
**STRUCTURAL ANALYSIS REPORT FOR
RESIDENTIAL (SINGLE APARTMENT) BUILDING
BAUNHØJVEJ 4 6840 OKSBØL, DENMARK, EUROPE**

16 JUN 2023

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1 DESIGN CRITERIA:

1.1 DESIGN CODES & REFERENCES

- DS/EN 1991-1-1 DK NA:2013 - Part 1-1: General actions – Densities, self-weight, imposed loads for buildings
- DS/EN 1991-1-3 DK NA: 2015 Version 2 - General actions - Snow loads
- DS/EN 1991-1-4 DK NA: 2015 General actions - Wind actions
- DS/EN 1993-1-3 DK NA:2019 Part 1-3: General rules – Supplementary rules for cold-formed members and sheeting
- The Danish Building Regulation Standards

Calculation performed by SCIA Engineer software

1.2 CODE CRITERIA

Category of building (EN 1991-1-1):	A
Basic wind velocity (V_b):	32 m/s
Terrain category for wind:	II
Snow Load (according to initial data):	1.6 kPa
Partial reliability coefficient for permanent effects	$\gamma_{Gj,sup} = 1.35$
Partial reliability coefficient for variable effects	$\gamma_Q = 1.5$

1.3 MATERIALS

Cold-Formed Steel Grade S350GD+z

Steel EC3

Name	ρ [kg/m ³]	E_{mod} [MPa]	μ α [m/mK]	Lower limit [mm]	Upper limit [mm]	F_y [MPa]	F_u [MPa]	Colour
S350GD+Z	7850.0	2.1000e+05 8.0769e+04	0.3 0.00	0.0	100.0	350.0	420.0	■

1.4 STRUCTURAL LOADS

DEAD LOADS

Wall Dead Loads

Load bearing wall - SND - 01

Materials	Thick., mm	Load, kPa	
1. FINISH (Wood paneling, profiled tin) EXTERIOR SIDE	25	0.2	Load on the outer side of the column
2. Ventilated air gap / Grapples	30	0.023	
3. Ventilated air gap / Longitudinal battens	50	0.039	
4."Sandwich" panel with polyisocyanurate (PIR) filler	200	0.2	
5. LGS framing column (~50/400 mm)/ Sprayable closed cell polyurethane foam (~50 mm)	50	0.05	
6. LGS framing column (~350/400 mm) / Air gap - Technical niche for engineering communications (~350 mm)	350	LGS framing self weight	
7. Gypsum board 12.5 mm - 2 layers + Finish INTERIOR SIDE	25	0.25	Load on the inner side of the column
	730	0.762	Sum

Load bearing wall - SND - 01'

Materials	Thick., mm	Load, kPa	
1. FINISH (Wood paneling, profiled tin) EXTERIOR SIDE	25	0.2	Load on the outer side of the column
2. Ventilated air gap / Grapples	30	0.023	
3. Ventilated air gap / Longitudinal battens	50	0.039	
4."Sandwich" panel with polyisocyanurate (PIR) filler	200	0.2	
5. LGS framing column (~400 mm)	400	LGS framing self weight	
6. Ventilated air gap / Grapples	30	0.023	Load on the inner side of the column
7. FINISH (Wood paneling, profiled tin) EXTERIOR SIDE	25	0.2	
	760	0.686	Sum

Load bearing wall - SND - 02

Materials	Thick., mm	Load, kPa	
1. FINISH (Wood paneling, profiled tin) EXTERIOR SIDE	25	0.2	Load on the outer side of the column
2. Ventilated air gap / Grapples	30	0.023	
3. Ventilated air gap / Longitudinal battens	30	0.023	
4."Sandwich" panel with polyisocyanurate (PIR) filler	200	0.2	
5. LGS framing column (~50/100 mm)/ Sprayable closed cell polyurethane foam (~50 mm)	50	0.05	
6. LGS framing column (~50/100 mm) / Air gap - Technical niche for engineering communications (~50 mm)	50	LGS framing self weight	Load on the inner side of the column
7. Gypsum board 12.5 mm - 2 layers + Finish INTERIOR SIDE	25	0.25	
	410	0.7468	Sum

Load bearing wall - SND - 02'

Materials	Thick., mm	Load, kPa	
1. FINISH (Wood paneling, profiled tin) EXTERIOR SIDE	25	0.2	Load on the outer side of the wall
2. Ventilated air gap / Grapples	30	0.023	
3. Ventilated air gap / Longitudinal battens	30	0.023	
4."Sandwich" panel with polyisocyanurate (PIR) filler	200	0.2	
5. LGS framing column (~50/100 mm)/ Sprayable closed cell polyurethane foam (~50 mm)	50	0.05	
6. LGS framing column (~50/100 mm) / Air gap - Technical niche for engineering communications (~50 mm)	50	LGS framing self weight	
7. LGS framing column (100 mm) / Air gap - Technical niche for engineering communications (~100 mm)	100	LGS framing self weight	Load on the inner side of the wall
8. Gypsum board 12.5 mm - 2 layers + Finish INTERIOR SIDE	25	0.3	
	510	0.7968	Sum

Load non-bearing wall - SND - 03

Materials	Thick., mm	Load, kPa
1. Gypsum board 12.5 mm - 2 layers + Finish INTERIOR SIDE	25	0.25
2. LGS framing (100 mm) / Mineral (rock) wool "PAROC" eXtra/eXtra plus (100 mm)	100	0.06
3. Gypsum board 12.5 mm - 2 layers + Finish INTERIOR SIDE	25	0.25
Sum	150	0.56

Floor Dead Loads**Mezzanine floor - PrD - 01**

Materials	Thick., mm	Load, kPa	
1. Floor finish (parquet, carpet, etc.)	10	0.12	Load on the top of the floor truss
2. Intermediate layer	10	-	
3. Gypsum fiber board ("GYPROC" Lapikas GL15, 2 layers 15.5 mm) (15.40 kg/m ²)	31	0.31	
4. Heating system tubes (Ø17) / Heat transfer plate / Uponor Calma 17 corrugated plate	24	-	
5. Mineral wool panels "ISOVER" FLO (impact sound insulation) (85 kg/m ³)	20	0.017	
6. Oriented strand board (OSB) panel 25 mm	25	0.192	
7. LGS framing truss (100/250 mm) / Air gap - Technical niche for engineering communications (100 mm)	100	LGS framing self weight	
8. LGS framing truss (150/250 mm) / Mineral (rock) wool "PAROC" eXtra/eXtra plus (40 kg/m ³)	150	0.06	
9. Separating layer (dust protection) - polyethylene film	0	-	Load on the bottom of the floor truss
10. Air gap / Omega profile frame for gypsum board	15	0.03	
11. Gypsum board 12.5 mm - 2 layers + Finish	25	0.3	
	410	1.027	Sum

Roof Dead Loads

Roof - StD - 01

Materials	Thick., mm	Load, kPa	
1. Roof covering (tiles, profiled tin) EXTERIOR SIDE	20	0.2	Load on the top of the roof truss
2. Ventilated air gap / Grapples	50	0.039	
3. Ventilated air gap / Longitudinal battens	30	0.023	
4. "Sandwich" panel with polyisocyanurate (PIR) filler	200	0.2	
5. LGS framing truss (~100/400 mm)/ Sprayable closed cell polyurethane foam (~100 mm)	100	0.1	
6. LGS framing truss (~300/400 mm) / Air gap - Technical niche for engineering communications (~200 mm)	300	LGS framing self weight	
7. Gypsum board 12.5 mm - 2 layers + Finish INTERIOR SIDE	25	0.3	Load on the bottom of the roof truss
	725	0.8624	Sum
Photovoltaic solar collectors		0.2	

Roof - StD - 01'

1. Roof covering (tiles, profiled tin) EXTERIOR SIDE	20	0.2	Load on the top of the roof truss
2. Ventilated air gap / Grapples	50	0.039	
3. Ventilated air gap / Longitudinal battens	30	0.023	
4. "Sandwich" panel with polyisocyanurate (PIR) filler	200	0.2	
5. LGS framing truss (~400 mm)	400	LGS framing self weight	
6. Ventilated air gap / Grapples	50	0.039	Load on the bottom of the roof truss
7. Roof covering (tiles, profiled tin) EXTERIOR SIDE	20	0.2	
	770	0.701	Sum
Photovoltaic solar collectors		0.2	

1.5 LIVE LOAD

Roof Live Load	0.4 kPa
Floor live load (imposed load)	1.50 kPa
Floor live load (from partial walls)	0.50 kPa
Stairs live load	2.5 kN/m²

Load combinations according LST EN 1990:2002:

$\gamma_G = 1.35$ (for *permanent* action)

$\gamma_Q = 1.5$ (for *variable* action)

G – dead load

Q1 – live load

Q2 – snow load

Q3 – wind load

1) $1,35 \cdot G + 1,5 \cdot Q1 + 0,7 \cdot 1,5 \cdot Q2 + 0,6 \cdot 1,5 \cdot Q3;$

2) $1,35 \cdot G + 1,5 \cdot Q2 + 0,7 \cdot 1,5 \cdot Q1 + 0,6 \cdot 1,5 \cdot Q3;$

3) $1,35 \cdot G + 1,5 \cdot Q3 + 0,7 \cdot 1,5 \cdot Q1 + 0,7 \cdot 1,5 \cdot Q2;$

4) $1,0 \cdot G + 1,5 \cdot Q1 + 0,7 \cdot 1,5 \cdot Q2 + 0,6 \cdot 1,5 \cdot Q3;$

5) $1,0 \cdot G + 1,5 \cdot Q2 + 0,7 \cdot 1,5 \cdot Q1 + 0,6 \cdot 1,5 \cdot Q3;$

6) $1,0 \cdot G + 1,5 \cdot Q3 + 0,7 \cdot 1,5 \cdot Q1 + 0,7 \cdot 1,5 \cdot Q2;$

7) $G + Q1 + 0,7 \cdot Q2 + 0,6 \cdot Q3;$

8) $G + Q2 + 0,7 \cdot Q1 + 0,6 \cdot Q3;$

9) $G + Q3 + 0,7 \cdot Q1 + 0,7 \cdot Q2;$

10) $G + 0,7 \cdot Q1 + 0,2 \cdot Q2 + 0 \cdot Q3;$

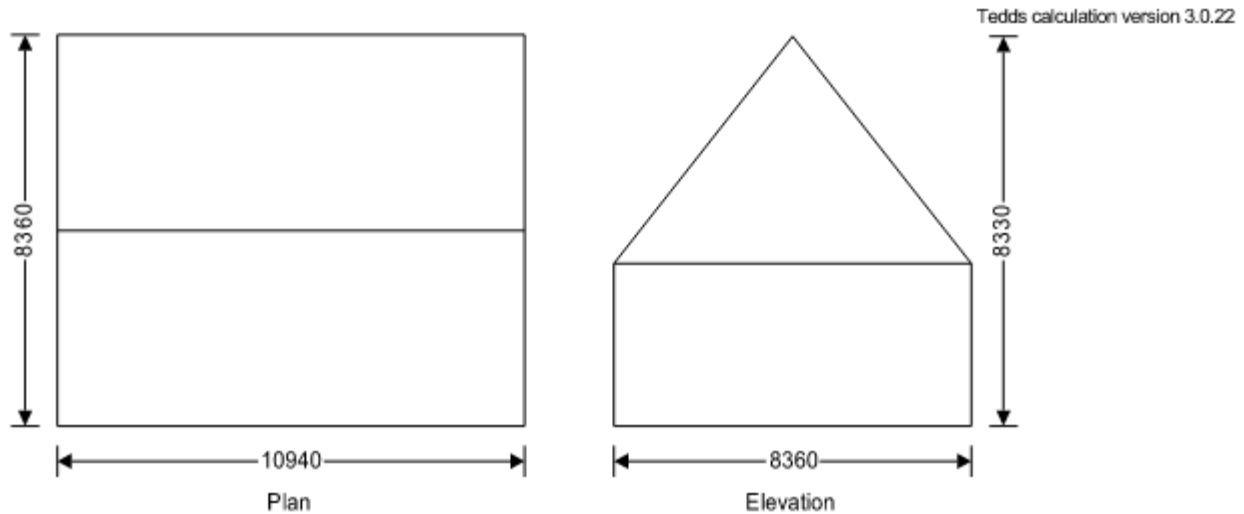
11) $G + 0,5 \cdot Q2 + 0,6 \cdot Q1 + 0 \cdot Q3;$

12) $G + 0,2 \cdot Q3 + 0,6 \cdot Q1 + 0,2 \cdot Q2;$

13) $G + 0,6 \cdot Q1 + 0,2 \cdot Q2 + 0 \cdot Q3;$

WIND LOADS

In accordance with EN1991-1-3:2005+A1:2010 and the recommended values



Building data

Type of roof	Duopitch
Length of building	L = 10940 mm
Width of building	W = 8360 mm
Height to eaves	H = 3470 mm
Pitch of roof	$\alpha_0 = 49.3$ deg
Total height	h = 8330 mm

Basic values

Fundamental basic wind velocity	$v_{b,0} = 32.0$ m/s
Season factor	$C_{season} = 1.00$
Direction factor	$C_{dir} = 1.00$
Shape parameter K	K = 0.2
Exponent n	n = 0.5
Air density	$\rho = 1.250$ kg/m ³
Probability factor	$C_{prob} = [(1 - K * \ln(-\ln(1-p)))/(1 - K * \ln(-\ln(0.98)))]^n = 1.00$
Basic wind velocity (Exp. 4.1)	$v_b = C_{dir} * C_{season} * v_{b,0} * C_{prob} = 32.0$ m/s
Reference mean velocity pressure	$q_b = 0.5 * \rho * v_b^2 = 0.640$ kN/m ²

Orography

Orography factor not significant	$C_o = 1.0$
Terrain category	II
Displacement height (sheltering effect excluded)	$h_{dis} = 0$ mm

The velocity pressure for the windward face of the building with a 0 degree wind is to be considered as 1 part as the height h is less than b (cl.7.2.2)

The velocity pressure for the windward face of the building with a 90 degree wind is to be considered as 1 part as the height h is less than b (cl.7.2.2)

Peak velocity pressure - windward wall - Wind 0 deg and roof

Reference height (at which q is sought)	$z = 3470\text{mm}$
Displacement height (sheltering effects excluded)	$h_{dis} = 0\text{ mm}$
Roughness length (Table 4.1)	$z_0 = 50\text{ mm}$
Roughness length (Category II)	$z_{0,II} = 50\text{ mm}$
Minimum height (Table 4.1)	$z_{min} = 2000\text{ mm}$
Maximum height	$z_{max} = 200000\text{ mm}$
Terrain factor	$k_r = 0.19 * (z_0 / z_{0,II})^{0.07} = 0.190$
Roughness factor	$c_r = k_r * \ln(z / z_0) = 0.81$
Mean wind	$v_m = c_r * c_o * v_b = 25.8\text{ m/s}$
Turbulence factor	$k_t = 1.0$
Turbulence intensity	$I_v = k_t / (c_o * \ln(z / z_0)) = 0.236$
Peak velocity pressure	$q_p = (1 + 7 * I_v) * 0.5 * \rho * v_m^2 = 1.10\text{ kN/m}^2$

Structural factor

Structural factor	$C_{sCd} = 1.000$
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Peak velocity pressure - windward wall - Wind 90 deg and roof

Reference height (at which q is sought)	$z = 8330\text{mm}$
Displacement height (sheltering effects excluded)	$h_{dis} = 0\text{ mm}$
Terrain factor	$k_r = 0.19 * (z_0 / z_{0,II})^{0.07} = 0.190$
Roughness factor	$c_r = k_r * \ln(z / z_0) = 0.97$
Mean wind	$v_m = c_r * c_o * v_b = 31.1\text{ m/s}$
Turbulence factor	$k_t = 1.0$
Turbulence intensity	$I_v = k_t / (c_o * \ln(z / z_0)) = 0.195$
Peak velocity pressure	$q_p = (1 + 7 * I_v) * 0.5 * \rho * v_m^2 = 1.43\text{ kN/m}^2$

Peak velocity pressure for internal pressure

Peak velocity pressure – internal (as roof press.)	$q_{p,i} = 1.43\text{ kN/m}^2$
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Pressures and forces

Net pressure	$p = C_{sCd} * q_p * C_{pe} - q_{p,i} * C_{pi}$
Net force	$F_w = p_w * A_{ref}$

Roof load case 1 - Wind 0, c_{pi} 0.20, $-c_{pe}$

Zone	Ext pressure coefficient C_{pe}	Peak velocity pressure q_p , (kN/m ²)	Net pressure p (kN/m ²)	Area A_{ref} (m ²)	Net force F_w (kN)
F (-ve)	0.20	1.43	0.00	9.18	0.01
G (-ve)	0.20	1.43	0.00	9.18	0.01
H (-ve)	0.20	1.43	0.00	51.77	0.05
I (-ve)	-0.20	1.43	-0.57	51.77	-29.65
J (-ve)	-0.30	1.43	-0.72	18.35	-13.14

Total vertical net force $F_{w,v} = -27.86$ kN

Total horizontal net force $F_{w,h} = 32.49$ kN

Walls load case 1 - Wind 0, c_{pi} 0.20, $-c_{pe}$

Zone	Ext pressure coefficient C_{pe}	Peak velocity pressure q_p , (kN/m ²)	Net pressure p (kN/m ²)	Area A_{ref} (m ²)	Net force F_w (kN)
A	-1.20	1.43	-2.00	10.38	-20.80
B	-0.80	1.43	-1.43	38.95	-55.77
D	0.80	1.10	0.59	37.96	22.55
E	-0.50	1.10	-0.84	37.96	-31.73

Overall loading

Equiv leeward net force for overall section $F_l = F_{w,wE} = -31.7$ kN

Net windward force for overall section $F_w = F_{w,wD} = 22.5$ kN

Lack of correlation (cl.7.2.2(3) – Note) $f_{corr} = 0.85$ as h/W is 0.996

Overall loading overall section $F_{w,D} = f_{corr} * (F_w - F_l) + F_{w,h} = 78.6$ kN

Roof load case 2 - Wind 0, c_{pi} -0.3, $+c_{pe}$

Zone	Ext pressure coefficient C_{pe}	Peak velocity pressure q_p , (kN/m ²)	Net pressure p (kN/m ²)	Area A_{ref} (m ²)	Net force F_w (kN)
F (+ve)	0.70	1.43	1.43	9.18	13.14
G (+ve)	0.70	1.43	1.43	9.18	13.14
H (+ve)	0.63	1.43	1.33	51.77	68.85
I (+ve)	-0.06	1.43	0.35	51.77	17.99
J (+ve)	-0.09	1.43	0.31	18.35	5.62

Total vertical net force $F_{w,v} = 77.43$ kN

Total horizontal net force $F_{w,h} = 54.22$ kN

Walls load case 2 - Wind 0, c_{pi} -0.3, $+c_{pe}$

Zone	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p , (kN/m ²)	Net pressure p (kN/m ²)	Area A_{ref} (m ²)	Net force F_w (kN)
A	-1.20	1.43	-1.29	10.38	-13.37
B	-0.80	1.43	-0.72	38.95	-27.89
D	0.80	1.10	1.31	37.96	49.73
E	-0.50	1.10	-0.12	37.96	-4.55

Overall loading

Equiv leeward net force for overall section

$$F_l = F_{w,WE} = -4.6 \text{ kN}$$

Net windward force for overall section

$$F_w = F_{w,WD} = 49.7 \text{ kN}$$

Lack of correlation (cl.7.2.2(3) – Note)

$$f_{corr} = 0.85 \text{ as } h/W \text{ is } 0.996$$

Overall loading overall section

$$F_{w,D} = f_{corr} * (F_w - F_l) + F_{w,h} = 100.4 \text{ kN}$$

Roof load case 3 - Wind 90, c_{pi} 0.20, $-c_{pe}$

Zone	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p , (kN/m ²)	Net pressure p (kN/m ²)	Area A_{ref} (m ²)	Net force F_w (kN)
F (-ve)	-0.47	1.43	-0.96	5.36	-5.14
G (-ve)	-1.34	1.43	-2.21	5.36	-11.84
H (-ve)	-0.87	1.43	-1.53	42.87	-65.77
I (-ve)	-0.50	1.43	-1.00	86.66	-86.87

Total vertical net force

$$F_{w,v} = -110.60 \text{ kN}$$

Total horizontal net force

$$F_{w,h} = 0.00 \text{ kN}$$

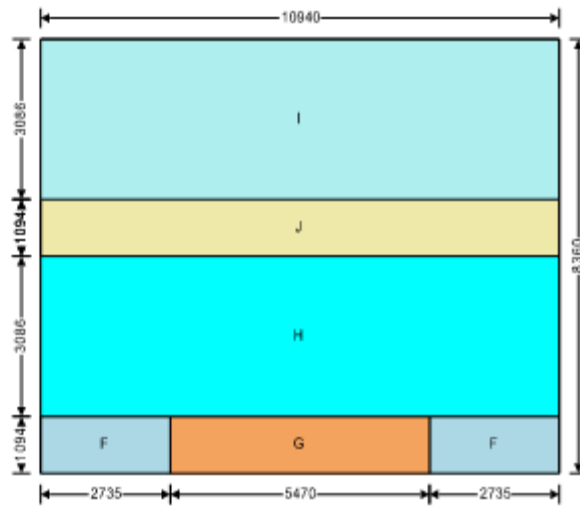
Walls load case 3 - Wind 90, c_{pi} 0.20, $-c_{pe}$

Zone	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p , (kN/m ²)	Net pressure p (kN/m ²)	Area A_{ref} (m ²)	Net force F_w (kN)
A	-1.20	1.10	-1.61	5.80	-9.33
B	-0.80	1.10	-1.17	23.21	-27.09
C	-0.50	1.10	-0.84	8.95	-7.49
D	0.77	1.43	0.81	49.32	40.13
E	-0.44	1.43	-0.91	49.32	-44.95

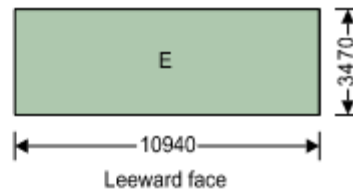
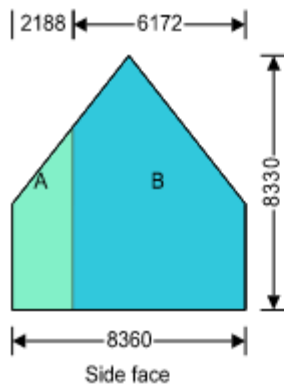
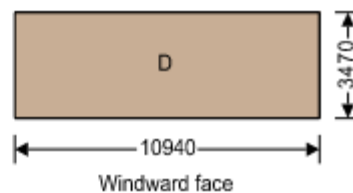
Overall loading

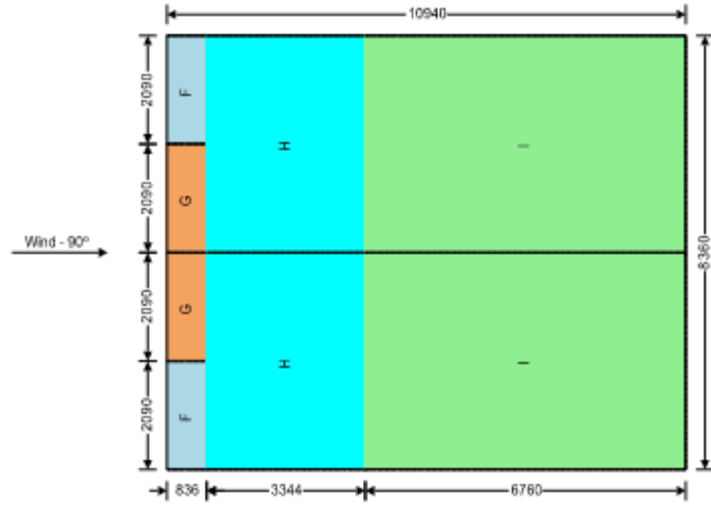
Equiv leeward net force for overall section
 Net windward force for overall section
 Lack of correlation (cl.7.2.2(3) – Note)
 Overall loading overall section

$F_i = F_{w,wE} = -44.9 \text{ kN}$
 $F_w = F_{w,wD} = 40.1 \text{ kN}$
 $f_{corr} = 0.85$ as h/L is 0.761
 $F_{w,D} = f_{corr} * (F_w - F_i) + F_{w,h} = 72.3 \text{ kN}$

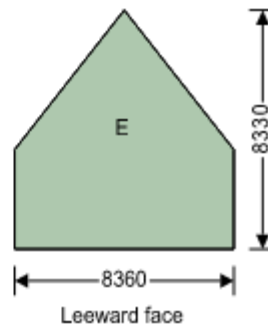
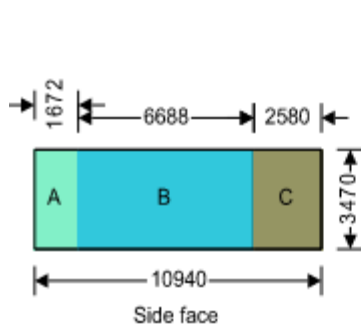
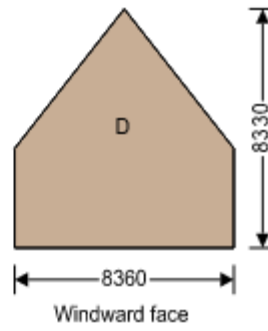


Wind - 0°
 Plan view - Duopitch roof

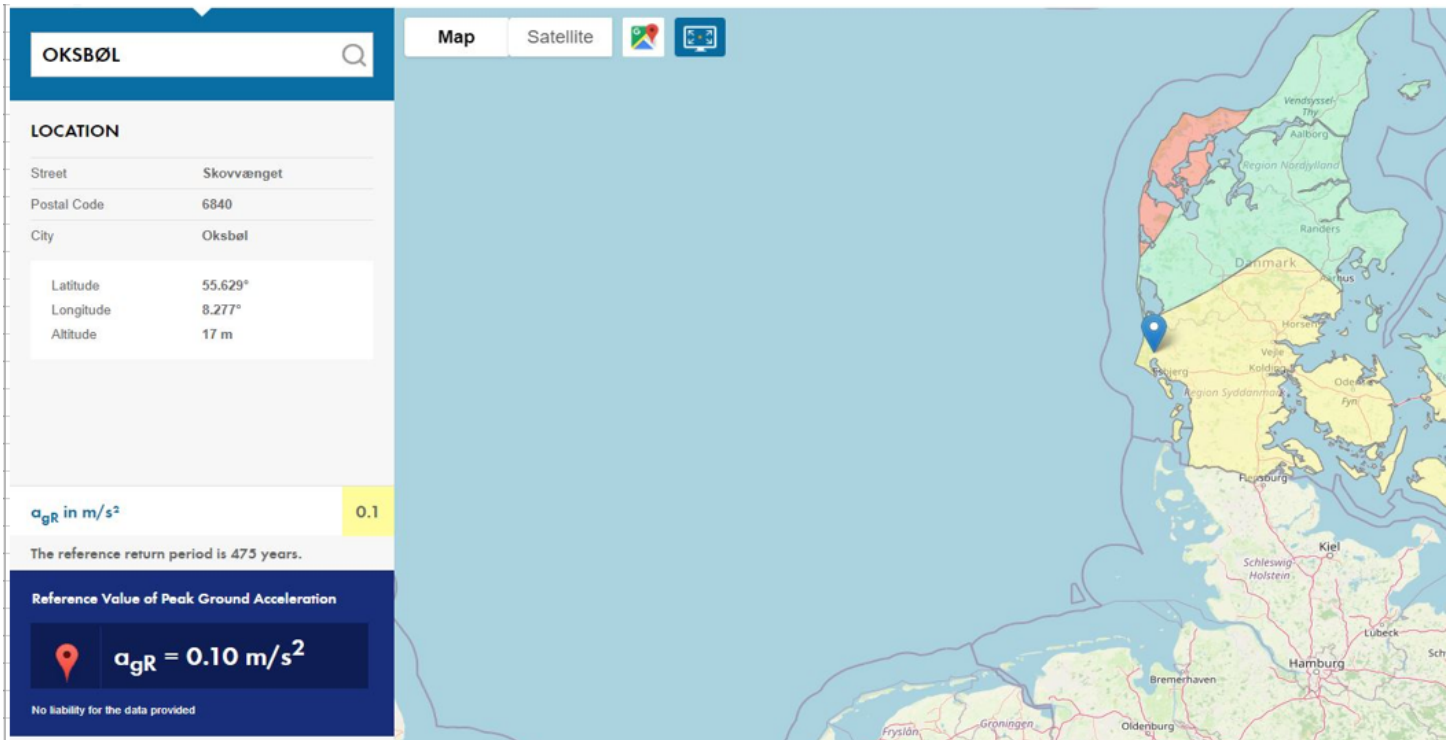




Plan view - Duopitch roof



SEISMIC LOADS



Earthquake zone - 0.1 m/s²

2. STRUCTURAL ANALYSIS

2.1 BUILDING DESCRIPTION

The structure of the residential building is 8360 mm wide and 10360 mm long. It consists of truss frames 400 mm wide. Frame spacing is 600 mm.

All steel members are the cold-formed C section 100 x 50 x 15 x 1.2 mm. Foundation - flat slab foundation.

The design of the structure is based on the requirements of the DS/EN 1993-1-3 DK NA:2019 Part 1-3 and reference codes.

The analytical model is presented as a spatial model.

Structural analysis is done in SCIA Engineer 20.0 software. This software allows automatic determination of the load combination that causes highest forces in structural members for further analysis and cross section selection. Governing load cases are shown in the sections "CHECKING STEEL ELEMENTS".

To determine the design forces from dynamic loads (earthquake), two types of calculations are used: Modal Mode and Response Spectrum Method

Modal Mode:

This approach allows the modal analysis of the structure, setting the first n values and eigenvectors of the structure.

The available analysis methods: subspace iteration, Lanczos method and the basis reduction method. Iterations will be completed if the following condition is met: where:

$$\frac{|\omega_i^k - \omega_i^{k-1}|}{|\omega_i^k|} < tolerance$$

$i = 1, 2, \dots, n$ vibration modes, k - number of iterations.

Upper limit is the period value (pulsation, frequency), which describes that in the range, (0, upper limit) the following values and eigenvectors will be set. Sturm check, which allows finding the skipped pulsations, is possible.

Response Spectrum Method:

Seismic analysis is based on the response spectrum method. All data is defined the same way as in modal analysis. Additionally, parameters required by a specific national code to establish the response spectrum shape must be specified. Calculations and results are the same as those for spectral analysis.

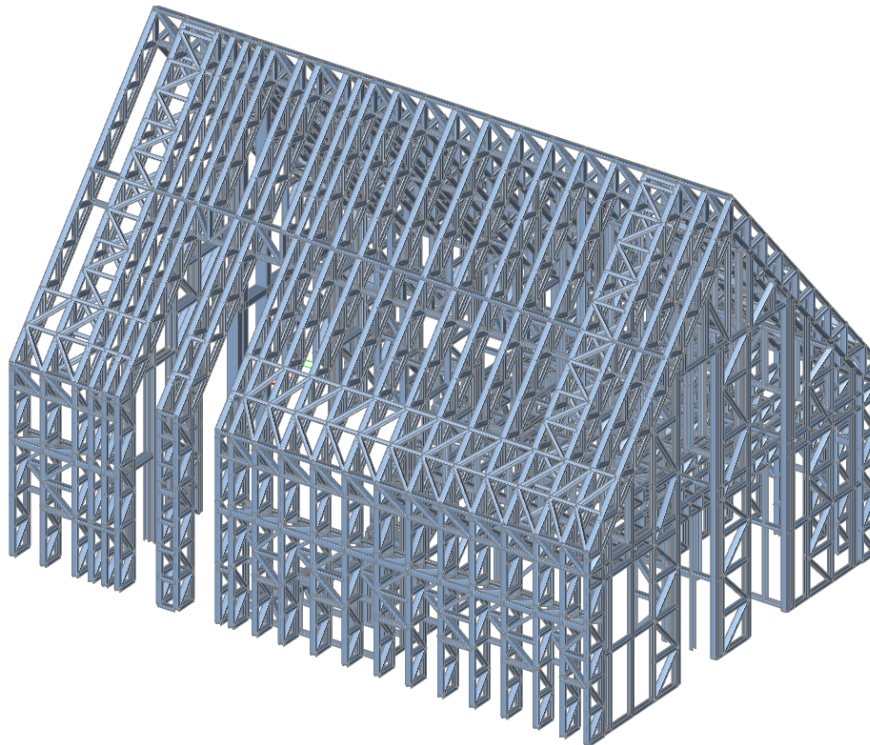
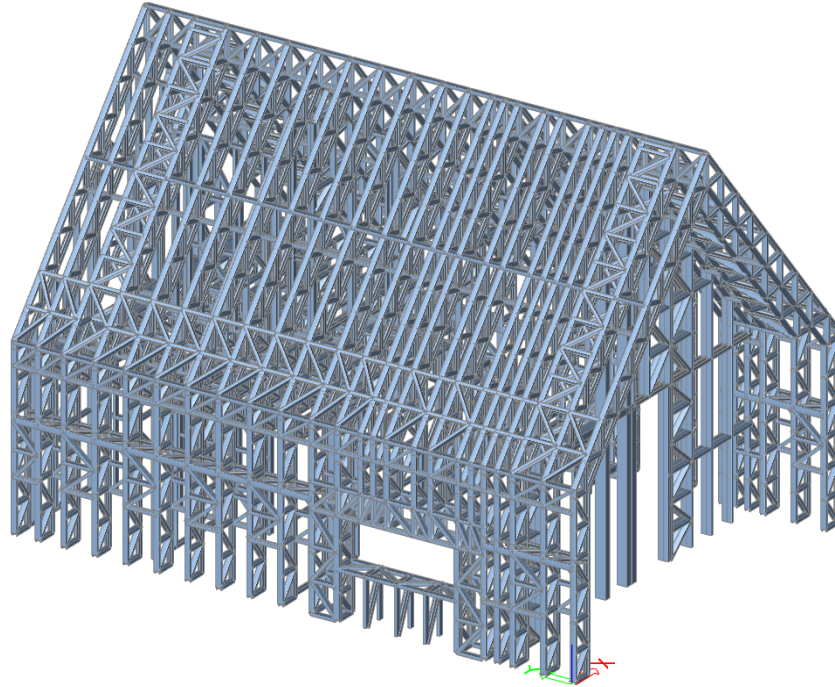
In addition to results obtained from modal analysis, for each eigenform the seismic analysis provides the following values:

- Seismic excitation multiplier (value of the accelerating excitation spectrum).
- Seismic participation factors calculated as those for the modal analysis. However, vector D describing excitation direction is user defined. Coefficients are specified for each dynamic degree of freedom according to the method selected in Job Preferences. (Maximum or Distinct).
- Seismic mode coefficients as a product of the seismic excitation factor and the respective seismic participation factor for each dynamic degree of freedom.
- Displacements, internal forces and reactions for each form of vibration or quadratic combination calculated with the SRSS or CQC method.
- Pseudostatic forces, which are the external loads generated according to the seismic analysis assumptions.

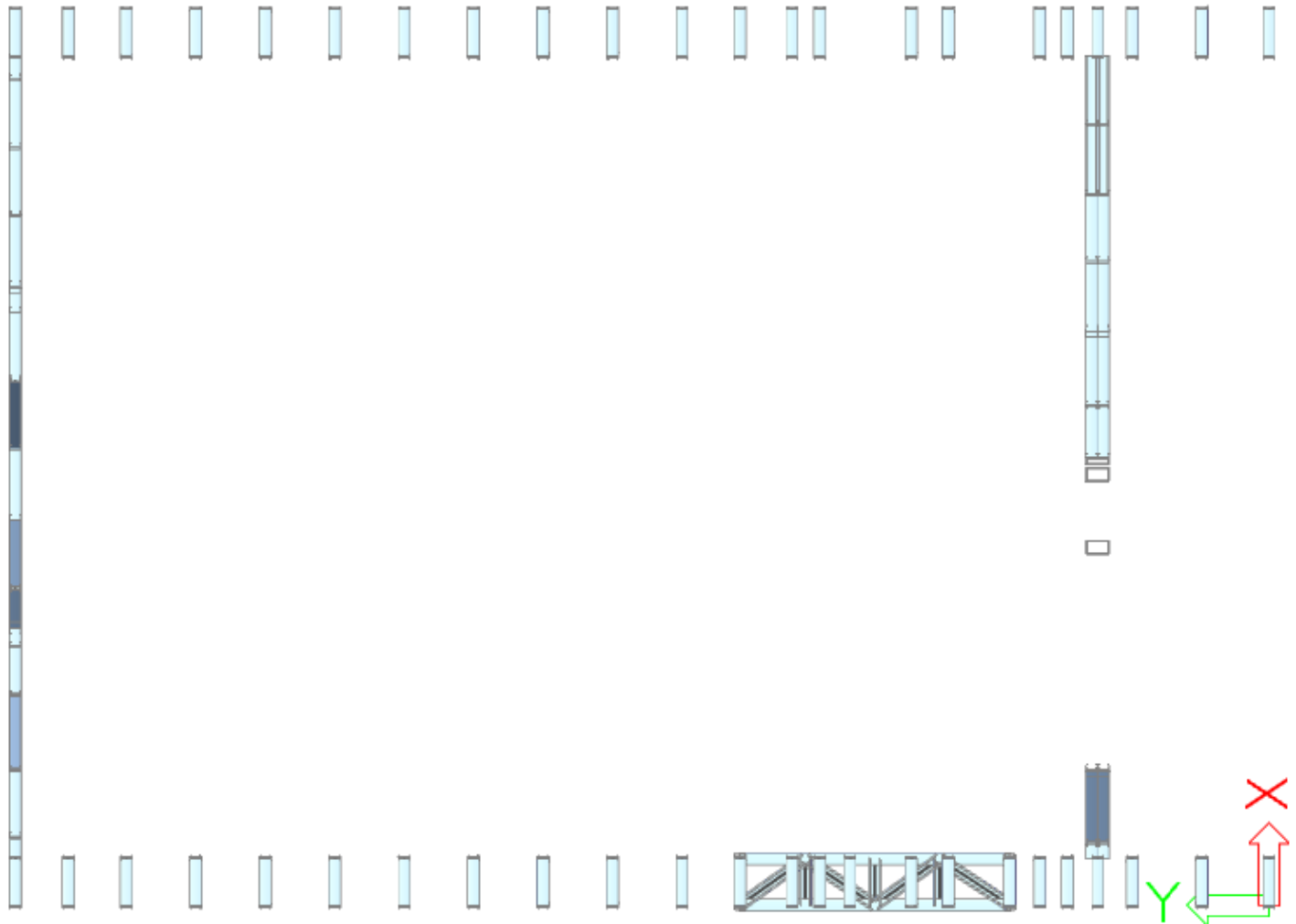
For seismic analysis, the same quadratic combination methods as those for spectral analysis are available.

2.2 GENERAL SCHEME

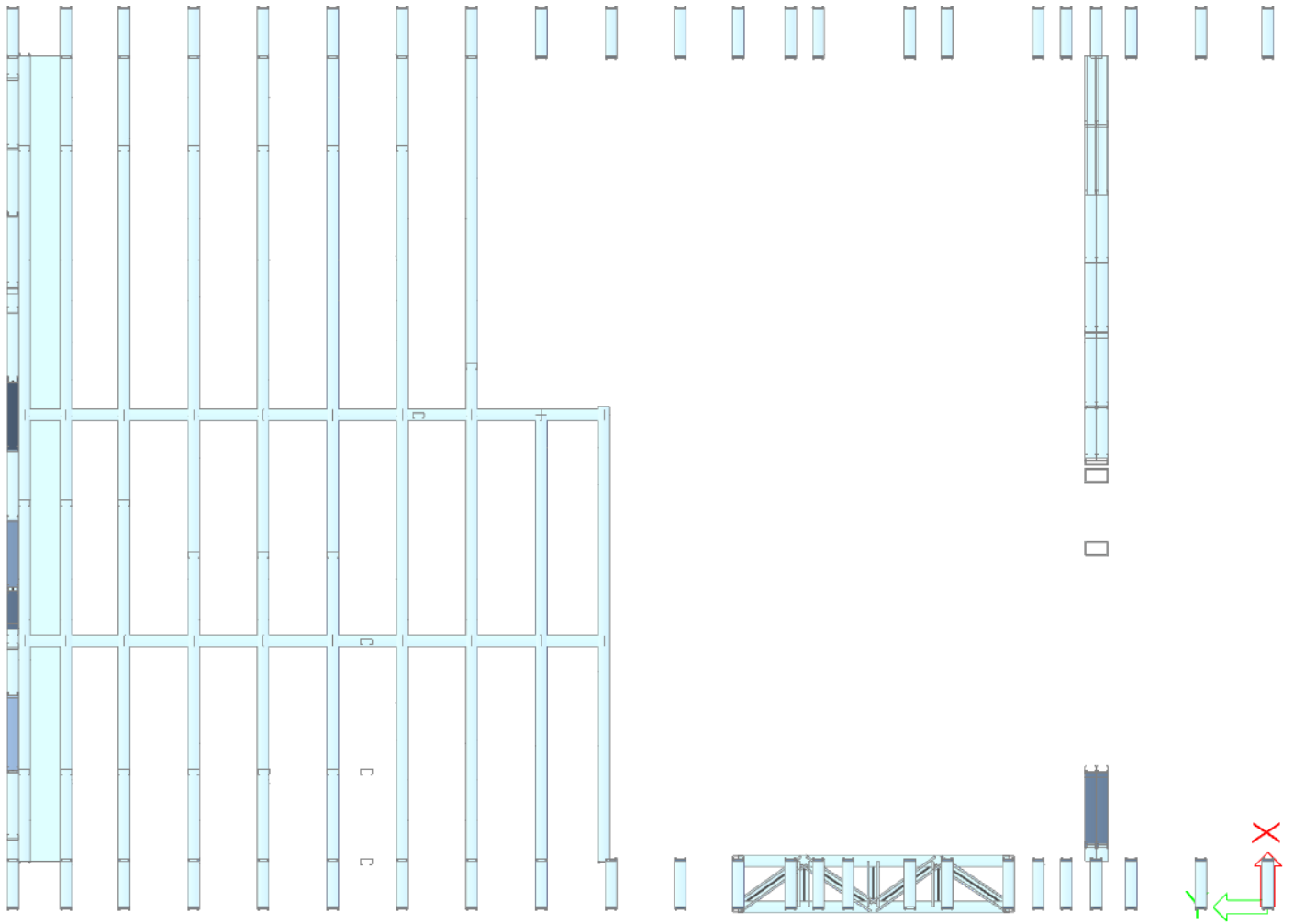
General views



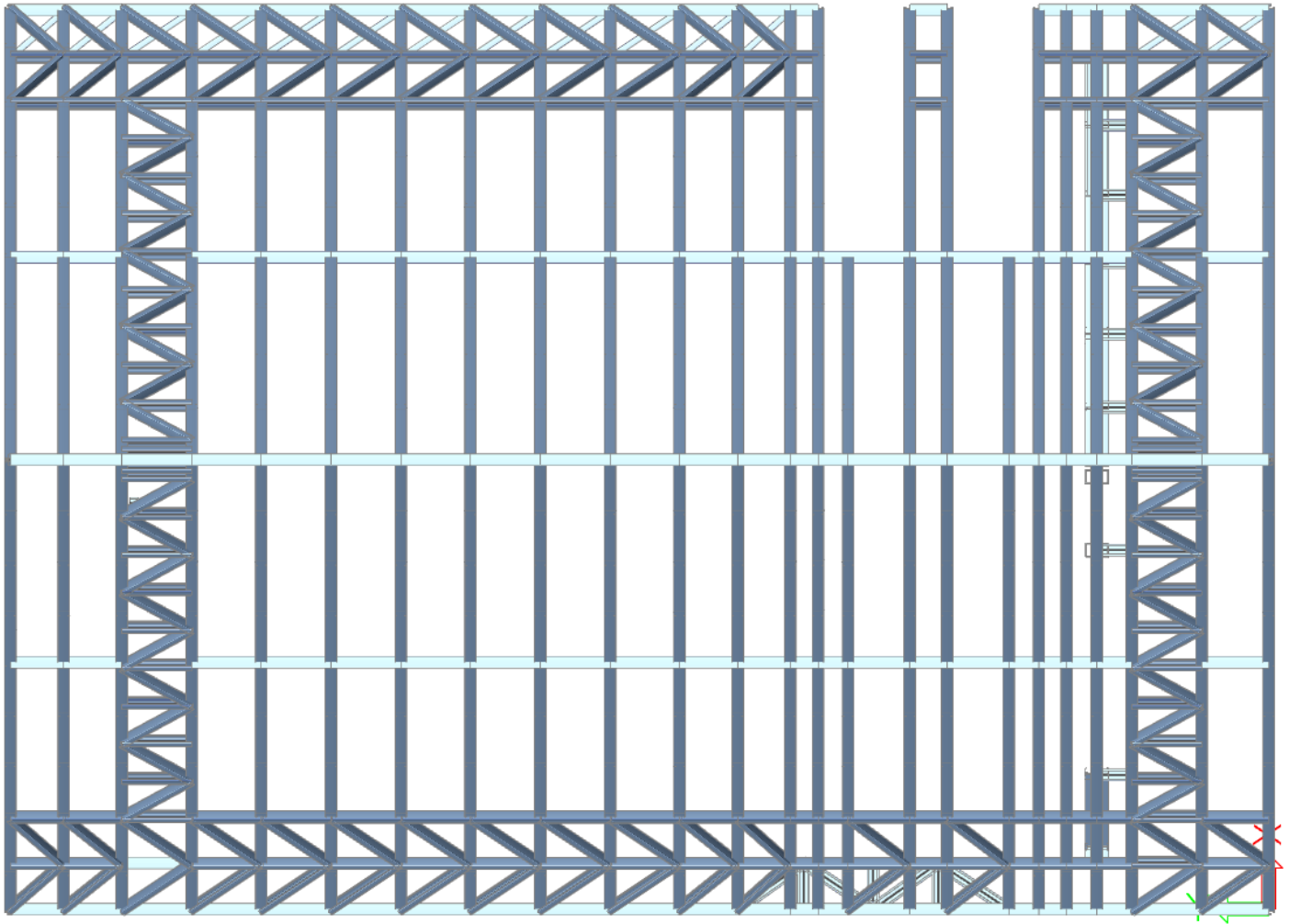
First floor level



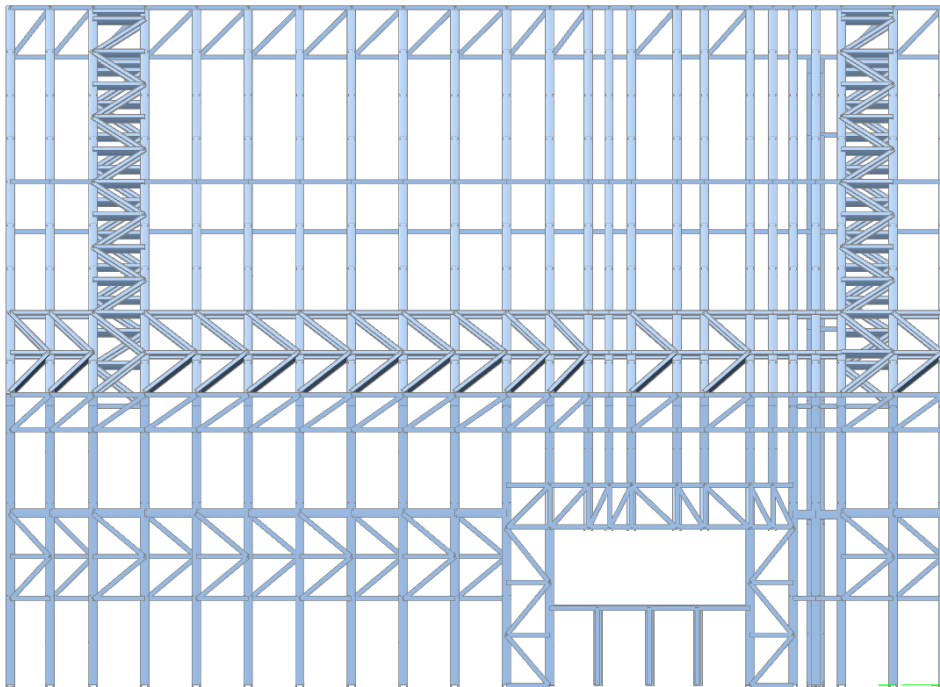
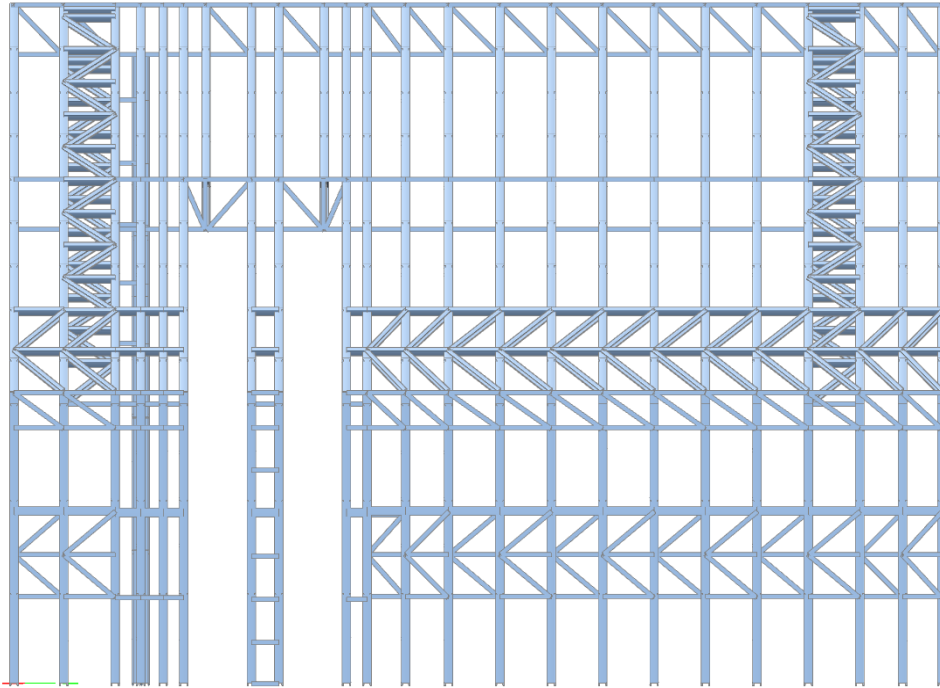
Mezzanine level view



