2,00
ACCEININS	PA Accesorios de Instrumentación					
	Conjunto de accesorios para la instrumentación y control de niveles, entradas y salidas de depósito formado por medidores de caudal, interruptores de nivel, transmisores de presión , etc, formado por los siguientes componentes: - Cinco Boyas depósito nuevo y duplicado señales + cinco boyas depósito existente - Sonda de nivel por ultrasonidos y duplicado de sonda de nivel en depósito existente - Dos detectores de flujo - Dos detectores de fugas - Presostato - Finales carrera válvulas motorizadas (cuatro válvulas, ocho finales de carrera). - Amplificadores, transductores y aislamientos galvánicos.					
						1,00
CUADROmodif	Ud Modificación cuadro					
	Conjunto de equipos y operaciones para añadir nueva línea a cuadro existente respetando la misma tipología y elementos de las líneas existentes, formado por: - Interruptor automático en caja moldeada, tetrapolar (4P), intensidad nominal 125 A, poder de corte 36 kA a 400 V - Relé diferencial electrónico, modelo Vigirex RH99M 56173 "SCHNEIDER ELECTRIC" - Transformador toroidal cerrado para relé diferencial, de 50 mm de diámetro útil para el paso de cables, tipo PA50, modelo 50438					
						1,00

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
CUADROB	**Ud Cuadro de bombas y gestión**					
	Suministro, instalación y probado de funcionamiento de cuadro de mando, control y maniobra para estación de bombeo, ubicado en caseta. Estará formado por un armario de poliéster de dimensiones 800x600x300 mm, como mínimo, para montaje mural, con puerta transparente y contrapuerta, para arranque, protección y maniobra de dos bombas (1+1) de 15 kW, con alternancia de funcionamiento, con arranque mediante arrancador electrónico, protección térmica y protección diferencial independiente, conexión al cuadro de conmutación y al sistema de alarma, y cualquier otro elemento necesario para el correcto funcionamiento de las instalaciones y equipos a maniobrar. El cuadro cumplirá con las prescripciones del Pliego Eléctrico, así como con las demás prescripciones e indicaciones de los demás documentos del proyecto.					
						1,00
CUADROC	**Ud Cuadro cámara de válvulas**					
	Suministro, instalación de cuadro para cámara de vávulas, formado por un armario de poliéster de , para montaje mural. El cuadro cumplirá con las prescripciones del Pliego Eléctrico, así como con las demás prescripciones e indicaciones de los demás documentos del proyecto.					
						1,00
MIMC010	**Ud Comunicación señales con planta + Integración con el SCADA existente y puesta en marcha**					
	Unidad de comunicación de señalas con la planta existente e integración con el SCADA existente y puesta en marcha de la instalación.					
						1,00
LEGALELEC	**PA Legalizaciones eléctricas**					
	Conjunto de trámites para la legalización de las instalaciones eléctricas incluyendo derechos de enganche a transformador de compañía, obras de conexión, dirección de las obras de enlace, proyecto de legalización en baja, tasas, visados de proyecto, certificado de instalación, certificado de OCA en caso de ser necesario y todos los trámites necesarios para la puesta en servicio de las instalaciones					
						1,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C08	**INSTALACIÓN DE LA CLORACIÓN**					
INST_CLORACION	**Ud Instrumentación de la postcloración**					
	Instrumentación de la postcloración, instalado y probado incluye los trabajos de la puesta a punto, con parte proporcinal de pequeño material y tornilleria incluye los siguientes equipos: - ANALIZADOR 1770/3: dos puntos de consigna configurables en el panel , salida 4-20 mA, by-pass muestra, rotámetro con señal de falta muestra, bomba periatática para la solución tampon. - BOMBA CENTRIFUGA PARA MUESTRA ANALIZADORES: Potencia 0,5 CV, monofásica, 230 V, protección IP 55, condensador y protección termoamperométrica de rearme automático. Conexión aspiración 1-1/4" y conexión impulsión 1". - BOMBA DOSIFICADORA ELECTRONICA DIGITAL PZi4: cabezal autopurgante ARPZi4ATCF 6x8 W CE EUP, entrada de pulsos 4-20 mA para realizar un control proporcional, pantalla visual, caudal 1,6 l/h a 10 bar y 150 pulsos minuto o caudal 3,6l/h a 8 bar y 300 pulsos minuto. Alimentación electrica a 240 V AC50/60 Hz. Suminitro completo con vàlvulas y cable de señal. - SOPORTES DE LAS BOMBAS - CUADRO DE CONTROL ELECTRICO: Protección sobretensiones, magnetotèrmico para la bomba de muestra, control rearme automático en caso de fallo de caudal contiempos de paro/marcha regulables, funcionamiento en manual o automático según necesidad.					
			1			1,00
						1,00
DEP_HIPO	**Ud Depósito hipoclorito**					
	Deposito dosificador de 1000 l con cubeto, modelo natural de polietileno, de 1020 mm de diámetro y 1180 mm de altura.Incluye pp de elementos de conexión y primera carga de producto químico.					
			1			1,00
						1,00
DUCHA_SEG	**Ud Ducha de seguridad**					
	Instalación de ducha de seguridad para lavado de proyección accidental de hipoclorito					
			1			1,00
						1,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C09	**CARPINTERÍA**					
IVN100	**m² Reja de ventilación para pared**					
	Suministro y colocación de rejilla de ventilación en pared, construida en aluminio con mosquitera con faldón de chapa de aluminio, de varias dimensiones, incluso perfiles, anclajes y herrajes, totalmente terminada.					
	Cuarto de bombas	7	1,00		0,50	3,50
	Perímetro Depósito	1	92,00		0,35	32,20
	Camara llaves	4	0,62		0,32	0,79
						36,49
E14AP03cab	**ud Puerta practicable**					
	Suministro y montaje de puerta practicable de aluminio con marco de 40 mm de sección de 2 hojas, de aluminio lacado blanco de 60 micras, de 100x210 mm. de medidas totales. Con una transmitancia térmica de la carpintería máxima U=2,00 W/m2K). Compuesta por cerco, hojas y herrajes de deslizamiento y de seguridad. Elaborada en taller, totalmente montada y probada por la empresa instaladora mediante las correspondientes pruebas de servicio. Permeabilidad al aire según Norma UNE-EN 12207:2000-CLASE 4; Estanqueidad al agua según Norma UNE-EN 12208:2000-CLASE 9A; Resistencia al viento según Norma UNE-EN 12210:2000-CLASE C5. Instalada sobre precerco de aluminio, sellado de juntas ajuste final en obra y limpieza. Perfilería, juntas y herrajes con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011, norma UNE-EN 14351-1.					
	Puerta de acceso cámara de llaves	1				1,00
						1,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C10	**PRFV**					
PRFV01	**Ud Escalera PRFV acceso lateral a depósito**					
	Escalera de acceso a la cubierta, construida completamente en fibra de vídrio. La estructura se compone de: -Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior con dos alturas de 2,65 m y 2,7 m. -Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso. Con barandillas laterales de protección a ambos lados de 110 cm de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 110 m de altura. Incluye formación de cimentación, soportes auxiliares de soportación y rigidización, medios de elevación, planos de taller.					
		1				1,00
						1,00
PRFV02	**Ud Escalera PRFV acceso a depósito**					
	Escalera de acceso al interior del depósito, construida completamente en fibra de vídrio con certificado para contacto con agua potable. La estructura se compone de: -Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior. -Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso desde el primer tramo y bastidor lateral de protección de 2 m de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 1 m de altura. Incluye formación de cimentación, soportes auxiliares de soportación y rigidización, medios de elevación, planos de taller.					
		1				1,00
						1,00
PRFV04	**Ud Escalera PRFV acceso a cámara de llaves**					
	Escalera de acceso al cuarto de bombas, construida completamente en fibra de vídrio. La estructura se compone de: -Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior. -Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso. 1 tramo con barandillas laterales de protección de 110 cm de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 110 m de altura. Incluye materiales auxiliares para anclaje, medios de elevación, soportes auxiliares de soportación y rigidización, planos de taller.					
		1				1,00
						1,00

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
PRFV05	**Ud Barandilla de cubierta**					
	Formación de barandilla de cubierta construida completamente con fibra de vidrio. La estructura se compone de: - Balaustres de altura 110 cm formados con perfil estructural con interdistancia 1 metro. - Pasamanos formado por perfil estructural - Travesaño intermedio de rigidización fromado por perfil estructural. - Pletina de PRFV para protección de remonte de impermeabilización. Los balaustres dispondrán placa de anclaje para su conexión mediante anclaje mecánico al peto de cubierta ejecutado. Incluido planos de taller, medios auxiliares de fijación, medios de elevación y gestión de RCD en obra.					
		1				1,00
						1,00
PRFV06	**Ud Tapas de registro**					
	Suministro y montaje de tapa de acceso al depósito construido totalmente en PRFV. Constituido por: - Marco perimetral - Tapa grecada con perfilería estructural de refuerzo y asas para su manipulación - Perfileria intermedia de rigidización y apoyo para la tapa a disponer Incluye, medios de elevación, planos de taller.					
		1				1,00
						1,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C11	**LINEA DE VIDA**					
LINEAVIDA	**Ud Línea de vida horizontal**					
	Línea de vida horizontal Securope® de Fallprotec® conforme a la norma EN795C, o similar de idénticas características y marca reconocida, fabricado acorde al sistema de control de calidad certificado por el organismo notificado APAVE según directiva europea 89/689/CEE Articulo 11, para un trazado total curvo de 62.88 metros, configurada para hasta 2 usuarios con sistema compuesto por: • Soportes específicos para cubiertas, sin perforaciones. • Absorbedor de energía integrado en el propio poste Diasafe. • Altura del poste 32 cm (de la línea 42cm). • Cable de acero inoxidable de 8mm construcción 7X7 resistencia 40kN • Casquillos finales de 12mm resistencia 20kN. Inviolable (sin posible manipulación posterior) • Placa de señalización obligatoria conforme a la norma EN795C.					
	LINEA DE VIDA L=158,65 M	1				1,00
						1,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C12	**URBANIZACIÓN**					
U01RM023	**m3 Relleno con material procedente de la excavación**					
	Suministro y formación de relleno a cielo abierto en preparación de la explanada, con material seleccionado procedente de excavación, incluyendo adecuación del material en obra (machaqueo, seleccionado, mezcla, etc.). Incluye vertido, extendido, rasanteo, humectación y compactados en tongadas de un espesor máximo de 20cm., hasta alcanzar el 98% del Próctor Modificado, barrido, limpieza.					
	Relleno Rampa de Acceso al depósito:	1	16,11	4,00		64,44
						64,44
ZAHZ325	**m3 Relleno con zahorras**					
	Relleno, extendido y apisonado de zahorras a cielo abierto por medios mecánicos, en tongadas de 30 cm de espesor, hasta conseguir un grado de compactación del 95% del proctor normal, incluido regado de las mismas, refino de taludes y con parte proporcional de medios auxiliares, considerando las zahorras a pie de tajo. Según CTE-DB-SE-C. Incluso transporte en camión desde la cantera a menos de 20 km hasta la obra.					
	Capa de sustento pavimento de hormigón	1	766,00		0,20	153,20
						153,20
PAVHORMFIB	**m2 Pavimento continuo de hormigón en masa con fibras**					
	Pavimento continuo de hormigón en masa con fibras de 18 cm de espesor, con juntas, realizado con hormigón HM-20/B/20/I fabricado en central y vertido desde camión, extendido y vibrado manual, y fibras de polipropileno; tratado superficialmente con capa de rodadura de mortero decorativo de rodadura para pavimento de hormigón, color gris, rendimiento 3 kg/m², con acabado fratasado mecánico.					
	Superficie de Pavimentación (m2xh):	1	725,00			725,00
						725,00
BALIZA700	**Ud Baliza LED exteriores**					
	Baliza circular con distribución de luz radialmente simétrica, de 150 mm de diámetro y 700 mm de altura, para led de 15 W, con cuerpo de aluminio inyectado, aluminio y acero inoxidable, vidrio con borosilicato, reflector de aluminio puro anodizado, clase de protección I, grado de protección IP65, aislamiento clase F, con placa de anclaje y pernos. Incluso lámparas, base de hormigón en masa HM-20/B/20/IIa para anclaje de la baliza, totalmente terminado.					
	Delimitación perimetral camino de acceso:	20				20,00
						20,00
ACERA050	**m2 Pavimento continuo de hormigón impreso**					
	Pavimento continuo de hormigón impreso, con juntas, de 12 cm de espesor, realizado con hormigón HM-20/B/20/I fabricado en central y vertido desde camión, extendido y vibrado manual; acabado impreso en relieve y tratado superficialmente con mortero decorativo de rodadura para pavimento de hormigón, color blanco, rendimiento 4,5 kg/m²; desmoldeante en polvo, color burdeos y capa de sellado final con resina impermeabilizante.					
	Acera perimetral al depósito (superficie):	1	50,00			50,00
						50,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C13	**REPOSICIONES**					
E01DSB102	**Muro de mampostería con material reutilizado**					
	Reconstrucción de muro de mampostería con material reutilizado del muro previamente desmontado, según capítulo 2 del presente presupuesto.					
	Demolición Muro de Piedra					
	Conexión IDAM - Dep. Prefabricado	1	35,00	0,30	1,50	15,75
						15,75
U02HC011	**m³ Hormigón HM-15/B/20 en limpiezas, rellenos y protecciones**					
	Suministro y colocación de hormigón no estructural en limpieza en capa de 10 cm de espesor, rellenos y protección de elementos. Incluye elaboración con dosificación de cemento 150Kg/m3 y tamaño máximo de árido 20 mm., suministro y transporte a pie de obra, replanteo, vertido, extendido, nivelado y curado, barrido, limpieza.					
	REPOSICIÓN ZONAS PAVIMENTADAS CON HORMIGÓN					
	Impulsión Recirculación	1	15,00	0,60	0,20	1,80
	Aspiración Recirculación	1	15,00	0,60	0,20	1,80
	Conexión Bombeo Existente	1	25,00	0,60	0,20	3,00
	Conexión Eléctrica	1	50,00	0,40	0,20	4,00
						10,60

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C14	**GESTIÓN DE RESIDUOS**					
GESRES1	**RCD NIVEL I - TIERRAS Y PÉTREOS DE EXCAVACIÓN**					
14.1	**m³ CARGA Y TRANSPORTE**					
	Transporte con camión de los productos procedentes de la construcción o demolición a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, kilometraje ilimitado, considerando el tiempo de espera para la carga a máquina en obra, ida, descarga y vuelta.					
					3.122,13	3.122,13
						3.122,13
GESRES2	**RCD NIVEL II - NO PÉTREA**					
14.1	**m³ CARGA Y TRANSPORTE**					
	Transporte con camión de los productos procedentes de la construcción o demolición a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, kilometraje ilimitado, considerando el tiempo de espera para la carga a máquina en obra, ida, descarga y vuelta.					
					17,20	17,20
						17,20
14.3	**m³ DESPIECE DE RESIDUOS PLÁSTICOS VOLUMINOSOS Y OTROS RESIDUOS**					
	Despiece manual de residuos de plástico voluminosos y otros residuos que deban ser tratados de forma previa a su carga y transporte a gestor autorizado					
					17,20	17,20
						17,20
GESRES3	**RCD NIVEL II - PÉTREA**					
14.1	**m³ CARGA Y TRANSPORTE**					
	Transporte con camión de los productos procedentes de la construcción o demolición a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, kilometraje ilimitado, considerando el tiempo de espera para la carga a máquina en obra, ida, descarga y vuelta.					
					17,89	17,89
						17,89
GESRES4	**RCD NIVEL II - POTENCIALMENTE PELIGROSOS**					
14.7	**Ud BIDON 200L RESIDUOS PELIGROSOS TIERRAS**					
	Suministro y ubicación en obra de bidón de 200 litros de capacidad para residuos peligrosos procedentes de la construcción o demolición, apto para almacenar tierras y piedras que contienen sustancias peligrosas. Incluso marcado del recipiente con la etiqueta correspondiente.					
					3	3,00
						3,00

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
14.8	**Ud BIDÓN 200L RESIDUOS PELIGROSOS ENVASES**					
	Suministro y ubicación en obra de bidón de 200 litros de capacidad para residuos peligrosos procedentes de la construcción o demolición, apto para almacenar envases que contienen restos de sustancias peligrosas o están contaminados por ellas. Incluso marcado del recipiente con la etiqueta correspondiente.					
		3				3,00
						3,00
14.9	**Ud CARGA Y TRANSPORTE BIDÓN 200L RESIDUOS PELIGROSOS**					
	Transporte de bidón de 200 litros de capacidad con residuos peligrosos procedentes de la construcción o demolición, a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, considerando la carga y descarga de los bidones. Incluye: Carga de bidones. Transporte de bidones a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos. Descarga de bidones.					
		6				6,00
						6,00
14.10	**Ud COSTE DE VERTIDO DE BIDON 200 L DE RESIDUOS PELIGROSOS**					
	Canon de vertido por entrega a gestor autorizado de residuos peligrosos, de bidón de 200 litros de capacidad con residuos que contienen sustancias peligrosas o están contaminados por ellas procedentes de la construcción o demolición. Sin incluir del transporte.					
						6,00

MEDICIONES

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C15	**SEGURIDAD Y SALUD**					
SYSPRES	**Ud Seguridad y salud**					
	Conjunto de medidas de seguridad y salud en el trabajo durante la ejecución de las obras, según estudio de seguridad y salud y plan de seguridad y salud aprobado, incluso sus eventuales modificaciones.					
	Según Medición Anejo Seguridad y Salud	1				1,00
						1,00

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	CANTIDAD
C16	**PUESTA EN SERVICIO DEPÓSITO**					
SAN1402003	**PA Puesta en servicio, limpieza y desinfección depósito**					
	Partida alzada para la limpieza, desinfección y puesta en servicio de las instalaciones. Los trabajos comprenderán: Limpieza y Desinfección (según estos métodos): - Método por lavado (enjuagado) con agua potable sin adición de desinfectante, con o sin inyección de aire - Método Estático utilizando agua potable con adición de desinfectante. - Método Dinámico utilizando agua potable con adición de desinfectante Para la elección del desinfectante se deberán respetar las directivas de la UE y reglamentos AELC, asi como, las reglamentaciones nacionales y locales. En todo caso se tendrán en cuenta la vida útil del producto, facilidad de utilización, tiempo de contacto necesario con los elementos a limpiar y desinfectar, y aspectos cualitativos del agua potable, pH, si se opta por la utilización de Hipoclorito de Calcio, se tendrá en cuanta la dureza del agua. El procedimiento tendrá que ser aprobado por el director de obra. Se consideran incluidos todos los trabajos necesarios para la puesta en servicio de las instalaciones.					
						1,00

PRESUPUESTO

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C01	**MOVIMIENTO DE TIERRAS**			
E02AM010	m² Desbroce, limpieza y acondicionamiento del terreno	4.310,00	2,24	9.654,40
	Desbroce y acondicionamiento del terreno con medios manuales o mecánicos, con corte y limpieza de árboles, arbustos, maleza, incluso extracción de tocones. Hasta una profundidad no menor que el espesor de la capa de tierra vegetal, considerando como mínima 25 cm. Incluso transporte de la maquinaria, retirada de los materiales excavados y carga a camión, transporte hasta acopio localizado, formación de acopio localizado para posterior reutilización en acondicionamiento de espacios. Se consideran incluidos en el precio los trabajos de acondicionamiento de accesos para las autogrúas y maquinaria específica para el montaje de forjados e instalación de nuevas vigas y placas prefabricadas.			
E02CMA080	m³ Excavación en zanja o pozo en cualquier tipo de terreno	2.196,68	45,57	100.102,71
	Excavación en zanjas o pozos con medios mecánicos en cualquier clase de terreno, incluso roca, salvando servicios existentes y agotamiento en zonas sumergidas, entibación, limpieza de fondos, rasanteo y compactación de los mismos, extracción de productos a los bordes de la excavación, incluso ayudas de mano de obra.			
E02CMA081	m³ Excavación manual en zanja	43,20	68,14	2.943,65
	Excavación en zanjas con medios manuales en cualquier clase de terreno, incluso roca, salvando servicios existentes y agotamiento en zonas sumergidas, limpieza de fondos, rasanteo y compactación de los mismos, extracción de productos a los bordes de la excavación, incluso ayudas de mano de obra.			
U01RM021	m³ Relleno de zanjas con material procendente de la excavación	683,20	9,17	6.264,94
	Suministro y formación de relleno en zanjas, trasdós de muros, pozos y/o cimientos, etc., con material seleccionado procedente de excavación, incluyendo adecuación del material en obra (machaqueo, seleccionado, mezcla, etc.). Incluye vertido, extendido, rasanteo, humectación y compactados en tongadas de un espesor máximo de 20cm., hasta alcanzar el 98% del Próctor Modificado, barrido, limpieza.			
U01RM022	m³ Relleno de zanjas con arena común	128,78	54,43	7.009,50
	Relleno envolvente y principal de zanjas para instalaciones, con arena de 0 a 5 mm de diámetro y compactación en tongadas sucesivas de 20 cm de espesor máximo con bandeja vibrante de guiado manual, hasta alcanzar una densidad seca no inferior al 95% de la máxima obtenida en el ensayo Proctor Modificado, realizado según UNE 103501. Incluso cinta o distintivo indicador de la instalación, barrido, limpieza.			
	TOTAL C01			**125.975,20**