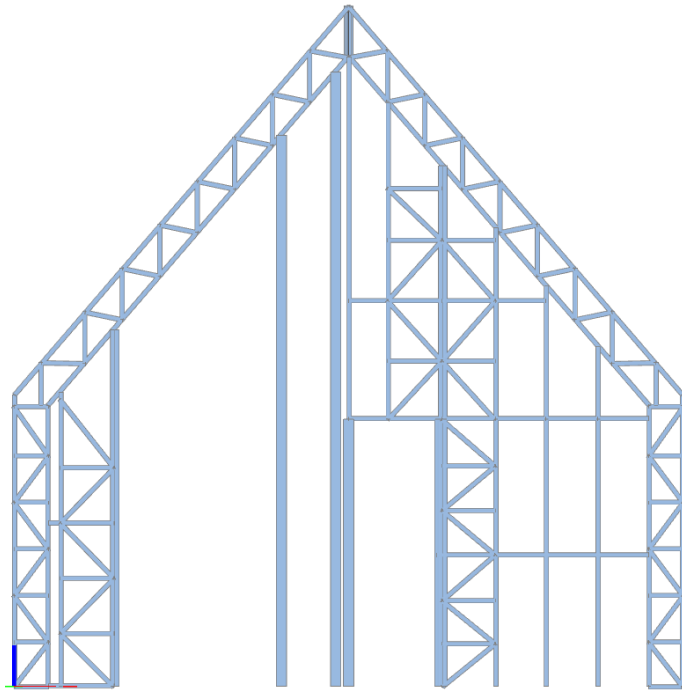
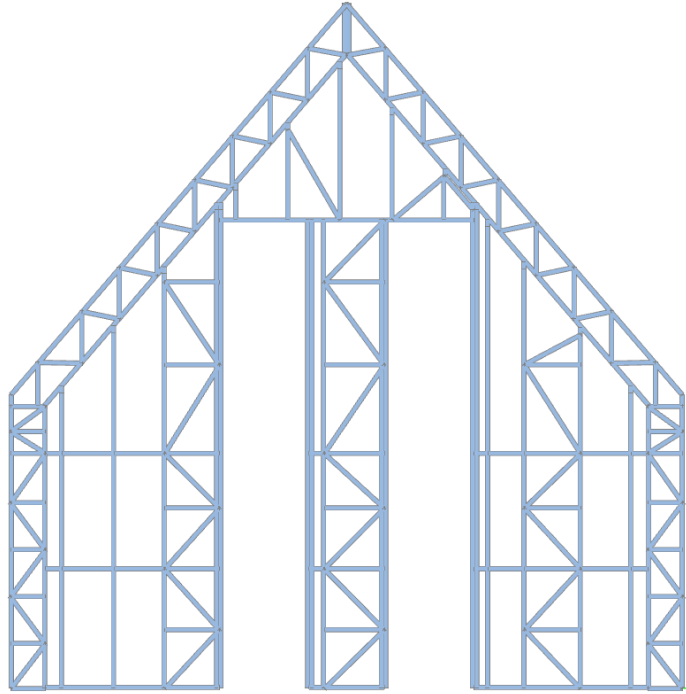
Roof plan view



Side wall view

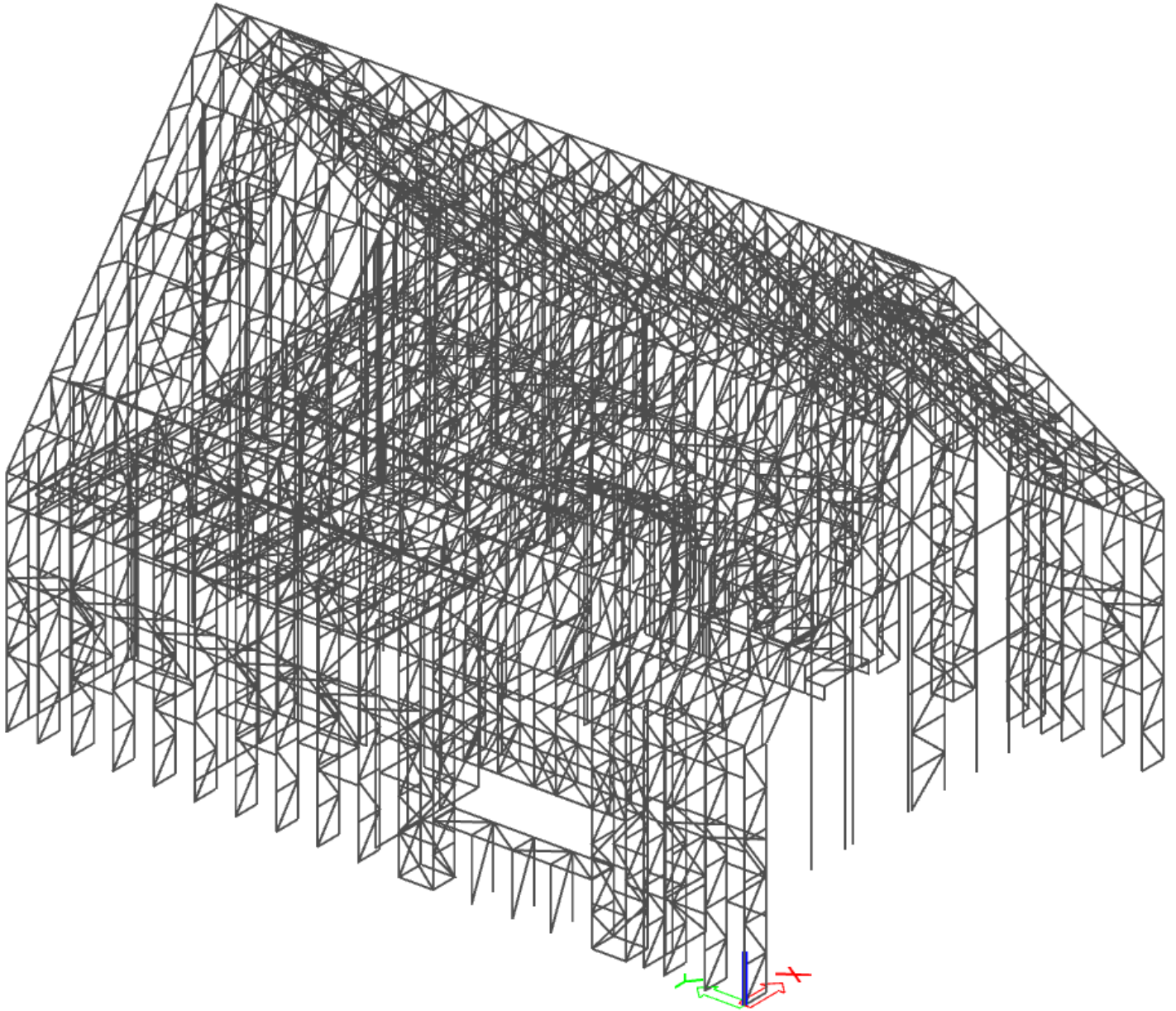


End wall view

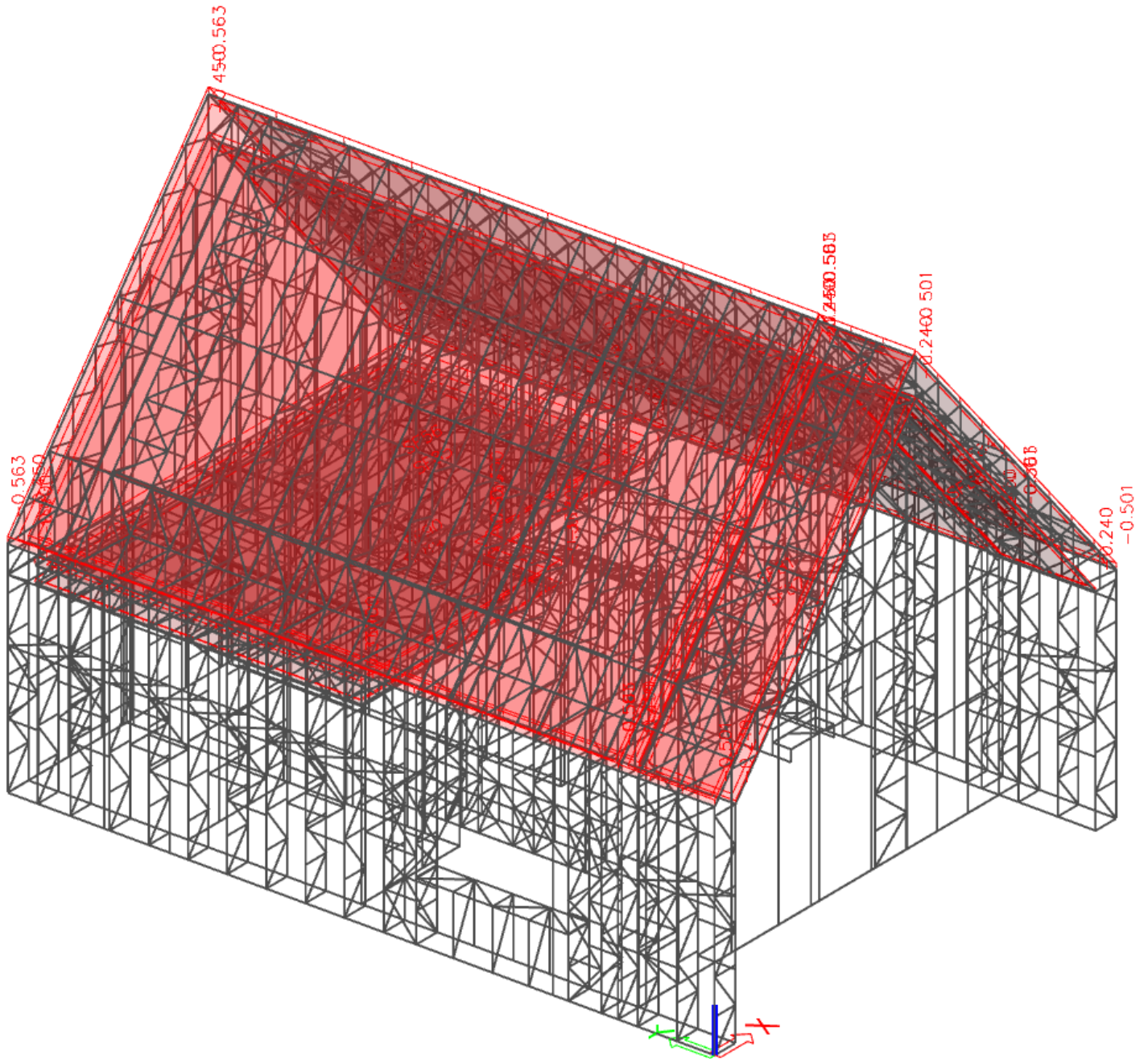


2.3. APPLIED LOADS

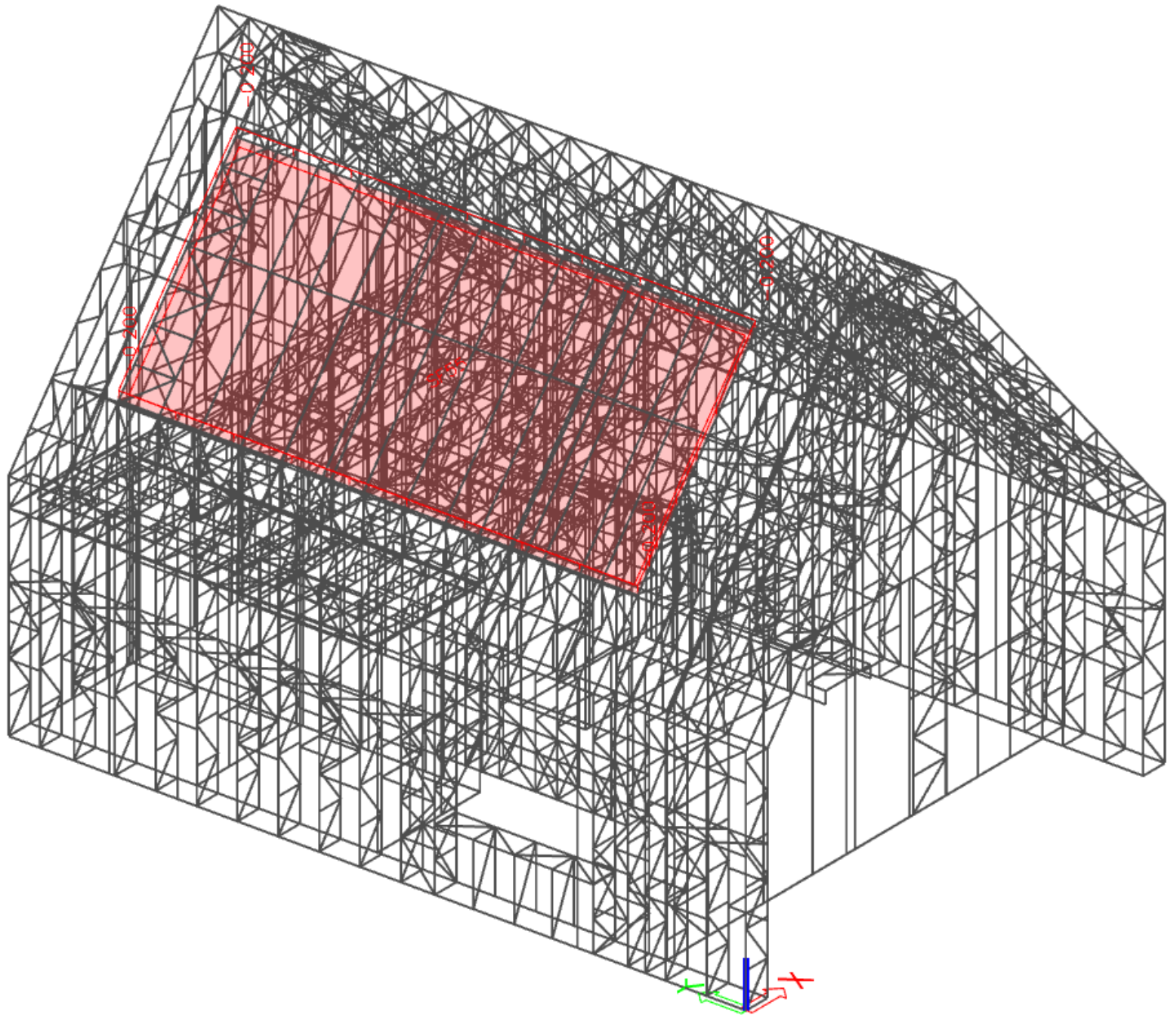
analytical model:



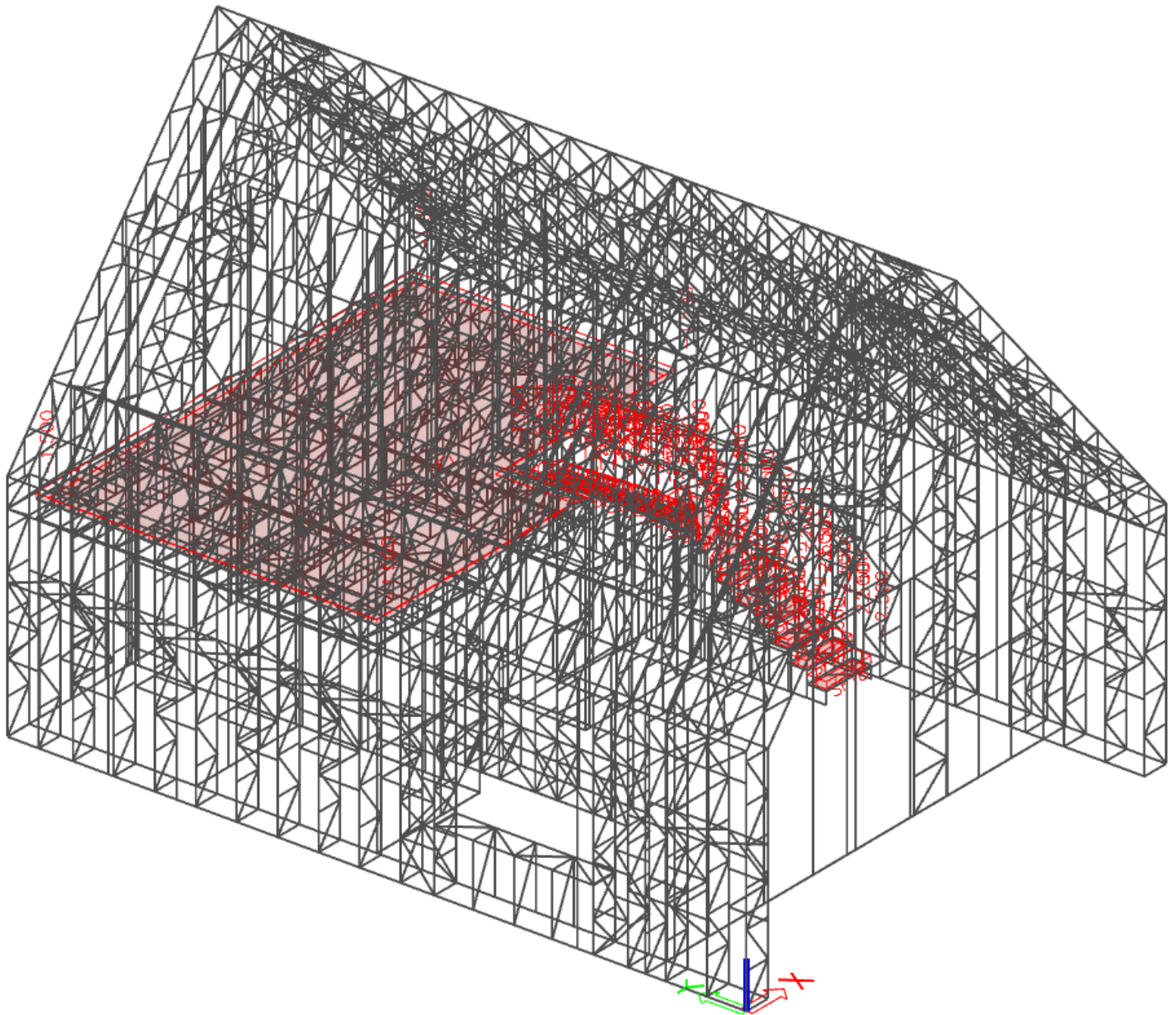
3. G2 - Roof & Floors dead loads.



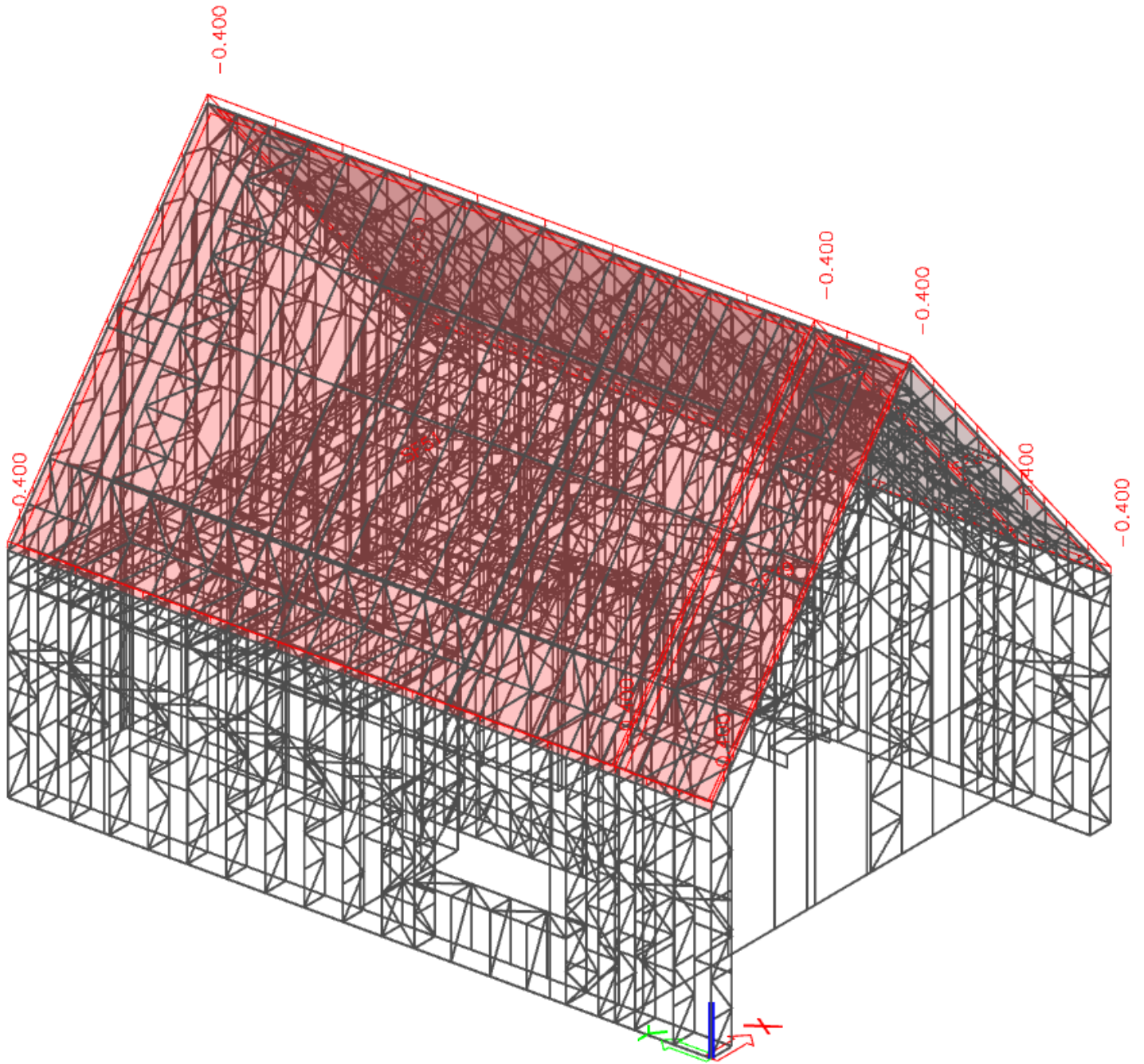
4. G3 - Solar panels dead load



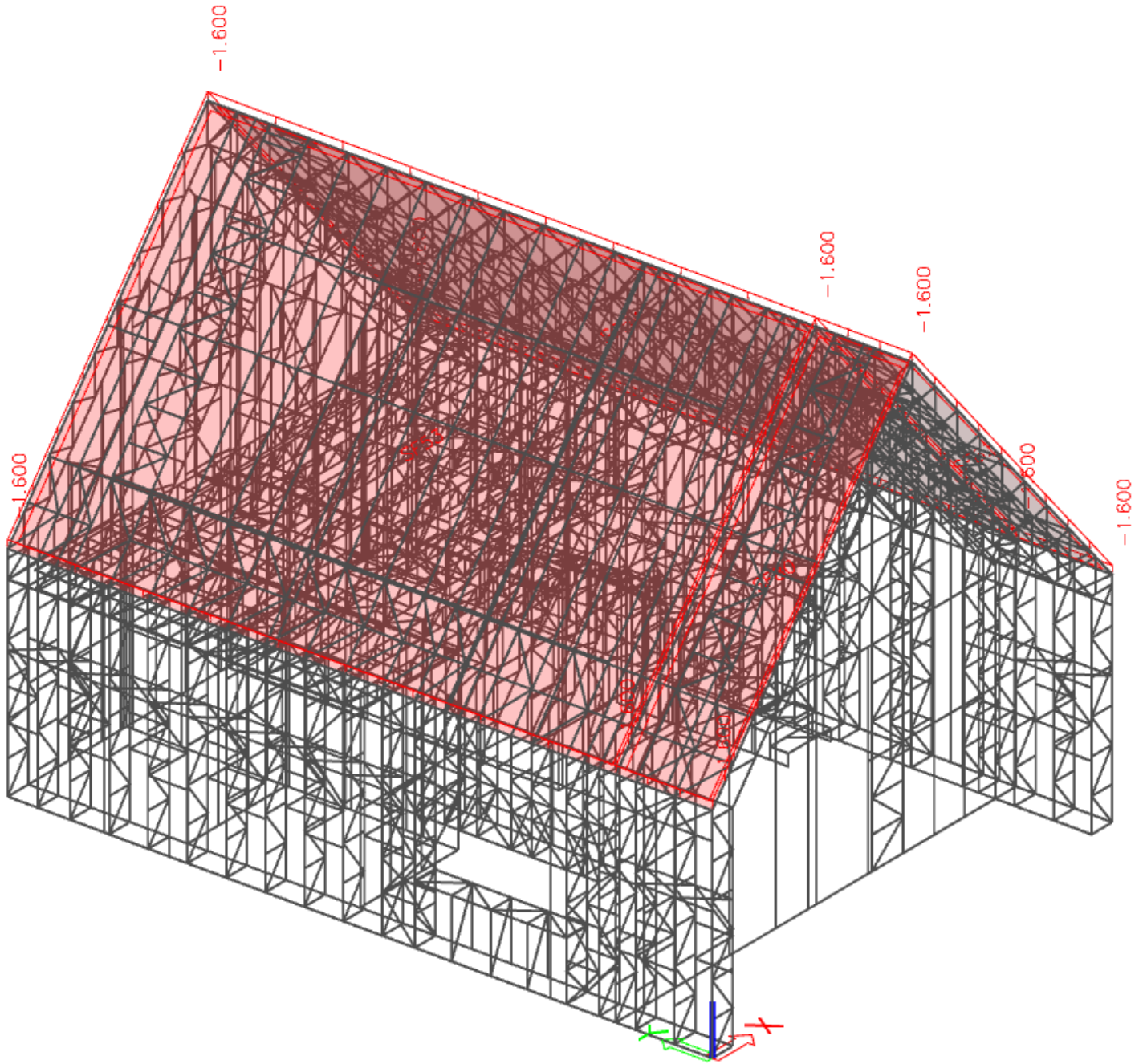
5. Q1 - Live load floor



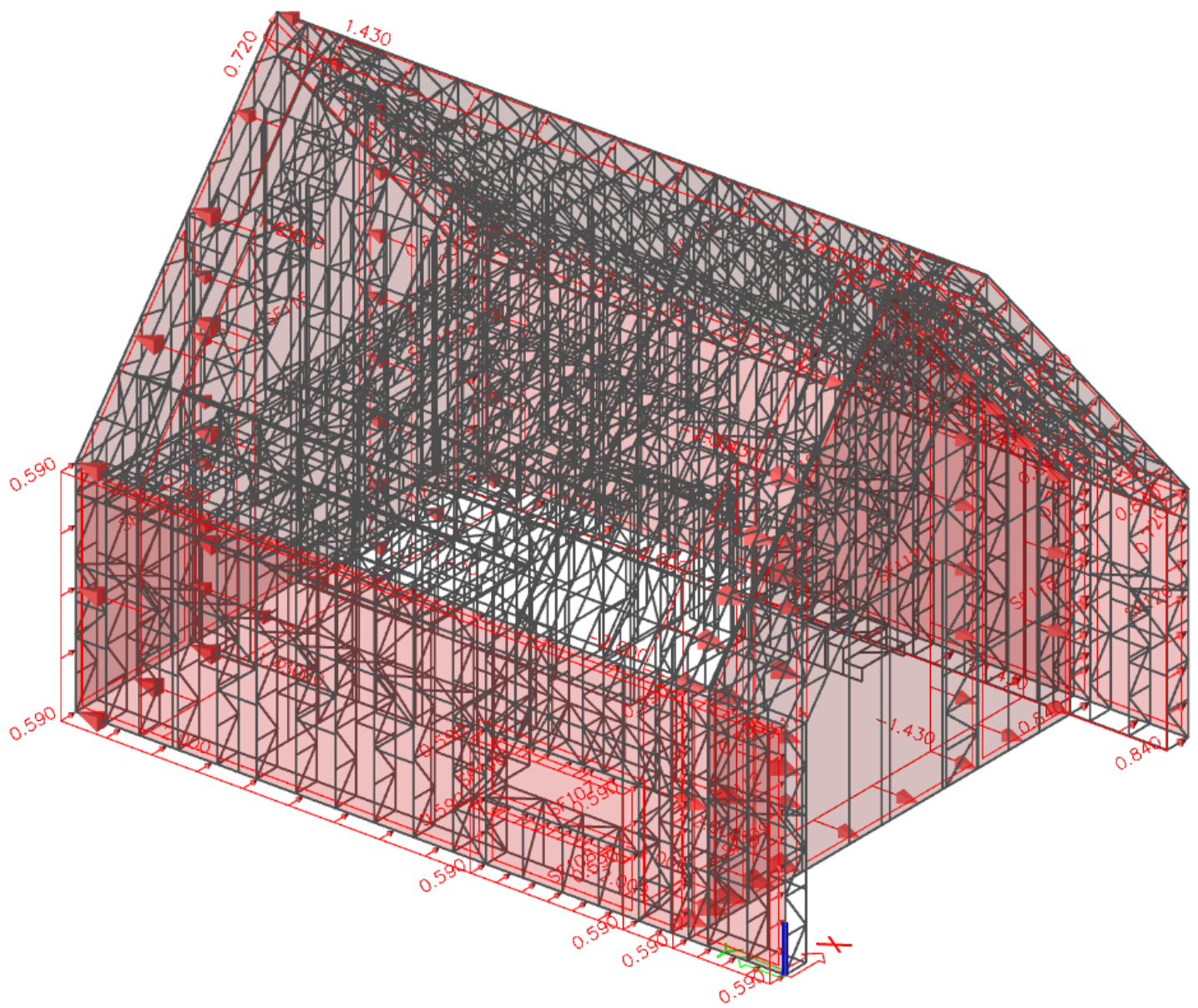
6. Q2 - Live load roof



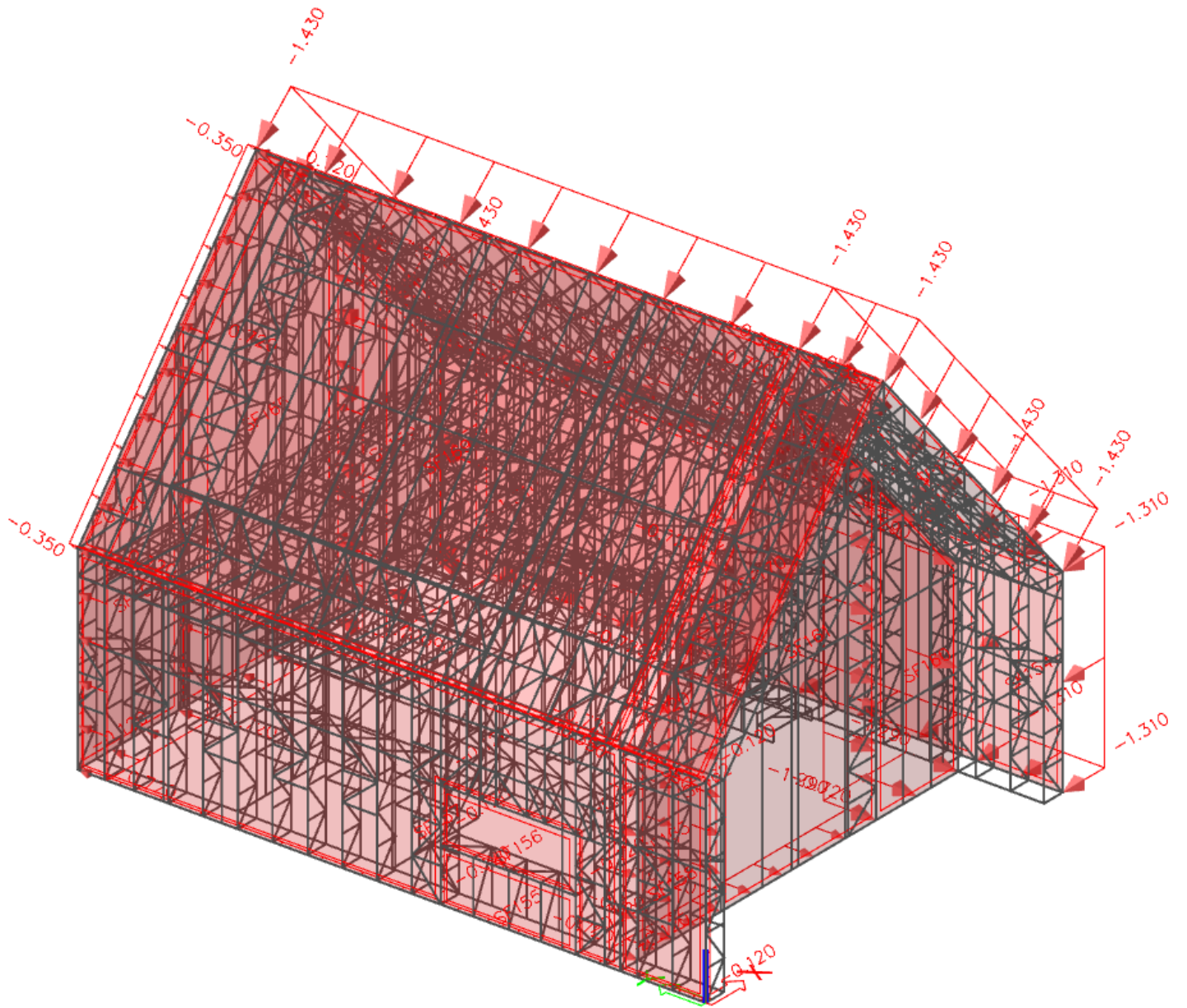
7. Q3 - Snow load



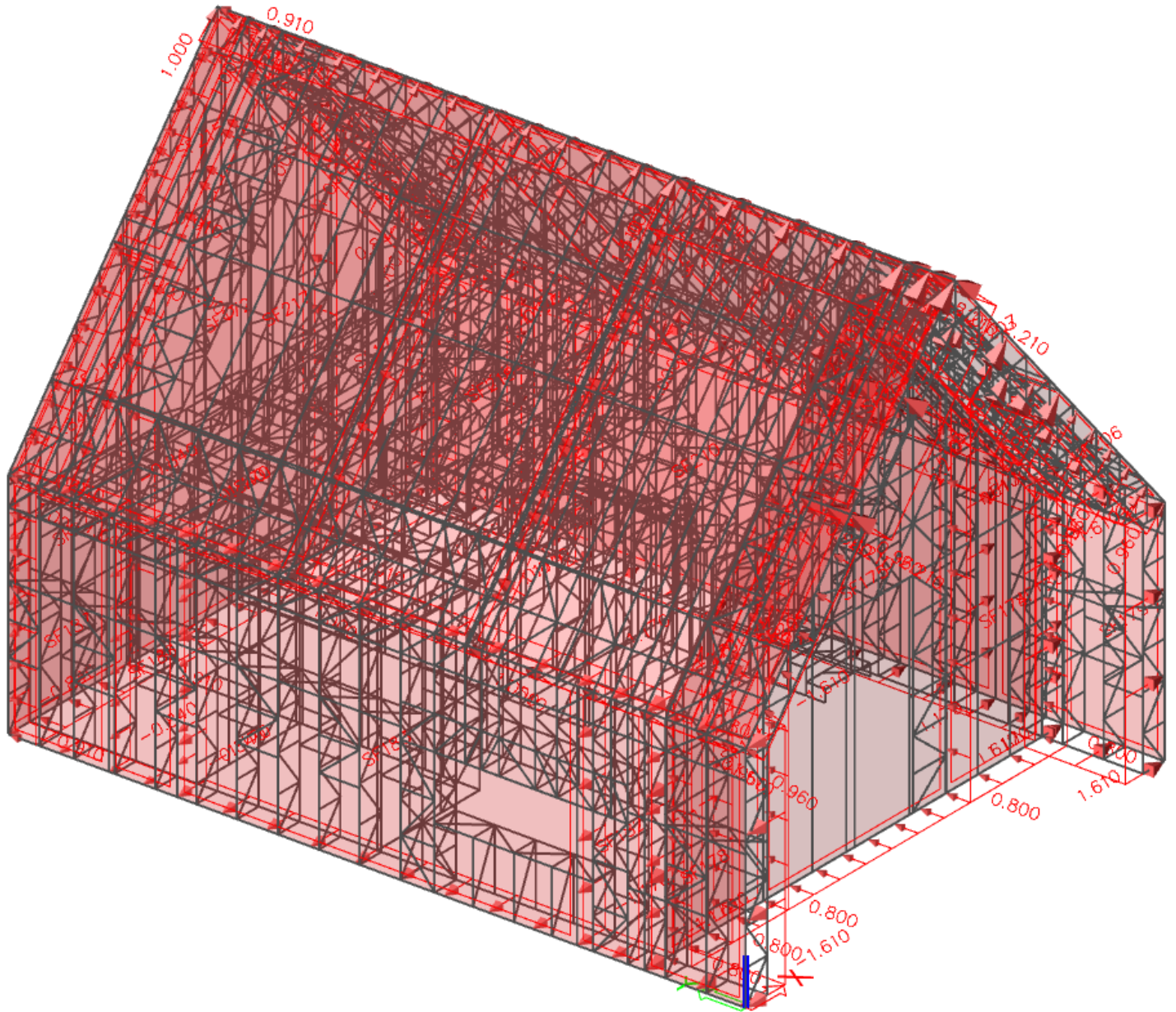
8. Q4 - Wind X+(0.2)



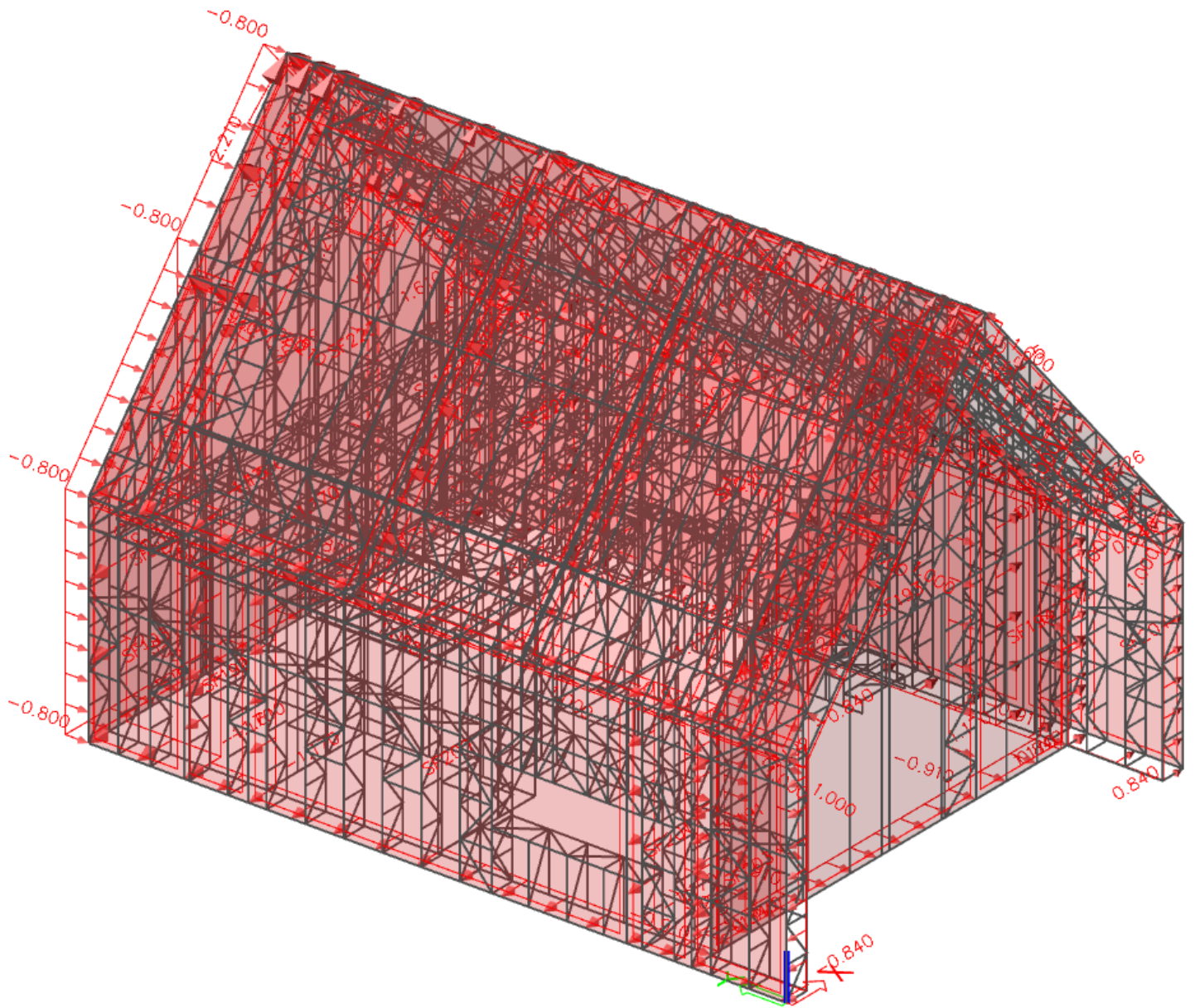
11. Q7 - Wind X-(-0.3)



12. Q8 - Wind Y+(0.2)



13. Q9 - Wind Y-(0.2)



Load cases table

Name	Description	Action type	Load group	Direction	Duration	Master load case
	Spec	Load type				
G	Self wieght	Permanent Self weight	Dead Load	-Z		
G1	Wall dead loads	Permanent Standard	Dead Load			
G2	Roof & Floors dead loads	Permanent Standard	Dead Load			
G3	Solar panels dead load	Permanent Standard	Dead Load			
Q1	Live load floor	Variable Standard	Live Load - floor		Short	None
Q2	Live load roof	Variable Standard	Live Load - roof		Short	None
Q3	Snow load	Variable Standard	Snow Load		Short	None
Q4	Wind X+(0.2)	Variable Standard	Wind		Short	None
Q5	Wind X-(0.2)	Variable Standard	Wind		Short	None
Q6	Wind X+(-0.3)	Variable Standard	Wind		Short	None
Q7	Wind X-(-0.3)	Variable Standard	Wind		Short	None
Q8	Wind Y+(0.2)	Variable Standard	Wind		Short	None
Q9	Wind Y-(0.2)	Variable Standard	Wind		Short	None
EQX	Seismic Seismicity	Variable Dynamic	S			None
EQY	Seismic Seismicity	Variable Dynamic	S			None
EQY_AE	Accidental eccentricity for EQY Seismic accidental eccentricity	Variable Static	EQY_AE		Short	EQY - Seismic
EQX_AE	Accidental eccentricity for EQX Seismic accidental eccentricity	Variable Static	EQX_AE		Short	EQX - Seismic

Load groups table

Name	Load	Relation	Type
Dead Load	Permanent		
Live Load - floor	Variable	Standard	Cat A : Domestic
Live Load - roof	Variable	Standard	Cat H : Roofs
Snow Load	Variable	Standard	Snow
Wind	Variable	Exclusive	Wind
S	Seismic	Exclusive	
EQY_AE	Seismic Accidental Eccentricity	Exclusive	
EQX_AE	Seismic Accidental Eccentricity	Exclusive	

Mass groups table

Name	Load case
MG	G - Self wieght
MG1	G1 - Wall dead loads
MG2	G2 - Roof & Floors dead loads
MG3	G3 - Solar panels dead load
MQ1	Q1 - Live load floor
MQ2	Q2 - Live load roof

Combination of mass groups table

Name	Mass group	Coeff. [-]
CM1	MG	1.00
	MG1	1.00
	MG2	1.00
	MG3	1.00
	MQ1	0.30
	MQ2	0.30

Seismic spectrums table for Seismic analysis

Name	Type drawing	Info	Drawing
UniqueID			
FS1	Period	Type code - EN 1998-1:2004 - Eurocode Subsoil type - C Direction - Horizontal Spectrum type - type 2 coeff accel. ag - 0.1 ag - design acceleration - 0.9807 beta - 0.2 q - behaviour factor - 2	<p>The graph displays a seismic spectrum with a peak acceleration of 1.84 m/s² at a period of 0.1961 s. The acceleration decreases as the period increases, following a typical seismic spectrum curve. The x-axis represents the period in seconds (s) from 0.0 to 4.0, and the y-axis represents the acceleration in m/s² from 0.0 to 2.0.</p>

Load combinations

Name	Description	Type	Load cases	Coeff. [-]
ULS-Set B (auto)		EN-ULS (STR/GEO) Set B	G - Self wieght	1.00
			G1 - Self wieght walls	1.00
			G2 - Self wieght Roof & Floors	1.00
			G3 - Solar panels Roof	1.00
			Q1 - Live load floor	1.00
			Q2 - Live load roof	1.00
			Q3 - Snow load	1.00
			Q4 - Wind X+(0.2)	1.00
			Q5 - Wind X-(0.2)	1.00
			Q6 - Wind X+(-0.3)	1.00
SLS-Char (auto)		EN-SLS Characteristic	G - Self wieght	1.00
			G1 - Self wieght walls	1.00
			Q1 - Live load floor	1.00
			Q3 - Snow load	1.00
			Q4 - Wind X+(0.2)	1.00
			Q2 - Live load roof	1.00
			Q5 - Wind X-(0.2)	1.00
			Q6 - Wind X+(-0.3)	1.00
			Q7 - Wind X-(-0.3)	1.00
			G3 - Solar panels Roof	1.00
ULS-Seis (auto)		EN-Seismic	G - Self wieght	1.00
			G1 - Self wieght walls	1.00
			Q1 - Live load floor	1.00
			Q3 - Snow load	1.00
			Q4 - Wind X+(0.2)	1.00
			Q2 - Live load roof	1.00
			Q5 - Wind X-(0.2)	1.00
			Q6 - Wind X+(-0.3)	1.00
			Q7 - Wind X-(-0.3)	1.00
			G3 - Solar panels Roof	1.00
EQY	Seismic load case "EQY" with accidental eccentricity effects	Envelope - ultimate	G2 - Self wieght Roof & Floors	1.00
			Q8 - Wind Y+(0.2)	1.00
EQX	Seismic load case "EQX" with accidental eccentricity effects	Envelope - ultimate	Q9 - Wind Y-(0.2)	1.00
			EQX - Seismic	1.00
			EQY - Seismic	1.00
			EQY_AE - Accidental eccentricity for EQY	1.00
			EQX - Seismic	1.00
			EQX_AE - Accidental eccentricity for EQX	1.00

Calculation protocol

Linear calculation

Number of 2D elements		578
Number of 1D elements		33436
Number of mesh nodes		30668
Number of equations		184008
Bending theory	Mindlin	
Load cases	G, G1, Q1, Q3, Q4, Q2, Q5, Q6, Q7, G3, G2, Q8, Q9, Accidental torsional moments for EQY, Accidental torsional moments for EQX	
Start of calculation	17.05.2023 18:48	
End of calculation	17.05.2023 18:49	