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C02	**DEMOLICIONES Y APEOS**			
E01DSB100	m2 Demolición de muro de hormigón armado	4,08	102,94	420,00
	Demolición de muros de hormigón armado de 30 cm de espesor, con compresor, incluso limpieza y retirada de escombros a pie de carga, sin transporte al vertedero y con parte proporcional de medios auxiliares, sin medidas de protección colectivas. Medición de superficie realmente ejecutada.			
E01DSB101	m3 Desmontaje de muro de mampostería	15,75	255,98	4.031,69
	Desmontaje para su reutilización de muro de mampostería de piedra, con mortero, con medios manuales y acopio del 80% del material para su reutilización, incluso limpieza y retirada de escombros a pie de carga.			
E01AA020	m2 Apeo de estructura hasta 6 m	26,03	143,79	3.742,85
	Apeo de estructura, hasta una altura máxima de 6 m, mediante sopandas, puntales y durmientes metálicos, con parte proporcional de medios auxiliares y trabajos previos de limpieza para apoyos. Medición descontando huecos.			
	TOTAL C02			**8.194,54**

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C03	**CIMENTACIONES Y CONTENCIONES**			
C03.01	**DEPOSITO PREFABRICADO**			
E04MEF012	**m² Encofrado metálico para losa de cimentación**	**31,68**	**36,08**	**1.143,01**
	Suministro y montaje de sistema de encofrado recuperable metálico, para losa de cimentación, formado por paneles metálicos, amortizables en 200 usos, y posterior desmontaje del sistema de encofrado. Incluso elementos de sustentación, fijación y acodalamientos necesarios para su estabilidad y líquido desencofrante para evitar la adherencia del hormigón al encofrado. Se considerea incluido en el precio la limpieza y preparación del plano de apoyo. Replanteo. Aplicación del líquido desencofrante. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y acodalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.			
U05LAH020	**m³ Hormigón HM-20/B/20/IIa para limpieza y nivelación**	**72,45**	**284,54**	**20.614,92**
	Hormigón en masa HM-20/B/20/IIa de resistencia característica a compresión 20 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, en elementos enterrados, o interiores sometidos a humedades relativas medias-altas (>65%) o a condensaciones, o elementos exteriores con alta precipitación, elaborado en central. Incluso vertido por medios manuales, vibrado y colocado. Incluso retirada de material sobrante y trabajo totalmente terminado, incluyendo medios y materiales auxiliares.			
U05LAH022	**m³ Hormigón HA-30/B/20/IV para losas**	**157,81**	**305,63**	**48.231,47**
	Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-30/B/20/IV fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.			

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
U05LAH023	m³ Hormigón HA-25/B/20/IIa para losas	46,50	294,65	13.701,23
	Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras necesarios. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficiales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.			
U05LAH024	m³ Hormigón HA-25/B/20/IIa para cimentación	47,69	294,62	14.050,43
	Suministro y colocación de hormigón para armar en elementos de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de la zapata, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. Se considera incluido en el precio: -La existencia de la capa de hormigón de limpieza, que presentará un plano de apoyo horizontal y una superficie limpia. -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.			
E04AB041	kg Acero corrugado elaborado B500SD	42.573,60	2,72	115.800,19
	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.			
	TOTAL C03.01			**213.541,25**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C03.02	**CASETA DE BOMBAS**			
U05LAH020	**m³ Hormigón HM-20/B/20/IIa para limpieza y nivelación**	**2,88**	**284,54**	**819,48**
	Hormigón en masa HM-20/B/20/IIa de resistencia característica a compresión 20 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, en elementos enterrados, o interiores sometidos a humedades relativas medias-altas (>65%) o a condensaciones, o elementos exteriores con alta precipitación, elaborado en central. Incluso vertido por medios manuales, vibrado y colocado. Incluso retirada de material sobrante y trabajo totalmente terminado, incluyendo medios y materiales auxiliares.			
U05LAH025	**m² Solera HA-25/B/20/IIa**	**5,63**	**96,77**	**544,82**
	Suministro y colocación de hormigón armado en Solera de hormigón armado HA-25/B/20/IIa de 15 cm de espesor fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se incluye en el precio la ejecución de juntas, aserrado y sellado de las mismas. Se consideran incluido el suministro, vertido y capa de regularización de 5 cm de espesor previa colocación de lámina de polietileno de 1mm de espesor. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos así como el curado posterior. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.			
E04MEF011	**m² Encofrado recto vertical en muros**	**83,14**	**67,69**	**5.627,75**
	Suministro, Montaje y desmontaje de sistema de encofrado a dos caras con acabado tipo industrial para revestir, realizado con paneles metálicos modulares, amortizables en 150 usos, para formación de muro de hormigón armado, de entre 3 y 6 m de altura y superficie plana, para contención de tierras. Incluso tubos para paso de instalaciones; pasamuros para paso de los tensores; elementos de sustentación, fijación y apuntalamiento necesarios para su estabilidad; y líquido desencofrante para evitar la adherencia del hormigón al encofrado. Se considerea incluido en el precio de limpieza y preparación del plano de apoyo. Replanteo del encofrado sobre la cimentación. Replanteo de las juntas de construcción y de dilatación. Colocación de pasamuros para paso de los tensores y/o instalaciones. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y apuntalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. En caso de producirse coqueras o imperfecciones se dará conocimiento a la Dirección facultativa y se procederá a la reparación oportuna sin coste alguno. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.			

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
U05LAH026	m³ Hormigón HA-30/B/IIIa alzado muros	24,95	306,14	7.638,19
	Ejecución de muro de sótano de hormigón armado, realizado con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con cubilote, incluso alambre de atar y separadores; espuma de poliuretano monocomponente, para sellado de los huecos pasamuros para paso de los tensores del encofrado. Se comprobará la existencia de las armaduras de espera en el plano de apoyo del muro, que presentará una superficie horizontal y limpia. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.			
E04AB041	kg Acero corrugado elaborado B500SD	2.264,99	2,72	6.160,77
	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.			
	TOTAL C03.02			**20.791,01**
C03.03	**CAMARA DE LLAVES**			
U05LAH020	m³ Hormigón HM-20/B/20/IIa para limpieza y nivelación	3,60	284,54	1.024,34
	Hormigón en masa HM-20/B/20/IIa de resistencia característica a compresión 20 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, en elementos enterrados, o interiores sometidos a humedades relativas medias-altas (>65%) o a condensaciones, o elementos exteriores con alta precipitación, elaborado en central. Incluso vertido por medios manuales, vibrado y colocado. Incluso retirada de material sobrante y trabajo totalmente terminado, incluyendo medios y materiales auxiliares.			
E04MEF011	m² Encofrado recto vertical en muros	20,20	67,69	1.367,34
	Suministro, Montaje y desmontaje de sistema de encofrado a dos caras con acabado tipo industrial para revestir, realizado con paneles metálicos modulares, amortizables en 150 usos, para formación de muro de hormigón armado, de entre 3 y 6 m de altura y superficie plana, para contención de tierras. Incluso tubos para paso de instalaciones; pasamuros para paso de los tensores; elementos de sustentación, fijación y apuntalamiento necesarios para su estabilidad; y líquido desencofrante para evitar la adherencia del hormigón al encofrado. Se considerea incluido en el precio de limpieza y preparación del plano de apoyo. Replanteo del encofrado sobre la cimentación. Replanteo de las juntas de construcción y de dilatación. Colocación de pasamuros para paso de los tensores y/o instalaciones. Montaje del sistema de encofrado. Colocación de elementos de sustentación, fijación y apuntalamiento. Aplomado y nivelación del encofrado. Desmontaje del sistema de encofrado. Limpieza y almacenamiento del encofrado. En caso de producirse coqueras o imperfecciones se dará conocimiento a la Dirección facultativa y se procederá a la reparación oportuna sin coste alguno. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos.			

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
U05LAH026	m³ Hormigón HA-30/B/IIIa alzado muros	13,30	306,14	4.071,66
	Ejecución de muro de sótano de hormigón armado, realizado con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con cubilote, incluso alambre de atar y separadores; espuma de poliuretano monocomponente, para sellado de los huecos pasamuros para paso de los tensores del encofrado. Se comprobará la existencia de las armaduras de espera en el plano de apoyo del muro, que presentará una superficie horizontal y limpia. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se suspenderán los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C.			
U05LAH023	m³ Hormigón HA-25/B/20/IIa para losas	3,60	294,65	1.060,74
	Suministro y colocación de hormigón para armar en losa de cimentación, realizada con hormigón HA-25/B/20/IIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras necesarios. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficiales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.			
E04AB041	kg Acero corrugado elaborado B500SD	1.982,44	2,72	5.392,24
	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.			
	TOTAL C03.03			**12.916,32**
C03.04	**RELLENO HORMIGÓN CICLÓPEO**			
CHH010	m3 Hormigón ciclópeo	795,00	222,25	176.688,75
	Hormigón ciclópeo, realizado con hormigón HM-15/P/40/I fabricado en central y vertido desde camión (60% de volumen) y piedra en rama de tamaño máximo 30 cm (40% de volumen), para mejora del terreno de cimentación existente.			
	TOTAL C03.04			**176.688,75**
	TOTAL C03			**423.937,33**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C04	**ESTRUCTURAS DE HORMIGÓN**			
C04.01	**DEPÓSITO PREFABRICADO**			
U05LAH027	**m³ Capa de compresión en forjado** Ejecución de capa de compresión de 5 cm de espesor y relleno de juntas en losas mediante hormigón para armar HA-25/B/20/IIIa de resistencia característica a compresión 25 MPa (N/mm2), de consistencia blanda, tamaño máximo del árido 20 mm, y malla electrosoldada de 200x200x8 mm, en elementos exteriores cercanos a la costa (<5 Km), elaborado en central. Incluso vertido con grúa-pluma, vibrado y colocado. Según normas EHE-08 y NTE-EHL. Componentes del hormigón con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011.	**28,65**	**376,60**	**10.789,59**
U05LAH0282	**Ud Pilar prefabricado de hormigón** Suministro, transporte y montaje de pilar prefabricado de hormigón armado HA-40 y acero B 500 S de sección constante 40x40 cm, de altura máxima 6 m, con esperas en la parte inferior para arranque del pilar y en la parte superior para solape del pilar superior, con cajeado sin hormigón para enjarje con forjado intermedio, encofrado y desencofrado, aplomado, vertido, vibrado, curado de hormigón, incluido relleno del cáliz, con ayuda de grúa telescópica para montaje, totalmente terminada. Según EHE-08 y CTE. Pilar prefabricado con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.	**15,00**	**2.041,06**	**30.615,90**
U05LAH0292	**m² Forjado de placa alveolar** Suministro, transporte y montaje de forjado de placa alveolar prefabricada de hormigón pretensado de canto 25 cm en piezas de 1,20 m de ancho, apoyado sobre jácenas no incluidas en este precio, con capa de compresión de 5 cm no incluida en este precio, para una sobrecarga permanente de 350 kg/m2 y de uso de 100 kg/m2. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.	**573,00**	**183,14**	**104.939,22**
U05LAH0312	**m Jácenas prefabricadas de hormigón** Suministro, transporte y montaje de jácenas de hormigón armado semiprefabricadas JR50/40 de sección 40x50 cm y 6 m de luz. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.	**84,00**	**839,86**	**70.548,24**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
U05LAH0302	Ud Muro prefabricado nervado	48,00	4.690,90	225.163,20
	Suministro, transporte y montaje de depósito rectangular aéreo mediante módulos de muro prefabricado de hormigón armado, sección rectangular de 15 cm de espesor, de 5,00 m de altura y 2,00 m de ancho y una aleta perpendicular a la sección rectangular, fabricado con hormigón armado sulforresistente HA40/B/20/IV CEM I 42,5 SR monocapa gris, i/p.p. de montaje con ayuda de grúa autopropulsada telescópica y apeos, totalmente terminado. Según EHE-08 y CTE. Medición por m2 según planillas fabricación sin descontar huecos. Muro prefabricado con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011. Incluyendo transbordo de piezas en camiones de pequeño tamaño si fuera necesario.			
REVESIMP	m² Revestimiento interior con mortero impermeabilizante	1.091,60	18,04	19.692,46
	Mortero impermeabilizante monocomponente, a base de cemento y resinas sintéticas , calidad alimentaria, apto para contacto en agua potable, transpirable e impermeable al agua, Sika Top® Seal-107 de SIKA o similar, sobre paramentos verticales y horizontales de hormigón, para alturas superiores a 2 m, con llana dentada en la primera capa y lisa en la segunda, con un consumo aproximado total de 2,0 kg/m2 en dos capas de 2 mm aproximadamente. Incluye limpieza del soporte, mano de fondo y mano de acabado, medida la superficie ejecutada. Cumple con RD 140/2003.			
	TOTAL C04.01			**461.748,61**
C04.02	**CASETA DE BOMBAS**			
U05LAH032	m³ Hormigón HA-30/B/20/IIIa para losas	10,50	305,95	3.212,48
	Suministro y colocación de hormigón armado en losa de cubierta, realizada con hormigón HA-30/B/20/IIIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, y acero UNE-EN 10080 B 500 S, con una cuantía determinada en planos, memoria o pliegos, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios. En esta unidad se consideran incluidas las armaduras para formación de foso de ascensor, refuerzos, pliegues, encuentros, arranques y esperas en muros, escaleras y rampas, cambios de nivel, alambre de atar, y separadores. El precio incluye el suministro, la elaboración y el montaje de la ferralla necesaria pero no incluye el encofrado en caso de ser necesaria. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.			

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
E04AB041	kg Acero corrugado elaborado B500SD	954,63	2,72	2.596,59
	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.			
	TOTAL C04.02			**5.809,07**
C04.03	**CÁMARA DE LLAVES**			
U05LAH032	m³ Hormigón HA-30/B/20/IIIa para losas	3,00	305,95	917,85
	Suministro y colocación de hormigón armado en losa de cubierta, realizada con hormigón HA-30/B/20/IIIa fabricado en central con Distintivo de calidad Oficialmente Reconocido (D.O.R.), y vertido con bomba o grúa, y acero UNE-EN 10080 B 500 S, con una cuantía determinada en planos, memoria o pliegos, acabado superficial liso mediante regla vibrante. Se consideran incluidos banqueos necesarios en caso de existir inclinación en superficie de apoyo para garantizar apoyo nivelado de losa, no incluyendo los trabajos correspondientes a movimientos de tierras decesarios. En esta unidad se consideran includas las armaduras para formación de foso de ascensor, refuerzos, pliegues, encuentros, arranques y esperas en muros, escaleras y rampas, cambios de nivel, alambre de atar, y separadores. El precio incluye el suministro, la elaboración y el montaje de la ferralla necesaria pero no incluye el encofrado en caso de ser necesaria. Se considera trabajo totalmente finalizado, incluso medios y materiales necesarios y totalmente terminado incluyendo limpieza de tajos. En caso de aparición de coqueras o defectos superficieales y siempre previa aprobación por parte de la DF, se considera incluidos los trabajos de reparación necesarios con aporte de material. Se considera incluido en el precio: -La suspensión de los trabajos de hormigonado cuando llueva con intensidad, nieve, exista viento excesivo, una temperatura ambiente superior a 40°C o se prevea que dentro de las 48 horas siguientes pueda descender la temperatura ambiente por debajo de los 0°C. -El regado y curado del hormigón una vez ejecutado.			
E04AB041	kg Acero corrugado elaborado B500SD	327,42	2,72	890,58
	Acero corrugado en redondos B-500-SD, incluso suministro a pie de obra, ferrallado, colocación y parte proporcional de separadores, alambres de atado, soldaduras, despuntes y solapes.			
	TOTAL C04.03			**1.808,43**
	TOTAL C04			**469.366,11**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C05	**CUBIERTA**			
C05.01	**DEPOSITO PREFABRICADO**			
E09CP021	m² Recrecido para formación de pendientes Recrecido para formación de pendientes en cubiertas planas o similares, realizado con mortero y arena de río con dosificación 1:6 (M-5), con un espesor medio de 5-7 cm. Totalmente terminado, medido sobre superficie de cubierta en horizontal; incluyendo p.p. de ejecución de escocia perimetral, vertido, nivelado, medios auxiliares.	681,00	14,85	10.112,85
GEO200	m² Geotextil 200 gr/m2 Suministro y colocación de lámina geotextil no tejido compuesto de gramaje 200 gr/m2.	681,00	3,82	2.601,42
E11ECB011	m² Solado baldosín catalán Solado de baldosín catalán de 14x28 cm., (AIIb-AIII, s/UNE-EN-14411:2013) recibido con mortero de cemento CEM II/B-P 32,5 N y arena de río (M-5), i/cama de 2 cm. de arena de río, rejuntado con lechada de cemento CEM II/B-P 32,5 N 1/2 y limpieza, s/NTE-RSR-2, con marcado CE y DdP (declaración de prestaciones) según Reglamento UE 305/2011, medido en superficie realmente ejecutada.	681,00	26,68	18.169,08
PLETINAALM	m Pletina plegada de aluminio vierteaguas Remate lateral de cubierta formado por chapa de aluminio plegada de 35 cm de desarrollo según planos de detalle y espesor 1 mm, anclada a capa de compresión mediante la disposición de anclajes mecánicos de longitud mínima 60 mm y M6 de acero inoxidable A4. Montado antes de aplicar la capa de impermeabilización. Incluido formación de rebosadero en punto bajo con mismo material.	94,94	15,13	1.436,44
REVESIMP1	m² Impermeabilización Líquida Cubierta AQUAFLEX ROOF PREMIUM Impermeabilización líquida de cubiertas. Sistema Aquaflex Roof Premium "MAPEI SPAIN" o similar formado por dos capas de impermeabilizante líquido elástico monocomponente, Aquaflex Roof Premium "MAPEI SPAIN" o similar, de color Gris, con un rendimiento de 1,5 kg/m², previa aplicación de imprimación bicomponente a base de resina epoxi en dispersión acuosa, Mapecoat I 600 W "MAPEI SPAIN" o similar, 0,4 kg/m². Incluidos remontes en la medición.	681,00	33,09	22.534,29
	TOTAL C05.01			**54.854,08**
C05.02	**CASETA DE BOMBAS**			
E09CP021	m² Recrecido para formación de pendientes Recrecido para formación de pendientes en cubiertas planas o similares, realizado con mortero y arena de río con dosificación 1:6 (M-5), con un espesor medio de 5-7 cm. Totalmente terminado, medido sobre superficie de cubierta en horizontal; incluyendo p.p. de ejecución de escocia perimetral, vertido, nivelado, medios auxiliares.	21,00	14,85	311,85
GEO200	m² Geotextil 200 gr/m2 Suministro y colocación de lámina geotextil no tejido compuesto de gramaje 200 gr/m2.	21,00	3,82	80,22

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
E11ECB011	m² Solado baldosín catalán	21,00	26,68	560,28
	Solado de baldosín catalán de 14x28 cm., (AIIb-AIII, s/UNE-EN-14411:2013) recibido con mortero de cemento CEM II/B-P 32,5 N y arena de río (M-5), i/cama de 2 cm. de arena de río, rejuntado con lechada de cemento CEM II/B-P 32,5 N 1/2 y limpieza, s/NTE-RSR-2, con marcado CE y DdP (declaración de prestaciones) según Reglamento UE 305/2011, medido en superficie realmente ejecutada.			
PLETINAALM	m Pletina plegada de aluminio vierteaguas	20,00	15,13	302,60
	Remate lateral de cubierta formado por chapa de aluminio plegada de 35 cm de desarrollo según planos de detalle y espesor 1 mm, anclada a capa de compresión mediante la disposición de anclajes mecánicos de longitud mínima 60 mm y M6 de acero inoxidable A4. Montado antes de aplicar la capa de impermeabilización. Incluido formación de rebosadero en punto bajo con mismo material.			
REVESIMP1	m² Impermeabilización Líquida Cubierta AQUAFLEX ROOF PREMIUM	21,00	33,09	694,89
	Impermeabilización líquida de cubiertas. Sistema Aquaflex Roof Premium "MAPEI SPAIN" o similar formado por dos capas de impermeabilizante líquido elástico monocomponente, Aquaflex Roof Premium "MAPEI SPAIN" o similar, de color Gris, con un rendimiento de 1,5 kg/m², previa aplicación de imprimación bicomponente a base de resina epoxi en dispersión acuosa, Mapecoat I 600 W "MAPEI SPAIN" o similar, 0,4 kg/m². Incluidos remontes en la medición.			
	TOTAL C05.02			**1.949,84**
C05.03	**CAMARA DE LLAVES**			
E09CP021	m² Recrecido para formación de pendientes	12,00	14,85	178,20
	Recrecido para formación de pendientes en cubiertas planas o similares, realizado con mortero y arena de río con dosificación 1:6 (M-5), con un espesor medio de 5-7 cm. Totalmente terminado, medido sobre superficie de cubierta en horizontal; incluyendo p.p. de ejecución de escocia perimetral, vertido, nivelado, medios auxiliares.			
GEO200	m² Geotextil 200 gr/m2	12,00	3,82	45,84
	Suministro y colocación de lámina geotextil no tejido compuesto de gramaje 200 gr/m2.			
E11ECB011	m² Solado baldosín catalán	12,00	26,68	320,16
	Solado de baldosín catalán de 14x28 cm., (AIIb-AIII, s/UNE-EN-14411:2013) recibido con mortero de cemento CEM II/B-P 32,5 N y arena de río (M-5), i/cama de 2 cm. de arena de río, rejuntado con lechada de cemento CEM II/B-P 32,5 N 1/2 y limpieza, s/NTE-RSR-2, con marcado CE y DdP (declaración de prestaciones) según Reglamento UE 305/2011, medido en superficie realmente ejecutada.			
PLETINAALM	m Pletina plegada de aluminio vierteaguas	14,00	15,13	211,82
	Remate lateral de cubierta formado por chapa de aluminio plegada de 35 cm de desarrollo según planos de detalle y espesor 1 mm, anclada a capa de compresión mediante la disposición de anclajes mecánicos de longitud mínima 60 mm y M6 de acero inoxidable A4. Montado antes de aplicar la capa de impermeabilización. Incluido formación de rebosadero en punto bajo con mismo material.			