Sum of loads and reactions

Load case	Value	X [kN]	Y [kN]	Z [kN]
G	loads	0.000	0.000	-71.515
	reaction in nodes	0.000	0.000	71.515
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
G1	loads	0.000	0.000	-152.265
	reaction in nodes	0.000	0.000	152.265
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
Q1	loads	0.000	0.000	-56.571
	reaction in nodes	0.000	0.000	56.571
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
Q3	loads	0.000	0.000	-205.938
	reaction in nodes	0.000	0.000	205.938
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
Q4	loads	87.475	12.336	30.216
	reaction in nodes	-87.475	-12.336	-30.216
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
Q2	loads	0.000	0.000	-51.485
	reaction in nodes	0.000	0.000	51.485
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
Q5	loads	-87.475	12.336	30.216
	reaction in nodes	87.475	-12.336	-30.216
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
Q6	loads	105.039	6.961	-74.700
	reaction in nodes	-105.039	-6.961	74.700

Load case	Value	X [kN]	Y [kN]	Z [kN]
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
Q7	loads	-105.039	6.961	-74.700
	reaction in nodes	105.039	-6.961	74.700
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
G3	loads	0.000	0.000	-5.098
	reaction in nodes	0.000	0.000	5.098
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
G2	loads	0.000	0.000	-152.155
	reaction in nodes	0.000	0.000	152.155
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
Q8	loads	0.000	68.589	100.505
	reaction in nodes	0.000	-68.589	-100.505
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
Q9	loads	0.000	-67.756	101.023
	reaction in nodes	0.000	67.756	-101.023
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
Accidental torsional moments for EQY	loads	0.000	0.000	0.000
	reaction in nodes	0.000	0.000	0.000
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000
Accidental torsional moments for EQX	loads	0.000	0.000	0.000
	reaction in nodes	0.000	0.000	0.000
	reaction on lines	0.000	0.000	0.000
	contact 1D	0.000	0.000	0.000
	contact 2D	0.000	0.000	0.000

The following dynamic load cases are detailed separately (see below):EQX, EQY

Dynamic load case 14 : EQX

Mode	Freq. [Hz]	Damp ratio	Damp coef.	Wi/Wtot [-]	Sax [m/s ²]	Say [m/s ²]	Saz [m/s ²]	G(j) [-]	Fx [kN]	Fy [kN]	Mx [kNm]	My [kNm]
1	5.20	0	1	0.0002	1.839	0.000	0.000	0.0018	0.002	0.126	-0.624	-0.010
2	9.51	0	1	0.0449	1.839	0.000	0.000	0.0093	0.598	-0.029	-0.816	-2.587
3	11.10	0	1	0.3824	1.756	0.000	0.000	-0.0190	4.865	-0.050	2.645	-21.794
4	11.63	0	1	0.0574	1.720	0.000	0.000	0.0066	0.715	-0.218	-0.254	-3.747
5	11.98	0	1	0.0131	1.697	0.000	0.000	-0.0029	0.161	0.322	-0.522	-0.575
6	14.10	0	1	0.0071	1.591	0.000	0.000	0.0014	0.081	-0.410	0.637	-0.245
7	14.83	0	1	0.1933	1.563	0.000	0.000	0.0067	2.188	0.130	-0.435	-9.105
8	18.06	0	1	0.0018	1.458	0.000	0.000	0.0004	0.019	0.038	-0.118	-0.056
9	21.61	0	1	0.1073	1.382	0.000	0.000	-0.0021	1.074	-0.003	-0.077	-2.593
10	23.88	0	1	0.0079	1.343	0.000	0.000	0.0005	0.077	-0.002	-0.140	0.041
11	24.11	0	1	0.0119	1.340	0.000	0.000	-0.0005	0.116	-0.019	-0.128	-0.325
Level=	0.00			0.8271					5.525	0.598	-3.007	-24.204

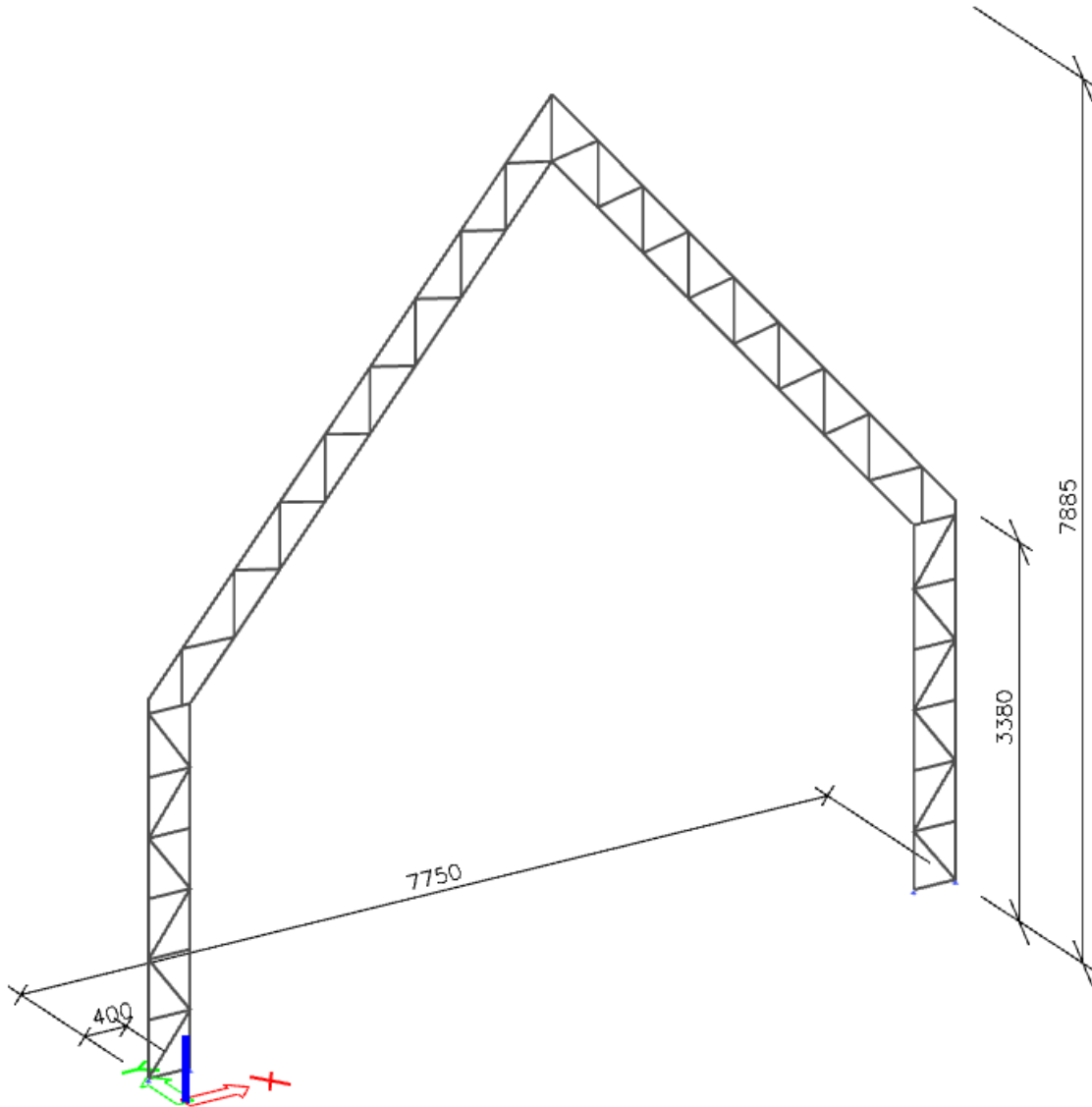
Dynamic load case 15 : EQY

Mode	Freq. [Hz]	Damp ratio	Damp coef.	Wi/Wtot [-]	Sax [m/s ²]	Say [m/s ²]	Saz [m/s ²]	G(j) [-]	Fx [kN]	Fy [kN]	Mx [kNm]	My [kNm]
1	5.20	0	1	0.5893	0.000	1.839	0.000	0.1126	0.126	7.851	-38.954	-0.611
2	9.51	0	1	0.0001	0.000	1.839	0.000	-0.0004	-0.029	0.001	0.040	0.125
3	11.10	0	1	0.0000	0.000	1.756	0.000	0.0002	-0.050	0.001	-0.027	0.224
4	11.63	0	1	0.0053	0.000	1.720	0.000	-0.0020	-0.218	0.067	0.078	1.144
5	11.98	0	1	0.0524	0.000	1.697	0.000	-0.0058	0.322	0.644	-1.044	-1.151
6	14.10	0	1	0.1797	0.000	1.591	0.000	-0.0073	-0.410	2.071	-3.216	1.239
7	14.83	0	1	0.0007	0.000	1.563	0.000	0.0004	0.130	0.008	-0.026	-0.539
8	18.06	0	1	0.0074	0.000	1.458	0.000	0.0008	0.038	0.078	-0.241	-0.115
9	21.61	0	1	0.0000	0.000	1.382	0.000	0.0000	-0.003	0.000	0.000	0.008
10	23.88	0	1	0.0000	0.000	1.343	0.000	0.0000	-0.002	0.000	0.004	-0.001
11	24.11	0	1	0.0003	0.000	1.340	0.000	0.0001	-0.019	0.003	0.021	0.054
Level=	0.00			0.8353					0.598	8.146	-39.101	-2.217

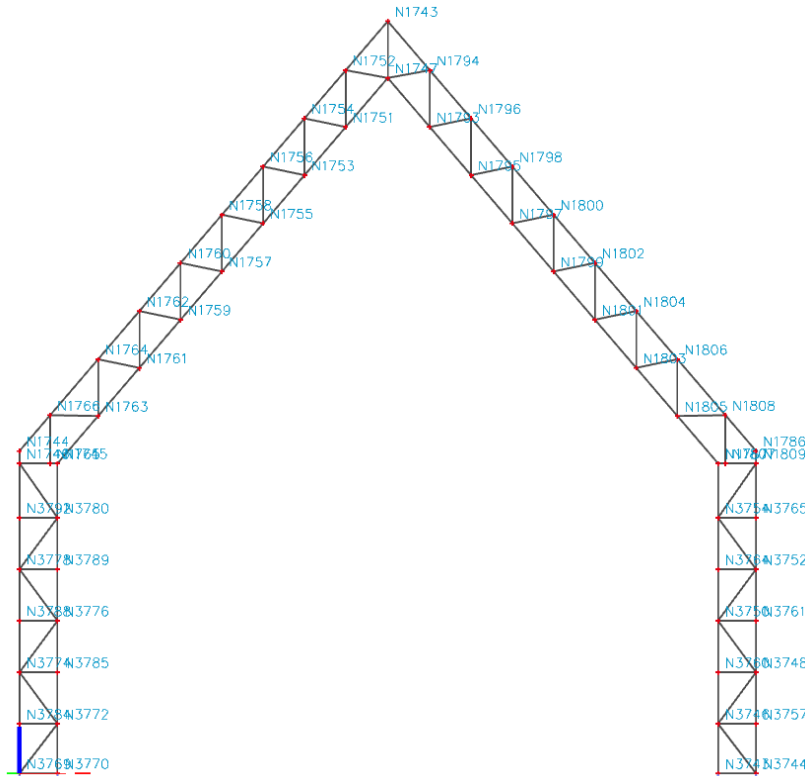
2.4 STEEL STRUCTURE CHECK

2.4.1 TYPE FRAME CHECK

Type frame



Node coordinates

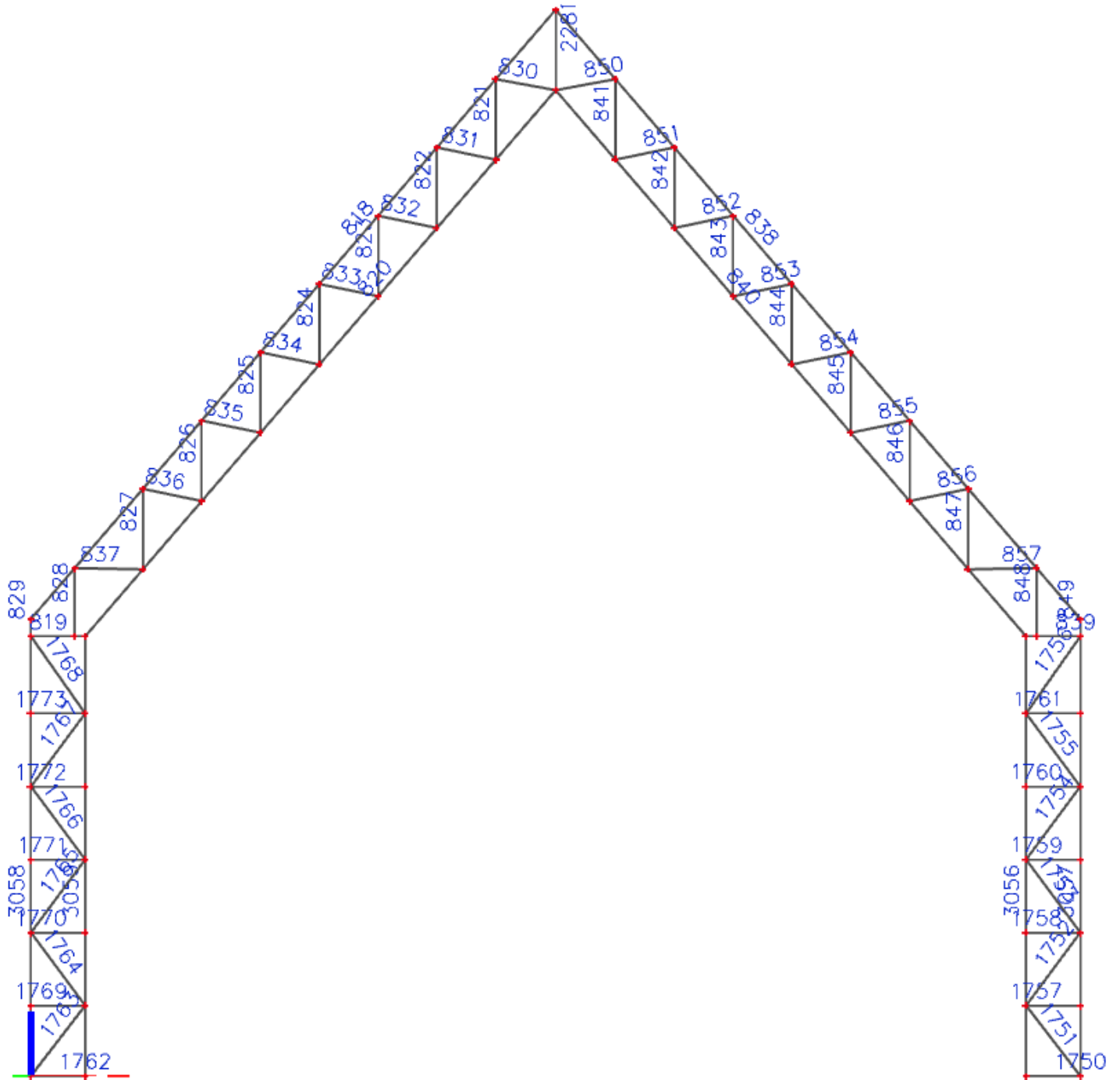


Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N1743	3.875	0.580	7.885
N1744	0.000	0.580	3.380
N1745	0.400	0.580	3.250
N1746	0.000	0.580	3.250
N1747	3.875	0.580	7.290
N1751	3.433	0.580	6.776
N1752	3.433	0.580	7.371
N1753	2.999	0.580	6.271
N1754	2.999	0.580	6.866
N1755	2.564	0.580	5.766
N1756	2.564	0.580	6.361
N1757	2.130	0.580	5.261
N1758	2.130	0.580	5.856
N1759	1.696	0.580	4.756
N1760	1.696	0.580	5.351
N1761	1.261	0.580	4.251
N1762	1.261	0.580	4.846
N1763	0.827	0.580	3.746
N1764	0.827	0.580	4.341
N1765	0.323	0.580	3.250
N1766	0.323	0.580	3.755
N1786	7.750	0.580	3.380

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N1787	7.350	0.580	3.250
N1793	4.317	0.580	6.776
N1794	4.317	0.580	7.371
N1795	4.751	0.580	6.271
N1796	4.751	0.580	6.866
N1797	5.186	0.580	5.766
N1798	5.186	0.580	6.361
N1799	5.620	0.580	5.261
N1800	5.620	0.580	5.856
N1801	6.054	0.580	4.756
N1802	6.054	0.580	5.351
N1803	6.489	0.580	4.251
N1804	6.489	0.580	4.846
N1805	6.923	0.580	3.746
N1806	6.923	0.580	4.341
N1807	7.427	0.580	3.250
N1808	7.427	0.580	3.755
N1809	7.750	0.580	3.250
N3743	7.350	0.580	0.000
N3744	7.750	0.580	0.000
N3746	7.350	0.580	0.520
N3748	7.750	0.580	1.060

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N3750	7.350	0.580	1.600
N3752	7.750	0.580	2.140
N3754	7.350	0.580	2.680
N3757	7.750	0.580	0.520
N3760	7.350	0.580	1.060
N3761	7.750	0.580	1.600
N3764	7.350	0.580	2.140
N3765	7.750	0.580	2.680
N3769	0.000	0.580	0.000
N3770	0.400	0.580	0.000
N3772	0.400	0.580	0.520
N3774	0.000	0.580	1.060
N3776	0.400	0.580	1.600
N3778	0.000	0.580	2.140
N3780	0.400	0.580	2.680
N3784	0.000	0.580	0.520
N3785	0.400	0.580	1.060
N3788	0.000	0.580	1.600
N3789	0.400	0.580	2.140
N3792	0.000	0.580	2.680

Members number



Name	Cross-section	Material	Length [m]	Beg. node	Type
				End node	
855	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.444	N1801	truss diagonal (90)
				N1804	
856	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.444	N1803	truss diagonal (90)
				N1806	
857	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.504	N1805	truss diagonal (90)
				N1808	
1750	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3743	truss diagonal (90)
				N3744	
1751	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.656	N3744	truss diagonal (90)
				N3746	
1752	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3746	truss diagonal (90)
				N3748	
1753	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3748	truss diagonal (90)
				N3750	
1754	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3750	truss diagonal (90)
				N3752	
1755	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3752	truss diagonal (90)
				N3754	
1756	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.696	N3754	truss diagonal (90)
				N1809	
1757	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3757	truss diagonal (90)
				N3746	
1758	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3748	truss diagonal (90)
				N3760	
1759	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3761	truss diagonal (90)
				N3750	
1760	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3752	truss diagonal (90)
				N3764	
1761	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3765	truss diagonal (90)
				N3754	
1762	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3769	beam (80)
				N3770	
1763	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.656	N3769	truss diagonal (90)
				N3772	
1764	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3772	truss diagonal (90)
				N3774	
1765	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3774	truss diagonal (90)
				N3776	
1766	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3776	truss diagonal (90)
				N3778	
1767	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3778	truss diagonal (90)
				N3780	
1768	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.696	N3780	truss diagonal (90)
				N1746	
1769	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3772	truss diagonal (90)
				N3784	
1770	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3785	truss diagonal (90)
				N3774	
1771	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3776	truss diagonal (90)
				N3788	
1772	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3789	truss diagonal (90)
				N3778	
1773	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3780	truss diagonal (90)
				N3792	
2281	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.595	N1747	truss diagonal (90)
				N1743	
3056	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.250	N3743	truss chord (95)
				N1787	
3057	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.250	N3744	truss chord (95)
				N1809	
3058	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.250	N3769	truss chord (95)
				N1746	
3059	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.250	N3770	truss chord (95)
				N1745	

Name	Cross-section	Material	Length [m]	Beg. node	Type
				End node	
855	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.444	N1801 N1804	truss diagonal (90)
856	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.444	N1803 N1806	truss diagonal (90)
857	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.504	N1805 N1808	truss diagonal (90)
1750	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3743 N3744	truss diagonal (90)
1751	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.656	N3744 N3746	truss diagonal (90)
1752	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3746 N3748	truss diagonal (90)
1753	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3748 N3750	truss diagonal (90)
1754	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3750 N3752	truss diagonal (90)
1755	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3752 N3754	truss diagonal (90)
1756	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.696	N3754 N1809	truss diagonal (90)
1757	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3757 N3746	truss diagonal (90)
1758	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3748 N3760	truss diagonal (90)
1759	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3761 N3750	truss diagonal (90)
1760	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3752 N3764	truss diagonal (90)
1761	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3765 N3754	truss diagonal (90)
1762	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3769 N3770	beam (80)
1763	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.656	N3769 N3772	truss diagonal (90)
1764	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3772 N3774	truss diagonal (90)
1765	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3774 N3776	truss diagonal (90)
1766	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3776 N3778	truss diagonal (90)
1767	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.672	N3778 N3780	truss diagonal (90)
1768	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.696	N3780 N1746	truss diagonal (90)
1769	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3772 N3784	truss diagonal (90)
1770	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3785 N3774	truss diagonal (90)
1771	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3776 N3788	truss diagonal (90)
1772	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3789 N3778	truss diagonal (90)
1773	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.400	N3780 N3792	truss diagonal (90)
2281	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.595	N1747 N1743	truss diagonal (90)
3056	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.250	N3743 N1787	truss chord (95)
3057	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.250	N3744 N1809	truss chord (95)
3058	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.250	N3769 N1746	truss chord (95)
3059	C100*50*15*1.4 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.250	N3770 N1745	truss chord (95)

Cross-Section properties

C100*50*15*1.2		
Type	Cold formed C section	
Detailed	100.0; 50.0; 1.2; 3.0; 15.0	
Formcode	114 - Cold formed C section	
Shape type	Thin-walled	
Item material	S350GD+Z	
Fabrication	cold formed	
Colour	■	
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m ²]	2.6269e-04	
A _y [m ²], A _z [m ²]	1.1804e-04	1.3126e-04
A _L [m ² /m], A _D [m ² /m]	4.4038e-01	4.4038e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	17.2	50.0
α [deg]	0.00	
I _y [m ⁴], I _z [m ⁴]	4.2561e-07	9.3751e-08
i _y [mm], i _z [mm]	40.3	18.9
W _{el,y} [m ³], W _{el,z} [m ³]	8.5121e-06	2.8580e-06
W _{pl,y} [m ³], W _{pl,z} [m ³]	9.7956e-06	4.2419e-06
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	3.43e+03	3.43e+03
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	1.48e+03	1.48e+03
d _y [mm], d _z [mm]	-41.5	0.0
I _t [m ⁴], I _w [m ⁶]	1.2972e-10	2.2102e-10
β _y [mm], β _z [mm]	0.0	121.2
Picture		

Shear force diagram V_y , kH.

1D internal forces

Values: V_y

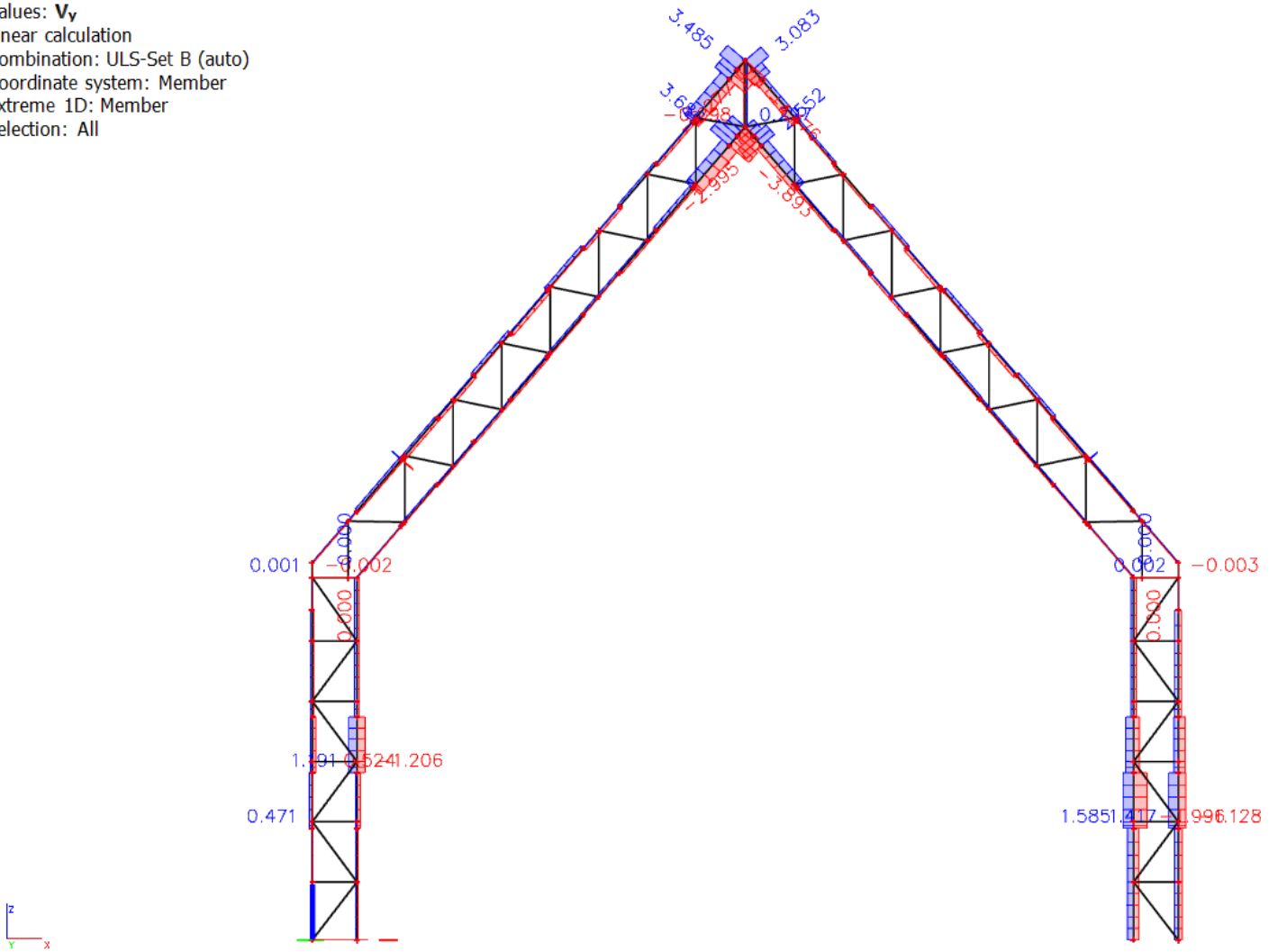
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All



Shear force diagram V_z , kH.

1D internal forces

Values: V_z

Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All

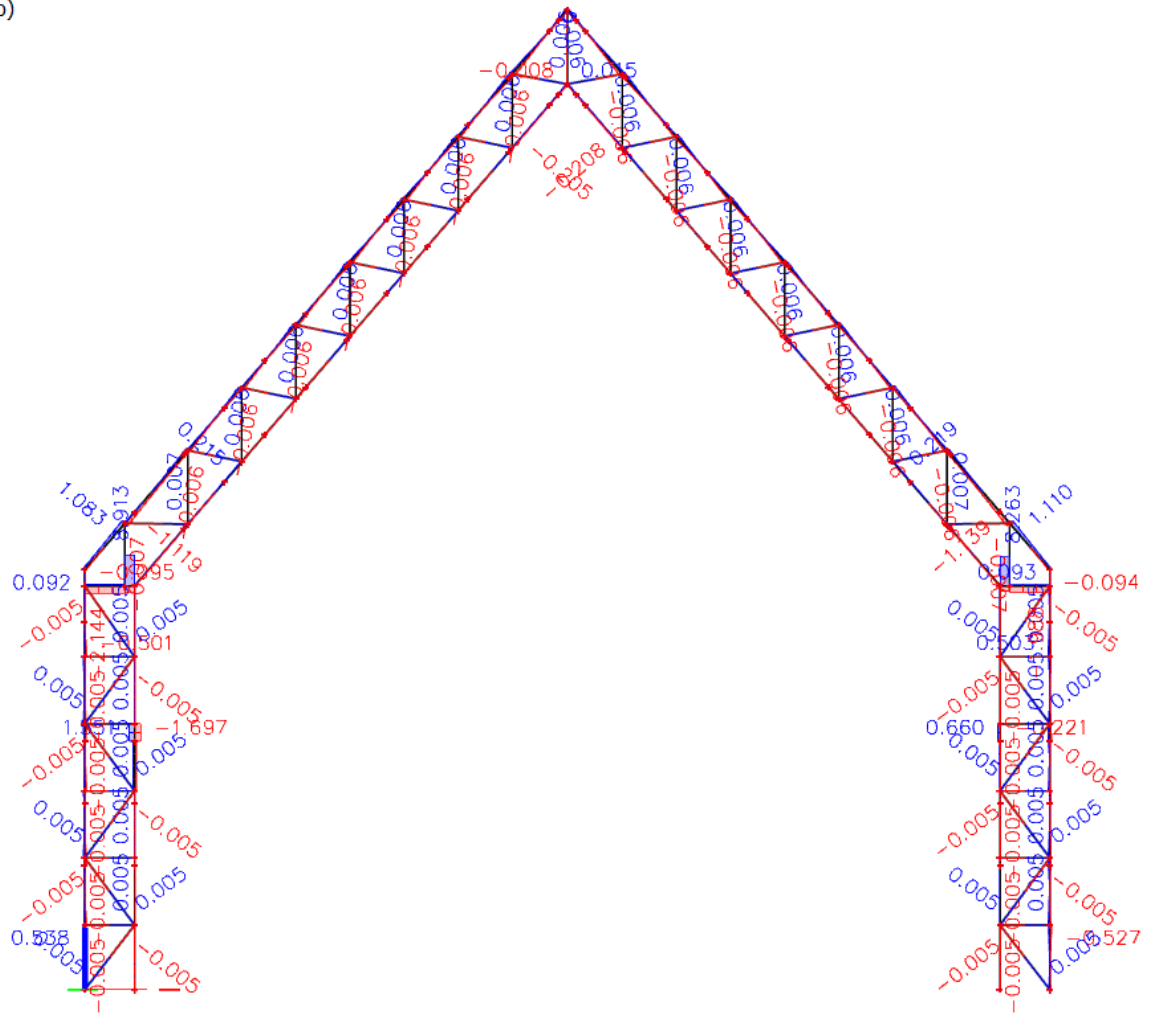


Diagram of bending moments M_y , kNm.

1D internal forces

Values: M_y

Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All

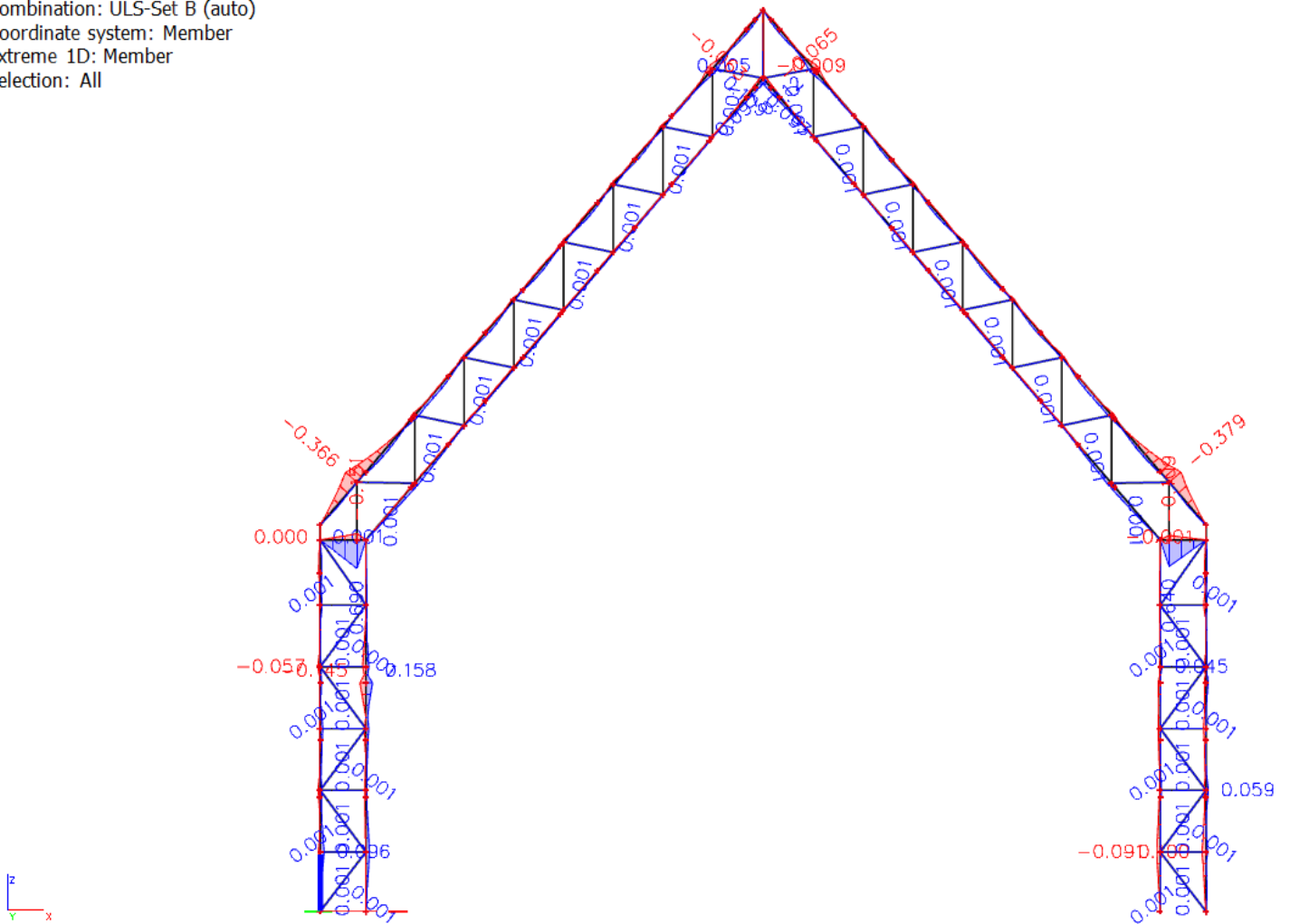


Diagram of bending moments M_z , kNm.

1D internal forces

Values: M_z

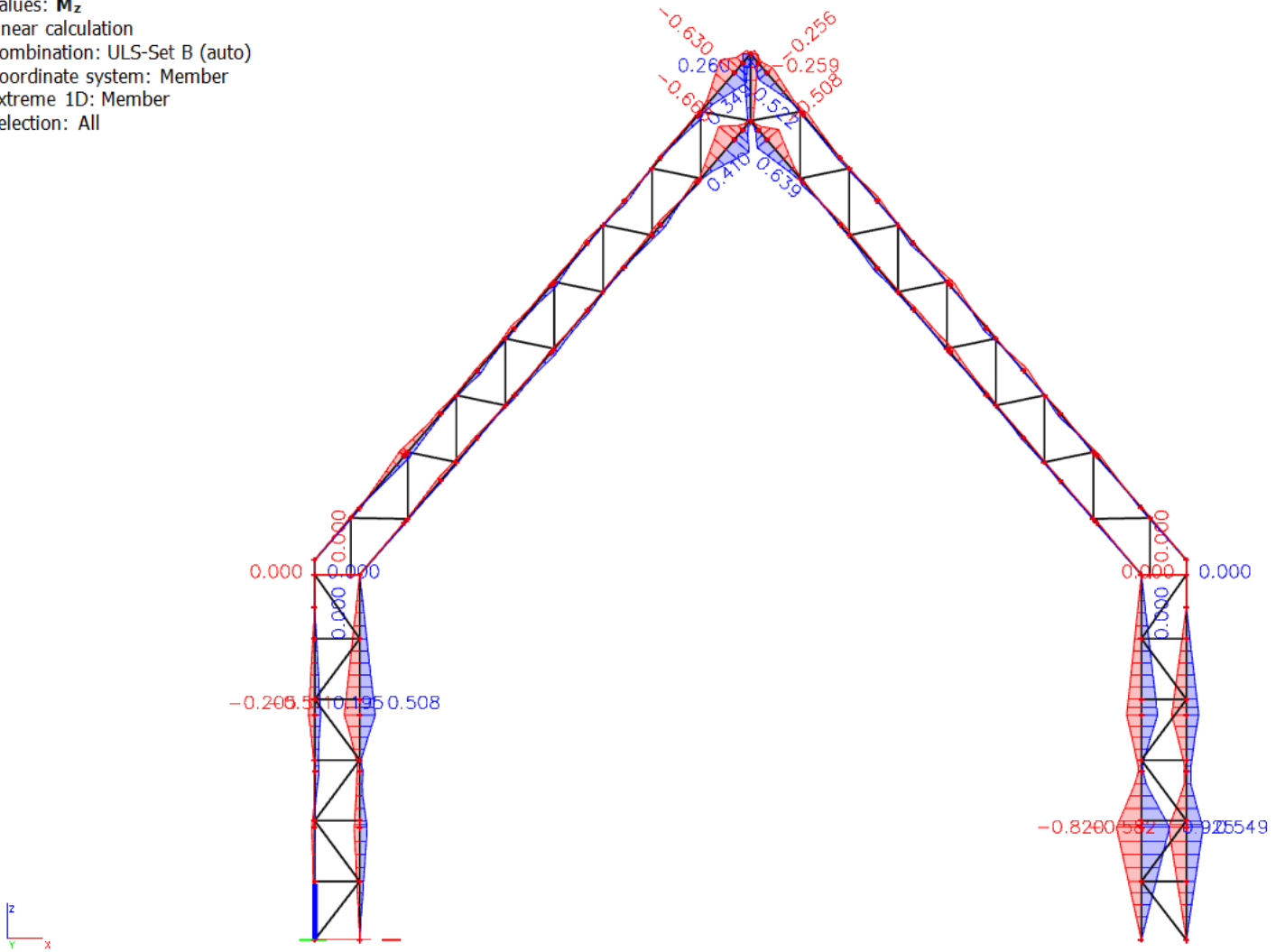
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All