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
REVESIMP1	m² **Impermeabilización Líquida Cubierta AQUAFLEX ROOF PREMIUM**	12,00	33,09	397,08
	Impermeabilización líquida de cubiertas. Sistema Aquaflex Roof Premium "MAPEI SPAIN" o similar formado por dos capas de impermeabilizante líquido elástico monocomponente, Aquaflex Roof Premium "MAPEI SPAIN" o similar, de color Gris, con un rendimiento de 1,5 kg/m², previa aplicación de imprimación bicomponente a base de resina epoxi en dispersión acuosa, Mapecoat I 600 W "MAPEI SPAIN" o similar, 0,4 kg/m². Incluidos remontes en la medición.			

TOTAL C05.03	**1.153,10**
TOTAL C05	**57.957,02**

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C06	**INSTALACIÓN HIDRÁULICA**			
GRUPBOMB	**Ud Bombeo de superficie de eje horizontal**	**3,00**	**29.537,00**	**88.611,00**
	Unidad de suministro, transporte, instalación y probado de bomba horizontal de superficie, modelo NSCF 125-315/220/L45VCC4 o similar, sobre bancada, con instalación en paralelo de 2+1 bombas, que trabajando en simultáneo den un punto de trabajo de 350 m3/h a una altura manométrica de 26 mca. La unidad se certifica por bomba suministrada, siendo el total de las unidades completas a certificar igual a 3. Datos Bomba + Motor: - Boquilla de Aspiración DN150 PN10/16 - Boquilla de Impulsión DN125 PN10/16 - Motor WEG IE3 W22 - 180M -18,5 kW 400V Corriente Nominal 35,1 A Grado de Protección IP55 o similar Incluso soporte de apoyo sobre solera de hormigón, bancada y tornillería en acero inoxidable A4. Incluido cable eléctrico hasta el cuadro.			
APERHUECO	**Ud Apertura y refuerzo de muro de hormigón armado**	**1,00**	**1.441,73**	**1.441,73**
	Apertura de paso de DN470 sobre paramento vertical de hormigon armado en caseta de bombas existente mediante el empleo de corona circular. Colocación de pasamuros (no incluido en el precio), refuerzo con armado definido en planos, colocación de 2 cordones de junta hidroexpansiva a lo largo del perímetro de la perforación y a lo largo del perímetro del pasamuros, encofrado con maderas y posterior relleno con mortero de reparación estructural tipo Sika Monotop 412 S o similar, sellado de juntas entre el nuevo refuerzo y el prefabricado mediante la aplicación en ángulo de bandas impermeabilizantes tipo maxseal flex + drioxoro mesh o similar.			
TUBPEAD225	**m Tubería PEAD DN225 PN10**	**30,00**	**37,39**	**1.121,70**
	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 225 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7			
TUBPEAD280	**m Tubería PEAD DN280 PN10**	**90,00**	**49,84**	**4.485,60**
	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 280 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7			
TUBPEAD315	**m Tubería PEAD DN315 PN10**	**224,00**	**123,56**	**27.677,44**
	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 315 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7			

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
TUBPEAD400	**m Tubería PEAD DN400 PN10**	**65,00**	**177,16**	**11.515,40**
	Suministro, colocación y probado de tubería de PE de pared compacta para funcionamiento en presión, de tensión mínima requerida (MRS) 10 Mpa, diámetro nominal 315 mm, presión nominal PN 10, SDR 17, uniones soldadas térmicamente a tope, incluso parte proporcional de accesorios y piezas especiales (codos, T, reducciones, portabridas). Incluso gestión de RCD en obra. Fabricado según norma UNE EN 12201, accesorios y piezas especiales según especificación técnica CEN/TS 12201-7			
VALMAP400	**Ud Válvula mariposa DN400 excéntrica automatizada**	**1,00**	**13.308,25**	**13.308,25**
	Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 400, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación. Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.			
VALMAP300	**Ud Válvula mariposa DN300 excéntrica automatizada**	**4,00**	**11.301,68**	**45.206,72**
	Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 300, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación. Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.			

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
VALMAP150	**Ud Válvula mariposa DN150 excéntrica automatizada** Válvula de mariposa concéntrica accionada automáticamente a eje libre de la Serie 9881 K marca Hawle, o similar, de DN 150, en PN 10/16, con uniones mediante BRIDAS según ISO 5752 serie básica 13, con cuerpo en fundición dúctil recubierto de epoxi en polvo por dentro y por fuera con disco en acero inoxidable DUPLEX, con junta de cierre VULCANIZADA AL CUERPO en EPDM, eje de acero inoxidable DUPLEX, con recubrimiento en pintura epoxi espesor mínimo 200 micras aplicada electrostáticamente, probada hidráulicamente según UNE EN 1074 y EN 12266. Garantía de fábrica por 5 años frente a cualquier defecto de fabricación. Accionada mediante Reductor indicador mecánico de posición, y volante, eje en AISI 431 y cuerpo en fundición, con protección IP68. Accionada mediante actuador de la serie Ref. 9920 de AUME-HAWLE o similar con interruptor de contador de trayecto para ambos finales de carrera, doble interruptor de momento de giro, relé de intermitencia, calefactor para el recinto de interruptores e interruptor termoestático y volante para accionamiento de emergencia.	3,00	6.108,75	18.326,25
VALMAP200	**Ud Válvula mariposa DN200 manual** Suministro, colocación y probado de válvula de mariposa para agua potable AVK o equivalente, serie EVFL 75/21, DN 200, PN 10/16. Concéntrica, junta vulcanizada, embridada cuello largo. Distancia entre bridas EN 558, tabla 2, s.b. 14. Cuerpo de fundición dúctil EN-GJS-400. Junta de EPDM vulcanizado al cuerpo, certificado para agua potable. Eje y disco de acero inox DUPLEX, con revestimiento de epoxi de 200 micras.	1,00	2.238,59	2.238,59
VALMAP125	**Ud Válvula mariposa DN125 manual** Suministro, colocación y probado de válvula de mariposa para agua potable AVK o equivalente, serie EVFL 75/21, DN 125, PN 10/16. Concéntrica, junta vulcanizada, embridada cuello largo. Distancia entre bridas EN 558, tabla 2, s.b. 14. Cuerpo de fundición dúctil EN-GJS-400. Junta de EPDM vulcanizado al cuerpo, certificado para agua potable. Eje y disco de acero inox DUPLEX, con revestimiento de epoxi de 200 micras.	3,00	1.462,64	4.387,92

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
CALDINOX	Ud Calderería de acero inoxidable 316L	1,00	24.458,49	24.458,49
	Piezas especiales de calderería fabricadas en acero inoxidable AISI 316L formado por: TRAMO ASPIRACIÓN: - Conexión a 90º de los tramos de aspiración en ACERO AISI 316L DN280 con un desarrollo de 0,40 m (total 0,80 m). - Colector Común a 90º que recibe las dos aspiraciones en ACERO AISI 316L DN280 de 3,60 m, del que salen tres conexiones en horizontal en inox DN150 con una longitud cada una de 0,4 m (total 1,20 m) TRAMO IMPULSIÓN: - Colector común en vertical elevado sobre la impulsión de las bombas con un desarrollo horizontal de 3,95 m realizado en ACERO AISI 316L DN315, con tres entradas a 90º para la conexión de la impulsión de las bombas en AISI 316L DN125 con una desarrollo cada una de 0,40 m (total 1,20 m). - Salidas a conexión con tubos de impulsión a depósitos ejecutada mediante T en ACERO AISI 316L DN315 con un desarrollo de 1,10 m - Tres tramos rectos verticales DN125 (uno por cada bomba) con una longitud total de 0,40 m para conexión de las tres bombas con los accesorios. Resumen de longitudes totales ACERO INOX AISI316L: - DN 315 5,05 m (492,17 kg) - DN 280 4,40 m (358,82 kg) - DN 150 1,20 m (51,80 kg) - DN 125 2,40 m (54,30 kg) Incluido la ejecución de pìcajes en los colectores de Aspiración e Impulsión, para toma de muestras, cloración y labores de vaciado de colectores, en total se prevé la ejecución de 5 picajes en el tramo de impulsión y 3 en el tramo de aspiración. Incluida la elaboración de planos de taller, tornillería en acero inoxidable A4 y material auxiliar.			
AISI316BRIDA400	Ud Conjunto brida AISI 316L para portabrida 400	1,00	1.092,54	1.092,54
	Suministro y montaje de brida loca de DN400 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.			
AISI316BRIDA315	Ud Conjunto brida AISI 316L para portabrida 315	3,00	879,39	2.638,17
	Suministro y montaje de brida loca de DN315 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.			
AISI316BRIDA280	Ud Conjunto brida AISI 316L para portabrida 280	1,00	754,44	754,44
	Suministro y montaje de brida loca de DN280 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.			
AISI316BRIDA225	Ud Conjunto brida AISI 316L para portabrida 225	1,00	631,06	631,06
	Suministro y montaje de brida loca de DN225 fabricada en acero inoxidable AISI 316L. Incluida tornillería y tuercas en acero inoxidable A4.			
VALRET	Ud Válvula de retención de disco partido DN125	3,00	607,87	1.823,61
	Válvula de retención de disco partido marca AVK Serie 642ECV tipo wafer o similar, PN16 de DN 125, cuerpo en fundición dúctil EN-GJS-400, clapetas en acero INOX 316, eje en acero INOX 316, totalmente instalada.			

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
CARRANTIVIB	Ud Carrete antivibratorio DN125	3,00	231,34	694,02
	Suministro y montaje de carrete antivibratorio de DN125 y PN16 de cuerpo de simple onda con bridas locas de acero inoxidable AISI 316L y juntas en EPDM. Incluidos materiales auxiliares.			
SOPINOXTUB	Ud Soporte de acero para tuberías	4,00	1.764,97	7.059,88
	Soporte metálico de acero inoxidable AISI 304 para apoyo de tramos de tubería formados por una placa de anclaje de dimensiones 300x300x10 con cuatro taladros para su anclaje a solera de hormigón mediante tacos mecánicos de fijación, IPN 200 o perfil con inercia similar de altura aproximada de 1,50 m para correcto apoyo de tuberías y abracedera formando un semicírculo constituida por una pletina de espesor 8 mm y largo 100 mm. Todas las soldaduras realizadas en taller. Incluido elaboración de planos de taller, tornillería de fijación a la solera, junta de EPDM para evitar contacto directo con las tuberías.			
PASMUR280	Ud Pasamuros estanco DN280 con portabrida	2,00	595,03	1.190,06
	Pasamuros estanco de acero inoxidable AISI 316L de diámetro interior libre 280 mm y PN10. De longitud comprendida entre 34 y 40 cm con pletina intermedia concéntrica de altura 8 cm, terminado en uno de los extremos en brida de espesor 40 mm para posterior conexión de tubería. Incluido planos de taller.			
PASMUR315	Ud Pasamuros estanco DN315 con portabrida	4,00	707,90	2.831,60
	Pasamuros estanco de acero inoxidable AISI 316L de diámetro interior libre 315 mm y PN10. De longitud comprendida entre 34 y 40 cm con pletina intermedia concéntrica de altura 8 cm, terminado en uno de los extremos en brida de espesor 40 mm para posterior conexión de tubería. Incluido planos de taller.			
CARRETE315	Ud Carrete de desmontaje DN315 PN10 BB L<500 mm	2,00	1.047,92	2.095,84
	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 315, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.			
CARRETE280	Ud Carrete de desmontaje DN280 PN10 BB L<500 mm	2,00	821,54	1.643,08
	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 280, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.			
CARRETE225	Ud Carrete de desmontaje DN225 PN10 BB L<500 mm	2,00	694,49	1.388,98
	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 225, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.			
CARRETE150	Ud Carrete de desmontaje DN150 PN10 BB L<500 mm	3,00	362,08	1.086,24
	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 150, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.			

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
CARRETE125	**Ud Carrete de desmontaje DN125 PN10 BB L<500 mm**	3,00	320,27	960,81
	Suministro, colocación y probado de carrete de desmontaje, marca AVK o equivalente, serie 59/265-CA, DN 125, PN 10, uniones brida-brida. partes metálicas en acero inoxidable. Bridas y aros intermedios acero al carbono S-235-JR, junta de EPDM.			
ACHIQUE	**Ud Bomba de achique**	2,00	847,73	1.695,46
	Bomba de achique de aguas limpias o ligeramente cargadas, modelo DXN07M/G-230V del fabricante CAPRARI o similar, con las siguientes características Q = 5 m3/h Hm = 10 mca Pasaje libre de 8mm como mínimo, diámetro de impulsión G 1 1/2". Motor de 0,75 kW a 50Hz monofásico con boya de nivel incorporada. Cuerpo de Impulsión, placa de desgaste y rodete en hierro fundido EN-GJL200 Rejilla en aluminio Junta de cierre EPDM Rotor y Estátor - Chapa magnética Cierre mecánico Cerámica / Grafito Totalmente montada y conexionada a cuadro eléctrico.			
	TOTAL C06			**270.364,88**

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C07	**INSTALACIÓN ELÉCTRICA Y DE CONTROL**			
IEH0121	**m Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 4x50 mm² de sección** Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 4x50 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	**90,00**	**54,34**	**4.890,60**
IEH0121b	**m Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 5G16 mm² de sección** Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G16 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	**27,00**	**23,03**	**621,81**
IEH010	**m Cable unipolar H07V-K, 450/750 V, Eca, cobre clase 5 (-K) de 16 mm² de sección, con aislamiento de PVC (V)** Cable unipolar H07V-K, siendo su tensión asignada de 450/750 V, reacción al fuego clase Eca, con conductor multifilar de cobre clase 5 (-K) de 16 mm² de sección, con aislamiento de PVC (V). Incluso accesorios y elementos de sujeción.	**280,00**	**8,08**	**2.262,40**
IEH012g	**m Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 5G6 mm² de sección, con aislamiento de polietileno reticulado (R)** Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G6 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	**80,00**	**11,40**	**912,00**
IEH012f	**m Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 4x6 mm² de sección, con aislamiento de polietileno reticulado (R)** Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 4x6 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	**280,00**	**10,00**	**2.800,00**
IEH012c	**m Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 5G10 mm² de sección, con aislamiento de polietileno reticulado (R)** Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G10 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	**5,00**	**16,17**	**80,85**
IEH012d	**m Cable multipolar RV-K, 0,6/1 kV, Eca,cobre clase 5 (-K) de 5G2,5 mm² de sección, con aislamiento de polietileno reticulado (R)** Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 5G2,5 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	**14,00**	**7,49**	**104,86**
IEH012e	**m Cable multipolar RV-K, 0,6/1 kV, Eca, cobre clase 5 (-K) de 3G2,5 mm² de sección, con aislamiento de polietileno reticulado (R)** Cable multipolar RV-K, siendo su tensión asignada de 0,6/1 kV, reacción al fuego clase Eca, con conductor de cobre clase 5 (-K) de 3G2,5 mm² de sección, con aislamiento de polietileno reticulado (R) y cubierta de PVC (V). Incluso accesorios y elementos de sujeción.	**36,00**	**6,28**	**226,08**

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
IEP025	m Conductor de tierra de cobre 35 mm2	18,00	6,75	121,50
	Suministro e instalación de conductor de tierra formado por cable rígido desnudo de cobre trenzado, de 35 mm² de sección. Incluso p/p de uniones realizadas con soldadura aluminotérmica, grapas y bornes de unión. Totalmente montado, conexionado y probado. Incluye: Replanteo del recorrido. Tendido del conductor de tierra. Conexionado del conductor de tierra mediante bornes de unión.			
IEP021	Ud Toma de tierra con dos picas de acero cobreado de 2 m de longitud cada una.	2,00	214,92	429,84
	Toma de tierra con dos picas de acero cobreado de 2 m de longitud cada una.			
IEP021b	Ud Toma de tierra con una pica de acero cobreado de 2 m de longitud.	6,00	167,30	1.003,80
	Toma de tierra con una pica de acero cobreado de 2 m de longitud.			
IEQ010	Ud Condensador para 25 kVAr de potencia reactiva, alimentación trifásica a 400 V de tensión y 50 Hz de frecuencia, modelo ACM-30-44	1,00	882,38	882,38
	Condensador para 25 kVAr de potencia reactiva, alimentación trifásica a 400 V de tensión y 50 Hz de frecuencia, modelo ACM-30-440 "CIRCUTOR" o similar, con contactores e interruptor automático magnetotérmico.			
IEO010	m Canalización de tubo de PVC, serie B, de 32 mm de diámetro, para instalación fija en superficie	31,00	4,86	150,66
	Canalización de tubo de PVC, serie B, de 32 mm de diámetro y 3 mm de espesor. Instalación fija en superficie. Incluso accesorios y piezas especiales.			
IEO010b	m Canalización de tubo curvable, de polietileno de doble pared, de 63 mm de diámetro, para canalización enterrada	280,00	7,53	2.108,40
	Canalización de tubo curvable, suministrado en rollo, de polietileno de doble pared (interior lisa y exterior corrugada), de color naranja, de 63 mm de diámetro nominal, resistencia a la compresión 450 N, colocado sobre lecho de arena de 5 cm de espesor, debidamente compactada y nivelada con pisón vibrante de guiado manual, relleno lateral compactando hasta los riñones y posterior relleno con la misma arena hasta 10 cm por encima de la generatriz superior de la tubería. Instalación enterrada. Incluso cinta de señalización.			
UIA011	ud Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 30x30x30 cm de medidas interiores	19,00	71,01	1.349,19
	Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 30x30x30 cm de medidas interiores, con paredes rebajadas para la entrada de tubos, capaz de soportar una carga de 400 kN, con marco de chapa galvanizada y tapa de hormigón armado aligerado, de 39,5x38,5 cm, para arqueta de conexión eléctrica, capaz de soportar una carga de 125 kN; previa excavación con medios mecánicos y posterior relleno del trasdós con material granular.			
IEL010	m Línea colocada bajo tubo protector de polietileno de doble pared, de 110 mm de diámetro.	156,00	20,10	3.135,60
	Línea colocada bajo tubo protector de polietileno de doble pared, de 110 mm de diámetro.			

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
III010	**Ud Luminaria, de 666x170x100 mm, para 2 lámparas fluorescentes TL de 18 W, con cuerpo de poliéster reforzado con fibra de vidrio**	**4,00**	**73,77**	**295,08**
	Luminaria, de 666x170x100 mm, para 2 lámparas fluorescentes TL de 18 W, con cuerpo de poliéster reforzado con fibra de vidrio; reflector interior de chapa de acero, acabado termoesmaltado, de color blanco; difusor de metacrilato; balasto electrónico; protección IP65 y rendimiento mayor del 65%. Instalación en la superficie del techo en garaje. Incluso lámparas.			
IOA010	**Ud Luminaria de emergencia estanca, con tubo lineal fluorescente, 8 W - G5, flujo luminoso 240 lúmenes, carcasa de 405x134x134 mm,**	**2,00**	**145,17**	**290,34**
	Luminaria de emergencia estanca, con tubo lineal fluorescente, 8 W - G5, flujo luminoso 240 lúmenes, carcasa de 405x134x134 mm, clase I, IP65, con baterías de Ni-Cd de alta temperatura, autonomía de 1 h, alimentación a 230 V, tiempo de carga 24 h. Instalación en superficie en garaje. Incluso accesorios y elementos de fijación.			
IEM026	**Ud Interruptor unipolar (1P) estanco, con grado de protección IP55, monobloc, gama básica, intensidad asignada 10 AX**	**2,00**	**18,38**	**36,76**
	Interruptor unipolar (1P) estanco, con grado de protección IP55, monobloc, gama básica, intensidad asignada 10 AX, tensión asignada 250 V, con tecla simple y caja, de color gris. Instalación en superficie.			
ARQ8080100	**Ud Arqueta de conexión eléctrica 80x80x100 cm, dimensiones interiores de Hormigón Prefabricado**	**8,00**	**339,35**	**2.714,80**
	Arqueta de conexión eléctrica, prefabricada de hormigón, sin fondo, registrable, de 80x80x110 cm de medidas interiores, con paredes rebajadas para la entrada de tubos, capaz de soportar una carga de 400 kN, con marco de chapa galvanizada y tapa de hormigón armado aligerado, de 89,5x88,5 cm, para arqueta de conexión eléctrica, capaz de soportar una carga de 125 kN; previa excavación con medios manuales y posterior relleno del trasdós con material granular.			
TOMACOR2P	**Ud Toma de corriente 2P+T/16A**	**2,00**	**78,36**	**156,72**
	Suministro e instalación de toma de corriente monofasica 2P+T 16 A con toma de tierra lateral, formado por mecanismo de base de enchufe de 16 A de superficie, incluyendo p.p. de cajas de derivación estancas, elementos de sujeción y pequeño material. Totalmente montada y en funcionamiento.			
TOMACORR3P	**Ud Toma de corriente 3P+N+T/32A**	**2,00**	**111,52**	**223,04**
	Suministro e instalación de toma de corriente monofasica 3P+T 32 A con toma de tierra lateral, formado por mecanismo de base de enchufe de 16 A de superficie, incluyendo p.p. de cajas de derivación estancas, elementos de sujeción y pequeño material. Totalmente montada y en funcionamiento.			