Internal forces

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
818	3.342-	ULS-Set B (auto)/1	-21.175	0.499	-0.687	0.000	-0.048	-0.057
818	4.221+	ULS-Set B (auto)/2	17.552	-0.451	-0.013	0.000	-0.018	-0.004
818	0.000	ULS-Set B (auto)/3	-20.455	-4.176	-0.119	0.000	0.000	0.171
818	0.000	ULS-Set B (auto)/4	3.145	3.485	-0.087	0.000	0.000	-0.172
818	5.448-	ULS-Set B (auto)/5	-11.632	0.074	-1.119	0.000	-0.282	-0.036
818	0.000	ULS-Set B (auto)/6	2.416	3.325	0.060	0.000	0.000	-0.170
818	5.329+	ULS-Set B (auto)/7	-4.970	0.017	-0.667	0.000	-0.217	-0.011
818	5.448+	ULS-Set B (auto)/8	-0.102	0.061	1.083	0.000	-0.366	-0.030
818	0.678+	ULS-Set B (auto)/2	-10.491	1.510	-0.519	0.000	0.109	0.078
818	0.221-	ULS-Set B (auto)/3	-20.652	-3.083	0.042	0.000	-0.008	-0.630
818	0.221+	ULS-Set B (auto)/4	-2.970	-1.145	0.003	0.000	-0.008	0.522
819	0.000	ULS-Set B (auto)/8	-4.916	0.000	6.905	0.000	0.000	0.000
819	0.000	ULS-Set B (auto)/2	1.762	0.000	-1.945	0.000	0.000	0.000
819	0.400	ULS-Set B (auto)/9	-3.357	0.000	-2.144	0.000	0.000	0.000
819	0.000	ULS-Set B (auto)/9	-3.357	0.000	8.913	0.000	0.000	0.000
819	0.000	ULS-Set B (auto)/3	0.233	0.000	0.559	0.000	0.000	0.000
819	0.077-	ULS-Set B (auto)/10	1.759	0.000	-1.946	0.000	-0.151	0.000
819	0.077+	ULS-Set B (auto)/9	-3.357	0.000	-2.135	0.000	0.690	0.000
819	0.077+	ULS-Set B (auto)/11	-0.404	0.000	-0.904	0.000	0.293	0.000
819	0.077+	ULS-Set B (auto)/7	-2.054	0.000	-0.937	0.000	0.304	0.000
820	3.221-	ULS-Set B (auto)/12	-9.960	-0.341	-0.006	0.000	-0.002	-0.021
820	3.221+	ULS-Set B (auto)/13	16.319	-0.335	-0.034	0.000	0.033	0.082
820	0.107+	ULS-Set B (auto)/6	2.929	-3.893	-0.004	0.000	0.029	-0.217
820	0.107+	ULS-Set B (auto)/10	13.810	3.686	-0.123	0.000	0.080	0.212
820	0.678-	ULS-Set B (auto)/14	6.435	-1.479	-0.205	0.000	-0.011	-0.045
820	4.008+	ULS-Set B (auto)/8	-2.120	-0.042	0.215	0.000	-0.019	-0.029
820	0.000	ULS-Set B (auto)/15	2.955	-2.538	0.017	0.000	0.028	0.055
820	4.674+	ULS-Set B (auto)/16	-1.905	0.222	-0.031	0.000	0.054	-0.010
820	0.000	ULS-Set B (auto)/1	-3.801	-1.082	0.178	0.000	-0.063	0.021
820	0.000	ULS-Set B (auto)/2	13.826	2.477	-0.108	0.000	0.093	-0.054
820	0.221-	ULS-Set B (auto)/17	2.581	-3.890	-0.034	0.000	0.029	-0.668
820	0.221-	ULS-Set B (auto)/18	14.125	3.683	-0.122	0.000	0.064	0.639
821	0.595	ULS-Set B (auto)/5	5.060	0.000	0.000	0.000	0.000	0.000
821	0.000	ULS-Set B (auto)/3	-0.080	0.000	0.000	0.000	0.000	0.000
821	0.000	ULS-Set B	-3.829	0.000	0.000	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
821	0.000	(auto)/4						
821	0.000	ULS-Set B (auto)/19	-3.829	0.000	0.000	0.000	0.000	0.000
822	0.595	ULS-Set B (auto)/5	3.115	0.000	0.000	0.000	0.000	0.000
822	0.000	ULS-Set B (auto)/3	0.114	0.000	0.000	0.000	0.000	0.000
822	0.000	ULS-Set B (auto)/4	-3.718	0.000	0.000	0.000	0.000	0.000
822	0.000	ULS-Set B (auto)/19	-3.718	0.000	0.000	0.000	0.000	0.000
823	0.595	ULS-Set B (auto)/5	0.850	0.000	0.000	0.000	0.000	0.000
823	0.000	ULS-Set B (auto)/3	0.738	0.000	0.000	0.000	0.000	0.000
823	0.000	ULS-Set B (auto)/4	-3.336	0.000	0.000	0.000	0.000	0.000
823	0.000	ULS-Set B (auto)/19	-3.337	0.000	0.000	0.000	0.000	0.000
824	0.595	ULS-Set B (auto)/10	1.471	0.000	0.000	0.000	0.000	0.000
824	0.000	ULS-Set B (auto)/3	1.127	0.000	0.000	0.000	0.000	0.000
824	0.000	ULS-Set B (auto)/11	-3.132	0.000	0.000	0.000	0.000	0.000
824	0.000	ULS-Set B (auto)/20	-3.463	0.000	0.000	0.000	0.000	0.000
825	0.595	ULS-Set B (auto)/10	1.837	0.000	0.000	0.000	0.000	0.000
825	0.000	ULS-Set B (auto)/21	-3.498	0.000	0.000	0.000	0.000	0.000
825	0.000	ULS-Set B (auto)/11	-3.586	0.000	0.000	0.000	0.000	0.000
825	0.000	ULS-Set B (auto)/20	-4.504	0.000	0.000	0.000	0.000	0.000
826	0.595	ULS-Set B (auto)/10	2.009	0.000	0.000	0.000	0.000	0.000
826	0.000	ULS-Set B (auto)/6	-4.104	0.000	0.000	0.000	0.000	0.000
826	0.000	ULS-Set B (auto)/22	-3.891	0.000	0.000	0.000	0.000	0.000
826	0.000	ULS-Set B (auto)/13	-5.976	0.000	0.000	0.000	0.000	0.000
827	0.595	ULS-Set B (auto)/10	2.522	0.000	0.000	0.000	0.000	0.000
827	0.000	ULS-Set B (auto)/4	-1.732	0.000	0.000	0.000	0.000	0.000
827	0.000	ULS-Set B (auto)/3	0.509	0.000	0.000	0.000	0.000	0.000
827	0.000	ULS-Set B (auto)/13	-8.444	0.000	0.000	0.000	0.000	0.000
828	0.505	ULS-Set B (auto)/10	2.427	0.000	0.000	0.000	0.000	0.000
828	0.000	ULS-Set B (auto)/11	-4.681	0.000	0.000	0.000	0.000	0.000
828	0.000	ULS-Set B (auto)/7	-4.855	0.000	0.000	0.000	0.000	0.000
828	0.000	ULS-Set B (auto)/9	-11.045	0.000	0.000	0.000	0.000	0.000
829	0.000	ULS-Set B (auto)/2	-2.210	0.001	-0.095	0.000	0.000	0.000
829	0.130	ULS-Set B (auto)/23	-1.988	0.000	0.092	0.000	0.000	0.000
829	0.000	ULS-Set B (auto)/24	0.413	-0.001	-0.026	0.000	0.000	0.000
829	0.130	ULS-Set B (auto)/25	0.819	0.000	-0.075	0.000	0.000	0.000
829	0.130	ULS-Set B (auto)/2	-2.172	0.001	0.091	0.000	0.000	0.000
829	0.130	ULS-Set B (auto)/15	2.321	-0.002	0.053	0.000	0.001	0.000
830	0.449	ULS-Set B (auto)/19	3.347	0.000	-0.004	0.000	0.000	0.000
830	0.449	ULS-Set B (auto)/1	-5.681	0.000	-0.006	0.000	0.000	0.000
830	0.000	ULS-Set B	0.844	0.000	0.006	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/3						
830	0.000	ULS-Set B (auto)/4	3.345	0.000	0.004	0.000	0.000	0.000
830	0.225-	ULS-Set B (auto)/1	-5.682	0.000	0.000	0.000	0.001	0.000
830	0.000	ULS-Set B (auto)/1	-5.683	0.000	0.006	0.000	0.000	0.000
831	0.444	ULS-Set B (auto)/19	3.043	0.000	-0.004	0.000	0.000	0.000
831	0.444	ULS-Set B (auto)/5	-3.736	0.000	-0.006	0.000	0.000	0.000
831	0.000	ULS-Set B (auto)/3	0.361	0.000	0.006	0.000	0.000	0.000
831	0.000	ULS-Set B (auto)/4	3.041	0.000	0.004	0.000	0.000	0.000
831	0.222-	ULS-Set B (auto)/5	-3.738	0.000	0.000	0.000	0.001	0.000
831	0.000	ULS-Set B (auto)/5	-3.739	0.000	0.006	0.000	0.000	0.000
832	0.444	ULS-Set B (auto)/19	2.845	0.000	-0.004	0.000	0.000	0.000
832	0.444	ULS-Set B (auto)/5	-2.160	0.000	-0.006	0.000	0.000	0.000
832	0.000	ULS-Set B (auto)/3	0.010	0.000	0.006	0.000	0.000	0.000
832	0.000	ULS-Set B (auto)/4	2.843	0.000	0.004	0.000	0.000	0.000
832	0.222-	ULS-Set B (auto)/5	-2.161	0.000	0.000	0.000	0.001	0.000
832	0.000	ULS-Set B (auto)/5	-2.162	0.000	0.006	0.000	0.000	0.000
833	0.444	ULS-Set B (auto)/19	2.583	0.000	-0.004	0.000	0.000	0.000
833	0.444	ULS-Set B (auto)/5	-0.508	0.000	-0.006	0.000	0.000	0.000
833	0.000	ULS-Set B (auto)/3	-0.398	0.000	0.006	0.000	0.000	0.000
833	0.000	ULS-Set B (auto)/4	2.581	0.000	0.004	0.000	0.000	0.000
833	0.222-	ULS-Set B (auto)/5	-0.509	0.000	0.000	0.000	0.001	0.000
833	0.000	ULS-Set B (auto)/5	-0.510	0.000	0.006	0.000	0.000	0.000
834	0.444	ULS-Set B (auto)/20	2.749	0.000	-0.006	0.000	0.000	0.000
834	0.000	ULS-Set B (auto)/3	-0.713	0.000	0.006	0.000	0.000	0.000
834	0.000	ULS-Set B (auto)/11	2.460	0.000	0.004	0.000	0.000	0.000
834	0.222-	ULS-Set B (auto)/20	2.747	0.000	0.000	0.000	0.001	0.000
834	0.000	ULS-Set B (auto)/10	-0.998	0.000	0.004	0.000	0.000	0.000
835	0.444	ULS-Set B (auto)/20	3.441	0.000	-0.006	0.000	0.000	0.000
835	0.000	ULS-Set B (auto)/6	2.788	0.000	0.006	0.000	0.000	0.000
835	0.000	ULS-Set B (auto)/22	2.746	0.000	0.004	0.000	0.000	0.000
835	0.222-	ULS-Set B (auto)/20	3.440	0.000	0.000	0.000	0.001	0.000
835	0.000	ULS-Set B (auto)/10	-1.257	0.000	0.004	0.000	0.000	0.000
836	0.444	ULS-Set B (auto)/13	4.738	0.000	-0.006	0.000	0.000	0.000
836	0.000	ULS-Set B (auto)/15	3.377	0.000	0.006	0.000	0.000	0.000
836	0.000	ULS-Set B (auto)/2	-1.378	0.000	0.004	0.000	0.000	0.000
836	0.222-	ULS-Set B (auto)/13	4.737	0.000	0.000	0.000	0.001	0.000
836	0.000	ULS-Set B (auto)/10	-1.378	0.000	0.004	0.000	0.000	0.000
837	0.504	ULS-Set B (auto)/13	7.044	0.000	-0.007	0.000	0.000	0.000
837	0.000	ULS-Set B	1.405	0.000	0.005	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/4						
837	0.000	ULS-Set B (auto)/3	-0.400	0.000	0.007	0.000	0.000	0.000
837	0.202-	ULS-Set B (auto)/13	7.044	0.000	0.001	0.000	0.001	0.000
837	0.000	ULS-Set B (auto)/10	-1.999	0.000	0.005	0.000	0.000	0.000
838	3.342-	ULS-Set B (auto)/26	-20.706	-0.525	-0.666	0.000	-0.043	0.059
838	0.000	ULS-Set B (auto)/27	7.428	-0.829	0.109	0.000	0.000	0.065
838	0.000	ULS-Set B (auto)/19	3.114	-2.277	-0.094	0.000	0.000	0.171
838	0.000	ULS-Set B (auto)/23	-20.432	3.083	-0.114	0.000	0.000	-0.170
838	5.448-	ULS-Set B (auto)/26	-10.075	-0.075	-1.139	0.000	-0.293	0.037
838	5.448+	ULS-Set B (auto)/3	2.218	0.020	0.504	0.000	-0.238	-0.010
838	5.448+	ULS-Set B (auto)/4	-0.897	-0.011	0.120	0.000	-0.117	0.005
838	5.448+	ULS-Set B (auto)/9	1.170	-0.057	1.110	0.000	-0.379	0.028
838	0.678+	ULS-Set B (auto)/2	-12.662	-0.929	-0.519	0.000	0.112	-0.089
838	0.221-	ULS-Set B (auto)/12	1.757	-1.461	0.029	0.000	0.012	-0.256
838	0.221+	ULS-Set B (auto)/23	-16.261	-0.993	0.035	0.000	-0.007	0.349
839	0.000	ULS-Set B (auto)/9	-5.082	0.000	6.477	0.000	0.000	0.000
839	0.077+	ULS-Set B (auto)/2	-0.412	0.000	0.340	0.000	-0.109	0.000
839	0.400	ULS-Set B (auto)/8	-3.282	0.000	-1.988	0.000	0.000	0.000
839	0.000	ULS-Set B (auto)/8	-3.282	0.000	8.263	0.000	0.000	0.000
839	0.000	ULS-Set B (auto)/3	-2.060	0.000	1.074	0.000	0.000	0.000
839	0.000	ULS-Set B (auto)/28	0.352	0.000	2.210	0.000	0.000	0.000
839	0.077+	ULS-Set B (auto)/8	-3.282	0.000	-1.979	0.000	0.640	0.000
839	0.077+	ULS-Set B (auto)/15	-1.891	0.000	-0.795	0.000	0.258	0.000
840	3.221-	ULS-Set B (auto)/22	-10.251	0.392	-0.011	0.000	-0.003	0.033
840	0.000	ULS-Set B (auto)/23	13.674	-2.075	-0.080	0.000	0.092	0.056
840	0.107+	ULS-Set B (auto)/29	13.492	-2.995	-0.113	0.000	0.082	-0.166
840	0.107+	ULS-Set B (auto)/30	3.827	2.552	-0.011	0.000	0.026	0.118
840	0.678-	ULS-Set B (auto)/14	7.413	1.166	-0.208	0.000	-0.009	0.040
840	4.008+	ULS-Set B (auto)/9	-2.677	0.009	0.219	0.000	-0.018	0.014
840	4.674+	ULS-Set B (auto)/16	-5.055	-0.130	-0.032	0.000	0.055	-0.016
840	3.221+	ULS-Set B (auto)/15	6.649	-0.002	-0.035	0.000	0.013	0.025
840	0.000	ULS-Set B (auto)/31	-2.635	0.244	0.183	0.000	-0.065	-0.027
840	0.000	ULS-Set B (auto)/2	13.144	-1.944	-0.112	0.000	0.097	0.054
840	0.221+	ULS-Set B (auto)/3	7.693	1.215	-0.130	0.000	0.070	-0.508
840	0.221+	ULS-Set B (auto)/4	8.278	-0.803	-0.044	0.000	0.022	0.410
841	0.595	ULS-Set B (auto)/32	6.298	0.000	0.000	0.000	0.000	0.000
841	0.000	ULS-Set B (auto)/2	-2.084	0.000	0.000	0.000	0.000	0.000
841	0.000	ULS-Set B (auto)/15	-1.328	0.000	0.000	0.000	0.000	0.000
841	0.000	ULS-Set B	-2.798	0.000	0.000	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/4						
842	0.595	ULS-Set B (auto)/32	4.383	0.000	0.000	0.000	0.000	0.000
842	0.000	ULS-Set B (auto)/33	3.446	0.000	0.000	0.000	0.000	0.000
842	0.000	ULS-Set B (auto)/15	-1.742	0.000	0.000	0.000	0.000	0.000
842	0.000	ULS-Set B (auto)/4	-2.663	0.000	0.000	0.000	0.000	0.000
843	0.595	ULS-Set B (auto)/32	2.064	0.000	0.000	0.000	0.000	0.000
843	0.000	ULS-Set B (auto)/2	-0.120	0.000	0.000	0.000	0.000	0.000
843	0.000	ULS-Set B (auto)/34	-0.074	0.000	0.000	0.000	0.000	0.000
843	0.000	ULS-Set B (auto)/4	-2.284	0.000	0.000	0.000	0.000	0.000
844	0.595	ULS-Set B (auto)/2	0.884	0.000	0.000	0.000	0.000	0.000
844	0.000	ULS-Set B (auto)/15	-2.283	0.000	0.000	0.000	0.000	0.000
845	0.595	ULS-Set B (auto)/2	1.250	0.000	0.000	0.000	0.000	0.000
845	0.000	ULS-Set B (auto)/12	-1.572	0.000	0.000	0.000	0.000	0.000
845	0.000	ULS-Set B (auto)/6	-2.558	0.000	0.000	0.000	0.000	0.000
845	0.000	ULS-Set B (auto)/35	-2.790	0.000	0.000	0.000	0.000	0.000
846	0.595	ULS-Set B (auto)/2	1.396	0.000	0.000	0.000	0.000	0.000
846	0.000	ULS-Set B (auto)/10	1.383	0.000	0.000	0.000	0.000	0.000
846	0.000	ULS-Set B (auto)/6	-3.006	0.000	0.000	0.000	0.000	0.000
846	0.000	ULS-Set B (auto)/8	-5.012	0.000	0.000	0.000	0.000	0.000
847	0.595	ULS-Set B (auto)/2	2.044	0.000	0.000	0.000	0.000	0.000
847	0.000	ULS-Set B (auto)/36	-3.827	0.000	0.000	0.000	0.000	0.000
847	0.000	ULS-Set B (auto)/19	-0.766	0.000	0.000	0.000	0.000	0.000
847	0.000	ULS-Set B (auto)/31	-7.123	0.000	0.000	0.000	0.000	0.000
848	0.505	ULS-Set B (auto)/2	1.754	0.000	0.000	0.000	0.000	0.000
848	0.000	ULS-Set B (auto)/15	-4.127	0.000	0.000	0.000	0.000	0.000
848	0.000	ULS-Set B (auto)/8	-10.240	0.000	0.000	0.000	0.000	0.000
849	0.000	ULS-Set B (auto)/37	0.158	0.000	-0.001	0.000	0.000	0.000
849	0.130	ULS-Set B (auto)/34	1.121	-0.001	-0.032	0.000	0.000	0.000
849	0.130	ULS-Set B (auto)/3	0.724	0.001	-0.094	0.000	0.000	0.000
849	0.000	ULS-Set B (auto)/10	0.326	0.002	0.093	0.000	0.000	0.000
849	0.130	ULS-Set B (auto)/38	0.229	0.000	0.075	0.000	0.000	0.000
849	0.130	ULS-Set B (auto)/21	1.070	-0.003	-0.033	0.000	-0.001	0.000
849	0.130	ULS-Set B (auto)/15	0.928	-0.003	-0.052	0.000	0.000	0.000
849	0.130	ULS-Set B (auto)/2	0.364	0.002	-0.093	0.000	0.000	0.000
850	0.449	ULS-Set B (auto)/10	2.855	0.000	-0.004	0.000	0.000	0.000
850	0.449	ULS-Set B (auto)/32	-6.657	0.000	-0.006	0.000	0.000	0.000
850	0.000	ULS-Set B (auto)/4	2.557	0.000	0.004	0.000	0.000	0.000
850	0.000	ULS-Set B (auto)/3	1.253	0.000	0.006	0.000	0.000	0.000
850	0.225-	ULS-Set B	-6.658	0.000	0.000	0.000	0.001	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/32						
850	0.000	ULS-Set B (auto)/32	-6.659	0.000	0.006	0.000	0.000	0.000
851	0.444	ULS-Set B (auto)/4	2.261	0.000	-0.004	0.000	0.000	0.000
851	0.444	ULS-Set B (auto)/32	-4.698	0.000	-0.006	0.000	0.000	0.000
851	0.000	ULS-Set B (auto)/12	0.133	0.000	0.004	0.000	0.000	0.000
851	0.000	ULS-Set B (auto)/23	0.769	0.000	0.006	0.000	0.000	0.000
851	0.222-	ULS-Set B (auto)/32	-4.699	0.000	0.000	0.000	0.001	0.000
851	0.000	ULS-Set B (auto)/32	-4.700	0.000	0.006	0.000	0.000	0.000
852	0.444	ULS-Set B (auto)/4	2.060	0.000	-0.004	0.000	0.000	0.000
852	0.444	ULS-Set B (auto)/32	-3.099	0.000	-0.006	0.000	0.000	0.000
852	0.000	ULS-Set B (auto)/12	0.404	0.000	0.004	0.000	0.000	0.000
852	0.000	ULS-Set B (auto)/7	-0.676	0.000	0.006	0.000	0.000	0.000
852	0.222-	ULS-Set B (auto)/32	-3.100	0.000	0.000	0.000	0.001	0.000
852	0.000	ULS-Set B (auto)/32	-3.101	0.000	0.006	0.000	0.000	0.000
853	0.444	ULS-Set B (auto)/4	1.801	0.000	-0.004	0.000	0.000	0.000
853	0.444	ULS-Set B (auto)/32	-1.413	0.000	-0.006	0.000	0.000	0.000
853	0.000	ULS-Set B (auto)/2	0.210	0.000	0.004	0.000	0.000	0.000
853	0.000	ULS-Set B (auto)/20	0.773	0.000	0.006	0.000	0.000	0.000
853	0.222-	ULS-Set B (auto)/32	-1.414	0.000	0.000	0.000	0.001	0.000
853	0.000	ULS-Set B (auto)/32	-1.415	0.000	0.006	0.000	0.000	0.000
854	0.444	ULS-Set B (auto)/15	1.859	0.000	-0.006	0.000	0.000	0.000
854	0.000	ULS-Set B (auto)/15	1.857	0.000	0.006	0.000	0.000	0.000
854	0.222-	ULS-Set B (auto)/15	1.858	0.000	0.000	0.000	0.001	0.000
854	0.000	ULS-Set B (auto)/2	-0.555	0.000	0.004	0.000	0.000	0.000
855	0.444	ULS-Set B (auto)/35	2.147	0.000	-0.006	0.000	0.000	0.000
855	0.000	ULS-Set B (auto)/12	1.255	0.000	0.004	0.000	0.000	0.000
855	0.000	ULS-Set B (auto)/6	1.990	0.000	0.006	0.000	0.000	0.000
855	0.222-	ULS-Set B (auto)/35	2.146	0.000	0.000	0.000	0.001	0.000
855	0.000	ULS-Set B (auto)/2	-0.832	0.000	0.004	0.000	0.000	0.000
856	0.444	ULS-Set B (auto)/8	4.082	0.000	-0.006	0.000	0.000	0.000
856	0.000	ULS-Set B (auto)/6	2.531	0.000	0.006	0.000	0.000	0.000
856	0.222-	ULS-Set B (auto)/8	4.081	0.000	0.000	0.000	0.001	0.000
856	0.000	ULS-Set B (auto)/2	-0.891	0.000	0.004	0.000	0.000	0.000
857	0.504	ULS-Set B (auto)/31	5.939	0.000	-0.007	0.000	0.000	0.000
857	0.000	ULS-Set B (auto)/15	2.194	0.000	0.007	0.000	0.000	0.000
857	0.202-	ULS-Set B (auto)/31	5.939	0.000	0.001	0.000	0.001	0.000
857	0.000	ULS-Set B (auto)/2	-1.664	0.000	0.005	0.000	0.000	0.000
1751	0.656	ULS-Set B (auto)/38	5.933	0.000	-0.004	0.000	0.000	0.000
1751	0.656	ULS-Set B	-11.253	0.000	-0.005	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/3						
1751	0.000	ULS-Set B (auto)/2	-8.614	0.000	0.004	0.000	0.000	0.000
1751	0.000	ULS-Set B (auto)/6	-5.302	0.000	0.005	0.000	0.000	0.000
1751	0.328-	ULS-Set B (auto)/3	-11.260	0.000	0.000	0.000	0.001	0.000
1751	0.000	ULS-Set B (auto)/3	-11.267	0.000	0.005	0.000	0.000	0.000
1752	0.672	ULS-Set B (auto)/3	9.689	0.000	-0.005	0.000	0.000	0.000
1752	0.000	ULS-Set B (auto)/3	9.674	0.000	0.005	0.000	0.000	0.000
1752	0.000	ULS-Set B (auto)/4	1.513	0.000	0.004	0.000	0.000	0.000
1752	0.336-	ULS-Set B (auto)/3	9.681	0.000	0.000	0.000	0.001	0.000
1752	0.000	ULS-Set B (auto)/38	-5.003	0.000	0.004	0.000	0.000	0.000
1753	0.672	ULS-Set B (auto)/38	3.611	0.000	-0.004	0.000	0.000	0.000
1753	0.672	ULS-Set B (auto)/7	-8.957	0.000	-0.005	0.000	0.000	0.000
1753	0.000	ULS-Set B (auto)/4	-1.031	0.000	0.004	0.000	0.000	0.000
1753	0.000	ULS-Set B (auto)/3	-8.637	0.000	0.005	0.000	0.000	0.000
1753	0.336-	ULS-Set B (auto)/7	-8.964	0.000	0.000	0.000	0.001	0.000
1753	0.000	ULS-Set B (auto)/7	-8.972	0.000	0.005	0.000	0.000	0.000
1754	0.672	ULS-Set B (auto)/9	7.805	0.000	-0.005	0.000	0.000	0.000
1754	0.000	ULS-Set B (auto)/15	3.173	0.000	0.005	0.000	0.000	0.000
1754	0.000	ULS-Set B (auto)/2	4.604	0.000	0.004	0.000	0.000	0.000
1754	0.336-	ULS-Set B (auto)/9	7.798	0.000	0.000	0.000	0.001	0.000
1754	0.000	ULS-Set B (auto)/38	-2.998	0.000	0.004	0.000	0.000	0.000
1755	0.672	ULS-Set B (auto)/38	1.821	0.000	-0.004	0.000	0.000	0.000
1755	0.672	ULS-Set B (auto)/9	-9.000	0.000	-0.005	0.000	0.000	0.000
1755	0.000	ULS-Set B (auto)/34	-8.333	0.000	0.005	0.000	0.000	0.000
1755	0.336-	ULS-Set B (auto)/9	-9.007	0.000	0.000	0.000	0.001	0.000
1755	0.000	ULS-Set B (auto)/9	-9.015	0.000	0.005	0.000	0.000	0.000
1756	0.696	ULS-Set B (auto)/9	8.807	0.000	-0.005	0.000	0.000	0.000
1756	0.000	ULS-Set B (auto)/2	1.437	0.000	0.004	0.000	0.000	0.000
1756	0.000	ULS-Set B (auto)/39	1.971	0.000	0.005	0.000	0.000	0.000
1756	0.348-	ULS-Set B (auto)/9	8.799	0.000	0.000	0.000	0.001	0.000
1756	0.000	ULS-Set B (auto)/28	-0.869	0.000	0.004	0.000	0.000	0.000
1757	0.400	ULS-Set B (auto)/23	0.968	0.000	-0.005	0.000	0.000	0.000
1757	0.000	ULS-Set B (auto)/2	0.866	0.000	0.004	0.000	0.000	0.000
1757	0.000	ULS-Set B (auto)/15	0.676	0.000	0.005	0.000	0.000	0.000
1757	0.200-	ULS-Set B (auto)/23	0.968	0.000	0.000	0.000	0.001	0.000
1757	0.000	ULS-Set B (auto)/33	-0.653	0.000	0.004	0.000	0.000	0.000
1758	0.400	ULS-Set B (auto)/5	0.238	0.000	-0.005	0.000	0.000	0.000
1758	0.000	ULS-Set B (auto)/5	0.238	0.000	0.005	0.000	0.000	0.000
1758	0.000	ULS-Set B	0.067	0.000	0.004	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/33						
1758	0.200-	ULS-Set B (auto)/5	0.238	0.000	0.000	0.000	0.001	0.000
1758	0.000	ULS-Set B (auto)/2	-0.002	0.000	0.004	0.000	0.000	0.000
1759	0.400	ULS-Set B (auto)/23	0.809	0.000	-0.005	0.000	0.000	0.000
1759	0.000	ULS-Set B (auto)/4	0.306	0.000	0.004	0.000	0.000	0.000
1759	0.000	ULS-Set B (auto)/3	0.809	0.000	0.005	0.000	0.000	0.000
1759	0.200-	ULS-Set B (auto)/23	0.809	0.000	0.000	0.000	0.001	0.000
1759	0.000	ULS-Set B (auto)/33	-0.345	0.000	0.004	0.000	0.000	0.000
1760	0.400	ULS-Set B (auto)/40	0.772	0.000	-0.005	0.000	0.000	0.000
1760	0.000	ULS-Set B (auto)/6	0.625	0.000	0.005	0.000	0.000	0.000
1760	0.200-	ULS-Set B (auto)/40	0.772	0.000	0.000	0.000	0.001	0.000
1760	0.000	ULS-Set B (auto)/10	-0.248	0.000	0.004	0.000	0.000	0.000
1761	0.400	ULS-Set B (auto)/3	0.933	0.000	-0.005	0.000	0.000	0.000
1761	0.000	ULS-Set B (auto)/21	0.398	0.000	0.005	0.000	0.000	0.000
1761	0.000	ULS-Set B (auto)/28	-0.386	0.000	0.004	0.000	0.000	0.000
1761	0.200-	ULS-Set B (auto)/3	0.933	0.000	0.000	0.000	0.001	0.000
1761	0.000	ULS-Set B (auto)/38	-0.727	0.000	0.004	0.000	0.000	0.000
1763	0.656	ULS-Set B (auto)/27	5.309	0.000	-0.004	0.000	0.000	0.000
1763	0.656	ULS-Set B (auto)/3	-10.704	0.000	-0.005	0.000	0.000	0.000
1763	0.000	ULS-Set B (auto)/6	-6.467	0.000	0.005	0.000	0.000	0.000
1763	0.000	ULS-Set B (auto)/10	-7.967	0.000	0.004	0.000	0.000	0.000
1763	0.328-	ULS-Set B (auto)/3	-10.711	0.000	0.000	0.000	0.001	0.000
1763	0.000	ULS-Set B (auto)/3	-10.718	0.000	0.005	0.000	0.000	0.000
1764	0.672	ULS-Set B (auto)/3	8.961	0.000	-0.005	0.000	0.000	0.000
1764	0.000	ULS-Set B (auto)/19	2.795	0.000	0.004	0.000	0.000	0.000
1764	0.000	ULS-Set B (auto)/23	8.944	0.000	0.005	0.000	0.000	0.000
1764	0.336-	ULS-Set B (auto)/3	8.954	0.000	0.000	0.000	0.001	0.000
1764	0.000	ULS-Set B (auto)/27	-4.325	0.000	0.004	0.000	0.000	0.000
1765	0.672	ULS-Set B (auto)/27	2.965	0.000	-0.004	0.000	0.000	0.000
1765	0.672	ULS-Set B (auto)/41	-9.009	0.000	-0.005	0.000	0.000	0.000
1765	0.000	ULS-Set B (auto)/3	-8.229	0.000	0.005	0.000	0.000	0.000
1765	0.000	ULS-Set B (auto)/19	-2.038	0.000	0.004	0.000	0.000	0.000
1765	0.336-	ULS-Set B (auto)/41	-9.017	0.000	0.000	0.000	0.001	0.000
1765	0.000	ULS-Set B (auto)/41	-9.024	0.000	0.005	0.000	0.000	0.000
1766	0.672	ULS-Set B (auto)/26	8.134	0.000	-0.005	0.000	0.000	0.000
1766	0.000	ULS-Set B (auto)/11	-0.779	0.000	0.004	0.000	0.000	0.000
1766	0.000	ULS-Set B (auto)/21	6.504	0.000	0.005	0.000	0.000	0.000
1766	0.336-	ULS-Set B (auto)/26	8.127	0.000	0.000	0.000	0.001	0.000
1766	0.000	ULS-Set B	-2.304	0.000	0.004	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/27						
1767	0.672	ULS-Set B (auto)/2	1.069	0.000	-0.004	0.000	0.000	0.000
1767	0.672	ULS-Set B (auto)/8	-8.690	0.000	-0.005	0.000	0.000	0.000
1767	0.000	ULS-Set B (auto)/40	-7.401	0.000	0.005	0.000	0.000	0.000
1767	0.336-	ULS-Set B (auto)/8	-8.697	0.000	0.000	0.000	0.001	0.000
1767	0.000	ULS-Set B (auto)/8	-8.704	0.000	0.005	0.000	0.000	0.000
1768	0.696	ULS-Set B (auto)/8	8.522	0.000	-0.005	0.000	0.000	0.000
1768	0.000	ULS-Set B (auto)/16	3.045	0.000	0.005	0.000	0.000	0.000
1768	0.348-	ULS-Set B (auto)/8	8.514	0.000	0.000	0.000	0.001	0.000
1768	0.000	ULS-Set B (auto)/2	-2.342	0.000	0.004	0.000	0.000	0.000
1769	0.400	ULS-Set B (auto)/23	1.004	0.000	-0.005	0.000	0.000	0.000
1769	0.000	ULS-Set B (auto)/6	0.635	0.000	0.005	0.000	0.000	0.000
1769	0.000	ULS-Set B (auto)/10	0.901	0.000	0.004	0.000	0.000	0.000
1769	0.200-	ULS-Set B (auto)/23	1.004	0.000	0.000	0.000	0.001	0.000
1769	0.000	ULS-Set B (auto)/25	-0.675	0.000	0.004	0.000	0.000	0.000
1770	0.400	ULS-Set B (auto)/7	0.256	0.000	-0.005	0.000	0.000	0.000
1770	0.000	ULS-Set B (auto)/25	0.102	0.000	0.004	0.000	0.000	0.000
1770	0.000	ULS-Set B (auto)/8	0.238	0.000	0.005	0.000	0.000	0.000
1770	0.200-	ULS-Set B (auto)/7	0.256	0.000	0.000	0.000	0.001	0.000
1770	0.000	ULS-Set B (auto)/4	-0.094	0.000	0.004	0.000	0.000	0.000
1771	0.400	ULS-Set B (auto)/23	0.882	0.000	-0.005	0.000	0.000	0.000
1771	0.000	ULS-Set B (auto)/14	0.824	0.000	0.005	0.000	0.000	0.000
1771	0.000	ULS-Set B (auto)/42	0.393	0.000	0.004	0.000	0.000	0.000
1771	0.200-	ULS-Set B (auto)/23	0.882	0.000	0.000	0.000	0.001	0.000
1771	0.000	ULS-Set B (auto)/25	-0.541	0.000	0.004	0.000	0.000	0.000
1772	0.400	ULS-Set B (auto)/15	1.894	0.000	-0.005	0.000	0.000	0.000
1772	0.000	ULS-Set B (auto)/16	0.080	0.000	0.005	0.000	0.000	0.000
1772	0.200-	ULS-Set B (auto)/15	1.894	0.000	0.000	0.000	0.001	0.000
1772	0.000	ULS-Set B (auto)/2	-1.715	0.000	0.004	0.000	0.000	0.000
1773	0.400	ULS-Set B (auto)/3	0.938	0.000	-0.005	0.000	0.000	0.000
1773	0.000	ULS-Set B (auto)/11	-0.272	0.000	0.004	0.000	0.000	0.000
1773	0.000	ULS-Set B (auto)/3	0.938	0.000	0.005	0.000	0.000	0.000
1773	0.200-	ULS-Set B (auto)/3	0.938	0.000	0.000	0.000	0.001	0.000
1773	0.000	ULS-Set B (auto)/27	-0.644	0.000	0.004	0.000	0.000	0.000
2281	0.000	ULS-Set B (auto)/27	-7.664	0.109	0.000	0.000	0.000	0.034
2281	0.000	ULS-Set B (auto)/14	17.392	-0.298	-0.008	0.000	0.005	-0.080
2281	0.000	ULS-Set B (auto)/43	5.827	0.297	0.011	0.000	-0.007	0.082
2281	0.000	ULS-Set B (auto)/2	16.987	-0.292	-0.008	0.000	0.005	-0.082
2281	0.000	ULS-Set B	3.776	0.137	0.015	0.000	-0.009	0.073

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/39						
2281	0.595	ULS-Set B (auto)/3	17.578	-0.292	-0.008	0.000	0.000	-0.259
2281	0.595	ULS-Set B (auto)/4	5.670	0.291	0.011	0.000	0.000	0.260
3056	0.000	ULS-Set B (auto)/38	-19.751	0.327	0.017	0.000	0.000	0.000
3056	0.520-	ULS-Set B (auto)/20	30.265	0.397	-0.151	0.000	-0.079	0.207
3056	1.000+	ULS-Set B (auto)/15	7.921	-1.996	0.110	0.000	-0.014	0.925
3056	1.000+	ULS-Set B (auto)/2	10.039	1.585	0.003	0.000	-0.013	-0.820
3056	2.000+	ULS-Set B (auto)/10	4.089	-0.415	-0.221	0.000	0.016	0.519
3056	2.000+	ULS-Set B (auto)/40	-3.825	0.110	0.660	0.000	-0.048	-0.137
3056	2.680+	ULS-Set B (auto)/28	-2.003	0.121	0.012	0.000	-0.007	-0.069
3056	2.680+	ULS-Set B (auto)/7	-8.788	-0.272	0.032	0.000	-0.018	0.155
3056	0.520-	ULS-Set B (auto)/5	28.213	0.172	-0.174	0.000	-0.091	0.090
3056	2.140+	ULS-Set B (auto)/32	-7.630	0.055	-0.121	0.000	0.045	-0.061
3057	0.000	ULS-Set B (auto)/5	-36.192	0.016	-0.161	0.000	0.000	0.000
3057	1.060-	ULS-Set B (auto)/33	6.375	-0.692	0.350	0.000	0.059	0.246
3057	1.000+	ULS-Set B (auto)/4	-16.004	-1.128	-0.090	0.000	-0.017	0.549
3057	1.000+	ULS-Set B (auto)/3	-18.383	1.417	-0.242	0.000	-0.033	-0.582
3057	0.520-	ULS-Set B (auto)/23	-18.589	-0.582	-0.527	0.000	-0.081	-0.302
3057	2.680+	ULS-Set B (auto)/3	-5.033	-0.396	0.503	0.000	-0.055	0.111
3057	2.140+	ULS-Set B (auto)/21	-4.439	0.341	0.026	0.000	0.019	-0.278
3057	2.960+	ULS-Set B (auto)/34	-6.638	-0.001	0.060	0.000	0.001	0.000
3057	0.520-	ULS-Set B (auto)/16	-32.642	0.231	-0.385	0.000	-0.100	0.120
3057	1.060-	ULS-Set B (auto)/44	3.424	-0.651	0.365	0.000	0.059	0.241
3058	0.000	ULS-Set B (auto)/8	-35.238	-0.087	0.157	0.000	0.000	0.000
3058	1.060-	ULS-Set B (auto)/25	7.312	-0.046	-0.335	0.000	-0.054	0.003
3058	1.500+	ULS-Set B (auto)/6	-14.042	-0.524	0.158	0.000	0.027	0.056
3058	1.000+	ULS-Set B (auto)/26	-34.826	0.471	-0.142	0.000	0.015	-0.087
3058	2.680+	ULS-Set B (auto)/3	-4.006	-0.194	-0.501	0.000	0.054	0.054
3058	0.520-	ULS-Set B (auto)/23	-20.492	-0.093	0.538	0.000	0.087	-0.048
3058	2.960+	ULS-Set B (auto)/41	-7.462	-0.001	-0.063	0.000	0.000	0.000
3058	2.140+	ULS-Set B (auto)/41	-7.525	0.047	-0.060	0.000	0.002	-0.038
3058	2.140+	ULS-Set B (auto)/13	-3.374	0.025	0.383	0.000	-0.057	-0.021
3058	0.520-	ULS-Set B (auto)/24	-33.969	-0.086	0.301	0.000	0.096	-0.045
3058	2.000+	ULS-Set B (auto)/6	-13.813	0.214	-0.174	0.000	0.028	-0.205
3058	2.000+	ULS-Set B (auto)/10	-3.336	-0.204	0.242	0.000	-0.018	0.195
3059	0.000	ULS-Set B (auto)/27	-19.548	-0.002	-0.020	0.000	0.000	0.000
3059	0.520-	ULS-Set B (auto)/40	30.852	0.065	0.143	0.000	0.074	0.034
3059	1.500+	ULS-Set B (auto)/11	-4.713	-1.206	0.038	0.000	0.004	0.091
3059	1.500+	ULS-Set B	10.405	1.191	0.132	0.000	0.055	-0.087

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/3						
3059	2.000+	ULS-Set B (auto)/15	2.804	0.372	-1.697	0.000	0.158	-0.465
3059	2.680+	ULS-Set B (auto)/3	-0.515	-0.407	0.012	0.000	-0.007	0.232
3059	2.680+	ULS-Set B (auto)/11	-4.466	0.409	-0.007	0.000	0.004	-0.233
3059	2.000+	ULS-Set B (auto)/2	1.020	-0.392	1.551	0.000	-0.145	0.490
3059	2.000+	ULS-Set B (auto)/11	-4.255	0.409	0.035	0.000	-0.012	-0.511
3059	2.000+	ULS-Set B (auto)/3	0.863	-0.407	1.489	0.000	-0.143	0.508

Name	Combination key
	1.35*G2
ULS-Set B (auto)/41	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/42	G + G1 + 0.75*Q3 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/43	G + G1 + 1.05*Q1 + 0.75*Q3 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/44	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q7 + 1.35*G3 + 1.35*G2

Name	Combination key
ULS-Set B (auto)/1	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/2	G + G1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/3	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/4	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/5	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/6	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/7	1.35*G + 1.35*G1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q8
ULS-Set B (auto)/8	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/9	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/10	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/11	G + G1 + 1.05*Q1 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/12	G + G1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/13	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/14	1.35*G + 1.35*G1 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/15	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/16	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/17	1.35*G + 1.35*G1 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/18	G + G1 + 1.05*Q1 + 0.75*Q3 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/19	G + G1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/20	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/21	1.35*G + 1.35*G1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q9
ULS-Set B (auto)/22	G + G1 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/23	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/24	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/25	G + G1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/26	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/27	G + G1 + 1.05*Q1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/28	G + G1 + 1.05*Q1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/29	G + G1 + 0.75*Q3 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/30	1.35*G + 1.35*G1 + 1.05*Q1 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/31	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/32	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/33	G + G1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/34	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/35	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q9
ULS-Set B (auto)/36	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/37	G + G1 + 1.50*Q1 + G3 + G2
ULS-Set B (auto)/38	G + G1 + 1.05*Q1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/39	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/40	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 +

Member 3057 check

EN 1993-1-3 Cold Formed Code Check

National annex: Standard EN

Member 3057	0.520 / 3.250 m	Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	ULS-Set B (auto)	0.83 -
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Combination key
ULS-Set B (auto) / 1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q4 + 1.35*G3 + 1.35*G2

Partial safety factors	
γ_{M0} for resistance of cross-sections	1.00
γ_{M1} for resistance to instability	1.00
γ_{M2} for resistance of net sections	1.25

Material		
Yield strength f_y	350.0	MPa
Average yield strength $f_{y,a}$	360.7	MPa
k	7	
n	4	
Ultimate strength f_u	420.0	MPa
Fabrication	cold formed	

...:SECTION CHECK:...

The critical check is on position 0.520 m

Internal forces		Calculated	Additional moments	Total	Unit
Normal force	N_{Ed}	-35.322		-35.322	kN
Shear force	$V_{y,Ed}$	-0.308		-0.308	kN
Shear force	$V_{z,Ed}$	-0.106		-0.106	kN
Torsion	T_{Ed}	0.000		0.000	kNm
Bending moment	$M_{y,Ed}$	-0.055	0.000	-0.055	kNm
Bending moment	$M_{z,Ed}$	-0.100	-0.070	-0.169	kNm

Effective section N-

Effective width calculation

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	$\lambda_{p,red}$ [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	13.3	3.500e+05	3.500e+05	1.00	0.50	0.68	0.58	1.00	13.3		
3	I	46.7	3.500e+05	3.500e+05	1.00	4.00	0.84	0.72	0.96	45.0	20.6	22.5
5	I	96.7	3.500e+05	3.500e+05	1.00	4.00	1.73		0.50	48.8	24.4	24.4
7	I	46.7	3.500e+05	3.500e+05	1.00	4.00	0.84	0.72	0.96	45.0	20.6	22.5
9	UO	13.3	3.500e+05	3.500e+05	1.00	0.50	0.68	0.58	1.00	13.3		

Stiffener calculation

According to EN 1993-1-3 article 5.5.3

Id	A_s [m ²]	I_s [m ⁴]	b_1 [mm]	b_2 [mm]	h_w [mm]	k_r [-]	K [kN/m ²]	σ_{cr} [kN/m ²]	λ_d [-]	χ_d [-]	$A_{s,red}$ [m ²]
1	4.3697e-05	8.3901e-10	41.2	41.2	98.8	1.00	3.109e+02	3.387e+05	1.02	0.74	3.2121e-05
9	4.3697e-05	8.3901e-10	41.2	41.2	98.8	1.00	3.109e+02	3.387e+05	1.02	0.74	3.2121e-05

Effective section My-**Effective width calculation**

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	$\lambda_{p,red}$ [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	13.3	3.302e+05	2.414e+05	0.73	0.50	0.68	0.60	1.00	13.3		
3	I	46.7	3.500e+05	3.375e+05	0.96	4.07	0.83	0.74	0.95	44.6	20.6	22.5
5	I	96.7	3.433e+05	-3.001e+05	-0.87	20.79	0.76		1.00	51.6	20.6	31.0
7	I	46.7	-3.074e+05	-3.200e+05								
9	UO	13.3	-2.244e+05	-3.132e+05								

Stiffener calculation

According to EN 1993-1-3 article 5.5.3

Id	A_s [m ²]	I_s [m ⁴]	b_1 [mm]	b_2 [mm]	h_w [mm]	k_T [-]	K [kN/m ²]	σ_{cr} [kN/m ²]	λ_d [-]	χ_d [-]	$A_{s,red}$ [m ²]
1	4.3659e-05	8.3870e-10	41.2	31.2	98.8	0.00	4.203e+02	3.941e+05	0.94	0.79	3.4433e-05

Effective section Mz-**Effective width calculation**

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	13.3	-3.500e+05	-3.500e+05							
3	I	46.7	2.566e+05	-3.366e+05	-1.31	31.95	0.30	1.00	20.2	8.1	12.1
5	I	96.7	2.700e+05	2.700e+05	1.00	4.00	1.73	0.50	48.8	24.4	24.4
7	I	46.7	2.566e+05	-3.366e+05	-1.31	31.95	0.30	1.00	20.2	8.1	12.1
9	UO	13.3	-3.500e+05	-3.500e+05							

Effective properties

Effective area	A_{eff}	1.7410e-04	m ²			
Effective second moment of area	$I_{eff,y}$	3.9441e-07	m ⁴	$I_{eff,z}$	7.3516e-08	m ⁴
Effective section modulus	$W_{eff,y}$	7.4448e-06	m ³	$W_{eff,z}$	2.6118e-06	m ³
Shift of the centroid	$e_{N,y}$	0.0	mm	$e_{N,z}$	2.0	mm

Compression check

According to EN 1993-1-3 article 6.1.3 and formula (6.2)

Effective section area	A_{eff}	1.7410e-04	m ²
Compression resistance	$N_{c,Rd}$	60.935	kN
Unity check		0.58	-

Bending moment check for M_y

According to EN 1993-1-3 article 6.1.4 and formula (6.4)

Effective section modulus	$W_{eff,y}$	7.4448e-06	m ³
Bending moment resistance	$M_{c,y,Rd}$	2.606	kNm
Unity check		0.02	-

Bending moment check for M_z

According to EN 1993-1-3 article 6.1.4 and formula (6.4)

Effective section modulus	$W_{eff,z}$	2.6118e-06	m ³
Bending moment resistance	$M_{c,z,Rd}$	0.914	kNm
Unity check		0.19	-

Biaxial bending moment check

According to EN 1993-1-3 article 6.1.4 and formula (6.7)

Bending moment resistance	$M_{c,y,Rd}$	2.606	kNm
Bending moment resistance	$M_{c,z,Rd}$	0.914	kNm

Unity check (6.7) = 0.02 + 0.19 = 0.21 -

Shear Force V_y

According to article EN 1993-1-3: 6.1.5 and formula (6.8).

No stiffening at the support.

Element ID	l_c [mm]	α [deg]	s_w [mm]	λ_w [-]	f_{bv} [MPa]	$V_{b,Rd,y,i}$ [kN]
3	48.8	0.00	46.7	0.55	203.0	11.888
5	98.8	90.00	96.7	1.14	147.6	0.000
7	48.8	0.00	46.7	0.55	203.0	11.888

Shear verification

$V_{b,Rd,y}$	23.775	kN
Unity check	0.01	-

Shear Force V_z

According to article EN 1993-1-3: 6.1.5 and formula (6.8).

No stiffening at the support.

Element ID	l_c [mm]	α [deg]	s_w [mm]	λ_w [-]	f_{bv} [MPa]	$V_{b,Rd,z,i}$ [kN]
3	48.8	0.00	46.7	0.55	203.0	0.000
5	98.8	90.00	96.7	1.14	147.6	17.500
7	48.8	0.00	46.7	0.55	203.0	0.000

Shear verification

$V_{b,Rd,z}$	17.500	kN
Unity check	0.01	-

Torsional Moment Check

According to article EN 1993-1-3: 6.1.6 and formula (6.11a), (6.11b), (6.11c).

Elastic verification

Critical Fibre	34	
σ_N	202.9	MPa
σ_{My}	6.7	MPa
σ_{Mz}	50.3	MPa
τ_{Vy}	2.4	MPa
τ_{Vz}	0.8	MPa
τ_t	0.0	MPa
Direct Stress Check	0.74	-
Shear Stress Check	0.02	-
Composed Stress Check	0.68	-

Combined Compression and Bending Check

According to article EN 1993-1-3: 6.1.9 and formula (6.25), (6.26).

e_{Nz}	2.0	mm
$\Delta M_{z,Ed}$	-0.070	kNm
$N_{c,Rd}$	60.935	kN
$M_{cy,Rd,ten}$	2.909	kNm
$M_{cz,Rd,ten}$	0.914	kNm
$M_{cy,Rd,com}$	2.627	kNm
$M_{cz,Rd,com}$	1.177	kNm

Unity check (6.25) $0.58 + 0.02 + 0.14 = 0.74$ -

Unity check (6.26) $0.02 + 0.19 - 0.58 = 0.00$ -

The member satisfies the section check.

.....STABILITY CHECK:....

Flexural Buckling Strength

According to article EN 1993-1-3: 6.2.2

According to article EN 1993-1-1: 6.3.1 and formula (6.46)

Buckling parameters	yy	zz	
Sway type	sway	sway	
System Length L	0.520	0.520	m
Buckling factor k	1.00	1.00	
Buckling length L_{cr}	0.520	0.520	m
Critical Euler load N_{cr}	3262.281	718.602	kN
Slenderness	12.92	27.53	
Relative slenderness λ_{rel}	0.14	0.29	
Limit slenderness $\lambda_{rel,0}$	0.20	0.20	
Buckling curve	b	b	
Imperfection α	0.34	0.34	
Reduction factor χ	1.00	0.97	
Buckling resistance $N_{b,Rd}$	60.935	58.944	kN

Flexural Buckling verification		
A_{eff}	1.7410e-04	m ²
Buckling resistance $N_{b,Rd}$	58.944	kN
Unity check	0.60	-

Torsional (-Flexural) Buckling check

According to article EN 1993-1-3: 6.2.3

According to article EN 1993-1-1: 6.3.1 and formula (6.46)

Torsional Buckling length	0.520	m
$N_{cr,T}$	460.712	kN
$N_{cr,TF}$	430.272	kN
Relative slenderness $\lambda_{rel,T}$	0.38	
Limit slenderness $\lambda_{rel,0}$	0.20	
Buckling curve	b	
Imperfection α	0.34	
A_{eff}	1.7410e-04	m ²
Reduction factor χ	0.94	
Buckling resistance $N_{b,Rd}$	56.996	kN
Unity check	0.62	-

Lateral Torsional Buckling Check

According to article EN 1993-1-3: 6.2.4

According to article EN 1993-1-1: 6.3.2 and formula (6.55)

LTB Parameters		
Method for LTB Curve	art. 6.3.2.2	
$W_{eff,y}$	7.4448e-06	m ³
Elastic critical moment M_{cr}	61.937	kNm
Relative slenderness $\lambda_{rel,LT}$	0.21	
Limit slenderness $\lambda_{rel,LT,0}$	0.20	

M _{cr} Parameters		
LTB length	0.520	m
k	1.00	
k _w	1.00	
C ₁	1.77	
C ₂	0.00	
C ₃	1.00	

The slenderness or bending moment is such that Lateral Torsional Buckling effects may be ignored according to EN 1993-1-1 article 6.3.2.2(4)

Bending and Axial Compression Check

According to article EN 1993-1-3: 6.2.5(1)

According to article EN 1993-1-1: 6.3.3 and formula (6.61), (6.62).

Interaction Method 1

Interaction method 1 parameters		
K _{yy}	0.83	
K _{yz}	1.02	
K _{zy}	0.83	
K _{zz}	1.02	
ΔM _{y,Ed}	0.000	kNm
ΔM _{z,Ed}	-0.070	kNm
A	1.7410e-04	m ²
W _y	7.4448e-06	m ³
W _z	2.6118e-06	m ³
N _{Rk}	60.935	kN
M _{y,Rk}	2.606	kNm
M _{z,Rk}	0.914	kNm
M _{y,Ed}	-0.055	kNm
M _{z,Ed}	-0.100	kNm
Interaction Method 1		
M _{cr,0}	34.999	kNm
reduced slenderness 0	0.27	
ψ _y	0.00	
ψ _z	0.00	
C _{my,0}	0.79	
C _{mz,0}	0.97	
C _{my}	0.82	
C _{mz}	0.97	
C _{mLT}	1.00	
μ _y	1.00	
μ _z	1.00	
α _{LT}	1.00	

Unity check $0.58 + 0.02 + 0.19 = 0.79$ -

Unity check $0.62 + 0.02 + 0.19 = 0.83$ -

The member satisfies the stability check.