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
ACCEININS	PA Accesorios de Instrumentación	1,00	6.469,28	6.469,28
	Conjunto de accesorios para la instrumentación y control de niveles, entradas y salidas de depósito formado por medidores de caudal, interruptores de nivel, transmisores de presión , etc, formado por los siguientes componentes: - Cinco Boyas depósito nuevo y duplicado señales + cinco boyas depósito existente - Sonda de nivel por ultrasonidos y duplicado de sonda de nivel en depósito existente - Dos detectores de flujo - Dos detectores de fugas - Presostato - Finales carrera válvulas motorizadas (cuatro válvulas, ocho finales de carrera). - Amplificadores, transductores y aislamientos galvánicos.			
CUADROmodif	Ud Modificación cuadro	1,00	2.805,10	2.805,10
	Conjunto de equipos y operaciones para añadir nueva línea a cuadro existente respetando la misma tipología y elementos de las líneas existentes, formado por: - Interruptor automático en caja moldeada, tetrapolar (4P), intensidad nominal 125 A, poder de corte 36 kA a 400 V - Relé diferencial electrónico, modelo Vigirex RH99M 56173 "SCHNEIDER ELECTRIC" - Transformador toroidal cerrado para relé diferencial, de 50 mm de diámetro útil para el paso de cables, tipo PA50, modelo 50438			
CUADROB	Ud Cuadro de bombas y gestión	1,00	16.639,69	16.639,69
	Suministro, instalación y probado de funcionamiento de cuadro de mando, control y maniobra para estación de bombeo, ubicado en caseta. Estará formado por un armario de poliéster de dimensiones 800x600x300 mm, como mínimo, para montaje mural, con puerta transparente y contrapuerta, para arranque, protección y maniobra de dos bombas (1+1) de 15 kW, con alternancia de funcionamiento, con arranque mediante arrancador electrónico, protección térmica y protección diferencial independiente, conexión al cuadro de conmutación y al sistema de alarma, y cualquier otro elemento necesario para el correcto funcionamiento de las instalaciones y equipos a maniobrar. El cuadro cumplirá con las prescripciones del Pliego Eléctrico, así como con las demás prescripciones e indicaciones de los demás documentos del proyecto.			
CUADROC	Ud Cuadro cámara de válvulas	1,00	2.140,74	2.140,74
	Suministro, instalación de cuadro para cámara de vávulas, formado por un armario de poliéster de , para montaje mural. El cuadro cumplirá con las prescripciones del Pliego Eléctrico, así como con las demás prescripciones e indicaciones de los demás documentos del proyecto.			
MIMC010	Ud Comunicación señales con planta + Integración con el SCADA existente y puesta en marcha	1,00	5.253,72	5.253,72
	Unidad de comunicación de señalas con la planta existente e integración con el SCADA existente y puesta en marcha de la instalación.			

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
LEGALELEC	**PA Legalizaciones eléctricas**	1,00	4.000,00	4.000,00
	Conjunto de trámites para la legalización de las instalaciones eléctricas incluyendo derechos de enganche a transformador de compañía, obras de conexión, dirección de las obras de enlace, proyecto de legalización en baja, tasas, visados de proyecto, certificado de instalación, certificado de OCA en caso de ser necesario y todos los trámites necesarios para la puesta en servicio de las instalaciones			
	TOTAL C07			**62.105,24**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C08	**INSTALACIÓN DE LA CLORACIÓN**			
INST_CLORACION	Ud Instrumentación de la postcloración	1,00	10.603,18	10.603,18
	Instrumentación de la postcloración, instalado y probado incluye los trabajos de la puesta a punto, con parte proporcinal de pequeño material y tornilleria incluye los siguientes equipos: - ANALIZADOR 1770/3: dos puntos de consigna configurables en el panel , salida 4-20 mA, by-pass muestra, rotámetro con señal de falta muestra, bomba periatática para la solución tampon. - BOMBA CENTRIFUGA PARA MUESTRA ANALIZADORES: Potencia 0,5 CV, monofásica, 230 V, protección IP 55, condensador y protección termoamperométrica de rearme automático. Conexión aspiración 1-1/4" y conexión impulsión 1". - BOMBA DOSIFICADORA ELECTRONICA DIGITAL PZi4: cabezal autopurgante ARPZi4ATCF 6x8 W CE EUP, entrada de pulsos 4-20 mA para realizar un control proporcional, pantalla visual, caudal 1,6 l/h a 10 bar y 150 pulsos minuto o caudal 3,6l/h a 8 bar y 300 pulsos minuto. Alimentación electrica a 240 V AC50/60 Hz. Suminitro completo con vàlvulas y cable de señal. - SOPORTES DE LAS BOMBAS - CUADRO DE CONTROL ELECTRICO: Protección sobretensiones, magnetotèrmico para la bomba de muestra, control rearme automático en caso de fallo de caudal contiempos de paro/marcha regulables, funcionamiento en manual o automático según necesidad.			
DEP_HIPO	Ud Depósito hipoclorito	1,00	1.518,92	1.518,92
	Deposito dosificador de 1000 l con cubeto, modelo natural de polietileno, de 1020 mm de diámetro y 1180 mm de altura.Incluye pp de elementos de conexión y primera carga de producto químico.			
DUCHA_SEG	Ud Ducha de seguridad	1,00	2.695,68	2.695,68
	Instalación de ducha de seguridad para lavado de proyección accidental de hipoclorito			
	TOTAL C08			**14.817,78**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C09	**CARPINTERÍA**			
IVN100	m² Reja de ventilación para pared	36,49	118,31	4.317,13
	Suministro y colocación de rejilla de ventilación en pared, construida en aluminio con mosquitera con faldón de chapa de aluminio, de varias dimensiones, incluso perfiles, anclajes y herrajes, totalmente terminada.			
E14AP03cab	ud Puerta practicable	1,00	608,49	608,49
	Suministro y montaje de puerta practicable de aluminio con marco de 40 mm de sección de 2 hojas, de aluminio lacado blanco de 60 micras, de 100x210 mm. de medidas totales. Con una transmitancia térmica de la carpintería máxima U=2,00 W/m2K). Compuesta por cerco, hojas y herrajes de deslizamiento y de seguridad. Elaborada en taller, totalmente montada y probada por la empresa instaladora mediante las correspondientes pruebas de servicio. Permeabilidad al aire según Norma UNE-EN 12207:2000-CLASE 4; Estanqueidad al agua según Norma UNE-EN 12208:2000-CLASE 9A; Resistencia al viento según Norma UNE-EN 12210:2000-CLASE C5. Instalada sobre precerco de aluminio, sellado de juntas ajuste final en obra y limpieza. Perfilería, juntas y herrajes con marcado CE y DdP (Declaración de prestaciones) según Reglamento (UE) 305/2011, norma UNE-EN 14351-1.			
	TOTAL C09			**4.925,62**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C10	**PRFV**			
PRFV01	**Ud Escalera PRFV acceso lateral a depósito**	**1,00**	**6.771,87**	**6.771,87**
	Escalera de acceso a la cubierta, construida completamente en fibra de vídrio. La estructura se compone de: -Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior con dos alturas de 2,65 m y 2,7 m. -Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso. Con barandillas laterales de protección a ambos lados de 110 cm de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 110 m de altura. Incluye formación de cimentación, soportes auxiliares de soportación y rigidización, medios de elevación, planos de taller.			
PRFV02	**Ud Escalera PRFV acceso a depósito**	**1,00**	**5.998,57**	**5.998,57**
	Escalera de acceso al interior del depósito, construida completamente en fibra de vídrio con certificado para contacto con agua potable. La estructura se compone de: -Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior. -Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso desde el primer tramo y bastidor lateral de protección de 2 m de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 1 m de altura. Incluye formación de cimentación, soportes auxiliares de soportación y rigidización, medios de elevación, planos de taller.			
PRFV04	**Ud Escalera PRFV acceso a cámara de llaves**	**1,00**	**1.942,19**	**1.942,19**
	Escalera de acceso al cuarto de bombas, construida completamente en fibra de vídrio. La estructura se compone de: -Parte vertical de 2m formada por listones verticales de 2 m de longitud y peldaños tipo pate para acceso a nivel inferior. -Escalera de 80 cm de anchura con 45º de pendiente con rellano de 1 m de anchura en la parte inicial para como plataforma de acceso. 1 tramo con barandillas laterales de protección de 110 cm de altura con rejilla de tramex. La escalera estará formada por perfiles estructurales, peldañeado de tramex y barandilla de 110 m de altura. Incluye materiales auxiliares para anclaje, medios de elevación, soportes auxiliares de soportación y rigidización, planos de taller.			
PRFV05	**Ud Barandilla de cubierta**	**1,00**	**3.067,16**	**3.067,16**
	Formación de barandilla de cubierta construida completamente con fibra de vidrio. La estructura se compone de: - Balaustres de altura 110 cm formados con perfil estructural con interdistancia 1 metro. - Pasamanos formado por perfil estructural - Travesaño intermedio de rigidización fromado por perfil estructural. - Pletina de PRFV para protección de remonte de impermeabilización. Los balaustres dispondrán placa de anclaje para su conexión mediante anclaje mecánico al peto de cubierta ejecutado. Incluido planos de taller, medios auxiliares de fijación, medios de elevación y gestión de RCD en obra.			