All member pf type frame check

Overall Unity Check

Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
818	5.448-	ULS-Set B (auto)/1	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.64	0.61	0.64
819	0.077+	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.76	0.76	0.66
820	0.221-	ULS-Set B (auto)/3	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.42	0.42	0.16
821	0.000	ULS-Set B (auto)/4	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.08	0.07	0.08
822	0.000	ULS-Set B (auto)/4	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.07	0.07	0.07
823	0.000	ULS-Set B (auto)/4	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.07	0.06	0.07
824	0.000	ULS-Set B (auto)/5	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.07	0.06	0.07
825	0.000	ULS-Set B (auto)/5	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.09	0.08	0.09
826	0.000	ULS-Set B (auto)/6	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.12	0.11	0.12
827	0.000	ULS-Set B (auto)/6	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.17	0.15	0.17
828	0.000	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.22	0.20	0.22
829	0.000	ULS-Set B (auto)/8	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.04	0.04	0.04
830	0.225-	ULS-Set B (auto)/9	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.11	0.10	0.11
831	0.222-	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0;	S350GD+Z	0.07	0.07	0.07

Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
			50.0; 1.2; 3.0; 15.0)				
832	0.222-	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.04	0.04	0.04
833	0.444	ULS-Set B (auto)/4	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.00
834	0.444	ULS-Set B (auto)/5	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.00
835	0.444	ULS-Set B (auto)/5	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.04	0.04	0.00
836	0.444	ULS-Set B (auto)/6	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.05	0.05	0.00
837	0.504	ULS-Set B (auto)/6	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.08	0.08	0.00
838	5.448-	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.62	0.59	0.62
839	0.077+	ULS-Set B (auto)/10	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.71	0.71	0.61
840	0.221-	ULS-Set B (auto)/11	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.37	0.37	0.12
841	0.595	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.07	0.07	0.00
842	0.595	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.05	0.05	0.00
843	0.000	ULS-Set B (auto)/13	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.05	0.04	0.05
844	0.000	ULS-Set B (auto)/14	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.05	0.04	0.05
845	0.000	ULS-Set B (auto)/15	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.06	0.05	0.06
846	0.000	ULS-Set B (auto)/10	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0;	S350GD+Z	0.10	0.09	0.10

Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
			15.0)				
847	0.000	ULS-Set B (auto)/16	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.14	0.13	0.14
848	0.000	ULS-Set B (auto)/10	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.20	0.19	0.20
849	0.130	ULS-Set B (auto)/17	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.01	0.01	0.00
850	0.225-	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.13	0.12	0.13
851	0.222-	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.09	0.09	0.09
852	0.222-	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.06	0.06	0.06
853	0.222-	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.03
854	0.444	ULS-Set B (auto)/14	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.02	0.02	0.00
855	0.444	ULS-Set B (auto)/15	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.02	0.02	0.00
856	0.444	ULS-Set B (auto)/10	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.05	0.05	0.00
857	0.504	ULS-Set B (auto)/16	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.07	0.07	0.00
1751	0.328-	ULS-Set B (auto)/11	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.23	0.20	0.23
1752	0.672	ULS-Set B (auto)/11	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.11	0.11	0.00
1753	0.336-	ULS-Set B (auto)/18	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.19	0.16	0.19
1754	0.672	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.09	0.09	0.00

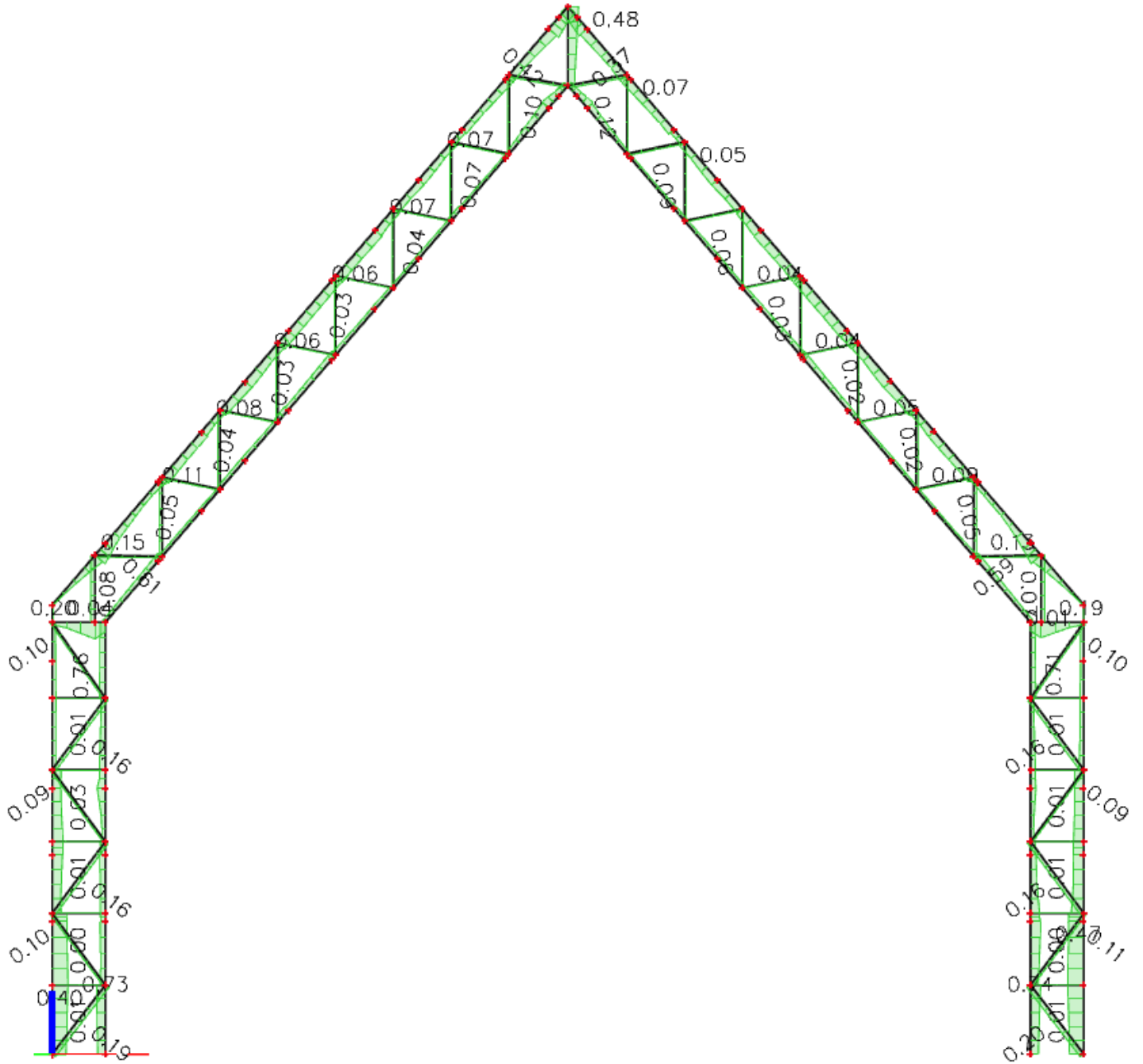
Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
1755	0.336-	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.19	0.16	0.19
1756	0.696	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.10	0.10	0.00
1757	0.200-	ULS-Set B (auto)/19	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.01	0.01	0.01
1758	0.200-	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.00	0.00	0.00
1759	0.200-	ULS-Set B (auto)/3	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.01	0.01	0.00
1760	0.200-	ULS-Set B (auto)/20	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.01	0.01	0.00
1761	0.200-	ULS-Set B (auto)/21	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.01	0.01	0.01
1763	0.328-	ULS-Set B (auto)/11	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.22	0.19	0.22
1764	0.672	ULS-Set B (auto)/11	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.10	0.10	0.00
1765	0.336-	ULS-Set B (auto)/22	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.19	0.16	0.19
1766	0.672	ULS-Set B (auto)/1	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.09	0.09	0.00
1767	0.336-	ULS-Set B (auto)/10	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.18	0.16	0.18
1768	0.696	ULS-Set B (auto)/10	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.10	0.10	0.00
1769	0.200-	ULS-Set B (auto)/23	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.01	0.01	0.01
1770	0.200-	ULS-Set B (auto)/18	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.00	0.00	0.00
1771	0.200-	ULS-Set B	C100*50*15*1.2	S350GD+Z	0.01	0.01	0.00

Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
		(auto)/3	- Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)				
1772	0.200-	ULS-Set B (auto)/8	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.03
1773	0.200-	ULS-Set B (auto)/24	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.01	0.01	0.01
2281	0.595	ULS-Set B (auto)/11	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.48	0.48	0.02
3056	1.000-	ULS-Set B (auto)/14	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.47	0.47	0.22
3057	0.520-	ULS-Set B (auto)/25	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.83	0.74	0.83
3058	0.520-	ULS-Set B (auto)/10	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.81	0.73	0.81
3059	0.520-	ULS-Set B (auto)/22	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.40	0.40	0.00

Name	Combination key
ULS-Set B (auto)/1	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/2	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/3	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/4	G + G1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/5	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/6	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/7	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/8	G + G1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/9	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/10	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/11	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/12	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/13	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/14	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/15	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q9
ULS-Set B (auto)/16	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/17	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/18	1.35*G + 1.35*G1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q8
ULS-Set B (auto)/19	G + G1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/20	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2

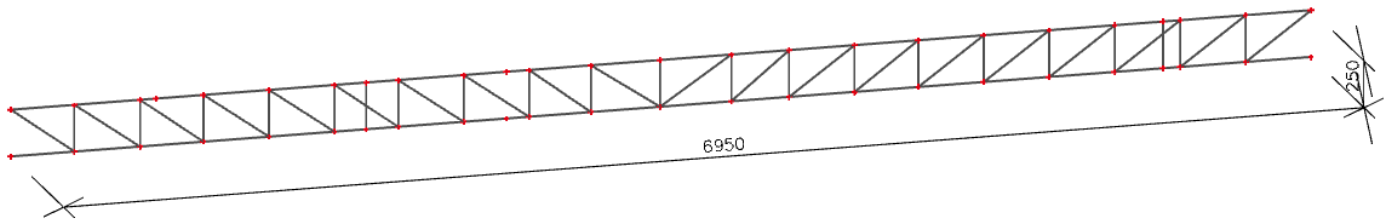
Name	Combination key
ULS-Set B (auto)/21	G + G1 + 1.05*Q1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/22	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/23	G + G1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/24	G + G1 + 1.05*Q1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/25	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q4 + 1.35*G3 + 1.35*G2

Unity check

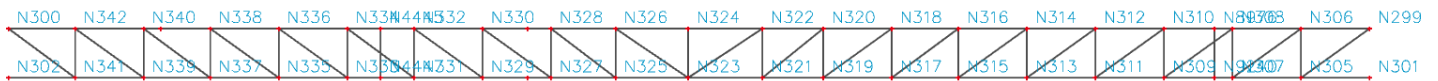


2.4.2 FLOOR TRUSS CHECK

Type floor frame



Node coordinates



Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N299	7.350	9.270	2.960
N300	0.400	9.270	2.960
N301	7.350	9.270	2.710
N302	0.400	9.270	2.710
N305	7.000	9.270	2.710
N306	7.000	9.270	2.960
N307	6.650	9.270	2.710
N308	6.650	9.270	2.960
N309	6.300	9.270	2.710
N310	6.300	9.270	2.960
N311	5.950	9.270	2.710
N312	5.950	9.270	2.960
N313	5.600	9.270	2.710
N314	5.600	9.270	2.960
N315	5.250	9.270	2.710
N316	5.250	9.270	2.960

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N317	4.910	9.270	2.710
N318	4.910	9.270	2.960
N319	4.560	9.270	2.710
N320	4.560	9.270	2.960
N321	4.250	9.270	2.710
N322	4.250	9.270	2.960
N323	3.870	9.270	2.710
N324	3.870	9.270	2.960
N325	3.500	9.270	2.710
N326	3.500	9.270	2.960
N327	3.170	9.270	2.710
N328	3.170	9.270	2.960
N329	2.820	9.270	2.710
N330	2.820	9.270	2.960
N331	2.470	9.270	2.710
N332	2.470	9.270	2.960

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N333	2.130	9.270	2.710
N334	2.130	9.270	2.960
N335	1.780	9.270	2.710
N336	1.780	9.270	2.960
N337	1.430	9.270	2.710
N338	1.430	9.270	2.960
N339	1.090	9.270	2.710
N340	1.090	9.270	2.960
N341	0.740	9.270	2.710
N342	0.740	9.270	2.960
N4445	2.300	9.270	2.960
N4447	2.300	9.270	2.710
N8976	6.557	9.270	2.960
N9240	6.557	9.270	2.710

Cross-Section properties

C100*50*15*1.2		
Type	Cold formed C section	
Detailed	100.0; 50.0; 1.2; 3.0; 15.0	
Formcode	114 - Cold formed C section	
Shape type	Thin-walled	
Item material	S350GD+Z	
Fabrication	cold formed	
Colour	■	
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m ²]	2.6269e-04	
A _y [m ²], A _z [m ²]	1.1804e-04	1.3126e-04
A _L [m ² /m], A _D [m ² /m]	4.4038e-01	4.4038e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	17.2	50.0
α [deg]	0.00	
I _y [m ⁴], I _z [m ⁴]	4.2561e-07	9.3751e-08
i _y [mm], i _z [mm]	40.3	18.9
W _{el,y} [m ³], W _{el,z} [m ³]	8.5121e-06	2.8580e-06
W _{pl,y} [m ³], W _{pl,z} [m ³]	9.7956e-06	4.2419e-06
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	3.43e+03	3.43e+03
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	1.48e+03	1.48e+03
d _y [mm], d _z [mm]	-41.5	0.0
I _t [m ⁴], I _w [m ⁶]	1.2972e-10	2.2102e-10
β _y [mm], β _z [mm]	0.0	121.2
Picture		

Floor truss member hinges

Name	Member	Position	ux	uy	uz	fix	fly	fiz
H1524	124	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1525	125	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1526	126	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1527	127	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1528	128	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1529	129	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1530	130	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1531	131	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1532	132	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1533	133	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1534	134	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1535	135	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1536	136	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1537	137	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1538	138	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1539	139	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1540	140	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1541	141	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1542	142	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1543	143	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1544	144	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1545	145	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1546	146	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1547	147	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1548	148	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1549	149	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1550	150	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1551	151	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1552	152	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1553	153	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1554	154	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1555	155	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1556	156	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1557	157	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1558	158	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1559	159	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1560	160	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1561	161	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1562	162	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1563	163	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1564	164	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H3470	3510	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H3485	3520	Both	Rigid	Rigid	Rigid	Rigid	Free	Free

Maximum forces in elements

Axial force diagram N, kH.

1D internal forces

Values: N

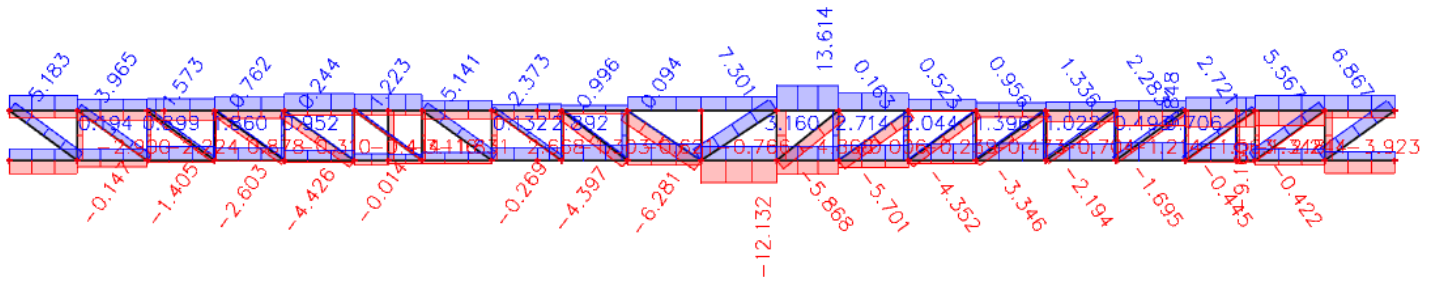
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All



Shear force diagram Vy, kH.

1D internal forces

Values: V_y

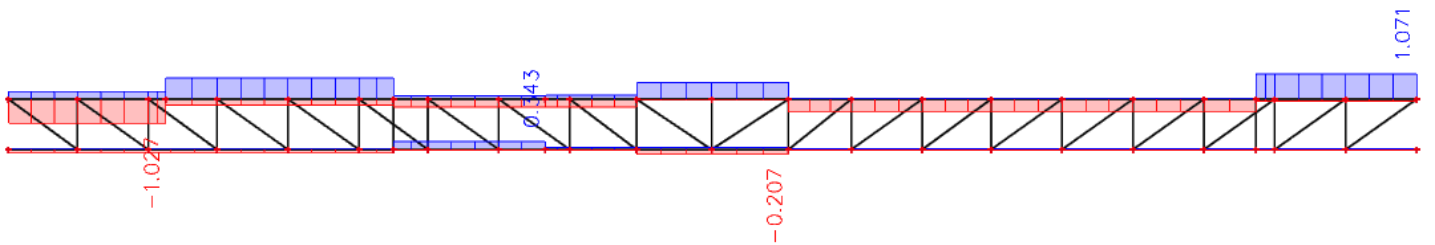
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All



Shear force diagram Vz, kH.

1D internal forces

Values: V_z

Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All

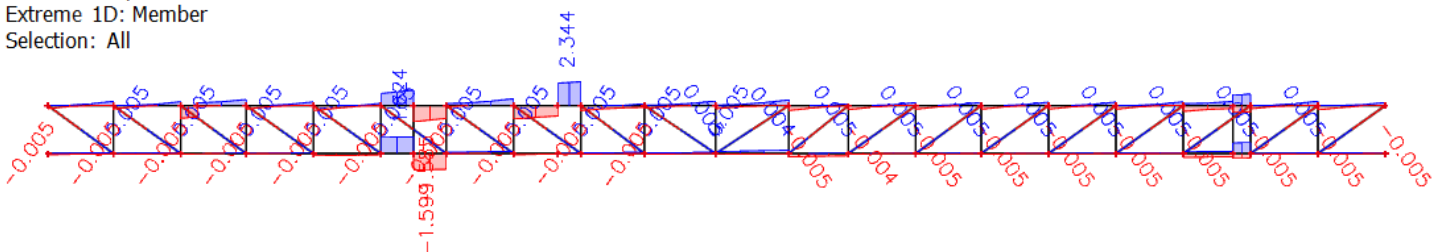


Diagram of bending moments My, kNm.

1D internal forces

Values: M_y

Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All

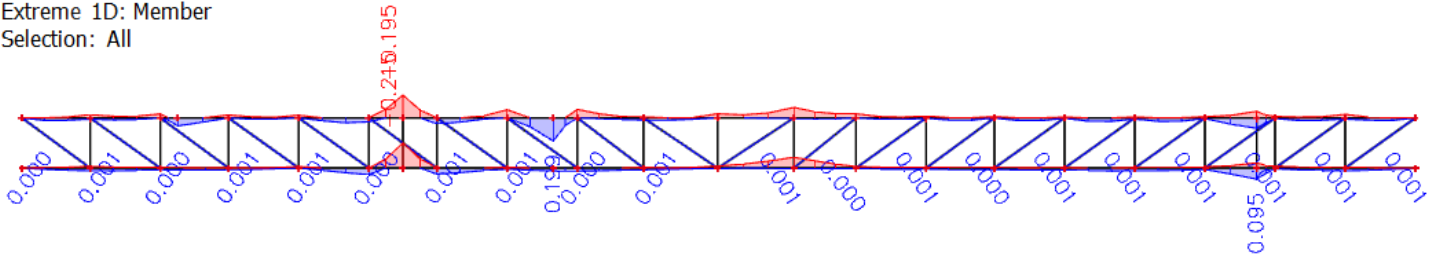


Diagram of bending moments Mz, kNm.

1D internal forces

Values: M_z

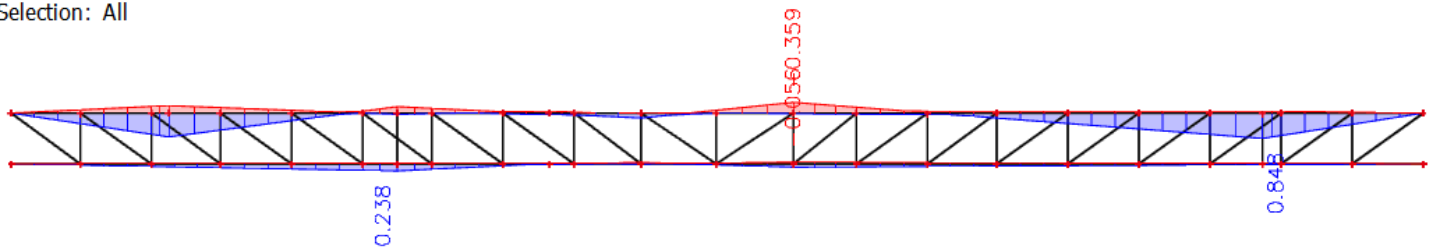
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

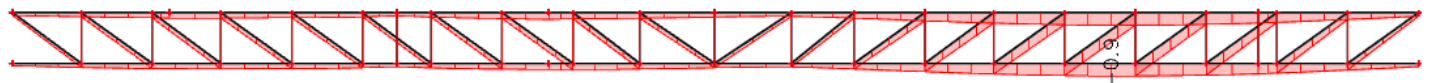
Extreme 1D: Member

Selection: All



Deformation check

SLS comb. - G+G1+Q1+G2+G3



The maximum deflection is 0.9 mm.

According to EC-EN 1990 - due to the esthetics-psychological deflection limits - $L/300$.

$3100 / 300 = 10.33 \text{ mm}$ $0.9 \text{ mm} < 10.33 \text{ mm}$ Deformation is OK!

Limits due to vibration from using and deflections - $f_u = \frac{g(p + p_1 + q)}{30n^2(bp + p_1 + q)}$

$F_u = 7.6 \text{ mm}$ $0.9 \text{ mm} < 7.6 \text{ mm}$ Deformation is OK!

Internal forces

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
124	0.700+	ULS-Set B (auto)/1	-9.160	-0.087	1.139	0.000	-0.010	-0.061
124	2.790+	ULS-Set B (auto)/2	13.614	-0.521	0.086	0.000	-0.035	-0.197
124	6.174+	ULS-Set B (auto)/3	0.965	-1.027	-0.720	0.000	0.053	0.797
124	5.050-	ULS-Set B (auto)/4	4.316	-0.116	-1.585	0.000	-0.195	-0.084
124	4.180+	ULS-Set B (auto)/2	-0.987	-0.338	2.344	0.000	-0.073	0.053
124	0.000	ULS-Set B (auto)/5	-2.631	-0.086	0.247	0.000	0.000	0.000
124	0.000	ULS-Set B (auto)/6	-0.719	1.068	0.099	0.000	0.000	0.000
124	5.050+	ULS-Set B (auto)/4	4.316	0.349	1.507	0.000	-0.195	-0.084
124	4.300-	ULS-Set B (auto)/2	-0.987	-0.338	2.180	0.000	0.199	0.012
124	3.100-	ULS-Set B (auto)/7	11.282	-0.523	-0.187	0.000	-0.054	-0.359
124	0.793-	ULS-Set B (auto)/7	-0.804	1.071	0.499	0.000	0.048	0.848
125	3.100+	ULS-Set B (auto)/1	-12.132	0.077	0.313	0.000	-0.092	-0.056
125	1.050+	ULS-Set B (auto)/2	9.848	0.035	0.078	0.000	0.009	0.037
125	3.100+	ULS-Set B (auto)/7	-4.663	-0.207	0.183	0.000	-0.064	0.109
125	4.300+	ULS-Set B (auto)/8	5.567	0.343	-0.036	0.000	0.018	-0.019
125	5.050-	ULS-Set B (auto)/4	-0.529	0.120	-1.599	0.000	-0.215	0.087
125	0.000	ULS-Set B (auto)/5	-4.435	-0.018	0.071	0.000	0.000	0.000
125	0.000	ULS-Set B (auto)/9	2.194	0.020	0.016	0.000	0.000	0.000
125	5.050+	ULS-Set B (auto)/4	-0.151	-0.046	1.624	0.000	-0.215	0.087
125	0.793+	ULS-Set B (auto)/1	4.959	-0.018	-0.317	0.000	0.095	-0.014
125	3.100-	ULS-Set B (auto)/5	-6.829	-0.018	-0.308	0.000	-0.090	-0.056
125	5.050+	ULS-Set B (auto)/8	2.910	-0.125	0.832	0.000	-0.108	0.238
126	0.250	ULS-Set B (auto)/9	-0.016	0.000	0.000	0.000	0.000	0.000
126	0.000	ULS-Set B (auto)/10	-3.383	0.000	0.000	0.000	0.000	0.000
126	0.000	ULS-Set B (auto)/7	-1.403	0.000	0.000	0.000	0.000	0.000
126	0.000	ULS-Set B (auto)/11	-3.923	0.000	0.000	0.000	0.000	0.000
127	0.250	ULS-Set B (auto)/9	-0.200	0.000	0.000	0.000	0.000	0.000
127	0.000	ULS-Set B (auto)/1	-2.073	0.000	0.000	0.000	0.000	0.000
127	0.000	ULS-Set B (auto)/12	-0.373	0.000	0.000	0.000	0.000	0.000
127	0.000	ULS-Set B (auto)/11	-2.244	0.000	0.000	0.000	0.000	0.000
128	0.250	ULS-Set B (auto)/6	0.493	0.000	0.000	0.000	0.000	0.000
128	0.000	ULS-Set B (auto)/5	-0.179	0.000	0.000	0.000	0.000	0.000
128	0.000	ULS-Set B (auto)/13	-1.563	0.000	0.000	0.000	0.000	0.000
129	0.250	ULS-Set B (auto)/14	1.022	0.000	0.000	0.000	0.000	0.000
129	0.000	ULS-Set B	0.844	0.000	0.000	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
129	0.000	(auto)/7	-1.170	0.000	0.000	0.000	0.000	0.000
129	0.000	ULS-Set B (auto)/15	-1.214	0.000	0.000	0.000	0.000	0.000
129	0.000	ULS-Set B (auto)/16	-1.214	0.000	0.000	0.000	0.000	0.000
130	0.250	ULS-Set B (auto)/1	1.396	0.000	0.000	0.000	0.000	0.000
130	0.000	ULS-Set B (auto)/7	1.139	0.000	0.000	0.000	0.000	0.000
130	0.000	ULS-Set B (auto)/15	-0.554	0.000	0.000	0.000	0.000	0.000
130	0.000	ULS-Set B (auto)/17	-0.704	0.000	0.000	0.000	0.000	0.000
131	0.250	ULS-Set B (auto)/1	2.044	0.000	0.000	0.000	0.000	0.000
131	0.000	ULS-Set B (auto)/7	1.463	0.000	0.000	0.000	0.000	0.000
131	0.000	ULS-Set B (auto)/18	1.120	0.000	0.000	0.000	0.000	0.000
131	0.000	ULS-Set B (auto)/17	-0.473	0.000	0.000	0.000	0.000	0.000
132	0.250	ULS-Set B (auto)/1	2.714	0.000	0.000	0.000	0.000	0.000
132	0.000	ULS-Set B (auto)/12	1.538	0.000	0.000	0.000	0.000	0.000
132	0.000	ULS-Set B (auto)/19	2.097	0.000	0.000	0.000	0.000	0.000
132	0.000	ULS-Set B (auto)/17	-0.239	0.000	0.000	0.000	0.000	0.000
133	0.250	ULS-Set B (auto)/20	3.160	0.000	0.000	0.000	0.000	0.000
133	0.000	ULS-Set B (auto)/12	1.619	0.000	0.000	0.000	0.000	0.000
133	0.000	ULS-Set B (auto)/19	2.640	0.000	0.000	0.000	0.000	0.000
133	0.000	ULS-Set B (auto)/17	-0.006	0.000	0.000	0.000	0.000	0.000
134	0.250	ULS-Set B (auto)/17	-0.595	0.000	0.000	0.000	0.000	0.000
134	0.000	ULS-Set B (auto)/6	-3.049	0.000	0.000	0.000	0.000	0.000
134	0.000	ULS-Set B (auto)/19	-3.915	0.000	0.000	0.000	0.000	0.000
134	0.000	ULS-Set B (auto)/21	-4.868	0.000	0.000	0.000	0.000	0.000
135	0.250	ULS-Set B (auto)/22	-0.061	0.000	0.000	0.000	0.000	0.000
135	0.000	ULS-Set B (auto)/10	-0.368	0.000	0.000	0.000	0.000	0.000
135	0.000	ULS-Set B (auto)/23	-0.389	0.000	0.000	0.000	0.000	0.000
135	0.000	ULS-Set B (auto)/24	-0.766	0.000	0.000	0.000	0.000	0.000
136	0.250	ULS-Set B (auto)/1	2.892	0.000	0.000	0.000	0.000	0.000
136	0.000	ULS-Set B (auto)/17	-0.621	0.000	0.000	0.000	0.000	0.000
137	0.250	ULS-Set B (auto)/22	0.132	0.000	0.000	0.000	0.000	0.000
137	0.000	ULS-Set B (auto)/3	-0.722	0.000	0.000	0.000	0.000	0.000
137	0.000	ULS-Set B (auto)/15	-1.090	0.000	0.000	0.000	0.000	0.000
137	0.000	ULS-Set B (auto)/13	-1.303	0.000	0.000	0.000	0.000	0.000
138	0.250	ULS-Set B (auto)/22	-1.052	0.000	0.000	0.000	0.000	0.000
138	0.000	ULS-Set B (auto)/3	-2.279	0.000	0.000	0.000	0.000	0.000
138	0.000	ULS-Set B (auto)/15	-1.976	0.000	0.000	0.000	0.000	0.000
138	0.000	ULS-Set B (auto)/25	-2.668	0.000	0.000	0.000	0.000	0.000
139	0.250	ULS-Set B (auto)/22	-0.606	0.000	0.000	0.000	0.000	0.000
139	0.000	ULS-Set B	-1.728	0.000	0.000	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/25						
139	0.000	ULS-Set B (auto)/24	-1.831	0.000	0.000	0.000	0.000	0.000
140	0.250	ULS-Set B (auto)/26	0.952	0.000	0.000	0.000	0.000	0.000
140	0.000	ULS-Set B (auto)/10	0.445	0.000	0.000	0.000	0.000	0.000
140	0.000	ULS-Set B (auto)/3	0.449	0.000	0.000	0.000	0.000	0.000
140	0.000	ULS-Set B (auto)/27	-0.414	0.000	0.000	0.000	0.000	0.000
141	0.250	ULS-Set B (auto)/28	1.860	0.000	0.000	0.000	0.000	0.000
141	0.000	ULS-Set B (auto)/10	0.781	0.000	0.000	0.000	0.000	0.000
141	0.000	ULS-Set B (auto)/3	1.209	0.000	0.000	0.000	0.000	0.000
141	0.000	ULS-Set B (auto)/29	-0.310	0.000	0.000	0.000	0.000	0.000
142	0.250	ULS-Set B (auto)/30	0.899	0.000	0.000	0.000	0.000	0.000
142	0.000	ULS-Set B (auto)/15	-0.002	0.000	0.000	0.000	0.000	0.000
142	0.000	ULS-Set B (auto)/3	0.505	0.000	0.000	0.000	0.000	0.000
142	0.000	ULS-Set B (auto)/31	-0.878	0.000	0.000	0.000	0.000	0.000
143	0.250	ULS-Set B (auto)/32	0.194	0.000	0.000	0.000	0.000	0.000
143	0.000	ULS-Set B (auto)/23	-1.210	0.000	0.000	0.000	0.000	0.000
143	0.000	ULS-Set B (auto)/10	-0.601	0.000	0.000	0.000	0.000	0.000
143	0.000	ULS-Set B (auto)/2	-2.224	0.000	0.000	0.000	0.000	0.000
144	0.250	ULS-Set B (auto)/32	-0.001	0.000	0.000	0.000	0.000	0.000
144	0.000	ULS-Set B (auto)/3	-0.769	0.000	0.000	0.000	0.000	0.000
144	0.000	ULS-Set B (auto)/10	-1.160	0.000	0.000	0.000	0.000	0.000
144	0.000	ULS-Set B (auto)/2	-2.900	0.000	0.000	0.000	0.000	0.000
145	0.430	ULS-Set B (auto)/11	6.867	0.000	-0.005	0.000	0.000	0.000
145	0.000	ULS-Set B (auto)/5	6.642	0.000	0.005	0.000	0.000	0.000
145	0.215-	ULS-Set B (auto)/11	6.863	0.000	0.000	0.000	0.001	0.000
145	0.000	ULS-Set B (auto)/9	0.254	0.000	0.004	0.000	0.000	0.000
146	0.430	ULS-Set B (auto)/5	5.567	0.000	-0.005	0.000	0.000	0.000
146	0.000	ULS-Set B (auto)/5	5.560	0.000	0.005	0.000	0.000	0.000
146	0.000	ULS-Set B (auto)/6	1.486	0.000	0.004	0.000	0.000	0.000
146	0.215-	ULS-Set B (auto)/5	5.564	0.000	0.000	0.000	0.001	0.000
146	0.000	ULS-Set B (auto)/9	-0.422	0.000	0.004	0.000	0.000	0.000
147	0.430	ULS-Set B (auto)/24	2.721	0.000	-0.005	0.000	0.000	0.000
147	0.000	ULS-Set B (auto)/5	1.163	0.000	0.005	0.000	0.000	0.000
147	0.000	ULS-Set B (auto)/6	-0.445	0.000	0.004	0.000	0.000	0.000
147	0.215-	ULS-Set B (auto)/24	2.717	0.000	0.000	0.000	0.001	0.000
147	0.000	ULS-Set B (auto)/29	-0.445	0.000	0.004	0.000	0.000	0.000
148	0.430	ULS-Set B (auto)/13	2.283	0.000	-0.005	0.000	0.000	0.000
148	0.000	ULS-Set B (auto)/5	-1.235	0.000	0.005	0.000	0.000	0.000
148	0.000	ULS-Set B	1.816	0.000	0.004	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/9						
148	0.215-	ULS-Set B (auto)/13	2.279	0.000	0.000	0.000	0.001	0.000
148	0.000	ULS-Set B (auto)/22	-1.695	0.000	0.004	0.000	0.000	0.000
149	0.430	ULS-Set B (auto)/17	1.336	0.000	-0.004	0.000	0.000	0.000
149	0.430	ULS-Set B (auto)/1	-2.187	0.000	-0.005	0.000	0.000	0.000
149	0.000	ULS-Set B (auto)/7	-1.773	0.000	0.005	0.000	0.000	0.000
149	0.000	ULS-Set B (auto)/15	1.069	0.000	0.004	0.000	0.000	0.000
149	0.215-	ULS-Set B (auto)/1	-2.191	0.000	0.000	0.000	0.001	0.000
149	0.000	ULS-Set B (auto)/1	-2.194	0.000	0.005	0.000	0.000	0.000
150	0.430	ULS-Set B (auto)/17	0.956	0.000	-0.004	0.000	0.000	0.000
150	0.430	ULS-Set B (auto)/1	-3.339	0.000	-0.005	0.000	0.000	0.000
150	0.000	ULS-Set B (auto)/7	-2.342	0.000	0.005	0.000	0.000	0.000
150	0.000	ULS-Set B (auto)/33	-2.766	0.000	0.004	0.000	0.000	0.000
150	0.215-	ULS-Set B (auto)/1	-3.343	0.000	0.000	0.000	0.001	0.000
150	0.000	ULS-Set B (auto)/1	-3.346	0.000	0.005	0.000	0.000	0.000
151	0.422	ULS-Set B (auto)/17	0.523	0.000	-0.003	0.000	0.000	0.000
151	0.422	ULS-Set B (auto)/1	-4.345	0.000	-0.005	0.000	0.000	0.000
151	0.000	ULS-Set B (auto)/7	-2.846	0.000	0.005	0.000	0.000	0.000
151	0.000	ULS-Set B (auto)/10	-3.956	0.000	0.003	0.000	0.000	0.000
151	0.211-	ULS-Set B (auto)/1	-4.348	0.000	0.000	0.000	0.000	0.000
151	0.000	ULS-Set B (auto)/1	-4.352	0.000	0.005	0.000	0.000	0.000
152	0.430	ULS-Set B (auto)/17	0.163	0.000	-0.004	0.000	0.000	0.000
152	0.430	ULS-Set B (auto)/20	-5.695	0.000	-0.005	0.000	0.000	0.000
152	0.000	ULS-Set B (auto)/34	-3.508	0.000	0.005	0.000	0.000	0.000
152	0.000	ULS-Set B (auto)/10	-5.007	0.000	0.004	0.000	0.000	0.000
152	0.215-	ULS-Set B (auto)/20	-5.698	0.000	0.000	0.000	0.001	0.000
152	0.000	ULS-Set B (auto)/20	-5.701	0.000	0.005	0.000	0.000	0.000
153	0.398	ULS-Set B (auto)/17	-0.271	0.000	-0.003	0.000	0.000	0.000
153	0.398	ULS-Set B (auto)/20	-5.861	0.000	-0.004	0.000	0.000	0.000
153	0.000	ULS-Set B (auto)/6	-2.810	0.000	0.003	0.000	0.000	0.000
153	0.000	ULS-Set B (auto)/35	-5.038	0.000	0.004	0.000	0.000	0.000
153	0.133-	ULS-Set B (auto)/20	-5.866	0.000	0.001	0.000	0.000	0.000
153	0.000	ULS-Set B (auto)/20	-5.868	0.000	0.004	0.000	0.000	0.000
154	0.455	ULS-Set B (auto)/21	7.301	0.000	-0.005	0.000	0.000	0.000
154	0.000	ULS-Set B (auto)/10	5.529	0.000	0.004	0.000	0.000	0.000
154	0.000	ULS-Set B (auto)/3	4.717	0.000	0.005	0.000	0.000	0.000
154	0.227-	ULS-Set B (auto)/21	7.298	0.000	0.000	0.000	0.001	0.000
154	0.000	ULS-Set B (auto)/17	0.920	0.000	0.004	0.000	0.000	0.000
155	0.447	ULS-Set B	0.094	0.000	-0.004	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		{auto}/17						
155	0.447	ULS-Set B (auto)/21	-6.274	0.000	-0.005	0.000	0.000	0.000
155	0.000	ULS-Set B (auto)/6	-4.495	0.000	0.004	0.000	0.000	0.000
155	0.000	ULS-Set B (auto)/23	-0.585	0.000	0.005	0.000	0.000	0.000
155	0.223-	ULS-Set B (auto)/21	-6.278	0.000	0.000	0.000	0.001	0.000
155	0.000	ULS-Set B (auto)/21	-6.281	0.000	0.005	0.000	0.000	0.000
156	0.414	ULS-Set B (auto)/17	0.996	0.000	-0.003	0.000	0.000	0.000
156	0.414	ULS-Set B (auto)/1	-4.391	0.000	-0.005	0.000	0.000	0.000
156	0.000	ULS-Set B (auto)/34	-3.884	0.000	0.005	0.000	0.000	0.000
156	0.207-	ULS-Set B (auto)/1	-4.394	0.000	0.000	0.000	0.000	0.000
156	0.000	ULS-Set B (auto)/1	-4.397	0.000	0.005	0.000	0.000	0.000
157	0.430	ULS-Set B (auto)/23	2.373	0.000	-0.005	0.000	0.000	0.000
157	0.000	ULS-Set B (auto)/3	1.246	0.000	0.005	0.000	0.000	0.000
157	0.215-	ULS-Set B (auto)/23	2.369	0.000	0.000	0.000	0.001	0.000
157	0.000	ULS-Set B (auto)/10	-0.269	0.000	0.004	0.000	0.000	0.000
158	0.430	ULS-Set B (auto)/28	5.141	0.000	-0.005	0.000	0.000	0.000
158	0.000	ULS-Set B (auto)/8	3.466	0.000	0.004	0.000	0.000	0.000
158	0.000	ULS-Set B (auto)/1	3.732	0.000	0.005	0.000	0.000	0.000
158	0.215-	ULS-Set B (auto)/28	5.137	0.000	0.000	0.000	0.001	0.000
158	0.000	ULS-Set B (auto)/29	2.037	0.000	0.004	0.000	0.000	0.000
159	0.422	ULS-Set B (auto)/7	1.223	0.000	-0.005	0.000	0.000	0.000
159	0.000	ULS-Set B (auto)/10	0.053	0.000	0.003	0.000	0.000	0.000
159	0.000	ULS-Set B (auto)/3	0.648	0.000	0.005	0.000	0.000	0.000
159	0.211-	ULS-Set B (auto)/7	1.219	0.000	0.000	0.000	0.000	0.000
159	0.000	ULS-Set B (auto)/36	-0.014	0.000	0.003	0.000	0.000	0.000
160	0.430	ULS-Set B (auto)/29	0.244	0.000	-0.004	0.000	0.000	0.000
160	0.430	ULS-Set B (auto)/28	-4.419	0.000	-0.005	0.000	0.000	0.000
160	0.000	ULS-Set B (auto)/10	-2.402	0.000	0.004	0.000	0.000	0.000
160	0.000	ULS-Set B (auto)/3	-2.616	0.000	0.005	0.000	0.000	0.000
160	0.215-	ULS-Set B (auto)/28	-4.422	0.000	0.000	0.000	0.001	0.000
160	0.000	ULS-Set B (auto)/28	-4.426	0.000	0.005	0.000	0.000	0.000
161	0.430	ULS-Set B (auto)/27	0.762	0.000	-0.004	0.000	0.000	0.000
161	0.430	ULS-Set B (auto)/26	-2.596	0.000	-0.005	0.000	0.000	0.000
161	0.000	ULS-Set B (auto)/33	-1.230	0.000	0.004	0.000	0.000	0.000
161	0.000	ULS-Set B (auto)/3	-1.615	0.000	0.005	0.000	0.000	0.000
161	0.215-	ULS-Set B (auto)/26	-2.599	0.000	0.000	0.000	0.001	0.000
161	0.000	ULS-Set B (auto)/26	-2.603	0.000	0.005	0.000	0.000	0.000
162	0.422	ULS-Set B (auto)/31	1.573	0.000	-0.003	0.000	0.000	0.000
162	0.422	ULS-Set B (auto)/1	-1.398	0.000	-0.005	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		{auto}/30						
162	0.000	ULS-Set B (auto)/3	-0.745	0.000	0.005	0.000	0.000	0.000
162	0.000	ULS-Set B (auto)/10	-0.020	0.000	0.003	0.000	0.000	0.000
162	0.211-	ULS-Set B (auto)/30	-1.402	0.000	0.000	0.000	0.000	0.000
162	0.000	ULS-Set B (auto)/30	-1.405	0.000	0.005	0.000	0.000	0.000
163	0.430	ULS-Set B (auto)/2	3.965	0.000	-0.005	0.000	0.000	0.000
163	0.000	ULS-Set B (auto)/3	1.054	0.000	0.005	0.000	0.000	0.000
163	0.000	ULS-Set B (auto)/10	1.111	0.000	0.004	0.000	0.000	0.000
163	0.215-	ULS-Set B (auto)/2	3.962	0.000	0.000	0.000	0.001	0.000
163	0.000	ULS-Set B (auto)/32	-0.147	0.000	0.004	0.000	0.000	0.000
164	0.422	ULS-Set B (auto)/2	5.183	0.000	-0.005	0.000	0.000	0.000
164	0.000	ULS-Set B (auto)/10	2.144	0.000	0.003	0.000	0.000	0.000
164	0.000	ULS-Set B (auto)/23	2.713	0.000	0.005	0.000	0.000	0.000
164	0.211-	ULS-Set B (auto)/2	5.180	0.000	0.000	0.000	0.000	0.000
164	0.000	ULS-Set B (auto)/32	0.000	0.000	0.003	0.000	0.000	0.000
3510	0.250	ULS-Set B (auto)/29	-0.693	0.000	0.000	0.000	0.000	0.000
3510	0.000	ULS-Set B (auto)/10	-1.831	0.000	0.000	0.000	0.000	0.000
3510	0.000	ULS-Set B (auto)/3	-2.039	0.000	0.000	0.000	0.000	0.000
3510	0.000	ULS-Set B (auto)/4	-3.116	0.000	0.000	0.000	0.000	0.000
3520	0.250	ULS-Set B (auto)/17	0.706	0.000	0.000	0.000	0.000	0.000
3520	0.000	ULS-Set B (auto)/12	-0.528	0.000	0.000	0.000	0.000	0.000
3520	0.000	ULS-Set B (auto)/1	-1.348	0.000	0.000	0.000	0.000	0.000

Name	Combination key
ULS-Set B (auto)/1	$1.35 \cdot G + 1.35 \cdot G1 + 1.05 \cdot Q1 + 1.35 \cdot G3 + 1.35 \cdot G2 + 1.50 \cdot Q8$
ULS-Set B (auto)/2	$1.35 \cdot G + 1.35 \cdot G1 + 1.05 \cdot Q1 + 0.75 \cdot Q3 + 1.50 \cdot Q5 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/3	$1.35 \cdot G + 1.35 \cdot G1 + 0.75 \cdot Q3 + 1.50 \cdot Q4 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/4	$1.35 \cdot G + 1.35 \cdot G1 + 1.50 \cdot Q1 + 0.75 \cdot Q3 + 0.90 \cdot Q6 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/5	$1.35 \cdot G + 1.35 \cdot G1 + 1.05 \cdot Q1 + 0.75 \cdot Q3 + 1.35 \cdot G3 + 1.35 \cdot G2 + 1.50 \cdot Q8$
ULS-Set B (auto)/6	$G + G1 + 1.50 \cdot Q5 + G3 + G2$
ULS-Set B (auto)/7	$1.35 \cdot G + 1.35 \cdot G1 + 0.75 \cdot Q3 + 1.50 \cdot Q5 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/8	$G + G1 + 0.75 \cdot Q3 + 1.50 \cdot Q4 + G3 + G2$
ULS-Set B (auto)/9	$G + G1 + G3 + G2 + 1.50 \cdot Q9$
ULS-Set B (auto)/10	$G + G1 + 1.05 \cdot Q1 + G3 + G2 + 1.50 \cdot Q8$
ULS-Set B (auto)/11	$1.35 \cdot G + 1.35 \cdot G1 + 1.50 \cdot Q1 + 0.75 \cdot Q3 + 1.35 \cdot G3 + 1.35 \cdot G2 + 0.90 \cdot Q8$
ULS-Set B (auto)/12	$G + G1 + 0.75 \cdot Q3 + 1.50 \cdot Q5 + G3 + G2$
ULS-Set B (auto)/13	$1.35 \cdot G + 1.35 \cdot G1 + 1.05 \cdot Q1 + 0.75 \cdot Q3 + 1.35 \cdot G3 + 1.35 \cdot G2 + 1.50 \cdot Q9$
ULS-Set B (auto)/14	$1.35 \cdot G + 1.35 \cdot G1 + 1.35 \cdot G3 + 1.35 \cdot G2 + 1.50 \cdot Q8$
ULS-Set B (auto)/15	$G + G1 + 1.05 \cdot Q1 + G3 + G2 + 1.50 \cdot Q9$
ULS-Set B (auto)/16	$G + G1 + 1.05 \cdot Q1 + 0.75 \cdot Q3 + G3 + G2 + 1.50 \cdot Q9$
ULS-Set B (auto)/17	$G + G1 + 0.75 \cdot Q3 + G3 + G2 + 1.50 \cdot Q9$
ULS-Set B (auto)/18	$G + G1 + 1.50 \cdot Q1 + G3 + G2$
ULS-Set B (auto)/19	$1.35 \cdot G + 1.35 \cdot G1 + 1.50 \cdot Q1 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/20	$1.35 \cdot G + 1.35 \cdot G1 + 1.50 \cdot Q1 + 1.35 \cdot G3 + 1.35 \cdot G2 + 0.90 \cdot Q8$
ULS-Set B (auto)/21	$1.35 \cdot G + 1.35 \cdot G1 + 1.05 \cdot Q1 + 1.50 \cdot Q5 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/22	$G + G1 + G3 + G2 + 1.50 \cdot Q8$

Name	Combination key
ULS-Set B (auto)/23	$1.35 \cdot G + 1.35 \cdot G1 + 0.75 \cdot Q3 + 1.35 \cdot G3 + 1.35 \cdot G2 + 1.50 \cdot Q9$
ULS-Set B (auto)/24	$1.35 \cdot G + 1.35 \cdot G1 + 1.50 \cdot Q1 + 0.75 \cdot Q3 + 1.35 \cdot G3 + 1.35 \cdot G2 + 0.90 \cdot Q9$
ULS-Set B (auto)/25	$1.35 \cdot G + 1.35 \cdot G1 + 1.05 \cdot Q1 + 0.75 \cdot Q3 + 1.50 \cdot Q4 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/26	$1.35 \cdot G + 1.35 \cdot G1 + 1.05 \cdot Q1 + 1.50 \cdot Q6 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/27	$G + G1 + 0.75 \cdot Q3 + 1.50 \cdot Q7 + G3 + G2$
ULS-Set B (auto)/28	$1.35 \cdot G + 1.35 \cdot G1 + 1.05 \cdot Q1 + 0.75 \cdot Q3 + 1.50 \cdot Q6 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/29	$G + G1 + 1.50 \cdot Q7 + G3 + G2$
ULS-Set B (auto)/30	$1.35 \cdot G + 1.35 \cdot G1 + 1.50 \cdot Q6 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/31	$G + G1 + 1.05 \cdot Q1 + 0.75 \cdot Q3 + 1.50 \cdot Q7 + G3 + G2$
ULS-Set B (auto)/32	$G + G1 + 1.50 \cdot Q6 + G3 + G2$
ULS-Set B (auto)/33	$G + G1 + 1.50 \cdot Q1 + G3 + G2 + 0.90 \cdot Q8$
ULS-Set B (auto)/34	$1.35 \cdot G + 1.35 \cdot G1 + 1.50 \cdot Q5 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/35	$1.35 \cdot G + 1.35 \cdot G1 + 1.50 \cdot Q1 + 0.75 \cdot Q3 + 1.35 \cdot G3 + 1.35 \cdot G2$
ULS-Set B (auto)/36	$G + G1 + 1.05 \cdot Q1 + 1.50 \cdot Q6 + G3 + G2$

Member 124 check

EN 1993-1-3 Cold Formed Code Check

National annex: Standard EN

Member 124	0.793 / 6.950 m	Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	ULS-Set B (auto)	0.45 -
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Combination key
ULS-Set B (auto) / 1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q5 + 1.35*G3 + 1.35*G2

Partial safety factors	
γ_{M0} for resistance of cross-sections	1.00
γ_{M1} for resistance to instability	1.00
γ_{M2} for resistance of net sections	1.25

Material		
Yield strength f_y	350.0	MPa
Average yield strength $f_{y,d}$	360.7	MPa
k	7	
n	4	
Ultimate strength f_u	420.0	MPa
Fabrication	cold formed	

....:SECTION CHECK:....

The critical check is on position 0.793 m

Internal forces		Calculated	Additional moments	Total	Unit
Normal force	N_{Ed}	-4.078		-4.078	kN
Shear force	$V_{y,Ed}$	-0.510		-0.510	kN
Shear force	$V_{z,Ed}$	1.065		1.065	kN
Torsion	T_{Ed}	0.000		0.000	kNm
Bending moment	$M_{y,Ed}$	0.844	0.000	0.844	kNm
Bending moment	$M_{z,Ed}$	-0.053	-0.008	-0.061	kNm

Effective section N-

Effective width calculation

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	$\lambda_{p,red}$ [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	13.3	3.500e+05	3.500e+05	1.00	0.50	0.68	0.58	1.00	13.3		
3	I	46.7	3.500e+05	3.500e+05	1.00	4.00	0.84	0.72	0.96	45.0	20.6	22.5
5	I	96.7	3.500e+05	3.500e+05	1.00	4.00	1.73		0.50	48.8	24.4	24.4
7	I	46.7	3.500e+05	3.500e+05	1.00	4.00	0.84	0.72	0.96	45.0	20.6	22.5
9	UO	13.3	3.500e+05	3.500e+05	1.00	0.50	0.68	0.58	1.00	13.3		

Stiffener calculation

According to EN 1993-1-3 article 5.5.3

Id	A_s [m ²]	I_s [m ⁴]	b_1 [mm]	b_2 [mm]	h_w [mm]	k_r [-]	K [kN/m ²]	σ_{cr} [kN/m ²]	λ_d [-]	χ_d [-]	$A_{s,red}$ [m ²]
1	4.3697e-05	8.3901e-10	41.2	41.2	98.8	1.00	3.109e+02	3.387e+05	1.02	0.74	3.2121e-05
9	4.3697e-05	8.3901e-10	41.2	41.2	98.8	1.00	3.109e+02	3.387e+05	1.02	0.74	3.2121e-05

Effective section My+**Effective width calculation**

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	$\lambda_{p,red}$ [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	13.3	-2.244e+05	-3.132e+05								
3	I	46.7	-3.074e+05	-3.200e+05								
5	I	96.7	3.433e+05	-3.001e+05	-0.87	20.79	0.76		1.00	51.6	20.6	31.0
7	I	46.7	3.500e+05	3.375e+05	0.96	4.07	0.83	0.74	0.95	44.6	20.6	22.5
9	UO	13.3	3.302e+05	2.414e+05	0.73	0.50	0.68	0.60	1.00	13.3		

Stiffener calculation

According to EN 1993-1-3 article 5.5.3

Id	A_s [m ²]	I_s [m ⁴]	b_1 [mm]	b_2 [mm]	h_w [mm]	k_f [-]	K [kN/m ²]	σ_{cr} [kN/m ²]	λ_d [-]	χ_d [-]	$A_{s,red}$ [m ²]
9	4.3659e-05	8.3870e-10	41.2	31.2	98.8	0.00	4.203e+02	3.941e+05	0.94	0.79	3.4433e-05

Effective section Mz-**Effective width calculation**

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	13.3	-3.500e+05	-3.500e+05							
3	I	46.7	2.566e+05	-3.366e+05	-1.31	31.95	0.30	1.00	20.2	8.1	12.1
5	I	96.7	2.700e+05	2.700e+05	1.00	4.00	1.73	0.50	48.8	24.4	24.4
7	I	46.7	2.566e+05	-3.366e+05	-1.31	31.95	0.30	1.00	20.2	8.1	12.1
9	UO	13.3	-3.500e+05	-3.500e+05							

Effective properties						
Effective area	A_{eff}	1.7410e-04	m ²			
Effective second moment of area	$I_{eff,y}$	3.9441e-07	m ⁴	$I_{eff,z}$	7.3516e-08	m ⁴
Effective section modulus	$W_{eff,y}$	7.4448e-06	m ³	$W_{eff,z}$	2.6118e-06	m ³
Shift of the centroid	$e_{N,y}$	0.0	mm	$e_{N,z}$	2.0	mm

Compression check

According to EN 1993-1-3 article 6.1.3 and formula (6.2)

Effective section area	A_{eff}	1.7410e-04	m ²
Compression resistance	$N_{c,Rd}$	60.935	kN
Unity check		0.07	-

Bending moment check for M_y

According to EN 1993-1-3 article 6.1.4 and formula (6.4)

Effective section modulus	$W_{eff,y}$	7.4448e-06	m ³
Bending moment resistance	$M_{c,y,Rd}$	2.606	kNm
Unity check		0.32	-

Bending moment check for M_z

According to EN 1993-1-3 article 6.1.4 and formula (6.4)

Effective section modulus	$W_{eff,z}$	2.6118e-06	m ³
Bending moment resistance	$M_{c,z,Rd}$	0.914	kNm
Unity check		0.07	-

Biaxial bending moment check

According to EN 1993-1-3 article 6.1.4 and formula (6.7)

Bending moment resistance	$M_{c,y,Rd}$	2.606	kNm
Bending moment resistance	$M_{c,z,Rd}$	0.914	kNm

Unity check (6.7) = 0.32 + 0.07 = 0.39 -

Shear Force V_y

According to article EN 1993-1-3: 6.1.5 and formula (6.8).

Stiffening at the support.

Element ID	l_c [mm]	α [deg]	s_w [mm]	λ_w [-]	f_{bv} [MPa]	$V_{b,Rd,y,i}$ [kN]
3	48.8	0.00	46.7	0.55	203.0	11.888
5	98.8	90.00	96.7	1.14	147.6	0.000
7	48.8	0.00	46.7	0.55	203.0	11.888

Shear verification

$V_{b,Rd,y}$	23.775	kN
Unity check	0.02	-

Shear Force V_z

According to article EN 1993-1-3: 6.1.5 and formula (6.8).

Stiffening at the support.

Element ID	l_c [mm]	α [deg]	s_w [mm]	λ_w [-]	f_{bv} [MPa]	$V_{b,Rd,z,i}$ [kN]
3	48.8	0.00	46.7	0.55	203.0	0.000
5	98.8	90.00	96.7	1.14	147.6	17.500
7	48.8	0.00	46.7	0.55	203.0	0.000

Shear verification

$V_{b,Rd,z}$	17.500	kN
Unity check	0.06	-

Torsional Moment Check

According to article EN 1993-1-3: 6.1.6 and formula (6.11a), (6.11b), (6.11c).

Elastic verification

Critical Fibre	30	
σ_N	23.4	MPa
σ_{My}	112.4	MPa
σ_{Mz}	14.6	MPa
τ_{Vy}	4.6	MPa
τ_{Vz}	6.8	MPa
τ_t	0.2	MPa
Direct Stress Check	0.43	-
Shear Stress Check	0.06	-
Composed Stress Check	0.39	-

Note: The Local Transverse Forces Check has been ignored due to user input.

Combined Compression and Bending Check

According to article EN 1993-1-3: 6.1.9 and formula (6.25), (6.26).

e_{Nz}	2.0	mm
$\Delta M_{i,Ed}$	-0.008	kNm
$N_{c,Rd}$	60.935	kN
$M_{cy,Rd,ten}$	2.909	kNm
$M_{cz,Rd,ten}$	0.914	kNm
$M_{cy,Rd,com}$	2.627	kNm
$M_{cz,Rd,com}$	1.177	kNm

Unity check (6.25) $0.07 + 0.32 + 0.05 = 0.44$ -

Unity check (6.26) $0.29 + 0.07 - 0.07 = 0.29$ -

The member satisfies the section check.

.....**STABILITY CHECK**:.....

Flexural Buckling Strength

According to article EN 1993-1-3: 6.2.2

According to article EN 1993-1-1: 6.3.1 and formula (6.46)

Buckling parameters	yy	zz	
Sway type	sway	sway	
System Length L	0.093	0.093	m
Buckling factor k	1.00	1.00	
Buckling length L_{cr}	0.093	0.093	m
Critical Euler load N_{cr}	102535.215	22586.033	kN
Slenderness	2.30	4.91	
Relative slenderness λ_{rel}	0.02	0.05	
Limit slenderness $\lambda_{rel,0}$	0.20	0.20	

The slenderness or compression force is such that Flexural Buckling effects may be ignored according to EN 1993-1-1 article 6.3.1.2(4)

Torsional (-Flexural) Buckling check

According to article EN 1993-1-3: 6.2.3

According to article EN 1993-1-1: 6.3.1 and formula (6.46)

Torsional Buckling length	0.093	m
$N_{cr,T}$	14394.240	kN
$N_{cr,TF}$	13448.849	kN
Relative slenderness $\lambda_{rel,T}$	0.07	
Limit slenderness $\lambda_{rel,0}$	0.20	

The slenderness or compression force is such that Torsional (-Flexural) Buckling effects may be ignored according to EN 1993-1-1 article 6.3.1.2(4)

Lateral Torsional Buckling Check

According to article EN 1993-1-3: 6.2.4

According to article EN 1993-1-1: 6.3.2 and formula (6.55)

LTB Parameters		
Method for LTB Curve	art. 6.3.2.2	
$W_{eff,y}$	7.4448e-06	m ³
Elastic critical moment M_{cr}	1165.021	kNm
Relative slenderness $\lambda_{rel,LT}$	0.05	
Limit slenderness $\lambda_{rel,LT,0}$	0.20	

M_{cr} Parameters		
LTB length	0.093	m
k	1.00	
k_w	1.00	
C_1	1.06	
C_2	0.00	
C_3	1.00	

The slenderness or bending moment is such that Lateral Torsional Buckling effects may be ignored according to EN 1993-1-1 article 6.3.2.2(4)

Bending and Axial Compression Check

According to article EN 1993-1-3: 6.2.5(1)

According to article EN 1993-1-1: 6.3.3 and formula (6.61), (6.62).

Interaction Method 1

Interaction method 1 parameters		
k_{yy}	0.99	
k_{yz}	1.00	
k_{zy}	0.99	
k_{zz}	1.00	
$\Delta M_{y,Ed}$	0.000	kNm
$\Delta M_{z,Ed}$	-0.008	kNm
A	1.7410e-04	m ²
W_y	7.4448e-06	m ³
W_z	2.6118e-06	m ³
N_{Rk}	60.935	kN
$M_{y,Rk}$	2.606	kNm

Interaction method 1 parameters		
$M_{z,Rk}$	0.914	kNm
$M_{y,Ed}$	0.844	kNm
$M_{z,Ed}$	-0.053	kNm
Interaction Method 1		
$M_{cr,0}$	1096.765	kNm
reduced slenderness 0	0.05	
ψ_y	0.88	
ψ_z	-0.02	
$C_{my,0}$	0.98	
$C_{mz,0}$	1.00	
C_{my}	0.99	
C_{mz}	1.00	
C_{mLT}	1.00	
μ_y	1.00	
μ_z	1.00	
a_{LT}	1.00	

Unity check $0.07 + 0.32 + 0.07 = 0.45$ -

Unity check $0.07 + 0.32 + 0.07 = 0.45$ -

The member satisfies the stability check.

All member pf type frame check

Overall Unity Check

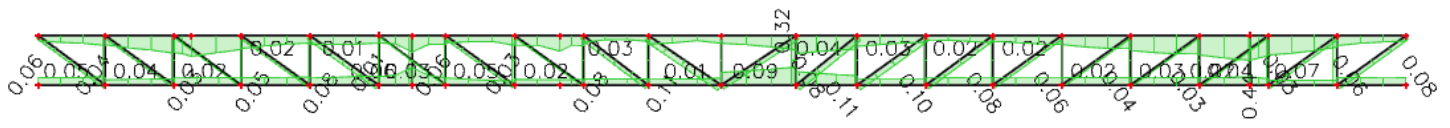
Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
124	0.793-	ULS-Set B (auto)/1	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.45	0.44	0.45
125	3.100+	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.35	0.32	0.35
126	0.000	ULS-Set B (auto)/3	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.07	0.07	0.07
127	0.000	ULS-Set B (auto)/3	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.04	0.04	0.04
128	0.000	ULS-Set B (auto)/4	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.03
129	0.000	ULS-Set B (auto)/5	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.02	0.02	0.02
130	0.250	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.02	0.02	0.00
131	0.250	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.02	0.02	0.00
132	0.250	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.00
133	0.250	ULS-Set B (auto)/6	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.04	0.04	0.00
134	0.000	ULS-Set B (auto)/1	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.09	0.09	0.09
135	0.000	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.01	0.01	0.01
136	0.250	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.00
137	0.000	ULS-Set B (auto)/4	C100*50*15*1.2 - Cold formed C section (100.0;	S350GD+Z	0.02	0.02	0.02

Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
			50.0; 1.2; 3.0; 15.0)				
138	0.000	ULS-Set B (auto)/8	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.05	0.05	0.05
139	0.000	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.03
140	0.250	ULS-Set B (auto)/9	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.01	0.01	0.00
141	0.250	ULS-Set B (auto)/10	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.02	0.02	0.00
142	0.000	ULS-Set B (auto)/11	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.02	0.02	0.02
143	0.000	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.04	0.04	0.04
144	0.000	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.05	0.05	0.05
145	0.430	ULS-Set B (auto)/3	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.08	0.08	0.00
146	0.430	ULS-Set B (auto)/13	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.06	0.06	0.00
147	0.430	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.00
148	0.215-	ULS-Set B (auto)/14	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.03
149	0.215-	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.04	0.04	0.04
150	0.215-	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.06	0.06	0.06
151	0.211-	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.08	0.08	0.08
152	0.215-	ULS-Set B (auto)/6	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0;	S350GD+Z	0.11	0.10	0.11

Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
153	0.133	ULS-Set B (auto)/6	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.11	0.11	0.11
154	0.455	ULS-Set B (auto)/1	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.08	0.08	0.00
155	0.223	ULS-Set B (auto)/1	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.12	0.11	0.12
156	0.207	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.08	0.08	0.08
157	0.430	ULS-Set B (auto)/15	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.00
158	0.430	ULS-Set B (auto)/10	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.06	0.06	0.00
159	0.422	ULS-Set B (auto)/16	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.01	0.01	0.00
160	0.215	ULS-Set B (auto)/10	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.09	0.08	0.09
161	0.215	ULS-Set B (auto)/9	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.05	0.05	0.05
162	0.211	ULS-Set B (auto)/17	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.03
163	0.430	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.04	0.04	0.00
164	0.422	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.06	0.06	0.00
3510	0.000	ULS-Set B (auto)/18	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.06	0.06	0.06
3520	0.000	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.02	0.03

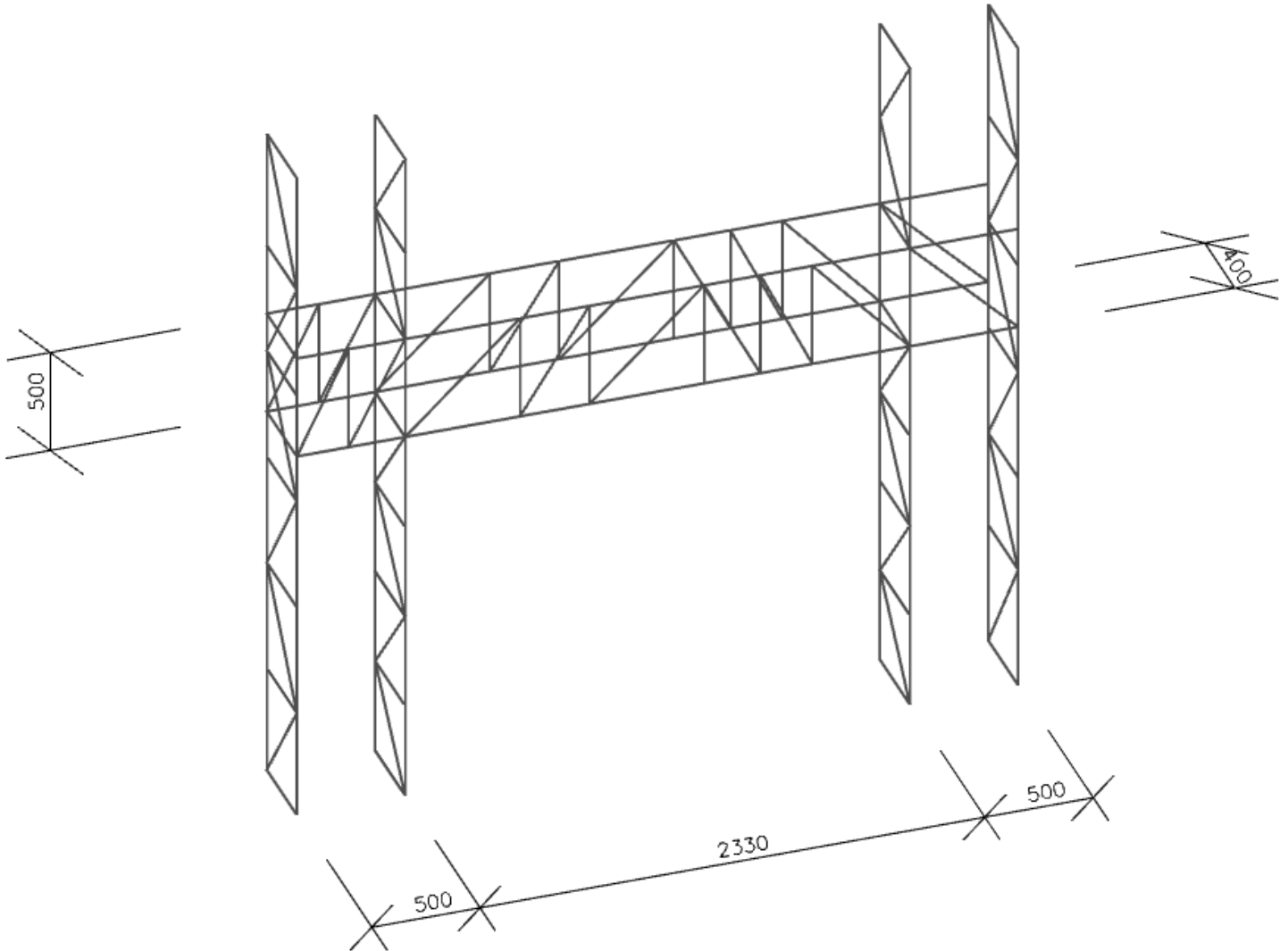
Name	Combination key
ULS-Set B (auto)/1	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/2	1.35*G + 1.35*G1 + 1.05*Q1 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/3	1.35*G + 1.35*G1 + 1.50*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q8
ULS-Set B (auto)/4	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/5	G + G1 + 1.05*Q1 + 0.75*Q3 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/6	1.35*G + 1.35*G1 + 1.50*Q1 + 1.35*G3 + 1.35*G2 + 0.90*Q8
ULS-Set B (auto)/7	1.35*G + 1.35*G1 + 1.50*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q9
ULS-Set B (auto)/8	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/9	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/10	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/11	G + G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/12	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/13	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/14	G + G1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/15	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/16	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/17	1.35*G + 1.35*G1 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/18	1.35*G + 1.35*G1 + 1.50*Q1 + 0.75*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2

Unity check

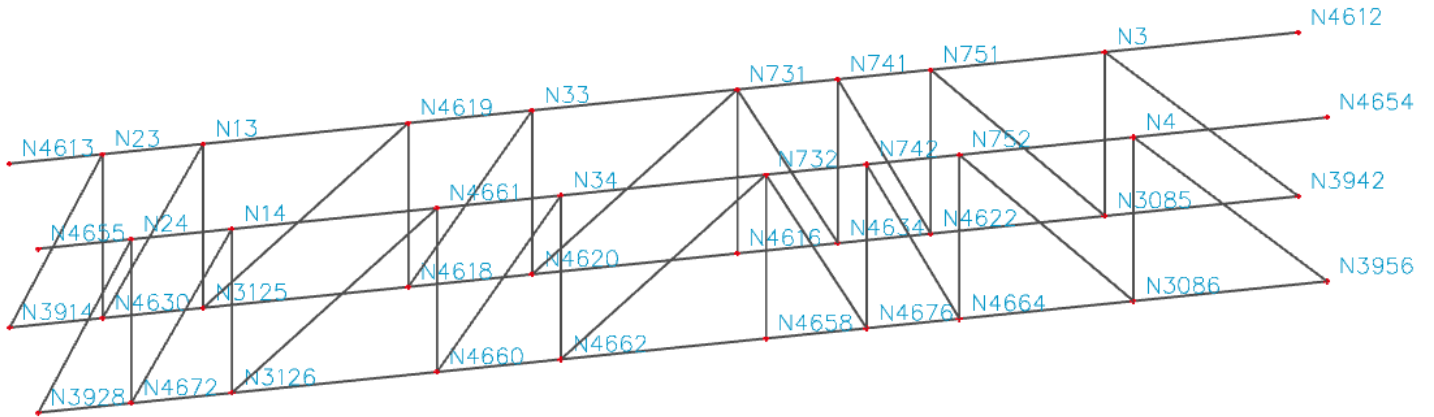


2.4.3 SIDE WALL TRUSS CHECK

Side wall truss frame



Node coordinates



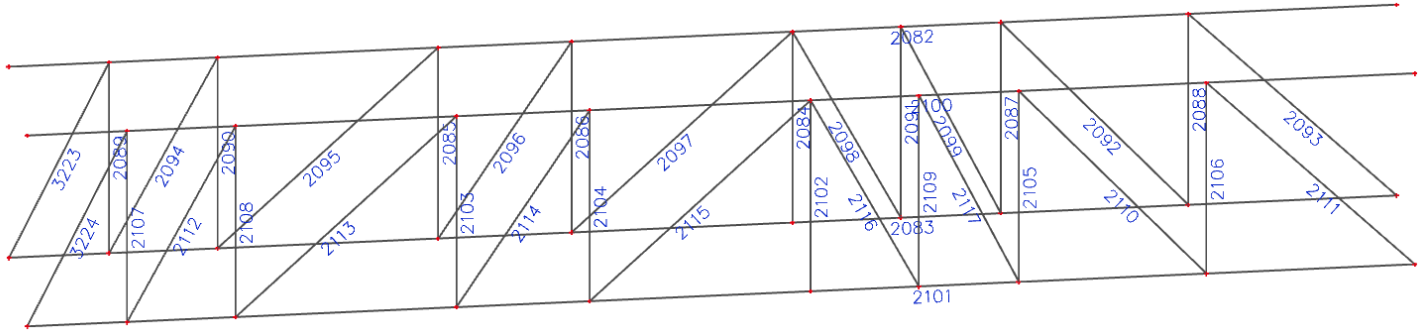
Node coordinate

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N3	0.000	4.570	2.330
N4	0.400	4.570	2.330
N13	0.000	2.240	2.330
N14	0.400	2.240	2.330
N23	0.000	1.980	2.330
N24	0.400	1.980	2.330
N33	0.000	3.090	2.330
N34	0.400	3.090	2.330
N731	0.000	3.620	2.330
N732	0.400	3.620	2.330
N741	0.000	3.880	2.330
N742	0.400	3.880	2.330
N751	0.000	4.120	2.330
N752	0.400	4.120	2.330

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N3085	0.000	4.570	1.830
N3086	0.400	4.570	1.830
N3125	0.000	2.240	1.830
N3126	0.400	2.240	1.830
N3914	0.000	1.740	1.830
N3928	0.400	1.740	1.830
N3942	0.000	5.070	1.830
N3956	0.400	5.070	1.830
N4612	0.000	5.070	2.330
N4613	0.000	1.740	2.330
N4616	0.000	3.620	1.830
N4618	0.000	2.770	1.830
N4619	0.000	2.770	2.330
N4620	0.000	3.090	1.830

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N4622	0.000	4.120	1.830
N4630	0.000	1.980	1.830
N4634	0.000	3.880	1.830
N4654	0.400	5.070	2.330
N4655	0.400	1.740	2.330
N4658	0.400	3.620	1.830
N4660	0.400	2.770	1.830
N4661	0.400	2.770	2.330
N4662	0.400	3.090	1.830
N4664	0.400	4.120	1.830
N4672	0.400	1.980	1.830
N4676	0.400	3.880	1.830

Members number & cross-sections



Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
2082	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.330	N4612	N4613	beam (80)
2083	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.330	N3942	N3914	beam (80)
2084	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4616	N731	beam (80)
2085	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4618	N4619	beam (80)
2086	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4620	N33	beam (80)
2087	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4622	N751	beam (80)
2088	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N3085	N3	beam (80)
2089	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4630	N23	beam (80)
2090	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N3125	N13	beam (80)
2091	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4634	N741	beam (80)
2092	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.673	N3085	N751	beam (80)
2093	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.707	N3942	N3	beam (80)
2094	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.564	N4630	N13	beam (80)
2095	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.729	N3125	N4619	beam (80)
2096	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.594	N4618	N33	beam (80)
2097	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.729	N4620	N731	beam (80)
2098	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.564	N4634	N731	beam (80)
2099	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.555	N4622	N741	beam (80)
2100	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.330	N4654	N4655	beam (80)
2101	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	3.330	N3956	N3928	beam (80)
2102	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4658	N732	beam (80)
2103	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4660	N4661	beam (80)
2104	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4662	N34	beam (80)
2105	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4664	N752	beam (80)
2106	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N3086	N4	beam (80)
2107	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4672	N24	beam (80)
2108	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N3126	N14	beam (80)
2109	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.500	N4676	N742	beam (80)
2110	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.673	N3086	N752	beam (80)
2111	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.707	N3956	N4	beam (80)
2112	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.564	N4672	N14	beam (80)
2113	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.729	N3126	N4661	beam (80)
2114	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.594	N4660	N34	beam (80)
2115	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.729	N4662	N732	beam (80)
2116	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.564	N4676	N732	beam (80)
2117	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.555	N4664	N742	beam (80)
3223	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.555	N3914	N23	beam (80)
3224	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.555	N3928	N24	beam (80)

Cross-Section properties

C100*50*15*1.2		
Type	Cold formed C section	
Detailed	100.0; 50.0; 1.2; 3.0; 15.0	
Formcode	114 - Cold formed C section	
Shape type	Thin-walled	
Item material	S350GD+Z	
Fabrication	cold formed	
Colour	■	
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m ²]	2.6269e-04	
A _y [m ²], A _z [m ²]	1.1804e-04	1.3126e-04
A _L [m ² /m], A _D [m ² /m]	4.4038e-01	4.4038e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	17.2	50.0
α [deg]	0.00	
I _y [m ⁴], I _z [m ⁴]	4.2561e-07	9.3751e-08
i _y [mm], i _z [mm]	40.3	18.9
W _{el,y} [m ³], W _{el,z} [m ³]	8.5121e-06	2.8580e-06
W _{pl,y} [m ³], W _{pl,z} [m ³]	9.7956e-06	4.2419e-06
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	3.43e+03	3.43e+03
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	1.48e+03	1.48e+03
d _y [mm], d _z [mm]	-41.5	0.0
I _t [m ⁴], I _w [m ⁶]	1.2972e-10	2.2102e-10
β _y [mm], β _z [mm]	0.0	121.2
Picture		

Side wall truss member hinges

Name	Member	Position	ux	uy	uz	fix	fiy	fiz
H1262	2084	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1263	2085	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1264	2086	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1265	2087	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1266	2088	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1267	2089	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1268	2090	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1269	2091	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1270	2092	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1271	2093	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1272	2094	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1273	2095	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1274	2096	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1275	2097	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1276	2098	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1277	2099	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1278	2102	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1279	2103	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1280	2104	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1281	2105	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1282	2106	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1283	2107	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1284	2108	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1285	2109	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1286	2110	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1287	2111	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1288	2112	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1289	2113	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1290	2114	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1291	2115	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1292	2116	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1293	2117	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1294	3223	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1295	3224	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1296	2100	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1297	2083	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1298	2101	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H1299	2082	Both	Rigid	Rigid	Rigid	Rigid	Free	Free

Maximum forces in elements

Axial force diagram N, kH.

1D internal forces

Values: N

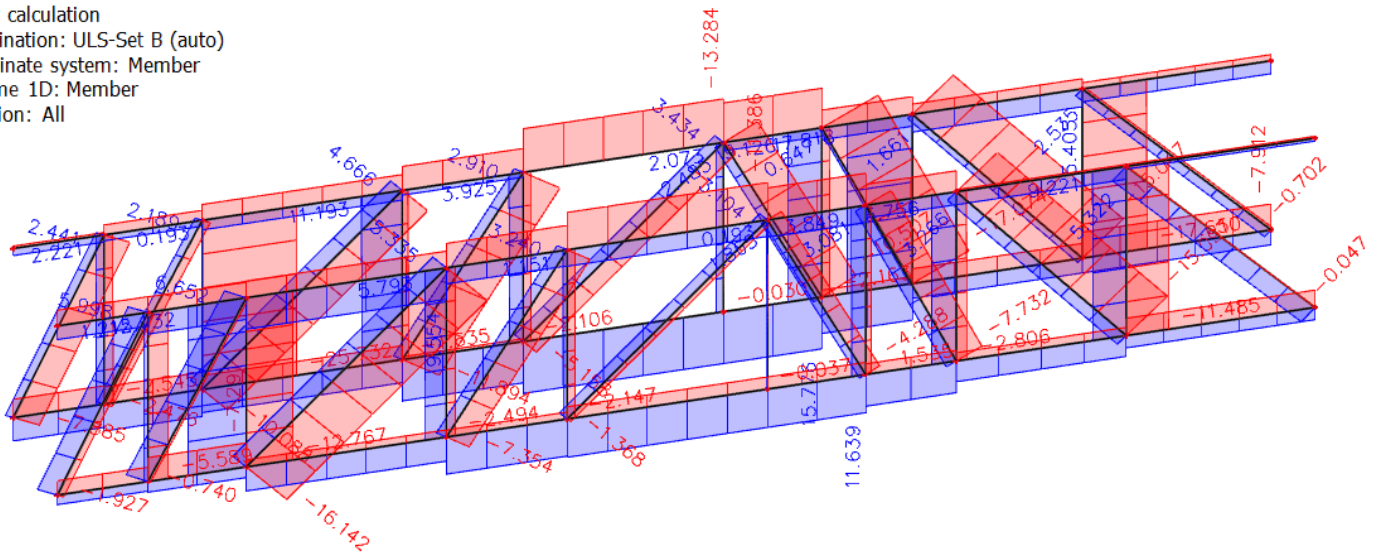
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All



Shear force diagram Vy, kH.

1D internal forces

Values: Vy

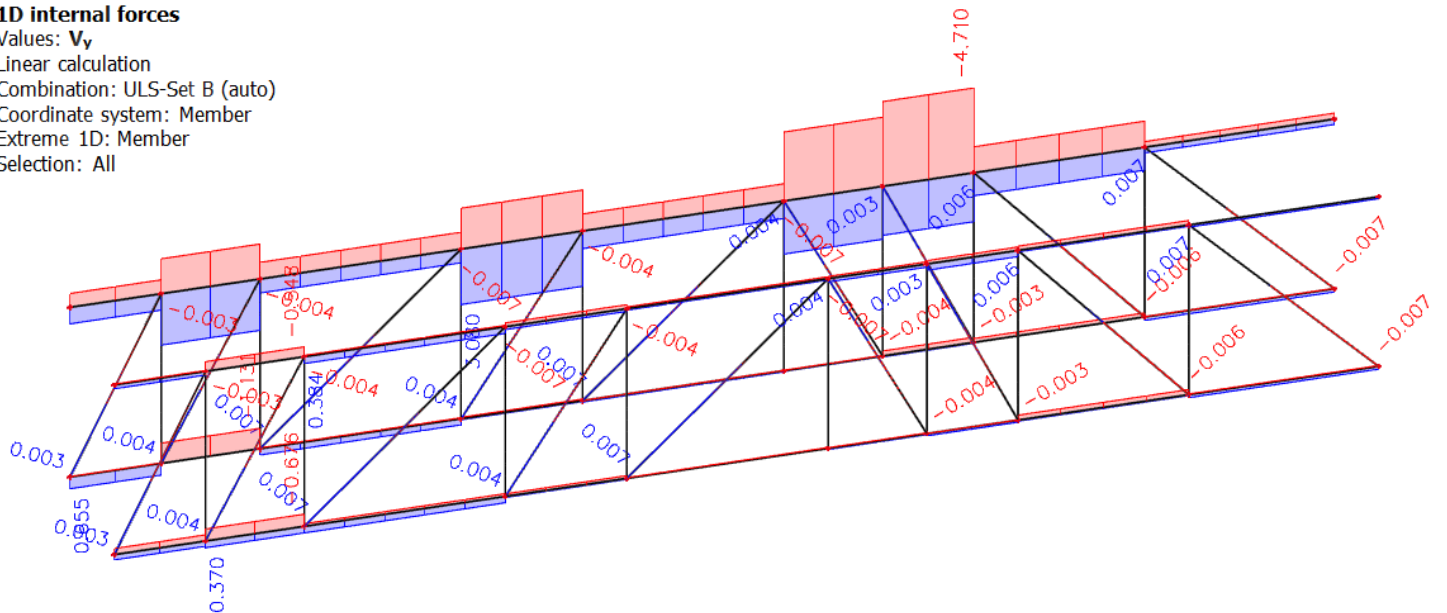
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All



Shear force diagram V_z , kH.

1D internal forces

Values: V_z

Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All

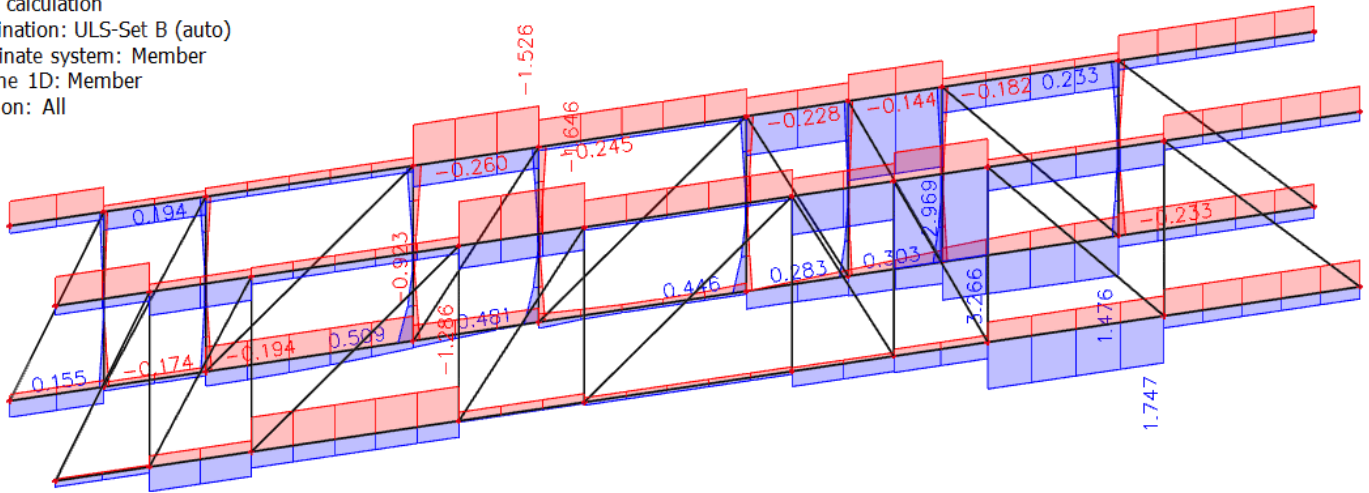


Diagram of bending moments M_y , kNm.

1D internal forces

Values: M_y

Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All

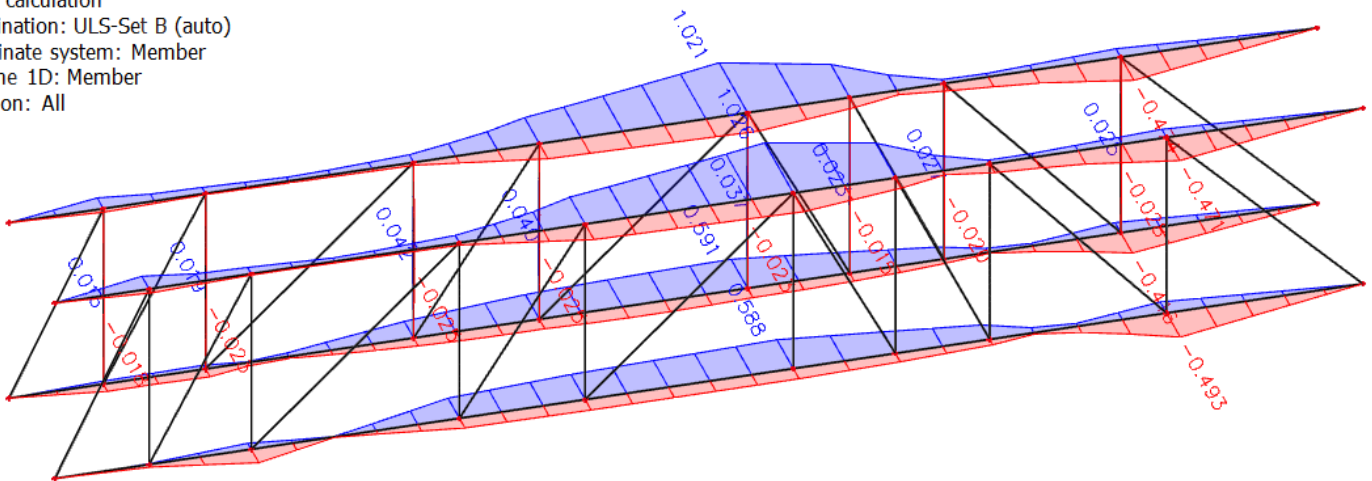


Diagram of bending moments M_z , kNm.

1D internal forces

Values: M_z

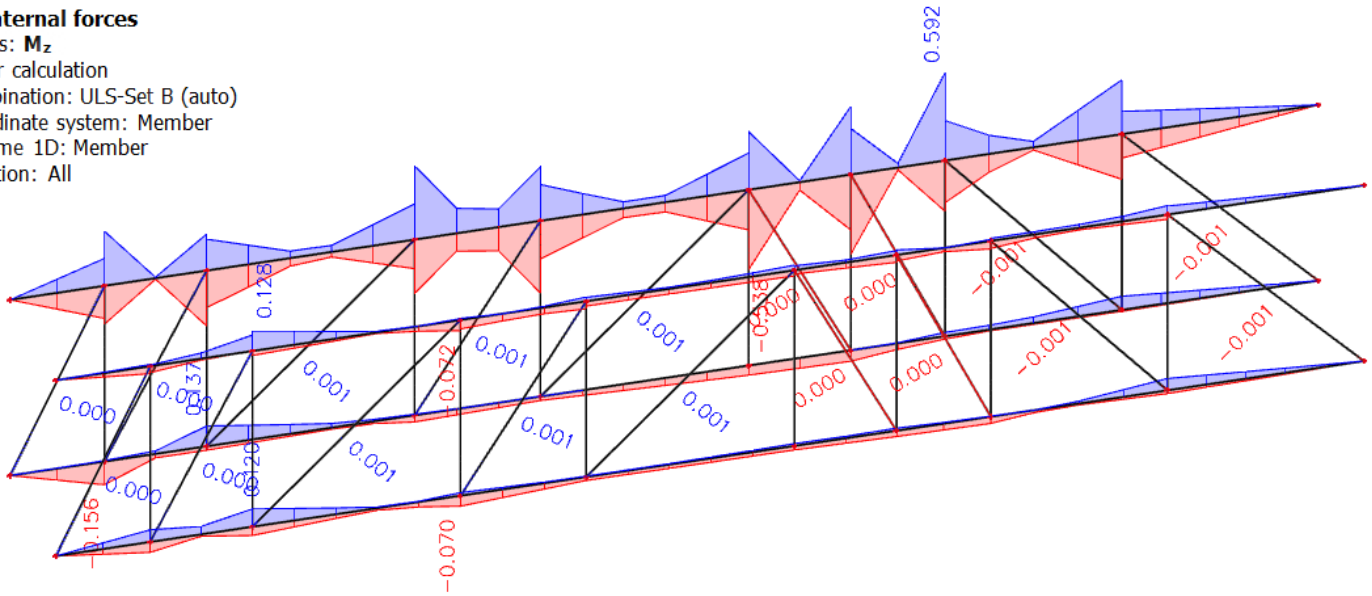
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All



Deformation check

SLS comb. - G + G1 + 0.70*Q1 + Q3 + 0.60*Q7 + G3 + G2

1D deformations

Values: u_z

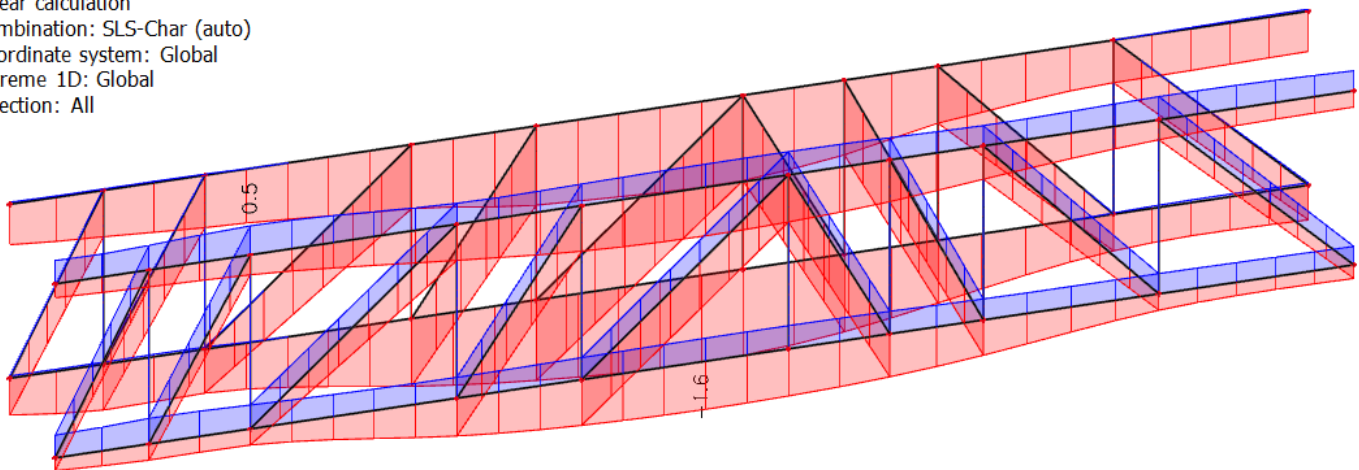
Linear calculation

Combination: SLS-Char (auto)

Coordinate system: Global

Extreme 1D: Global

Selection: All



The maximum deflection is 1.6 mm. According to EC-EN 1993 - the deflection limits - $L/360$.

$$2330 / 360 = 6.47 \text{ mm}$$

$$1.6 \text{ mm} < 6.47 \text{ mm}$$

Deformation is OK!