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
PRFV06	**Ud Tapas de registro**	1,00	1.258,54	1.258,54
	Suministro y montaje de tapa de acceso al depósito construido totalmente en PRFV. Constituido por: - Marco perimetral - Tapa grecada con perfilería estructural de refuerzo y asas para su manipulación - Perfileria intermedia de rigidización y apoyo para la tapa a disponer Incluye, medios de elevación, planos de taller.			
	TOTAL C10			**19.038,33**

PRESUPUESTO

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C11	**LINEA DE VIDA**			
LINEAVIDA	**Ud Línea de vida horizontal**	**1,00**	**12.256,57**	**12.256,57**
	Línea de vida horizontal Securope® de Fallprotec® conforme a la norma EN795C, o similar de idénticas características y marca reconocida, fabricado acorde al sistema de control de calidad certificado por el organismo notificado APAVE según directiva europea 89/689/CEE Articulo 11, para un trazado total curvo de 62.88 metros, configurada para hasta 2 usuarios con sistema compuesto por: • Soportes específicos para cubiertas, sin perforaciones. • Absorbedor de energía integrado en el propio poste Diasafe. • Altura del poste 32 cm (de la línea 42cm). • Cable de acero inoxidable de 8mm construcción 7X7 resistencia 40kN • Casquillos finales de 12mm resistencia 20kN. Inviolable (sin posible manipulación posterior) • Placa de señalización obligatoria conforme a la norma EN795C.			
	TOTAL C11			**12.256,57**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C12	**URBANIZACIÓN**			
U01RM023	**m3 Relleno con material procedente de la excavación** Suministro y formación de relleno a cielo abierto en preparación de la explanada, con material seleccionado procedente de excavación, incluyendo adecuación del material en obra (machaqueo, seleccionado, mezcla, etc.). Incluye vertido, extendido, rasanteo, humectación y compactados en tongadas de un espesor máximo de 20cm., hasta alcanzar el 98% del Próctor Modificado, barrido, limpieza.	64,44	17,56	1.131,57
ZAHZ325	**m3 Relleno con zahorras** Relleno, extendido y apisonado de zahorras a cielo abierto por medios mecánicos, en tongadas de 30 cm de espesor, hasta conseguir un grado de compactación del 95% del proctor normal, incluido regado de las mismas, refino de taludes y con parte proporcional de medios auxiliares, considerando las zahorras a pie de tajo. Según CTE-DB-SE-C. Incluso transporte en camión desde la cantera a menos de 20 km hasta la obra.	153,20	87,05	13.336,06
PAVHORMFIB	**m2 Pavimento continuo de hormigón en masa con fibras** Pavimento continuo de hormigón en masa con fibras de 18 cm de espesor, con juntas, realizado con hormigón HM-20/B/20/I fabricado en central y vertido desde camión, extendido y vibrado manual, y fibras de polipropileno; tratado superficialmente con capa de rodadura de mortero decorativo de rodadura para pavimento de hormigón, color gris, rendimiento 3 kg/m², con acabado fratasado mecánico.	725,00	85,36	61.886,00
BALIZA700	**Ud Baliza LED exteriores** Baliza circular con distribución de luz radialmente simétrica, de 150 mm de diámetro y 700 mm de altura, para led de 15 W, con cuerpo de aluminio inyectado, aluminio y acero inoxidable, vidrio con borosilicato, reflector de aluminio puro anodizado, clase de protección I, grado de protección IP65, aislamiento clase F, con placa de anclaje y pernos. Incluso lámparas, base de hormigón en masa HM-20/B/20/IIa para anclaje de la baliza, totalmente terminado.	20,00	459,26	9.185,20
ACERA050	**m2 Pavimento continuo de hormigón impreso** Pavimento continuo de hormigón impreso, con juntas, de 12 cm de espesor, realizado con hormigón HM-20/B/20/I fabricado en central y vertido desde camión, extendido y vibrado manual; acabado impreso en relieve y tratado superficialmente con mortero decorativo de rodadura para pavimento de hormigón, color blanco, rendimiento 4,5 kg/m²; desmoldeante en polvo, color burdeos y capa de sellado final con resina impermeabilizante.	50,00	73,83	3.691,50
	TOTAL C12			**89.230,33**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C13	**REPOSICIONES**			
E01DSB102	**Muro de mampostería con material reutilizado**	15,75	254,48	4.008,06
	Reconstrucción de muro de mampostería con material reutilizado del muro previamente desmontado, según capítulo 2 del presente presupuesto.			
U02HC011	m³ **Hormigón HM-15/B/20 en limpiezas, rellenos y protecciones**	10,60	263,80	2.796,28
	Suministro y colocación de hormigón no estructural en limpieza en capa de 10 cm de espesor, rellenos y protección de elementos. Incluye elaboración con dosificación de cemento 150Kg/m3 y tamaño máximo de árido 20 mm., suministro y transporte a pie de obra, replanteo, vertido, extendido, nivelado y curado, barrido, limpieza.			
	TOTAL C13			**6.804,34**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C14	**GESTIÓN DE RESIDUOS**			
GESRES1	**RCD NIVEL I - TIERRAS Y PÉTREOS DE EXCAVACIÓN**			
14.1	m³ CARGA Y TRANSPORTE Transporte con camión de los productos procedentes de la construcción o demolición a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, kilometraje ilimitado, considerando el tiempo de espera para la carga a máquina en obra, ida, descarga y vuelta.	3.122,13	10,38	32.407,71
	TOTAL GESRES1			**32.407,71**
GESRES2	**RCD NIVEL II - NO PÉTREA**			
14.1	m³ CARGA Y TRANSPORTE Transporte con camión de los productos procedentes de la construcción o demolición a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, kilometraje ilimitado, considerando el tiempo de espera para la carga a máquina en obra, ida, descarga y vuelta.	17,20	10,38	178,54
14.3	m³ DESPIECE DE RESIDUOS PLÁSTICOS VOLUMINOSOS Y OTROS RESIDUOS Despiece manual de residuos de plástico voluminosos y otros residuos que deban ser tratados de forma previa a su carga y transporte a gestor autorizado	17,20	95,76	1.647,07
	TOTAL GESRES2			**1.825,61**
GESRES3	**RCD NIVEL II - PÉTREA**			
14.1	m³ CARGA Y TRANSPORTE Transporte con camión de los productos procedentes de la construcción o demolición a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, kilometraje ilimitado, considerando el tiempo de espera para la carga a máquina en obra, ida, descarga y vuelta.	17,89	10,38	185,70
	TOTAL GESRES3			**185,70**
GESRES4	**RCD NIVEL II - POTENCIALMENTE PELIGROSOS**			
14.7	Ud BIDON 200L RESIDUOS PELIGROSOS TIERRAS Suministro y ubicación en obra de bidón de 200 litros de capacidad para residuos peligrosos procedentes de la construcción o demolición, apto para almacenar tierras y piedras que contienen sustancias peligrosas. Incluso marcado del recipiente con la etiqueta correspondiente.	3,00	166,92	500,76

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
14.8	**Ud BIDÓN 200L RESIDUOS PELIGROSOS ENVASES**	3,00	166,92	500,76
	Suministro y ubicación en obra de bidón de 200 litros de capacidad para residuos peligrosos procedentes de la construcción o demolición, apto para almacenar envases que contienen restos de sustancias peligrosas o están contaminados por ellas. Incluso marcado del recipiente con la etiqueta correspondiente.			
14.9	**Ud CARGA Y TRANSPORTE BIDÓN 200L RESIDUOS PELIGROSOS**	6,00	110,13	660,78
	Transporte de bidón de 200 litros de capacidad con residuos peligrosos procedentes de la construcción o demolición, a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos, considerando la carga y descarga de los bidones. Incluye: Carga de bidones. Transporte de bidones a vertedero específico, instalación de tratamiento de residuos de construcción y demolición externa a la obra o centro de valorización o eliminación de residuos. Descarga de bidones.			
14.10	**Ud COSTE DE VERTIDO DE BIDON 200 L DE RESIDUOS PELIGROSOS**	6,00	150,00	900,00
	Canon de vertido por entrega a gestor autorizado de residuos peligrosos, de bidón de 200 litros de capacidad con residuos que contienen sustancias peligrosas o están contaminados por ellas procedentes de la construcción o demolición. Sin incluir del transporte.			
	TOTAL GESRES4			**2.562,30**
	TOTAL C14			**36.981,32**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C15	**SEGURIDAD Y SALUD**			
SYSPRES	Ud Seguridad y salud	1,00	24.429,32	24.429,32
	Conjunto de medidas de seguridad y salud en el trabajo durante la ejecución de las obras, según estudio de seguridad y salud y plan de seguridad y salud aprobado, incluso sus eventuales modificaciones.			
	TOTAL C15			**24.429,32**

CÓDIGO	RESUMEN	CANTIDAD	PRECIO	IMPORTE
C16	**PUESTA EN SERVICIO DEPÓSITO**			
SAN1402003	PA Puesta en servicio, limpieza y desinfección depósito	1,00	3.500,00	3.500,00
	Partida alzada para la limpieza, desinfección y puesta en servicio de las instalaciones. Los trabajos comprenderán: Limpieza y Desinfección (según estos métodos): - Método por lavado (enjuagado) con agua potable sin adición de desinfectante, con o sin inyección de aire - Método Estático utilizando agua potable con adición de desinfectante. - Método Dinámico utilizando agua potable con adición de desinfectante Para la elección del desinfectante se deberán respetar las directivas de la UE y reglamentos AELC, asi como, las reglamentaciones nacionales y locales. En todo caso se tendrán en cuenta la vida útil del producto, facilidad de utilización, tiempo de contacto necesario con los elementos a limpiar y desinfectar, y aspectos cualitativos del agua potable, pH, si se opta por la utilización de Hipoclorito de Calcio, se tendrá en cuanta la dureza del agua. El procedimiento tendrá que ser aprobado por el director de obra. Se consideran incluidos todos los trabajos necesarios para la puesta en servicio de las instalaciones.			
	TOTAL C16			**3.500,00**
	TOTAL			**1.629.883,93**

RESUMEN DEL PRESUPUESTO

RESUMEN PRESUPUESTO GENERAL DE OBRA

C01	MOVIMIENTO DE TIERRAS	7,73%	125.975,20 €
C02	DEMOLICIONES Y APEOS	0,50%	8.194,54 €
C03	CIMENTACIONES Y CONTENCIONES	26,01%	423.937,33 €
C04	ESTRUCTURAS DE HORMIGÓN	28,80%	469.366,11 €
C05	CUBIERTA	3,56%	57.957,02 €
C06	INSTALACIÓN HIDRÁULICA	16,59%	270.364,88 €
C07	INSTALACIÓN ELÉCTRICA Y DE CONTROL	3,81%	62.105,24 €
C08	INSTALACIÓN DE LA CLORACIÓN	0,91%	14.817,78 €
C09	CARPINTERÍA	0,30%	4.925,62 €
C10	PRFV	1,17%	19.038,33 €
C11	LÍNEA DE VIDA	0,75%	12.256,57 €
C12	URBANIZACIÓN	5,47%	89.230,33 €
C13	REPOSICIONES	0,42%	6.804,34 €
C14	GESTIÓN DE RESIDUOS	2,27%	36.981,32 €
C15	SEGURIDAD Y SALUD	1,50%	24.429,32 €
C16	PUESTA EN SERVICIO DEPÓSITO	0,21%	3.500,00 €

PRESUPUESTO DE EJECUCIÓN MATERIAL			**1.629.883,93 €**
GASTOS GENERALES		13,00%	211.884,91
BENEFICIO INDUSTRIAL		6,00%	97.793,04
	Suma		**309.677,95 €**
PRESUPUESTO DE CONTRATA			**1.939.561,88 €**
	IVA	21,00%	407.307,99
PRESUPUESTO BASE DE LICITACIÓN CON IVA			**2.346.869,87 €**

El equipo redactor:

Madrid, en la fecha de la firma electrónica.

Redactor de proyecto: Juan Carlos Arroyo Portero ICCP	**Redactor adjunto:** Jesús Jiménez Cañas ICCP

Firmado por ***2877** JUAN CARLOS ARROYO (R: ****2467*) el día 26/07/2023 con un certificado emitido por AC Representación