Internal forces

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
2082	1.450+	ULS-Set B (auto)/1	-13.284	0.172	-1.010	0.000	1.021	-0.076
2082	0.500+	ULS-Set B (auto)/2	5.405	-1.452	0.462	0.000	-0.358	0.366
2082	0.950+	ULS-Set B (auto)/3	1.920	-4.710	2.148	0.000	-0.151	0.592
2082	2.300-	ULS-Set B (auto)/4	-0.917	3.080	-1.383	0.000	0.009	0.496
2082	1.980+	ULS-Set B (auto)/5	-5.906	1.454	-1.526	0.000	0.524	-0.232
2082	0.950+	ULS-Set B (auto)/1	-5.394	-3.136	2.969	0.000	-0.039	0.387
2082	2.830+	ULS-Set B (auto)/5	-1.110	1.118	0.543	0.000	0.070	-0.150
2082	0.500-	ULS-Set B (auto)/6	2.221	-0.005	-0.947	0.000	-0.474	-0.006
2082	1.450+	ULS-Set B (auto)/6	-13.274	0.172	-1.010	0.000	1.021	-0.076
2082	1.450-	ULS-Set B (auto)/3	-1.178	-3.829	1.445	0.000	0.741	-0.538
2083	0.000	ULS-Set B (auto)/3	-7.912	0.092	-0.713	0.000	0.000	0.000
2083	1.190+	ULS-Set B (auto)/6	15.776	0.030	0.678	0.000	0.401	-0.074
2083	2.830+	ULS-Set B (auto)/6	-0.218	-1.131	-0.159	0.000	-0.101	0.137
2083	3.330	ULS-Set B (auto)/6	-0.088	0.655	0.593	0.000	0.000	0.000
2083	2.300+	ULS-Set B (auto)/3	6.805	0.049	-0.923	0.000	0.328	-0.013
2083	0.500+	ULS-Set B (auto)/7	3.124	-0.186	1.476	0.000	-0.416	0.078
2083	0.950+	ULS-Set B (auto)/6	11.117	-0.278	0.705	0.000	0.234	-0.008
2083	3.090+	ULS-Set B (auto)/8	0.525	0.510	0.573	0.000	-0.137	-0.123
2083	0.500-	ULS-Set B (auto)/5	-4.804	0.163	-0.833	0.000	-0.416	0.078
2083	1.450+	ULS-Set B (auto)/7	13.765	0.056	-0.072	0.000	0.591	-0.057
2083	3.090+	ULS-Set B (auto)/6	-0.088	0.648	0.593	0.000	-0.142	-0.156
2083	2.830+	ULS-Set B (auto)/1	-0.240	-1.131	-0.159	0.000	-0.101	0.137
2084	0.500	ULS-Set B (auto)/6	2.073	0.000	-0.011	0.000	0.000	0.000
2084	0.500	ULS-Set B (auto)/9	0.081	0.000	-0.228	0.000	0.000	0.000
2084	0.000	ULS-Set B (auto)/10	0.392	0.000	-0.194	0.000	0.000	0.000
2084	0.000	ULS-Set B (auto)/2	0.581	0.000	0.446	0.000	0.000	0.000
2084	0.200-	ULS-Set B (auto)/11	0.627	0.000	-0.039	0.000	-0.023	0.000
2084	0.200-	ULS-Set B (auto)/9	0.014	0.000	-0.007	0.000	0.037	0.000
2084	0.000	ULS-Set B (auto)/9	-0.030	0.000	0.446	0.000	0.000	0.000
2085	0.500	ULS-Set B (auto)/6	11.193	0.000	-0.011	0.000	0.000	0.000
2085	0.500	ULS-Set B (auto)/9	-1.516	0.000	-0.260	0.000	0.000	0.000
2085	0.000	ULS-Set B (auto)/12	10.151	0.000	0.019	0.000	0.000	0.000
2085	0.000	ULS-Set B (auto)/13	0.818	0.000	-0.209	0.000	0.000	0.000
2085	0.200-	ULS-Set B (auto)/11	1.903	0.000	-0.042	0.000	-0.025	0.000
2085	0.200-	ULS-Set B	-1.587	0.000	-0.008	0.000	0.042	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
2085	0.000	(auto)/9 ULS-Set B (auto)/9	-1.635	0.000	0.509	0.000	0.000	0.000
2086	0.500	ULS-Set B (auto)/1	3.925	0.000	-0.011	0.000	0.000	0.000
2086	0.500	ULS-Set B (auto)/14	-1.987	0.000	-0.245	0.000	0.000	0.000
2086	0.000	ULS-Set B (auto)/15	3.424	0.000	0.019	0.000	0.000	0.000
2086	0.000	ULS-Set B (auto)/13	0.942	0.000	-0.209	0.000	0.000	0.000
2086	0.200-	ULS-Set B (auto)/11	1.347	0.000	-0.042	0.000	-0.025	0.000
2086	0.200-	ULS-Set B (auto)/14	-2.058	0.000	-0.007	0.000	0.040	0.000
2086	0.000	ULS-Set B (auto)/14	-2.106	0.000	0.481	0.000	0.000	0.000
2087	0.500	ULS-Set B (auto)/1	17.818	0.000	-0.009	0.000	0.000	0.000
2087	0.500	ULS-Set B (auto)/16	7.167	0.000	-0.182	0.000	0.000	0.000
2087	0.000	ULS-Set B (auto)/16	7.034	0.000	0.303	0.000	0.000	0.000
2087	0.000	ULS-Set B (auto)/10	0.525	0.000	-0.169	0.000	0.000	0.000
2087	0.000	ULS-Set B (auto)/15	16.318	0.000	0.016	0.000	0.000	0.000
2087	0.200-	ULS-Set B (auto)/11	2.184	0.000	-0.034	0.000	-0.020	0.000
2087	0.200-	ULS-Set B (auto)/16	7.087	0.000	0.007	0.000	0.027	0.000
2087	0.000	ULS-Set B (auto)/17	0.281	0.000	-0.076	0.000	0.000	0.000
2088	0.500	ULS-Set B (auto)/18	-0.192	0.000	-0.208	0.000	0.000	0.000
2088	0.500	ULS-Set B (auto)/11	-4.436	0.000	0.233	0.000	0.000	0.000
2088	0.000	ULS-Set B (auto)/10	-2.993	0.000	-0.233	0.000	0.000	0.000
2088	0.000	ULS-Set B (auto)/15	-16.544	0.000	0.021	0.000	0.000	0.000
2088	0.200-	ULS-Set B (auto)/11	-4.543	0.000	-0.047	0.000	-0.028	0.000
2088	0.200-	ULS-Set B (auto)/18	-0.271	0.000	0.042	0.000	0.025	0.000
2088	0.000	ULS-Set B (auto)/1	-17.650	0.000	0.013	0.000	0.000	0.000
2089	0.500	ULS-Set B (auto)/14	2.221	0.000	-0.119	0.000	0.000	0.000
2089	0.000	ULS-Set B (auto)/14	2.130	0.000	0.155	0.000	0.000	0.000
2089	0.000	ULS-Set B (auto)/8	-0.087	0.000	0.112	0.000	0.000	0.000
2089	0.000	ULS-Set B (auto)/13	-1.888	0.000	-0.174	0.000	0.000	0.000
2089	0.200-	ULS-Set B (auto)/19	-2.484	0.000	-0.017	0.000	-0.018	0.000
2089	0.200-	ULS-Set B (auto)/14	2.175	0.000	0.015	0.000	0.016	0.000
2089	0.000	ULS-Set B (auto)/19	-2.545	0.000	-0.174	0.000	0.000	0.000
2090	0.500	ULS-Set B (auto)/10	0.193	0.000	0.194	0.000	0.000	0.000
2090	0.000	ULS-Set B (auto)/20	-12.284	0.000	0.124	0.000	0.000	0.000
2090	0.000	ULS-Set B (auto)/21	-7.786	0.000	-0.194	0.000	0.000	0.000
2090	0.200-	ULS-Set B (auto)/10	0.127	0.000	-0.039	0.000	-0.023	0.000
2090	0.300-	ULS-Set B (auto)/16	-4.087	0.000	-0.032	0.000	0.019	0.000
2090	0.000	ULS-Set B (auto)/6	-25.732	0.000	0.011	0.000	0.000	0.000
2091	0.500	ULS-Set B (auto)/22	9.126	0.000	-0.087	0.000	0.000	0.000
2091	0.500	ULS-Set B	-2.088	0.000	-0.144	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/18						
2091	0.000	ULS-Set B (auto)/10	0.720	0.000	-0.123	0.000	0.000	0.000
2091	0.000	ULS-Set B (auto)/15	7.514	0.000	0.011	0.000	0.000	0.000
2091	0.200-	ULS-Set B (auto)/11	1.609	0.000	-0.025	0.000	-0.015	0.000
2091	0.200-	ULS-Set B (auto)/18	-2.133	0.000	-0.004	0.000	0.023	0.000
2091	0.000	ULS-Set B (auto)/18	-2.163	0.000	0.283	0.000	0.000	0.000
2092	0.673	ULS-Set B (auto)/23	1.661	0.005	0.000	0.000	0.000	0.000
2092	0.673	ULS-Set B (auto)/6	-15.033	0.006	0.000	0.000	0.000	0.000
2092	0.000	ULS-Set B (auto)/13	-4.275	-0.005	0.000	0.000	0.000	0.000
2092	0.000	ULS-Set B (auto)/1	-15.038	-0.006	0.000	0.000	0.000	0.000
2092	0.000	ULS-Set B (auto)/6	-15.047	-0.006	0.000	0.000	0.000	0.000
2092	0.336-	ULS-Set B (auto)/6	-15.040	0.000	0.000	0.000	0.000	-0.001
2093	0.707	ULS-Set B (auto)/21	2.535	0.007	0.000	0.000	0.000	0.000
2093	0.000	ULS-Set B (auto)/4	-0.044	-0.007	0.000	0.000	0.000	0.000
2093	0.000	ULS-Set B (auto)/14	0.232	-0.005	0.000	0.000	0.000	0.000
2093	0.000	ULS-Set B (auto)/23	-0.702	-0.005	0.000	0.000	0.000	0.000
2093	0.303-	ULS-Set B (auto)/21	2.527	-0.001	0.000	0.000	0.000	-0.001
2094	0.564	ULS-Set B (auto)/19	2.189	-0.004	0.000	0.000	0.000	0.000
2094	0.000	ULS-Set B (auto)/9	-2.474	0.003	0.000	0.000	0.000	0.000
2094	0.000	ULS-Set B (auto)/24	-0.219	0.004	0.000	0.000	0.000	0.000
2094	0.000	ULS-Set B (auto)/14	-2.476	0.003	0.000	0.000	0.000	0.000
2094	0.225-	ULS-Set B (auto)/19	2.180	0.001	0.000	0.000	0.000	0.000
2095	0.729	ULS-Set B (auto)/14	4.666	-0.005	0.000	0.000	0.000	0.000
2095	0.729	ULS-Set B (auto)/25	-10.074	-0.007	0.000	0.000	0.000	0.000
2095	0.000	ULS-Set B (auto)/19	-9.227	0.007	0.000	0.000	0.000	0.000
2095	0.000	ULS-Set B (auto)/25	-10.088	0.007	0.000	0.000	0.000	0.000
2095	0.312-	ULS-Set B (auto)/25	-10.082	0.001	0.000	0.000	0.000	0.001
2096	0.594	ULS-Set B (auto)/9	2.910	-0.003	0.000	0.000	0.000	0.000
2096	0.594	ULS-Set B (auto)/6	-11.881	-0.004	0.000	0.000	0.000	0.000
2096	0.000	ULS-Set B (auto)/21	-5.406	0.004	0.000	0.000	0.000	0.000
2096	0.000	ULS-Set B (auto)/6	-11.894	0.004	0.000	0.000	0.000	0.000
2096	0.237-	ULS-Set B (auto)/6	-11.889	0.001	0.000	0.000	0.000	0.001
2097	0.729	ULS-Set B (auto)/14	3.434	-0.005	0.000	0.000	0.000	0.000
2097	0.729	ULS-Set B (auto)/26	-5.145	-0.007	0.000	0.000	0.000	0.000
2097	0.000	ULS-Set B (auto)/13	-0.445	0.005	0.000	0.000	0.000	0.000
2097	0.000	ULS-Set B (auto)/6	-4.417	0.007	0.000	0.000	0.000	0.000
2097	0.000	ULS-Set B (auto)/26	-5.158	0.007	0.000	0.000	0.000	0.000
2097	0.312-	ULS-Set B (auto)/26	-5.153	0.001	0.000	0.000	0.000	0.001
2098	0.564	ULS-Set B	2.485	0.003	0.000	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/18						
2098	0.564	ULS-Set B (auto)/22	-10.493	0.004	0.000	0.000	0.000	0.000
2098	0.000	ULS-Set B (auto)/6	-10.105	-0.004	0.000	0.000	0.000	0.000
2098	0.000	ULS-Set B (auto)/13	-0.705	-0.003	0.000	0.000	0.000	0.000
2098	0.000	ULS-Set B (auto)/22	-10.507	-0.004	0.000	0.000	0.000	0.000
2098	0.225-	ULS-Set B (auto)/22	-10.501	-0.001	0.000	0.000	0.000	0.000
2099	0.555	ULS-Set B (auto)/18	0.647	0.002	0.000	0.000	0.000	0.000
2099	0.555	ULS-Set B (auto)/1	-17.060	0.003	0.000	0.000	0.000	0.000
2099	0.000	ULS-Set B (auto)/2	-10.823	-0.003	0.000	0.000	0.000	0.000
2099	0.000	ULS-Set B (auto)/1	-17.074	-0.003	0.000	0.000	0.000	0.000
2099	0.222-	ULS-Set B (auto)/1	-17.068	-0.001	0.000	0.000	0.000	0.000
2100	1.450+	ULS-Set B (auto)/21	-11.386	0.001	-0.187	0.000	-0.071	-0.036
2100	2.300+	ULS-Set B (auto)/26	9.554	0.347	0.283	0.000	-0.021	-0.066
2100	2.830+	ULS-Set B (auto)/6	2.880	-0.548	0.876	0.000	0.032	0.108
2100	1.980+	ULS-Set B (auto)/5	-0.696	-0.114	-1.646	0.000	0.540	-0.019
2100	0.950+	ULS-Set B (auto)/1	-0.992	0.194	3.266	0.000	-0.075	-0.046
2100	2.830+	ULS-Set B (auto)/5	3.485	-0.503	0.709	0.000	0.063	0.099
2100	0.500-	ULS-Set B (auto)/6	0.019	0.112	-0.942	0.000	-0.471	0.052
2100	1.450+	ULS-Set B (auto)/6	-3.766	-0.060	-0.993	0.000	1.026	0.010
2100	2.300+	ULS-Set B (auto)/24	7.989	0.369	0.201	0.000	-0.013	-0.072
2100	2.830-	ULS-Set B (auto)/24	7.989	0.384	0.201	0.000	0.093	0.128
2101	2.830+	ULS-Set B (auto)/4	-7.291	0.076	0.748	0.000	-0.219	0.039
2101	1.190+	ULS-Set B (auto)/19	11.639	0.047	0.047	0.000	-0.043	-0.039
2101	2.830+	ULS-Set B (auto)/27	-2.898	-0.676	-0.340	0.000	0.102	0.109
2101	3.090-	ULS-Set B (auto)/28	-2.020	0.370	0.809	0.000	-0.027	0.078
2101	2.300+	ULS-Set B (auto)/7	2.419	0.083	-1.286	0.000	0.411	-0.029
2101	0.500+	ULS-Set B (auto)/5	1.558	-0.121	1.747	0.000	-0.493	0.027
2101	0.950+	ULS-Set B (auto)/6	1.990	0.106	0.552	0.000	0.289	-0.030
2101	3.090+	ULS-Set B (auto)/8	-0.736	-0.345	0.122	0.000	-0.029	0.082
2101	0.500-	ULS-Set B (auto)/5	-2.023	0.060	-0.985	0.000	-0.493	0.027
2101	1.450+	ULS-Set B (auto)/7	1.406	-0.040	-0.142	0.000	0.588	0.008
2101	2.300+	ULS-Set B (auto)/21	7.312	0.352	0.233	0.000	-0.080	-0.070
2101	2.830-	ULS-Set B (auto)/21	7.312	0.366	0.233	0.000	0.043	0.120
2102	0.500	ULS-Set B (auto)/29	0.193	0.000	0.000	0.000	0.000	0.000
2102	0.000	ULS-Set B (auto)/10	0.023	0.000	0.000	0.000	0.000	0.000
2102	0.000	ULS-Set B (auto)/2	0.094	0.000	0.000	0.000	0.000	0.000
2102	0.000	ULS-Set B (auto)/23	-0.037	0.000	0.000	0.000	0.000	0.000
2103	0.500	ULS-Set B (auto)/19	5.793	0.000	0.000	0.000	0.000	0.000
2103	0.000	ULS-Set B	0.827	0.000	0.000	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/12						
2103	0.000	ULS-Set B (auto)/13	4.806	0.000	0.000	0.000	0.000	0.000
2103	0.000	ULS-Set B (auto)/14	-2.494	0.000	0.000	0.000	0.000	0.000
2104	0.500	ULS-Set B (auto)/10	1.151	0.000	0.000	0.000	0.000	0.000
2104	0.000	ULS-Set B (auto)/15	-2.046	0.000	0.000	0.000	0.000	0.000
2104	0.000	ULS-Set B (auto)/2	-2.147	0.000	0.000	0.000	0.000	0.000
2105	0.500	ULS-Set B (auto)/19	6.756	0.000	0.000	0.000	0.000	0.000
2105	0.000	ULS-Set B (auto)/10	5.959	0.000	0.000	0.000	0.000	0.000
2105	0.000	ULS-Set B (auto)/15	-0.855	0.000	0.000	0.000	0.000	0.000
2105	0.000	ULS-Set B (auto)/30	-2.806	0.000	0.000	0.000	0.000	0.000
2106	0.500	ULS-Set B (auto)/31	9.221	0.000	0.000	0.000	0.000	0.000
2106	0.000	ULS-Set B (auto)/10	-11.482	0.000	0.000	0.000	0.000	0.000
2106	0.000	ULS-Set B (auto)/15	8.218	0.000	0.000	0.000	0.000	0.000
2106	0.000	ULS-Set B (auto)/13	-11.485	0.000	0.000	0.000	0.000	0.000
2107	0.500	ULS-Set B (auto)/9	1.212	0.000	0.000	0.000	0.000	0.000
2107	0.000	ULS-Set B (auto)/8	-2.898	0.000	0.000	0.000	0.000	0.000
2107	0.000	ULS-Set B (auto)/13	-1.693	0.000	0.000	0.000	0.000	0.000
2107	0.000	ULS-Set B (auto)/24	-5.589	0.000	0.000	0.000	0.000	0.000
2108	0.500	ULS-Set B (auto)/8	15.932	0.000	0.000	0.000	0.000	0.000
2108	0.000	ULS-Set B (auto)/20	12.715	0.000	0.000	0.000	0.000	0.000
2108	0.000	ULS-Set B (auto)/21	-9.631	0.000	0.000	0.000	0.000	0.000
2108	0.000	ULS-Set B (auto)/10	-12.767	0.000	0.000	0.000	0.000	0.000
2109	0.500	ULS-Set B (auto)/21	3.849	0.000	0.000	0.000	0.000	0.000
2109	0.000	ULS-Set B (auto)/10	3.452	0.000	0.000	0.000	0.000	0.000
2109	0.000	ULS-Set B (auto)/15	-0.222	0.000	0.000	0.000	0.000	0.000
2109	0.000	ULS-Set B (auto)/20	-1.535	0.000	0.000	0.000	0.000	0.000
2110	0.673	ULS-Set B (auto)/18	3.266	0.005	0.000	0.000	0.000	0.000
2110	0.673	ULS-Set B (auto)/19	-15.084	0.006	0.000	0.000	0.000	0.000
2110	0.000	ULS-Set B (auto)/13	-11.772	-0.005	0.000	0.000	0.000	0.000
2110	0.000	ULS-Set B (auto)/29	-7.543	-0.006	0.000	0.000	0.000	0.000
2110	0.000	ULS-Set B (auto)/19	-15.097	-0.006	0.000	0.000	0.000	0.000
2110	0.336-	ULS-Set B (auto)/19	-15.091	0.000	0.000	0.000	0.000	-0.001
2111	0.707	ULS-Set B (auto)/1	5.322	0.007	0.000	0.000	0.000	0.000
2111	0.000	ULS-Set B (auto)/26	1.698	-0.007	0.000	0.000	0.000	0.000
2111	0.000	ULS-Set B (auto)/14	1.906	-0.005	0.000	0.000	0.000	0.000
2111	0.000	ULS-Set B (auto)/18	-0.047	-0.005	0.000	0.000	0.000	0.000
2111	0.303-	ULS-Set B (auto)/1	5.314	-0.001	0.000	0.000	0.000	-0.001
2112	0.564	ULS-Set B (auto)/24	6.652	-0.004	0.000	0.000	0.000	0.000
2112	0.000	ULS-Set B	4.540	0.004	0.000	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/32						
2112	0.000	ULS-Set B (auto)/9	-0.740	0.003	0.000	0.000	0.000	0.000
2112	0.225-	ULS-Set B (auto)/24	6.643	0.001	0.000	0.000	0.000	0.000
2113	0.729	ULS-Set B (auto)/9	5.335	-0.005	0.000	0.000	0.000	0.000
2113	0.729	ULS-Set B (auto)/21	-16.128	-0.007	0.000	0.000	0.000	0.000
2113	0.000	ULS-Set B (auto)/33	-11.555	0.007	0.000	0.000	0.000	0.000
2113	0.000	ULS-Set B (auto)/14	5.320	0.005	0.000	0.000	0.000	0.000
2113	0.000	ULS-Set B (auto)/21	-16.142	0.007	0.000	0.000	0.000	0.000
2113	0.312-	ULS-Set B (auto)/21	-16.136	0.001	0.000	0.000	0.000	0.001
2114	0.594	ULS-Set B (auto)/14	3.240	-0.003	0.000	0.000	0.000	0.000
2114	0.594	ULS-Set B (auto)/19	-7.341	-0.004	0.000	0.000	0.000	0.000
2114	0.000	ULS-Set B (auto)/19	-7.354	0.004	0.000	0.000	0.000	0.000
2114	0.237-	ULS-Set B (auto)/19	-7.349	0.001	0.000	0.000	0.000	0.001
2115	0.729	ULS-Set B (auto)/29	3.104	-0.007	0.000	0.000	0.000	0.000
2115	0.000	ULS-Set B (auto)/6	3.075	0.007	0.000	0.000	0.000	0.000
2115	0.000	ULS-Set B (auto)/10	-1.368	0.005	0.000	0.000	0.000	0.000
2115	0.312-	ULS-Set B (auto)/29	3.096	0.001	0.000	0.000	0.000	0.001
2116	0.564	ULS-Set B (auto)/20	1.865	0.003	0.000	0.000	0.000	0.000
2116	0.564	ULS-Set B (auto)/21	-4.275	0.004	0.000	0.000	0.000	0.000
2116	0.000	ULS-Set B (auto)/6	-0.316	-0.004	0.000	0.000	0.000	0.000
2116	0.000	ULS-Set B (auto)/13	-3.921	-0.003	0.000	0.000	0.000	0.000
2116	0.000	ULS-Set B (auto)/21	-4.288	-0.004	0.000	0.000	0.000	0.000
2116	0.225-	ULS-Set B (auto)/21	-4.283	-0.001	0.000	0.000	0.000	0.000
2117	0.555	ULS-Set B (auto)/30	3.081	0.002	0.000	0.000	0.000	0.000
2117	0.555	ULS-Set B (auto)/19	-7.718	0.003	0.000	0.000	0.000	0.000
2117	0.000	ULS-Set B (auto)/18	2.422	-0.002	0.000	0.000	0.000	0.000
2117	0.000	ULS-Set B (auto)/2	0.757	-0.003	0.000	0.000	0.000	0.000
2117	0.000	ULS-Set B (auto)/19	-7.732	-0.003	0.000	0.000	0.000	0.000
2117	0.222-	ULS-Set B (auto)/19	-7.726	-0.001	0.000	0.000	0.000	0.000
3223	0.555	ULS-Set B (auto)/10	2.441	-0.002	0.000	0.000	0.000	0.000
3223	0.555	ULS-Set B (auto)/6	-7.871	-0.003	0.000	0.000	0.000	0.000
3223	0.000	ULS-Set B (auto)/4	-5.004	0.003	0.000	0.000	0.000	0.000
3223	0.000	ULS-Set B (auto)/9	-2.855	0.002	0.000	0.000	0.000	0.000
3223	0.000	ULS-Set B (auto)/6	-7.885	0.003	0.000	0.000	0.000	0.000
3223	0.222-	ULS-Set B (auto)/6	-7.879	0.001	0.000	0.000	0.000	0.000
3224	0.555	ULS-Set B (auto)/24	5.998	-0.003	0.000	0.000	0.000	0.000
3224	0.000	ULS-Set B (auto)/4	5.783	0.003	0.000	0.000	0.000	0.000
3224	0.000	ULS-Set B (auto)/9	0.036	0.002	0.000	0.000	0.000	0.000
3224	0.000	ULS-Set B	-1.927	0.002	0.000	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
3224	0.222-	(auto)/10 ULS-Set B (auto)/24	5.990	0.001	0.000	0.000	0.000	0.000

Name	Combination key
ULS-Set B (auto)/1	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/2	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/3	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/4	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/5	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/6	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/7	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/8	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/9	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/10	G + G1 + 1.05*Q1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/11	1.35*G + 1.35*G1 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/12	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/13	G + G1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/14	G + G1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/15	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/16	1.35*G + 1.35*G1 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/17	G + G1 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/18	G + G1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/19	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/20	G + G1 + 1.05*Q1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/21	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/22	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q8
ULS-Set B (auto)/23	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/24	1.35*G + 1.35*G1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q9
ULS-Set B (auto)/25	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/26	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/27	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/28	G + G1 + 0.75*Q3 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/29	1.35*G + 1.35*G1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q8
ULS-Set B (auto)/30	G + G1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/31	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/32	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/33	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q9

Member 124 check

EN 1993-1-3 Cold Formed Code Check

National annex: Standard EN

Member 2082	1.450 / 3.330 m	Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	ULS-Set B (auto)	0.88 -
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Combination key
ULS-Set B (auto) / 1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8

Partial safety factors	
γ_{M0} for resistance of cross-sections	1.00
γ_{M1} for resistance to instability	1.00
γ_{M2} for resistance of net sections	1.25

Material		
Yield strength f_y	350.0	MPa
Average yield strength $f_{y,a}$	360.7	MPa
k	7	
n	4	
Ultimate strength f_u	420.0	MPa
Fabrication	cold formed	

....SECTION CHECK:....

The critical check is on position 1.450 m

Internal forces		Calculated	Additional moments	Total	Unit
Normal force	N_{Ed}	-1.178		-1.178	kN
Shear force	$V_{y,Ed}$	-3.829		-3.829	kN
Shear force	$V_{z,Ed}$	1.445		1.445	kN
Torsion	T_{Ed}	0.000		0.000	kNm
Bending moment	$M_{y,Ed}$	0.741	0.000	0.741	kNm
Bending moment	$M_{z,Ed}$	-0.538	-0.002	-0.540	kNm

Effective section N-

Effective width calculation

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	$\lambda_{p,red}$ [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	13.3	3.500e+05	3.500e+05	1.00	0.50	0.68	0.58	1.00	13.3		
3	I	46.7	3.500e+05	3.500e+05	1.00	4.00	0.84	0.72	0.96	45.0	20.6	22.5
5	I	96.7	3.500e+05	3.500e+05	1.00	4.00	1.73		0.50	48.8	24.4	24.4
7	I	46.7	3.500e+05	3.500e+05	1.00	4.00	0.84	0.72	0.96	45.0	20.6	22.5
9	UO	13.3	3.500e+05	3.500e+05	1.00	0.50	0.68	0.58	1.00	13.3		

Stiffener calculation

According to EN 1993-1-3 article 5.5.3

Id	A_s [m ²]	I_s [m ⁴]	b_1 [mm]	b_2 [mm]	h_w [mm]	k_1 [-]	K [kN/m ²]	σ_{cr} [kN/m ²]	λ_d [-]	χ_d [-]	$A_{s,red}$ [m ²]
1	4.3697e-05	8.3901e-10	41.2	41.2	98.8	1.00	3.109e+02	3.387e+05	1.02	0.74	3.2121e-05
9	4.3697e-05	8.3901e-10	41.2	41.2	98.8	1.00	3.109e+02	3.387e+05	1.02	0.74	3.2121e-05

Effective section My+**Effective width calculation**

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	$\lambda_{p,red}$ [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	13.3	-2.244e+05	-3.132e+05								
3	I	46.7	-3.074e+05	-3.200e+05								
5	I	96.7	3.433e+05	-3.001e+05	-0.87	20.79	0.76		1.00	51.6	20.6	31.0
7	I	46.7	3.500e+05	3.375e+05	0.96	4.07	0.83	0.74	0.95	44.6	20.6	22.5
9	UO	13.3	3.302e+05	2.414e+05	0.73	0.50	0.68	0.60	1.00	13.3		

Stiffener calculation

According to EN 1993-1-3 article 5.5.3

Id	A_s [m ²]	I_s [m ⁴]	b_1 [mm]	b_2 [mm]	h_w [mm]	k_r [-]	K [kN/m ²]	σ_{cr} [kN/m ²]	λ_d [-]	χ_d [-]	$A_{s,red}$ [m ²]
9	4.3659e-05	8.3870e-10	41.2	31.2	98.8	0.00	4.203e+02	3.941e+05	0.94	0.79	3.4433e-05

Effective section Mz-**Effective width calculation**

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	13.3	-3.500e+05	-3.500e+05							
3	I	46.7	2.566e+05	-3.366e+05	-1.31	31.95	0.30	1.00	20.2	8.1	12.1
5	I	96.7	2.700e+05	2.700e+05	1.00	4.00	1.73	0.50	48.8	24.4	24.4
7	I	46.7	2.566e+05	-3.366e+05	-1.31	31.95	0.30	1.00	20.2	8.1	12.1
9	UO	13.3	-3.500e+05	-3.500e+05							

Effective properties

Effective area	A_{eff}	1.7410e-04	m ²			
Effective second moment of area	$I_{eff,y}$	3.9441e-07	m ⁴	$I_{eff,z}$	7.3516e-08	m ⁴
Effective section modulus	$W_{eff,y}$	7.4448e-06	m ³	$W_{eff,z}$	2.6118e-06	m ³
Shift of the centroid	$e_{N,y}$	0.0	mm	$e_{N,z}$	2.0	mm

Compression check

According to EN 1993-1-3 article 6.1.3 and formula (6.2)

Effective section area	A_{eff}	1.7410e-04	m ²
Compression resistance	$N_{c,Rd}$	60.935	kN
Unity check		0.02	-

Bending moment check for M_y

According to EN 1993-1-3 article 6.1.4 and formula (6.4)

Effective section modulus	$W_{eff,y}$	7.4448e-06	m ³
Bending moment resistance	$M_{c,y,Rd}$	2.606	kNm
Unity check		0.28	-

Bending moment check for M_z

According to EN 1993-1-3 article 6.1.4 and formula (6.4)

Effective section modulus	$W_{eff,z}$	2.6118e-06	m ³
Bending moment resistance	$M_{c,z,Rd}$	0.914	kNm
Unity check		0.59	-

Biaxial bending moment check

According to EN 1993-1-3 article 6.1.4 and formula (6.7)

Bending moment resistance	$M_{Cy,Rd}$	2.606	kNm
Bending moment resistance	$M_{Cz,Rd}$	0.914	kNm

Unity check (6.7) = 0.28 + 0.59 = 0.88 -

Shear Force V_y

According to article EN 1993-1-3: 6.1.5 and formula (6.8).

Stiffening at the support.

Element ID	I_c [mm]	α [deg]	s_w [mm]	λ_w [-]	f_{bv} [MPa]	$V_{b,Rd,y,i}$ [kN]
3	48.8	0.00	46.7	0.55	203.0	11.888
5	98.8	90.00	96.7	1.14	147.6	0.000
7	48.8	0.00	46.7	0.55	203.0	11.888

Shear verification		
$V_{b,Rd,y}$	23.775	kN
Unity check	0.16	-

Shear Force V_z

According to article EN 1993-1-3: 6.1.5 and formula (6.8).

Stiffening at the support.

Element ID	I_c [mm]	α [deg]	s_w [mm]	λ_w [-]	f_{bv} [MPa]	$V_{b,Rd,z,i}$ [kN]
3	48.8	0.00	46.7	0.55	203.0	0.000
5	98.8	90.00	96.7	1.14	147.6	17.500
7	48.8	0.00	46.7	0.55	203.0	0.000

Shear verification		
$V_{b,Rd,z}$	17.500	kN
Unity check	0.08	-

Torsional Moment Check

According to article EN 1993-1-3: 6.1.6 and formula (6.11a), (6.11b), (6.11c).

Elastic verification		
Critical Fibre	32	
σ_N	6.8	MPa
σ_{My}	90.8	MPa
σ_{Mz}	160.6	MPa
τ_{Vy}	29.8	MPa
τ_{Vz}	10.4	MPa
τ_t	0.4	MPa
Direct Stress Check	0.74	-
Shear Stress Check	0.20	-
Composed Stress Check	0.69	-

Note: The Local Transverse Forces Check has been ignored due to user input.

Combined Compression and Bending Check

According to article EN 1993-1-3: 6.1.9 and formula (6.25), (6.26).

e_{Nz}	2.0	mm
$\Delta M_{z,Ed}$	-0.002	kNm
$N_{c,Rd}$	60.935	kN
$M_{Cy,Rd,ten}$	2.909	kNm
$M_{Cz,Rd,ten}$	0.914	kNm
$M_{Cy,Rd,com}$	2.627	kNm
$M_{Cz,Rd,com}$	1.177	kNm

Unity check (6.25) $0.02 + 0.28 + 0.46 = 0.76$ -

Unity check (6.26) $0.25 + 0.59 - 0.02 = 0.83$ -

The member satisfies the section check.

.....STABILITY CHECK:....

Flexural Buckling Strength

According to article EN 1993-1-3: 6.2.2

According to article EN 1993-1-1: 6.3.1 and formula (6.46)

Buckling parameters	yy	zz	
Sway type	sway	sway	
System Length L	0.260	0.260	m
Buckling factor k	1.00	1.00	
Buckling length L_{cr}	0.260	0.260	m
Critical Euler load N_{cr}	13049.124	2874.407	kN
Slenderness	6.46	13.76	
Relative slenderness λ_{rel}	0.07	0.15	
Limit slenderness $\lambda_{rel,0}$	0.20	0.20	

The slenderness or compression force is such that Flexural Buckling effects may be ignored according to EN 1993-1-1 article 6.3.1.2(4)

Torsional (-Flexural) Buckling check

According to article EN 1993-1-3: 6.2.3

According to article EN 1993-1-1: 6.3.1 and formula (6.46)

Torsional Buckling length	0.260	m
$N_{cr,T}$	1834.351	kN
$N_{cr,TF}$	1713.712	kN
Relative slenderness $\lambda_{rel,T}$	0.19	
Limit slenderness $\lambda_{rel,0}$	0.20	

The slenderness or compression force is such that Torsional (-Flexural) Buckling effects may be ignored according to EN 1993-1-1 article 6.3.1.2(4)

Lateral Torsional Buckling Check

According to article EN 1993-1-3: 6.2.4

According to article EN 1993-1-1: 6.3.2 and formula (6.55)

LTB Parameters		
Method for LTB Curve	art. 6.3.2.2	
$W_{eff,y}$	7.4448e-06	m ³
Elastic critical moment M_{cr}	184.807	kNm
Relative slenderness $\lambda_{rel,LT}$	0.12	
Limit slenderness $\lambda_{rel,LT,0}$	0.20	

M_{cr} Parameters		
LTB length	0.260	m
k	1.00	
k_w	1.00	
C_1	1.32	
C_2	0.00	
C_3	1.00	

The slenderness or bending moment is such that Lateral Torsional Buckling effects may be ignored according to EN 1993-1-1 article 6.3.2.2(4)

Bending and Axial Compression Check

According to article EN 1993-1-3: 6.2.5(1)

According to article EN 1993-1-1: 6.3.3 and formula (6.61), (6.62).

Interaction Method 1

Interaction method 1 parameters		
k_{yy}	0.98	
k_{yz}	0.61	
k_{zy}	0.98	
k_{zz}	0.61	
$\Delta M_{y,Ed}$	0.000	kNm
$\Delta M_{z,Ed}$	-0.002	kNm
A	1.7410e-04	m ²
W_y	7.4448e-06	m ³
W_z	2.6118e-06	m ³
N_{Rk}	60.935	kN
$M_{y,Rk}$	2.606	kNm

Interaction method 1 parameters		
$M_{z,Rk}$	0.914	kNm
$M_{y,Ed}$	0.741	kNm
$M_{z,Ed}$	-0.538	kNm
Interaction Method 1		
$M_{cr,0}$	139.674	kNm
reduced slenderness 0	0.14	
ψ_y	0.49	
ψ_z	-0.85	
$C_{my,0}$	0.89	
$C_{mz,0}$	0.61	
C_{my}	0.98	
C_{mz}	0.61	
$C_{m,LT}$	1.00	
μ_y	1.00	
μ_z	1.00	
a_{LT}	1.00	

Unity check $0.02 + 0.28 + 0.36 = 0.66$ -Unity check $0.02 + 0.28 + 0.36 = 0.66$ -

The member satisfies the stability check.

All member pf type frame check

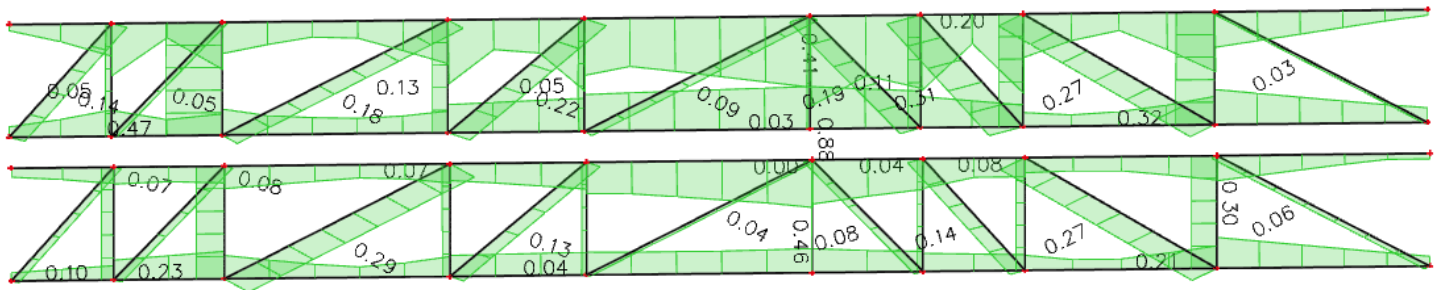
Overall Unity Check

Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]	Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
2082	1.450-	ULS-Set B (auto)/1	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.88	0.88	0.66				50.0; 1.2; 3.0; 15.0)				
2083	1.450-	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.41	0.41	0.12	2096	0.237-	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.24	0.22	0.24
2084	0.000	ULS-Set B (auto)/3	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.00	2097	0.312-	ULS-Set B (auto)/11	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.11	0.09	0.11
2085	0.200-	ULS-Set B (auto)/4	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.13	0.13	0.00	2098	0.225-	ULS-Set B (auto)/8	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.21	0.19	0.21
2086	0.200-	ULS-Set B (auto)/5	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.06	0.05	0.06	2099	0.222-	ULS-Set B (auto)/6	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.34	0.31	0.34
2087	0.500	ULS-Set B (auto)/6	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.20	0.20	0.00	2100	1.450+	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.47	0.46	0.47
2088	0.000	ULS-Set B (auto)/6	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.35	0.32	0.35	2101	0.500-	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.31	0.30	0.31
2089	0.200-	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.06	0.05	0.06	2102	0.500	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.00	0.00	0.00
2090	0.000	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.51	0.47	0.51	2103	0.500	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.07	0.07	0.00
2091	0.200-	ULS-Set B (auto)/8	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.11	0.11	0.00	2104	0.000	ULS-Set B (auto)/13	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.04	0.04	0.04
2092	0.336-	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.31	0.27	0.31	2105	0.500	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.08	0.08	0.00
2093	0.404-	ULS-Set B (auto)/9	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.03	0.03	0.00	2106	0.000	ULS-Set B (auto)/14	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.23	0.21	0.23
2094	0.225-	ULS-Set B (auto)/5	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.05	0.05	0.05	2107	0.000	ULS-Set B (auto)/4	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.11	0.10	0.11
2095	0.312-	ULS-Set B (auto)/10	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.21	0.18	0.21	2108	0.000	ULS-Set B (auto)/15	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.25	0.23	0.25
								2109	0.500	ULS-Set B (auto)/9	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.04	0.04	0.00
								2110	0.336-	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.31	0.27	0.31

Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
2111	0.404	ULS-Set B (auto)/6	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.06	0.06	0.00
2112	0.564	ULS-Set B (auto)/4	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.08	0.08	0.00
2113	0.312	ULS-Set B (auto)/9	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.34	0.29	0.34
2114	0.237	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.15	0.13	0.15
2115	0.416	ULS-Set B (auto)/12	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.04	0.04	0.00
2116	0.225	ULS-Set B (auto)/9	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.09	0.08	0.09
2117	0.222	ULS-Set B (auto)/7	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.15	0.14	0.15
3223	0.222	ULS-Set B (auto)/2	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.16	0.14	0.16
3224	0.555	ULS-Set B (auto)/4	C100*50*15*1.2 - Cold formed C section (100.0; 50.0; 1.2; 3.0; 15.0)	S350GD+Z	0.07	0.07	0.00

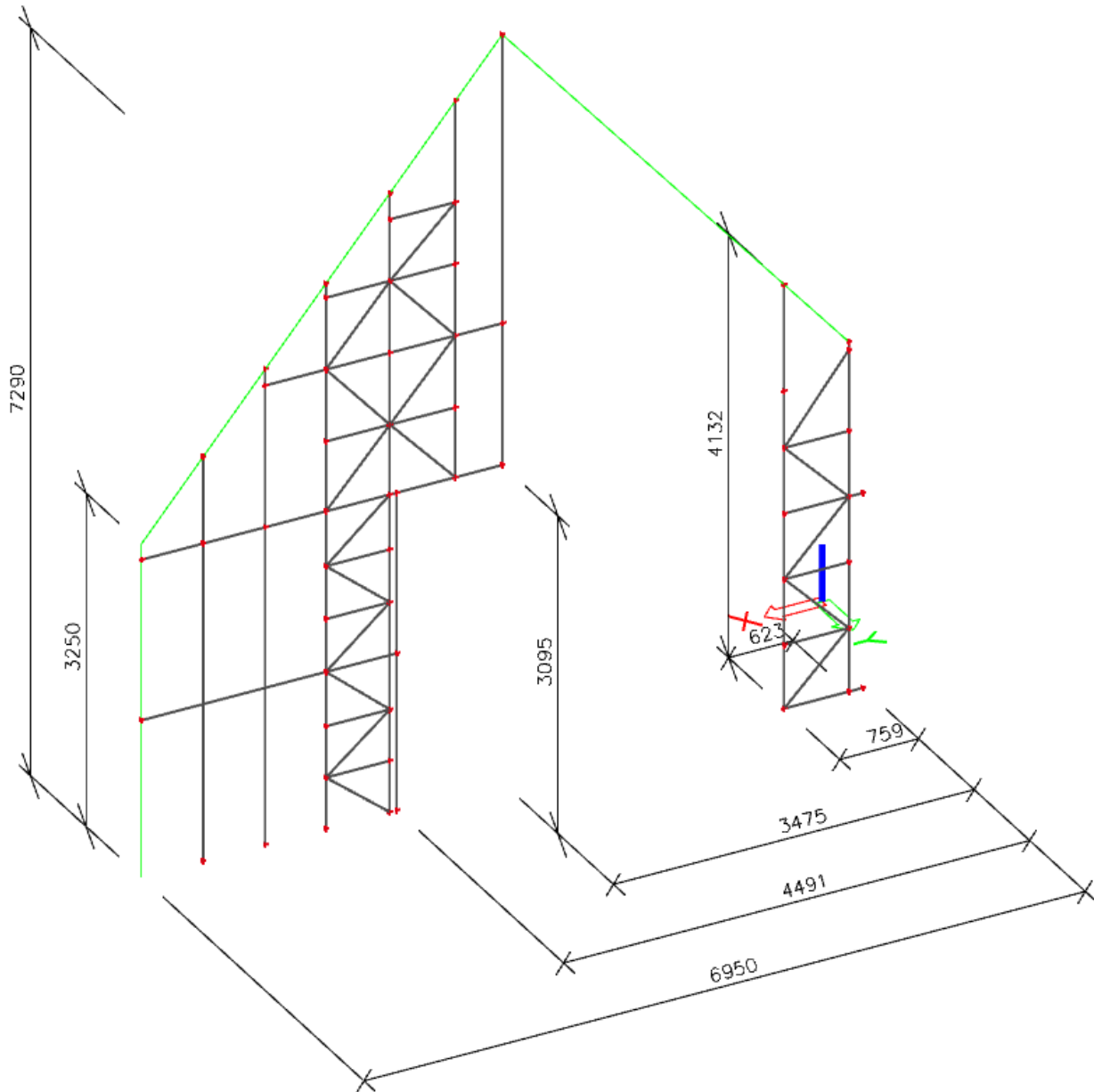
Name	Combination key
ULS-Set B (auto)/1	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/2	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/3	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/4	1.35*G + 1.35*G1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q9
ULS-Set B (auto)/5	G + G1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/6	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/7	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/8	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q8
ULS-Set B (auto)/9	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/10	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/11	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/12	1.35*G + 1.35*G1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q8
ULS-Set B (auto)/13	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/14	G + G1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/15	G + G1 + 1.05*Q1 + 1.50*Q6 + G3 + G2

Unity check

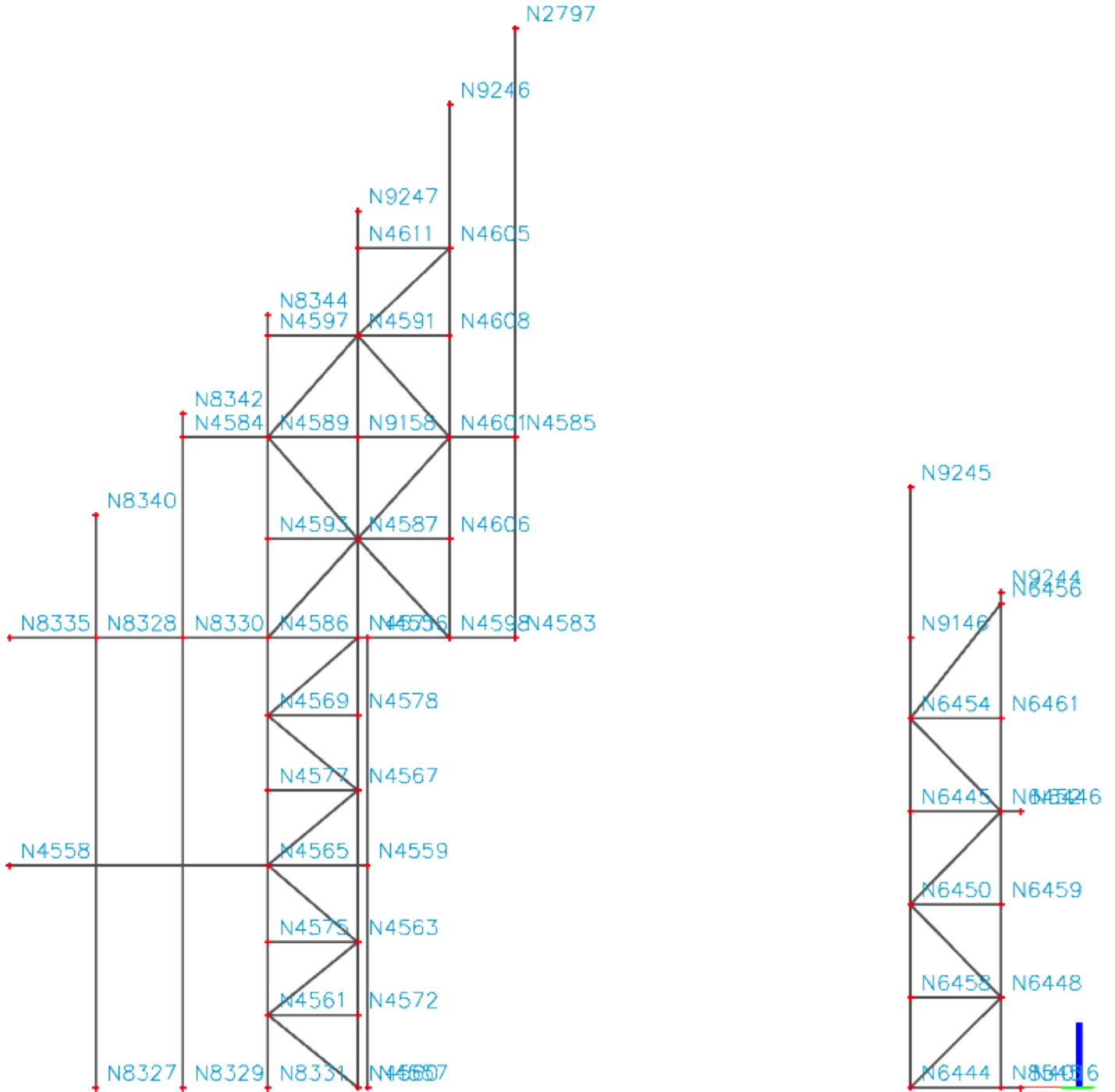


2.4.4 END WALL CHECK

End wall frame



Node coordinates



Node coordinate

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N2797	3.875	1.480	7.290
N4016	0.400	1.480	0.000
N4556	4.891	1.480	3.095
N4557	4.891	1.480	0.000
N4558	7.350	1.480	1.530
N4559	4.891	1.480	1.530
N4560	4.957	1.480	0.000
N4561	5.574	1.480	0.500
N4563	4.957	1.480	1.000
N4565	5.574	1.480	1.530
N4567	4.957	1.480	2.045
N4569	5.574	1.480	2.560
N4571	4.957	1.480	3.095
N4572	4.957	1.480	0.500
N4575	5.574	1.480	1.000
N4577	5.574	1.480	2.045
N4578	4.957	1.480	2.560
N4583	3.875	1.480	3.095
N4584	6.157	1.480	4.476
N4585	3.875	1.480	4.476

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N4586	5.574	1.480	3.095
N4587	4.957	1.480	3.776
N4589	5.574	1.480	4.476
N4591	4.957	1.480	5.176
N4593	5.574	1.480	3.776
N4597	5.574	1.480	5.176
N4598	4.326	1.480	3.095
N4601	4.326	1.480	4.476
N4605	4.326	1.480	5.776
N4606	4.326	1.480	3.776
N4608	4.326	1.480	5.176
N4611	4.957	1.480	5.776
N6444	1.159	1.480	0.000
N6445	1.159	1.480	1.900
N6446	0.400	1.480	1.900
N6448	0.536	1.480	0.620
N6450	1.159	1.480	1.260
N6452	0.536	1.480	1.900
N6454	1.159	1.480	2.540
N6456	0.536	1.480	3.330

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N6458	1.159	1.480	0.620
N6459	0.536	1.480	1.260
N6461	0.536	1.480	2.540
N8327	6.757	1.480	0.000
N8328	6.757	1.480	3.095
N8329	6.157	1.480	0.000
N8330	6.157	1.480	3.095
N8331	5.574	1.480	0.000
N8335	7.350	1.480	3.095
N8340	6.757	1.480	3.939
N8342	6.157	1.480	4.637
N8344	5.574	1.480	5.315
N8545	0.536	1.480	0.000
N9146	1.159	1.480	3.095
N9158	4.957	1.480	4.476
N9244	0.536	1.480	3.408
N9245	1.159	1.480	4.132
N9246	4.326	1.480	6.765
N9247	4.957	1.480	6.032

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
2057	2xC100*50*15*1.2 -	S350GD+Z	2.459	N4558	N4559	beam (80)
2058	2xC100*50*15*1.2 -	S350GD+Z	0.794	N4560	N4561	beam (80)
2059	2xC100*50*15*1.2 -	S350GD+Z	0.794	N4561	N4563	beam (80)
2060	2xC100*50*15*1.2 -	S350GD+Z	0.813	N4563	N4565	beam (80)
2061	2xC100*50*15*1.2 -	S350GD+Z	0.803	N4565	N4567	beam (80)
2062	2xC100*50*15*1.2 -	S350GD+Z	0.803	N4567	N4569	beam (80)
2063	2xC100*50*15*1.2 -	S350GD+Z	0.816	N4569	N4571	beam (80)
2064	2xC100*50*15*1.2 -	S350GD+Z	0.617	N4572	N4561	beam (80)
2065	2xC100*50*15*1.2 -	S350GD+Z	0.617	N4563	N4575	beam (80)
2066	2xC100*50*15*1.2 -	S350GD+Z	0.617	N4567	N4577	beam (80)
2067	2xC100*50*15*1.2 -	S350GD+Z	0.617	N4578	N4569	beam (80)
2068	2xC100*50*15*1.2 -	S350GD+Z	1.082	N4571	N4583	beam (80)
2069	2xC100*50*15*1.2 -	S350GD+Z	0.583	N4584	N4589	beam (80)
2070	2xC100*50*15*1.2 -	S350GD+Z	0.919	N4586	N4587	beam (80)
2071	2xC100*50*15*1.2 -	S350GD+Z	0.933	N4587	N4589	beam (80)
2072	2xC100*50*15*1.2 -	S350GD+Z	0.933	N4589	N4591	beam (80)
2073	2xC100*50*15*1.2 -	S350GD+Z	0.617	N4587	N4593	beam (80)
2074	2xC100*50*15*1.2 -	S350GD+Z	0.617	N4591	N4597	beam (80)
2075	2xC100*50*15*1.2 -	S350GD+Z	0.928	N4598	N4587	beam (80)
2076	2xC100*50*15*1.2 -	S350GD+Z	0.942	N4587	N4601	beam (80)
2077	2xC100*50*15*1.2 -	S350GD+Z	0.943	N4601	N4591	beam (80)
2078	2xC100*50*15*1.2 -	S350GD+Z	0.871	N4591	N4605	beam (80)
2079	2xC100*50*15*1.2 -	S350GD+Z	0.631	N4606	N4587	beam (80)
2080	2xC100*50*15*1.2 -	S350GD+Z	0.631	N4608	N4591	beam (80)
2081	2xC100*50*15*1.2 -	S350GD+Z	0.631	N4605	N4611	beam (80)
2637	2xC100*50*15*1.2 -	S350GD+Z	0.759	N6444	N4016	beam (80)
2638	2xC100*50*15*1.2 -	S350GD+Z	0.759	N6445	N6446	beam (80)
2639	2xC100*50*15*1.2 -	S350GD+Z	0.879	N6444	N6448	beam (80)
2640	2xC100*50*15*1.2 -	S350GD+Z	0.893	N6448	N6450	beam (80)
2641	2xC100*50*15*1.2 -	S350GD+Z	0.893	N6450	N6452	beam (80)
2642	2xC100*50*15*1.2 -	S350GD+Z	0.893	N6452	N6454	beam (80)
2643	2xC100*50*15*1.2 -	S350GD+Z	1.006	N6454	N6456	beam (80)
2644	2xC100*50*15*1.2 -	S350GD+Z	0.623	N6448	N6458	beam (80)
2645	2xC100*50*15*1.2 -	S350GD+Z	0.623	N6459	N6450	beam (80)
2646	2xC100*50*15*1.2 -	S350GD+Z	0.623	N6461	N6454	beam (80)
3158	2xC100*50*15*1.2 -	S350GD+Z	3.095	N4557	N4556	column (100)
3159	2xC100*50*15*1.2 -	S350GD+Z	3.095	N8327	N8328	column (100)
3160	2xC100*50*15*1.2 -	S350GD+Z	3.095	N8329	N8330	column (100)
3161	2xC100*50*15*1.2 -	S350GD+Z	3.095	N8331	N4586	column (100)
3162	4xC100*50*15*1.2 -	S350GD+Z	3.095	N4560	N4571	column (100)
3163	2xC100*50*15*1.2 -	S350GD+Z	4.195	N4583	N2797	column (100)
3164	2xC100*50*15*1.2 -	S350GD+Z	0.844	N8328	N8340	column (100)
3165	2xC100*50*15*1.2 -	S350GD+Z	1.542	N8330	N8342	column (100)
3166	2xC100*50*15*1.2 -	S350GD+Z	2.220	N4586	N8344	column (100)
3167	2xC100*50*15*1.2 -	S350GD+Z	3.670	N4598	N9246	column (100)
3168	4xC100*50*15*1.2 -	S350GD+Z	2.937	N4571	N9247	column (100)
3174	4xC100*50*15*1.2 -	S350GD+Z	4.132	N6444	N9245	column (100)
3175	2xC100*50*15*1.2 -	S350GD+Z	3.408	N8545	N9244	column (100)
3454	2xC100*50*15*1.2 -	S350GD+Z	0.617	N4586	N4571	beam (80)
3455	2xC100*50*15*1.2 -	S350GD+Z	0.583	N8330	N4586	beam (80)
3456	2xC100*50*15*1.2 -	S350GD+Z	0.593	N8335	N8328	beam (80)
3457	2xC100*50*15*1.2 -	S350GD+Z	0.600	N8328	N8330	beam (80)
3458	2xC100*50*15*1.2 -	S350GD+Z	0.617	N4589	N9158	beam (80)
3459	2xC100*50*15*1.2 -	S350GD+Z	1.082	N9158	N4585	beam (80)

Cross-Section properties 2xC100*50*15*1.2

2xC100*50*15*1.2		
Shape type	Thin-walled	
Item material	S350GD+Z	
Fabrication	cold formed	
Colour	■	
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m ²]	5.2537e-04	
A _y [m ²], A _z [m ²]	2.3609e-04	2.8234e-04
A _L [m ² /m], A _D [m ² /m]	7.9756e-01	7.9756e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	1.8	0.3
α [deg]	0.00	
I _y [m ⁴], I _z [m ⁴]	2.1646e-06	1.8750e-07
i _y [mm], i _z [mm]	64.2	18.9
W _{el,y} [m ³], W _{el,z} [m ³]	2.1646e-05	5.7161e-06
W _{pl,y} [m ³], W _{pl,z} [m ³]	2.6269e-05	8.4837e-06
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	9.19e+03	9.19e+03
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	2.97e+03	2.97e+03
d _y [mm], d _z [mm]	-36.7	0.0
I _t [m ⁴], I _w [m ⁶]	4.2808e-10	9.7164e-10
β _y [mm], β _z [mm]	0.0	111.7
Picture		

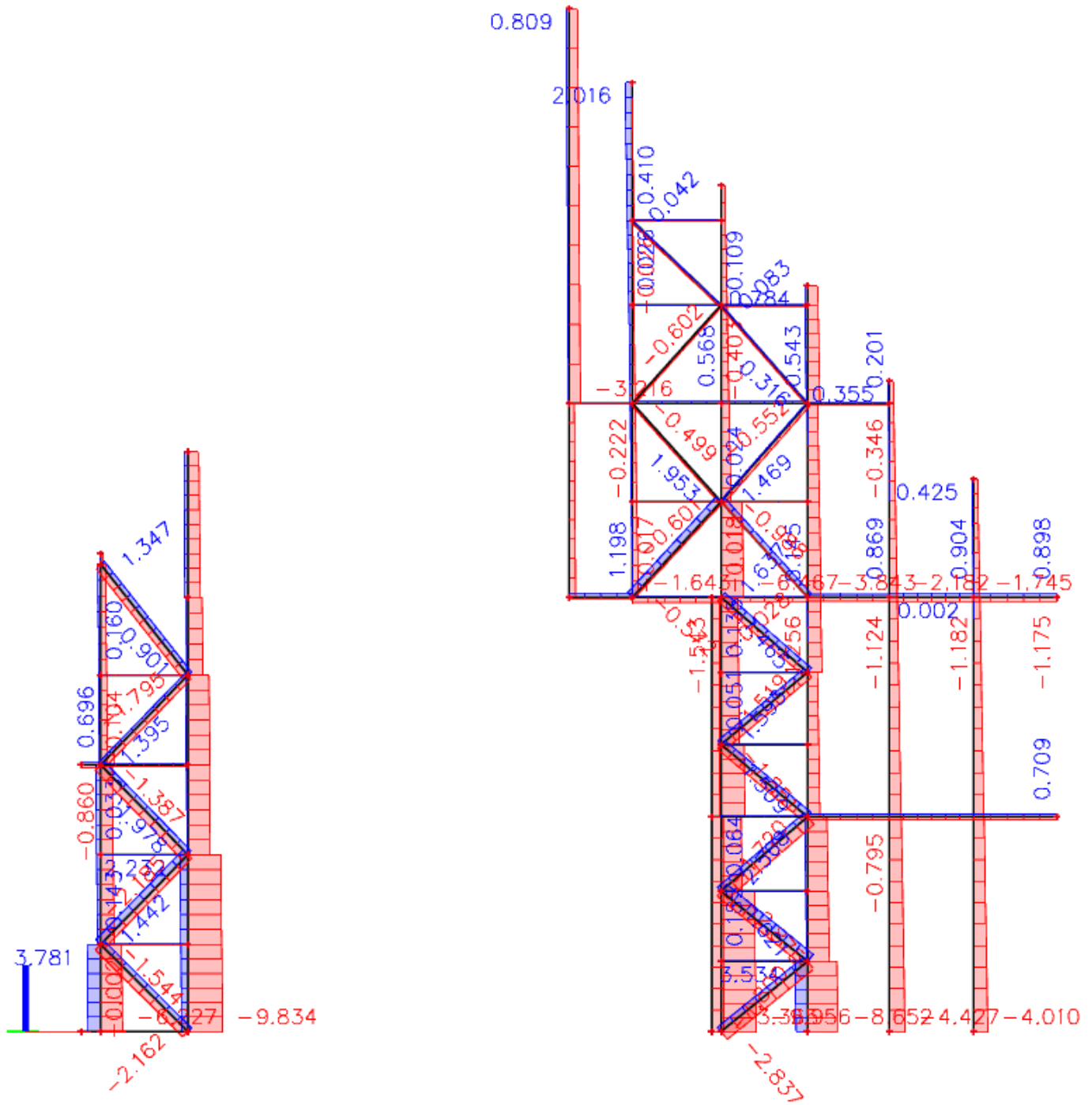
Cross-Section properties 4xC100*50*15*1.2

4xC100*50*15*1.2		
Shape type	Thin-walled	
Item material	S350GD+Z	
Fabrication	cold formed	
Colour	■	
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m ²]	1.0219e-03	
A _y [m ²], A _z [m ²]	4.6187e-04	5.2313e-04
A _L [m ² /m], A _D [m ² /m]	8.8312e-01	1.4847e+00
C _{y,UCS} [mm], C _{z,UCS} [mm]	100.0	18.0
α [deg]	0.00	
I _y [m ⁴], I _z [m ⁴]	4.2189e-06	9.8301e-07
i _y [mm], i _z [mm]	64.3	31.0
W _{el,y} [m ³], W _{el,z} [m ³]	4.2189e-05	1.6743e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	5.1097e-05	2.5549e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	1.79e+04	1.79e+04
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	8.94e+03	8.94e+03
d _y [mm], d _z [mm]	-28.0	0.0
I _t [m ⁴], I _w [m ⁶]	8.9376e-07	2.5828e-09
β _y [mm], β _z [mm]	0.0	70.8
Picture		

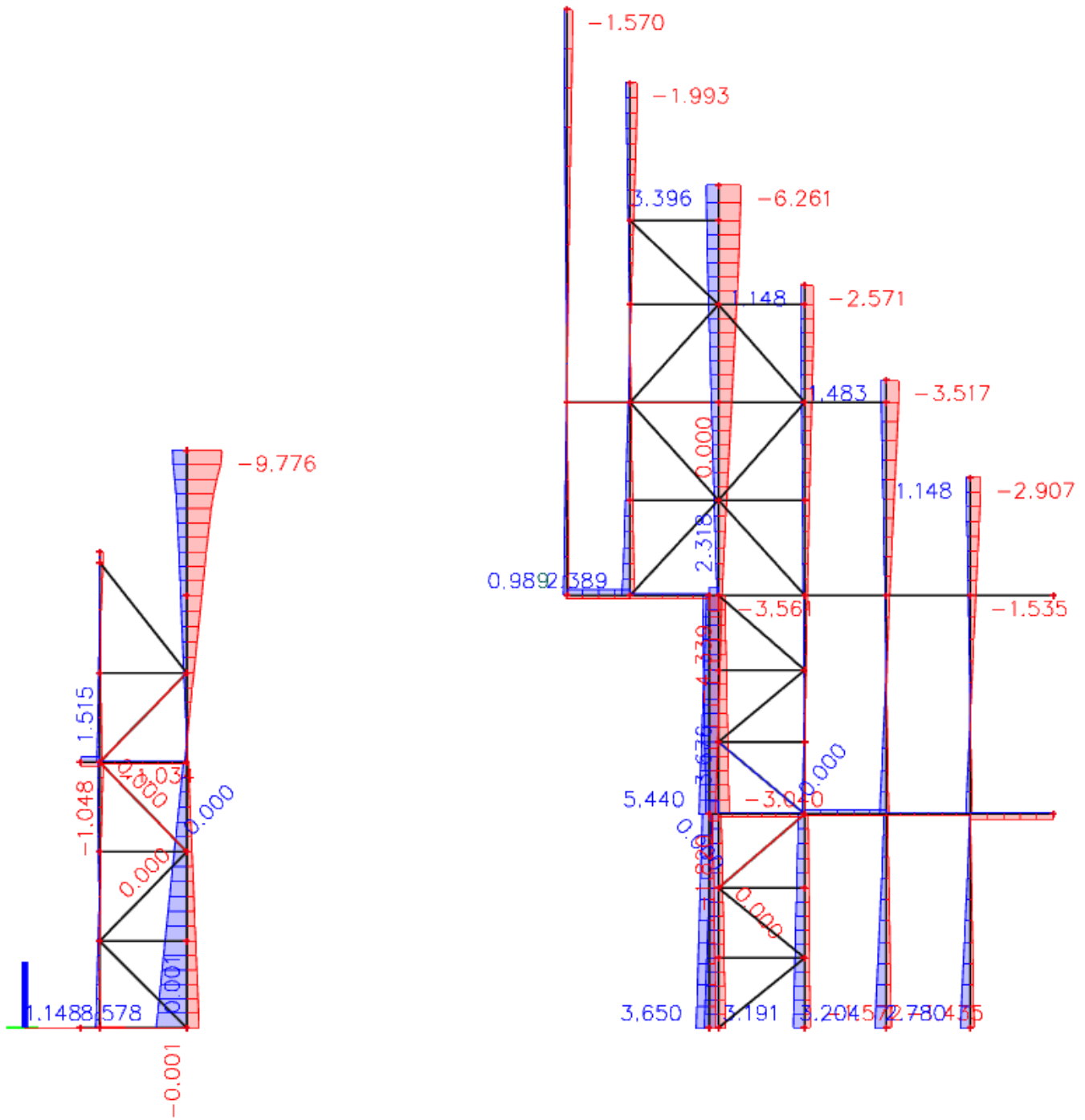
End wall member hinges

Name	Member	Position	ux	uy	uz	fix	fiy	fiz
H2935	2057	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2936	2058	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2937	2059	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2938	2060	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2939	2061	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2940	2062	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2941	2063	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2942	2064	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2943	2065	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2944	2066	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2945	2067	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2946	2068	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2947	2069	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2948	2070	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2949	2071	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2950	2072	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2951	2073	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2952	2074	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2953	3159	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H2954	3160	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H2955	3161	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H2956	3162	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H2957	3158	End	Rigid	Rigid	Rigid	Rigid	Free	Free
H2958	2075	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2959	2076	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2960	2077	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2961	2078	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2962	2079	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2963	2080	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2964	2081	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2965	3167	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2967	2638	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2968	2639	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2969	2640	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2970	2641	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2971	2642	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2972	2643	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2973	2644	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2974	2645	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2975	2646	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2976	3174	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H2977	3175	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H3046	3164	End	Rigid	Rigid	Rigid	Rigid	Free	Free
H3047	3165	End	Rigid	Rigid	Rigid	Rigid	Free	Free
H3048	3166	End	Rigid	Rigid	Rigid	Rigid	Free	Free
H3049	3168	End	Rigid	Rigid	Rigid	Rigid	Free	Free
H3050	3163	End	Rigid	Rigid	Rigid	Rigid	Free	Free
H3392	3454	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H3393	3455	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H3394	3456	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H3395	3457	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H3396	3458	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H3398	3459	Both	Rigid	Rigid	Rigid	Rigid	Free	Free

Maximum forces in elements
Axial force diagram N, kH.



Shear force diagram V_y , kH.



Shear force diagram V_z , kH.

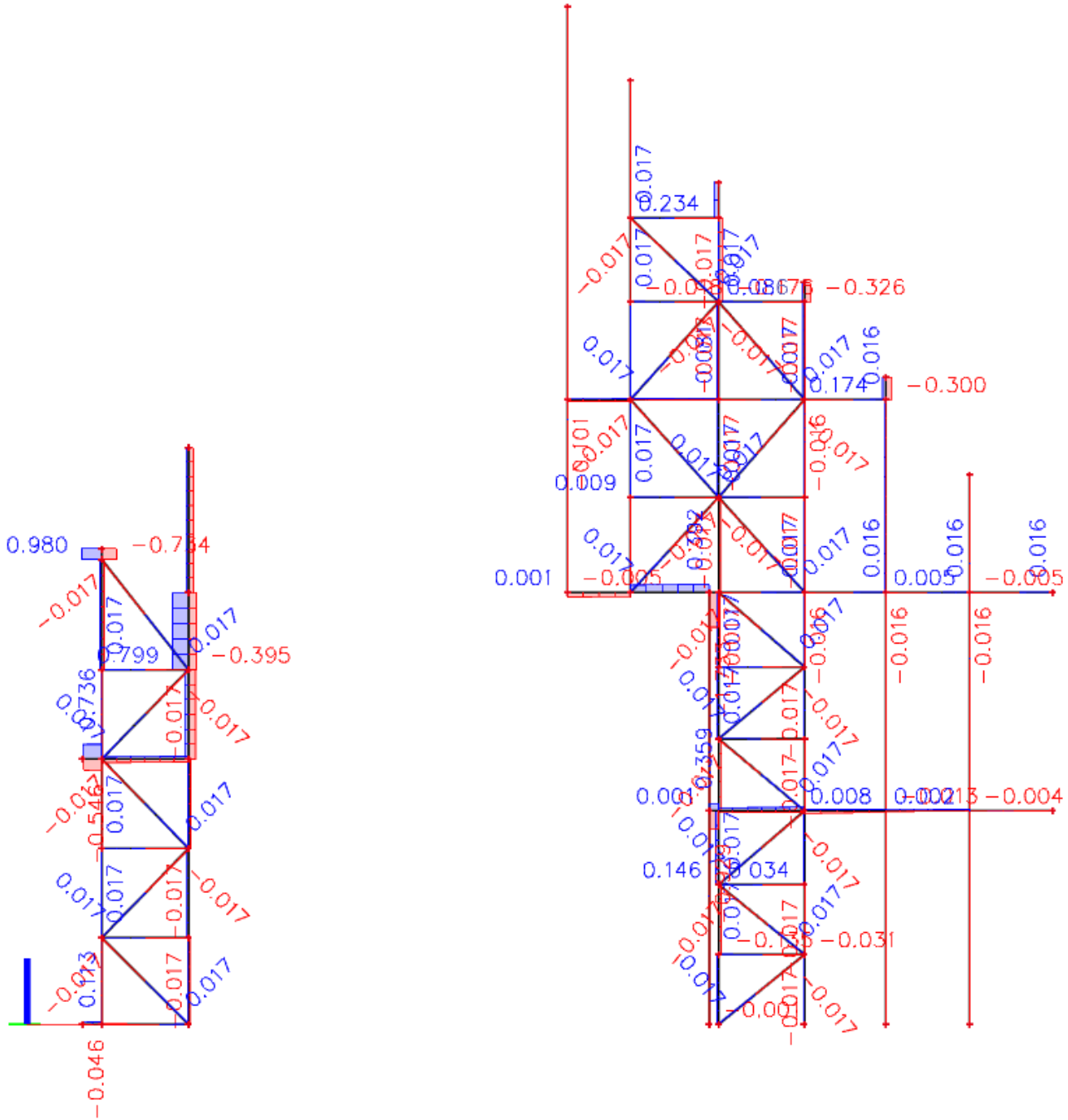


Diagram of bending moments M_y , kNm.

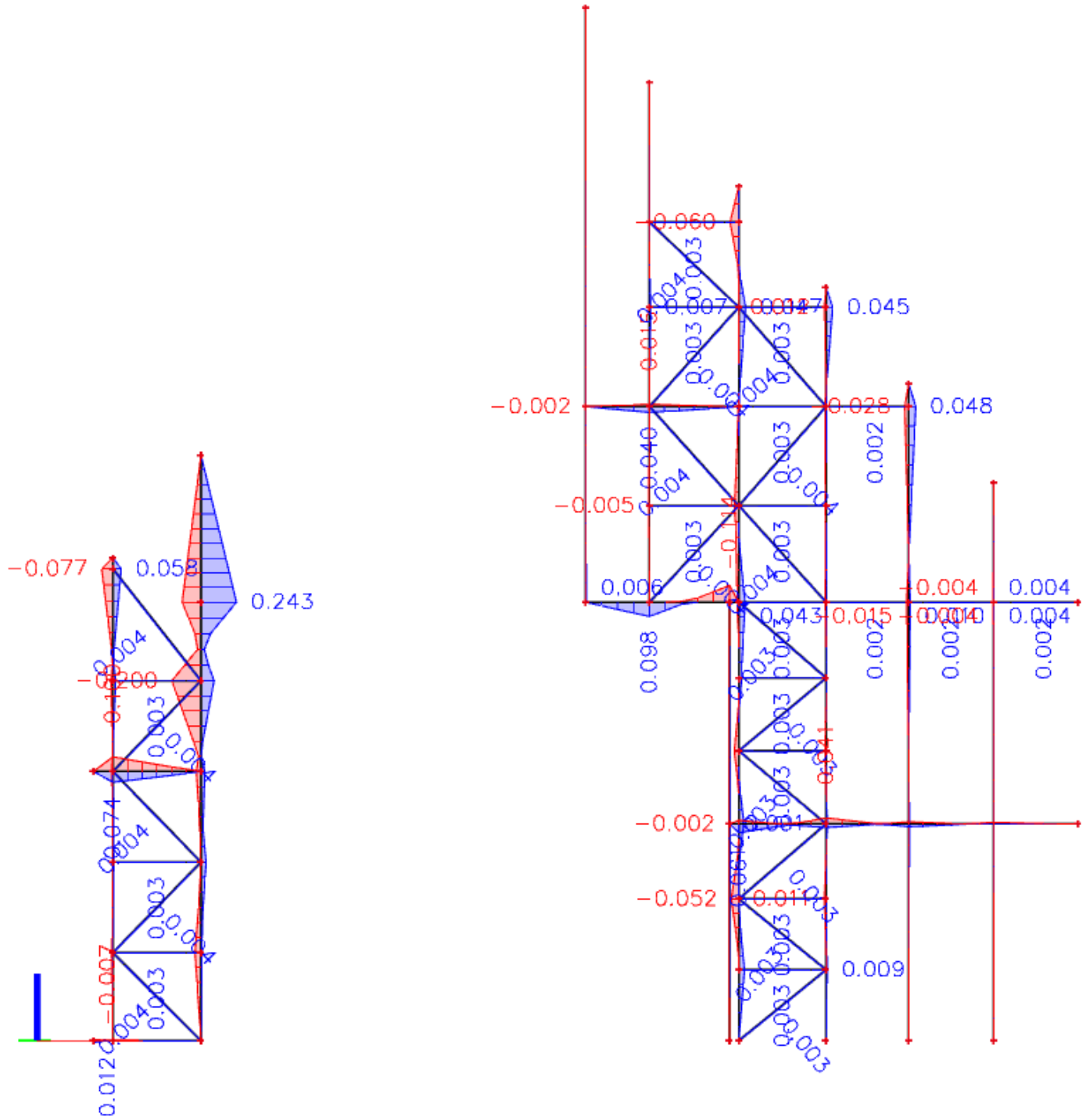
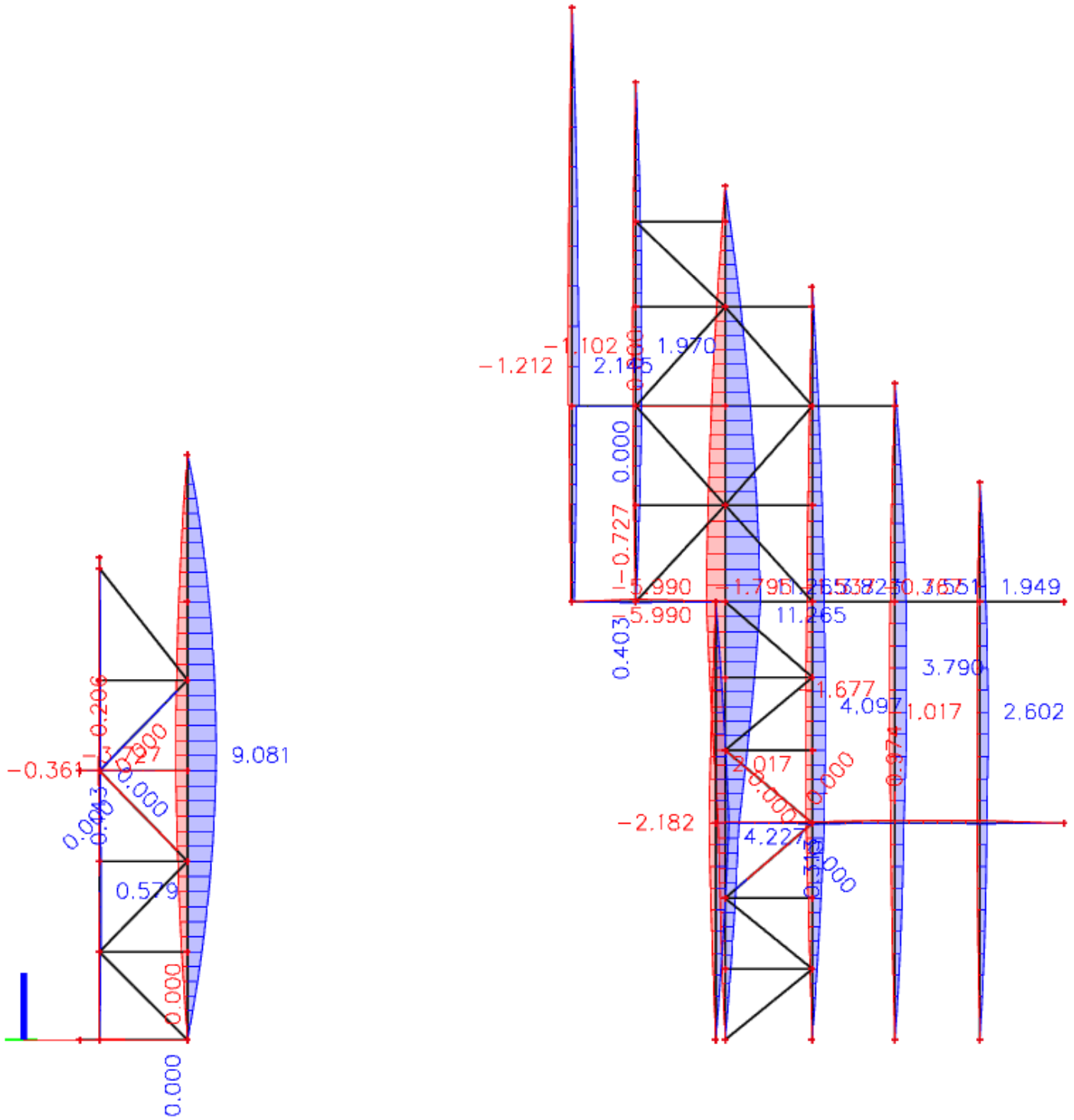
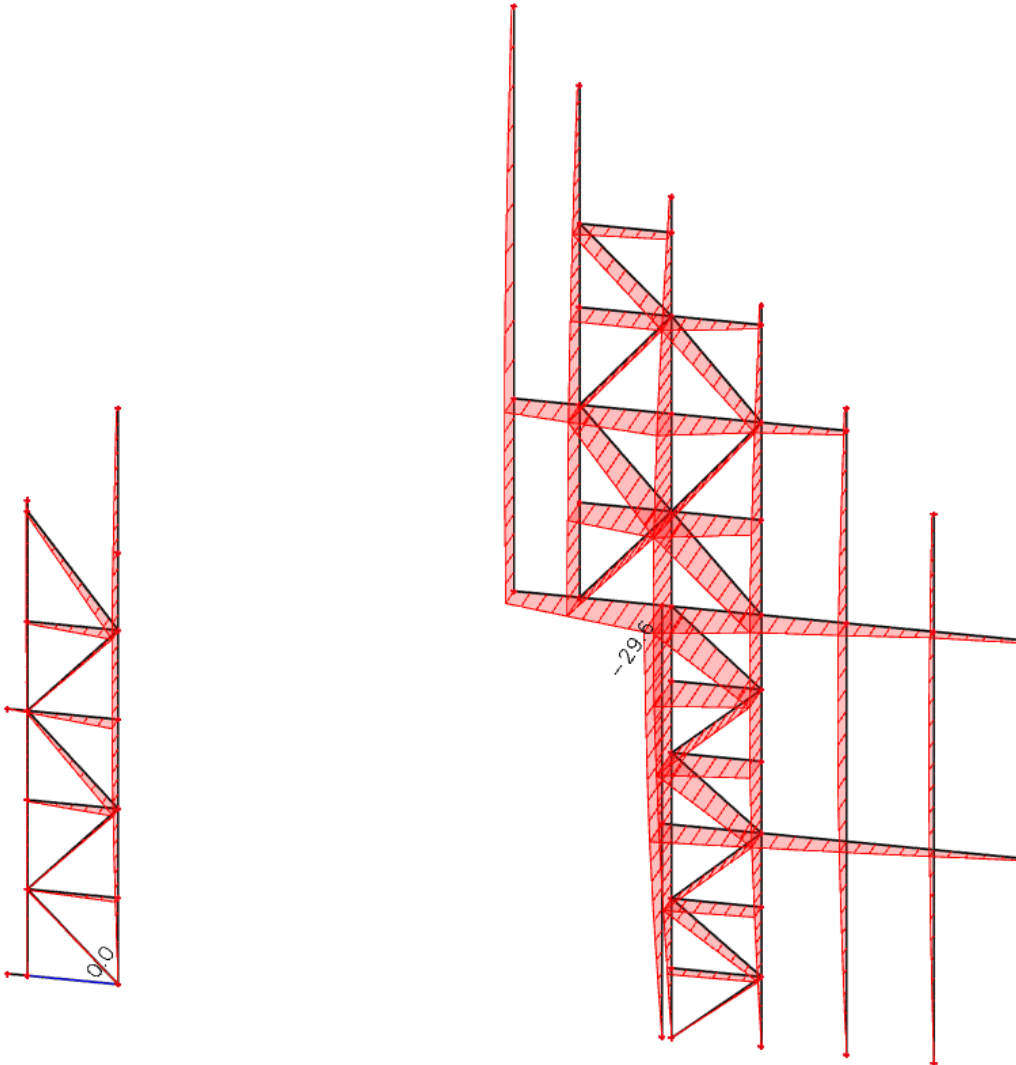


Diagram of bending moments M_z , kNm.



Deformation check

SLS comb. - G + G1 + 0.70*Q1 + 0.50*Q3 + Q5 + G3 + G2



The maximum deflection is 29.6 mm. According to EC-EN 1993 - the deflection limits - L/200.

6032 / 200 = 30.16 mm

29.6 mm < 30.16 mm

Deformation is OK!

Internal forces

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
2057	1.193+	ULS-Set B (auto)/1	-0.795	0.811	-0.087	0.000	0.019	-0.919
2057	0.000	ULS-Set B (auto)/2	0.709	0.395	0.012	0.000	0.000	0.000
2057	2.393+	ULS-Set B (auto)/3	0.001	-1.820	-0.150	0.000	0.010	0.120
2057	2.393+	ULS-Set B (auto)/4	0.002	3.676	-0.626	0.000	0.041	-0.243
2057	2.459	ULS-Set B (auto)/5	0.002	2.112	-0.929	0.000	0.000	0.000
2057	2.393+	ULS-Set B (auto)/6	-0.002	1.580	0.359	0.000	-0.024	-0.104
2057	0.000	ULS-Set B (auto)/7	0.707	0.387	0.013	0.000	0.000	0.000
2057	0.000	ULS-Set B (auto)/8	-0.364	-1.427	0.003	0.000	0.000	0.000
2057	1.776-	ULS-Set B (auto)/5	-0.793	0.808	-0.120	0.000	-0.041	-0.445
2057	2.393+	ULS-Set B (auto)/5	0.002	2.112	-0.925	0.000	0.061	-0.139
2057	1.193+	ULS-Set B (auto)/4	-0.360	1.165	-0.058	0.000	0.013	-0.974
2057	1.776+	ULS-Set B (auto)/9	0.254	-0.844	-0.037	0.000	0.019	0.313
2058	0.794	ULS-Set B (auto)/10	1.621	0.000	-0.012	0.000	0.000	0.000
2058	0.794	ULS-Set B (auto)/5	-2.809	0.000	-0.017	0.000	0.000	0.000
2058	0.340-	ULS-Set B (auto)/5	-2.825	0.000	0.002	0.000	0.003	0.000
2058	0.000	ULS-Set B (auto)/5	-2.837	0.000	0.017	0.000	0.000	0.000
2059	0.794	ULS-Set B (auto)/11	2.568	0.000	-0.017	0.000	0.000	0.000
2059	0.000	ULS-Set B (auto)/12	-0.833	0.000	0.012	0.000	0.000	0.000
2059	0.000	ULS-Set B (auto)/9	-1.795	0.000	0.017	0.000	0.000	0.000
2059	0.340-	ULS-Set B (auto)/11	2.553	0.000	0.002	0.000	0.003	0.000
2059	0.000	ULS-Set B (auto)/13	-1.800	0.000	0.012	0.000	0.000	0.000
2060	0.813	ULS-Set B (auto)/10	1.509	0.000	-0.012	0.000	0.000	0.000
2060	0.000	ULS-Set B (auto)/7	0.578	0.000	0.012	0.000	0.000	0.000
2060	0.000	ULS-Set B (auto)/9	1.377	0.000	0.017	0.000	0.000	0.000
2060	0.000	ULS-Set B (auto)/5	-2.875	0.000	0.017	0.000	0.000	0.000
2060	0.407-	ULS-Set B (auto)/5	-2.860	0.000	0.000	0.000	0.003	0.000
2060	0.711-	ULS-Set B (auto)/14	-1.925	0.000	-0.013	0.000	0.001	0.000
2060	0.813	ULS-Set B (auto)/15	0.509	0.000	-0.017	0.000	0.000	0.000
2061	0.803	ULS-Set B (auto)/16	1.593	0.000	-0.012	0.000	0.000	0.000
2061	0.803	ULS-Set B (auto)/17	-1.692	0.000	-0.017	0.000	0.000	0.000
2061	0.000	ULS-Set B (auto)/7	0.063	0.000	0.012	0.000	0.000	0.000
2061	0.000	ULS-Set B (auto)/9	-1.272	0.000	0.017	0.000	0.000	0.000
2061	0.000	ULS-Set B (auto)/17	-1.720	0.000	0.017	0.000	0.000	0.000
2061	0.402-	ULS-Set B (auto)/17	-1.706	0.000	0.000	0.000	0.003	0.000
2061	0.000	ULS-Set B	0.027	0.000	0.017	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/18						
2062	0.803	ULS-Set B (auto)/6	1.465	0.000	-0.012	0.000	0.000	0.000
2062	0.803	ULS-Set B (auto)/5	-1.823	0.000	-0.017	0.000	0.000	0.000
2062	0.000	ULS-Set B (auto)/7	-0.279	0.000	0.012	0.000	0.000	0.000
2062	0.000	ULS-Set B (auto)/9	0.931	0.000	0.017	0.000	0.000	0.000
2062	0.402-	ULS-Set B (auto)/5	-1.837	0.000	0.000	0.000	0.003	0.000
2062	0.000	ULS-Set B (auto)/5	-1.851	0.000	0.017	0.000	0.000	0.000
2063	0.816	ULS-Set B (auto)/5	1.637	0.000	-0.017	0.000	0.000	0.000
2063	0.000	ULS-Set B (auto)/7	0.184	0.000	0.012	0.000	0.000	0.000
2063	0.000	ULS-Set B (auto)/9	-1.053	0.000	0.017	0.000	0.000	0.000
2063	0.408-	ULS-Set B (auto)/5	1.623	0.000	0.000	0.000	0.003	0.000
2063	0.000	ULS-Set B (auto)/6	-1.519	0.000	0.012	0.000	0.000	0.000
2064	0.617	ULS-Set B (auto)/19	0.185	0.000	-0.017	0.000	0.000	0.000
2064	0.000	ULS-Set B (auto)/7	0.095	0.000	0.012	0.000	0.000	0.000
2064	0.000	ULS-Set B (auto)/9	0.155	0.000	0.017	0.000	0.000	0.000
2064	0.308-	ULS-Set B (auto)/19	0.185	0.000	0.000	0.000	0.003	0.000
2065	0.617	ULS-Set B (auto)/20	0.064	0.000	-0.017	0.000	0.000	0.000
2065	0.000	ULS-Set B (auto)/7	0.036	0.000	0.012	0.000	0.000	0.000
2065	0.000	ULS-Set B (auto)/9	0.061	0.000	0.017	0.000	0.000	0.000
2065	0.308-	ULS-Set B (auto)/20	0.064	0.000	0.000	0.000	0.003	0.000
2065	0.000	ULS-Set B (auto)/16	0.022	0.000	0.012	0.000	0.000	0.000
2066	0.617	ULS-Set B (auto)/21	0.051	0.000	-0.017	0.000	0.000	0.000
2066	0.000	ULS-Set B (auto)/7	0.028	0.000	0.012	0.000	0.000	0.000
2066	0.000	ULS-Set B (auto)/9	0.045	0.000	0.017	0.000	0.000	0.000
2066	0.308-	ULS-Set B (auto)/21	0.051	0.000	0.000	0.000	0.003	0.000
2066	0.000	ULS-Set B (auto)/22	0.028	0.000	0.012	0.000	0.000	0.000
2067	0.617	ULS-Set B (auto)/5	0.135	0.000	-0.017	0.000	0.000	0.000
2067	0.000	ULS-Set B (auto)/7	0.049	0.000	0.012	0.000	0.000	0.000
2067	0.000	ULS-Set B (auto)/9	0.046	0.000	0.017	0.000	0.000	0.000
2067	0.308-	ULS-Set B (auto)/5	0.135	0.000	0.000	0.000	0.003	0.000
2067	0.000	ULS-Set B (auto)/6	0.016	0.000	0.012	0.000	0.000	0.000
2068	0.066+	ULS-Set B (auto)/17	-1.543	-0.400	0.193	0.000	-0.065	-0.136
2068	0.000	ULS-Set B (auto)/4	0.340	-4.339	-1.120	0.000	0.000	0.000
2068	0.000	ULS-Set B (auto)/3	0.088	2.318	-1.226	0.000	0.000	0.000
2068	0.066+	ULS-Set B (auto)/23	-0.005	-0.384	0.392	0.000	-0.114	-0.152
2068	0.066+	ULS-Set B (auto)/7	0.261	0.443	0.177	0.000	-0.054	0.153
2068	0.000	ULS-Set B (auto)/8	0.167	-4.339	-1.537	0.000	0.000	0.000
2068	0.066-	ULS-Set B (auto)/23	-0.006	-2.306	-1.733	0.000	-0.114	-0.152
2068	0.631+	ULS-Set B	-0.145	0.819	-0.205	0.000	0.098	-0.370

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/23						
2068	0.631+	ULS-Set B (auto)/4	0.404	1.611	-0.135	0.000	0.065	-0.727
2068	0.631+	ULS-Set B (auto)/3	1.198	-0.894	-0.121	0.000	0.060	0.403
2069	0.000	ULS-Set B (auto)/24	0.201	0.000	0.012	0.000	0.000	0.000
2069	0.583	ULS-Set B (auto)/23	-0.346	0.000	-0.016	0.000	0.000	0.000
2069	0.000	ULS-Set B (auto)/10	0.201	0.000	0.012	0.000	0.000	0.000
2069	0.000	ULS-Set B (auto)/3	0.175	0.000	0.016	0.000	0.000	0.000
2069	0.233-	ULS-Set B (auto)/23	-0.346	0.000	0.003	0.000	0.002	0.000
2070	0.919	ULS-Set B (auto)/17	1.469	0.000	-0.017	0.000	0.000	0.000
2070	0.000	ULS-Set B (auto)/12	0.640	0.000	0.012	0.000	0.000	0.000
2070	0.000	ULS-Set B (auto)/8	0.394	0.000	0.017	0.000	0.000	0.000
2070	0.408-	ULS-Set B (auto)/17	1.449	0.000	0.002	0.000	0.004	0.000
2070	0.000	ULS-Set B (auto)/16	-0.028	0.000	0.012	0.000	0.000	0.000
2071	0.933	ULS-Set B (auto)/12	0.316	0.000	-0.012	0.000	0.000	0.000
2071	0.933	ULS-Set B (auto)/23	-0.949	0.000	-0.017	0.000	0.000	0.000
2071	0.000	ULS-Set B (auto)/25	0.100	0.000	0.012	0.000	0.000	0.000
2071	0.000	ULS-Set B (auto)/3	0.129	0.000	0.017	0.000	0.000	0.000
2071	0.415-	ULS-Set B (auto)/23	-0.971	0.000	0.002	0.000	0.004	0.000
2071	0.000	ULS-Set B (auto)/23	-0.988	0.000	0.017	0.000	0.000	0.000
2072	0.933	ULS-Set B (auto)/26	0.083	0.000	-0.012	0.000	0.000	0.000
2072	0.933	ULS-Set B (auto)/3	-0.514	0.000	-0.017	0.000	0.000	0.000
2072	0.000	ULS-Set B (auto)/24	-0.212	0.000	0.012	0.000	0.000	0.000
2072	0.415-	ULS-Set B (auto)/3	-0.535	0.000	0.002	0.000	0.004	0.000
2072	0.000	ULS-Set B (auto)/3	-0.552	0.000	0.017	0.000	0.000	0.000
2073	0.617	ULS-Set B (auto)/15	0.024	0.000	-0.017	0.000	0.000	0.000
2073	0.000	ULS-Set B (auto)/7	0.023	0.000	0.012	0.000	0.000	0.000
2073	0.000	ULS-Set B (auto)/8	0.001	0.000	0.017	0.000	0.000	0.000
2073	0.308-	ULS-Set B (auto)/15	0.024	0.000	0.000	0.000	0.003	0.000
2073	0.000	ULS-Set B (auto)/27	-0.018	0.000	0.012	0.000	0.000	0.000
2074	0.000	ULS-Set B (auto)/12	0.109	0.000	0.012	0.000	0.000	0.000
2074	0.617	ULS-Set B (auto)/17	-0.403	0.000	-0.017	0.000	0.000	0.000
2074	0.000	ULS-Set B (auto)/10	-0.105	0.000	0.012	0.000	0.000	0.000
2074	0.000	ULS-Set B (auto)/3	0.006	0.000	0.017	0.000	0.000	0.000
2074	0.308-	ULS-Set B (auto)/17	-0.403	0.000	0.000	0.000	0.003	0.000
2075	0.928	ULS-Set B (auto)/28	1.953	0.000	-0.017	0.000	0.000	0.000
2075	0.000	ULS-Set B (auto)/4	0.086	0.000	0.013	0.000	0.000	0.000
2075	0.000	ULS-Set B (auto)/3	1.623	0.000	0.017	0.000	0.000	0.000
2075	0.413-	ULS-Set B (auto)/28	1.932	0.000	0.002	0.000	0.004	0.000
2075	0.000	ULS-Set B	-0.572	0.000	0.013	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/16						
2076	0.942	ULS-Set B (auto)/22	-0.173	0.000	-0.013	0.000	0.000	0.000
2076	0.942	ULS-Set B (auto)/17	-0.563	0.000	-0.017	0.000	0.000	0.000
2076	0.000	ULS-Set B (auto)/3	-0.392	0.000	0.017	0.000	0.000	0.000
2076	0.000	ULS-Set B (auto)/4	-0.201	0.000	0.013	0.000	0.000	0.000
2076	0.419-	ULS-Set B (auto)/17	-0.584	0.000	0.002	0.000	0.004	0.000
2076	0.000	ULS-Set B (auto)/17	-0.601	0.000	0.017	0.000	0.000	0.000
2077	0.943	ULS-Set B (auto)/12	-0.149	0.000	-0.013	0.000	0.000	0.000
2077	0.943	ULS-Set B (auto)/29	-0.461	0.000	-0.017	0.000	0.000	0.000
2077	0.000	ULS-Set B (auto)/7	-0.178	0.000	0.013	0.000	0.000	0.000
2077	0.000	ULS-Set B (auto)/8	-0.396	0.000	0.017	0.000	0.000	0.000
2077	0.419-	ULS-Set B (auto)/29	-0.482	0.000	0.002	0.000	0.004	0.000
2077	0.000	ULS-Set B (auto)/29	-0.499	0.000	0.017	0.000	0.000	0.000
2078	0.871	ULS-Set B (auto)/26	0.042	0.000	-0.013	0.000	0.000	0.000
2078	0.871	ULS-Set B (auto)/30	-0.569	0.000	-0.017	0.000	0.000	0.000
2078	0.000	ULS-Set B (auto)/12	-0.386	0.000	0.013	0.000	0.000	0.000
2078	0.000	ULS-Set B (auto)/8	-0.349	0.000	0.017	0.000	0.000	0.000
2078	0.435-	ULS-Set B (auto)/30	-0.586	0.000	0.000	0.000	0.004	0.000
2078	0.000	ULS-Set B (auto)/30	-0.602	0.000	0.017	0.000	0.000	0.000
2079	0.000	ULS-Set B (auto)/16	-0.007	0.000	0.013	0.000	0.000	0.000
2079	0.631	ULS-Set B (auto)/21	-0.017	0.000	-0.017	0.000	0.000	0.000
2079	0.000	ULS-Set B (auto)/7	-0.009	0.000	0.013	0.000	0.000	0.000
2079	0.000	ULS-Set B (auto)/8	-0.013	0.000	0.017	0.000	0.000	0.000
2079	0.316-	ULS-Set B (auto)/21	-0.017	0.000	0.000	0.000	0.003	0.000
2080	0.631	ULS-Set B (auto)/20	0.026	0.000	-0.017	0.000	0.000	0.000
2080	0.000	ULS-Set B (auto)/7	0.009	0.000	0.013	0.000	0.000	0.000
2080	0.000	ULS-Set B (auto)/8	0.013	0.000	0.017	0.001	0.000	0.000
2080	0.316-	ULS-Set B (auto)/20	0.026	0.000	0.000	0.000	0.003	0.000
2080	0.000	ULS-Set B (auto)/16	0.006	0.000	0.013	0.000	0.000	0.000
2081	0.631	ULS-Set B (auto)/31	0.410	0.000	-0.017	0.000	0.000	0.000
2081	0.000	ULS-Set B (auto)/7	0.267	0.000	0.013	0.000	0.000	0.000
2081	0.000	ULS-Set B (auto)/8	0.234	0.000	0.017	0.001	0.000	0.000
2081	0.316-	ULS-Set B (auto)/31	0.410	0.000	0.000	0.000	0.003	0.000
2081	0.000	ULS-Set B (auto)/26	-0.026	0.000	0.013	0.000	0.000	0.000
2637	0.000	ULS-Set B (auto)/28	0.000	-0.001	0.013	0.000	0.000	0.000
2637	0.623+	ULS-Set B (auto)/20	0.000	0.000	0.113	0.000	-0.002	0.000
2637	0.000	ULS-Set B (auto)/9	0.000	-0.001	0.013	0.000	0.000	0.000
2637	0.759	ULS-Set B (auto)/7	0.000	0.000	-0.046	0.000	-0.007	0.000
2637	0.759	ULS-Set B	0.000	0.000	0.106	0.000	0.012	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/20						
2637	0.000	ULS-Set B (auto)/12	0.000	0.001	0.010	0.000	0.000	0.000
2638	0.623+	ULS-Set B (auto)/20	-0.860	0.897	0.730	0.000	-0.099	-0.122
2638	0.623+	ULS-Set B (auto)/7	0.696	-1.011	-0.232	0.000	0.032	0.138
2638	0.623+	ULS-Set B (auto)/3	0.688	-1.048	-0.238	0.000	0.033	0.143
2638	0.623+	ULS-Set B (auto)/10	-0.386	1.515	0.456	0.000	-0.062	-0.206
2638	0.759	ULS-Set B (auto)/8	0.520	1.058	-0.546	0.000	0.000	0.000
2638	0.000	ULS-Set B (auto)/9	-0.042	-0.323	-0.081	0.000	0.000	0.000
2638	0.623+	ULS-Set B (auto)/6	-0.853	0.934	0.736	0.000	-0.100	-0.127
2638	0.623+	ULS-Set B (auto)/8	0.520	1.058	-0.539	0.000	0.074	-0.144
2639	0.879	ULS-Set B (auto)/32	1.442	0.000	-0.013	0.000	0.000	0.000
2639	0.879	ULS-Set B (auto)/33	-2.128	0.000	-0.017	0.000	0.000	0.000
2639	0.000	ULS-Set B (auto)/7	0.615	0.000	0.013	0.000	0.000	0.000
2639	0.000	ULS-Set B (auto)/9	-1.408	0.000	0.017	0.000	0.000	0.000
2639	0.439-	ULS-Set B (auto)/33	-2.145	0.000	0.000	0.000	0.004	0.000
2639	0.000	ULS-Set B (auto)/33	-2.162	0.000	0.017	0.000	0.000	0.000
2640	0.893	ULS-Set B (auto)/6	1.978	0.000	-0.013	0.000	0.000	0.000
2640	0.893	ULS-Set B (auto)/5	-1.509	0.000	-0.017	0.000	0.000	0.000
2640	0.000	ULS-Set B (auto)/10	1.277	0.000	0.013	0.000	0.000	0.000
2640	0.000	ULS-Set B (auto)/3	-0.700	0.000	0.017	0.000	0.000	0.000
2640	0.446-	ULS-Set B (auto)/5	-1.526	0.000	0.000	0.000	0.004	0.000
2640	0.000	ULS-Set B (auto)/5	-1.544	0.000	0.017	0.000	0.000	0.000
2641	0.893	ULS-Set B (auto)/33	-2.150	0.000	-0.017	0.000	0.000	0.000
2641	0.000	ULS-Set B (auto)/9	-1.394	0.000	0.017	0.000	0.000	0.000
2641	0.000	ULS-Set B (auto)/12	0.665	0.000	0.013	0.000	0.000	0.000
2641	0.000	ULS-Set B (auto)/33	-2.185	0.000	0.017	0.000	0.000	0.000
2641	0.446-	ULS-Set B (auto)/33	-2.167	0.000	0.000	0.000	0.004	0.000
2641	0.893	ULS-Set B (auto)/32	1.395	0.000	-0.013	0.000	0.000	0.000
2641	0.670-	ULS-Set B (auto)/34	-1.370	0.000	-0.008	0.000	0.003	0.000
2642	0.000	ULS-Set B (auto)/14	-0.547	0.000	0.017	0.000	0.000	0.000
2642	0.000	ULS-Set B (auto)/35	0.008	0.000	0.017	0.000	0.000	0.000
2642	0.893	ULS-Set B (auto)/36	0.901	0.000	-0.017	0.000	0.000	0.000
2642	0.000	ULS-Set B (auto)/3	0.835	0.000	0.017	0.000	0.000	0.000
2642	0.000	ULS-Set B (auto)/10	0.832	0.000	0.013	0.000	0.000	0.000
2642	0.000	ULS-Set B (auto)/27	-1.387	0.000	0.013	0.000	0.000	0.000
2642	0.446-	ULS-Set B (auto)/36	0.883	0.000	0.000	0.000	0.004	0.000
2643	1.006	ULS-Set B (auto)/8	1.347	0.000	-0.017	0.000	0.000	0.000
2643	0.000	ULS-Set B (auto)/3	0.980	0.000	0.017	0.000	0.000	0.000
2643	0.000	ULS-Set B	-0.793	0.000	0.013	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/24						
2643	0.503-	ULS-Set B (auto)/8	1.326	0.000	0.000	0.000	0.004	0.000
2643	0.000	ULS-Set B (auto)/6	-1.795	0.000	0.013	0.000	0.000	0.000
2644	0.623	ULS-Set B (auto)/20	0.143	0.000	-0.017	0.000	0.000	0.000
2644	0.000	ULS-Set B (auto)/10	0.063	0.000	0.013	-0.001	0.000	0.000
2644	0.000	ULS-Set B (auto)/3	0.030	0.000	0.017	0.000	0.000	0.000
2644	0.311-	ULS-Set B (auto)/20	0.143	0.000	0.000	0.000	0.003	0.000
2644	0.000	ULS-Set B (auto)/12	-0.002	0.000	0.013	0.000	0.000	0.000
2645	0.623	ULS-Set B (auto)/21	0.033	0.000	-0.017	0.000	0.000	0.000
2645	0.000	ULS-Set B (auto)/28	0.025	0.000	0.017	0.000	0.000	0.000
2645	0.311-	ULS-Set B (auto)/21	0.033	0.000	0.000	0.000	0.003	0.000
2645	0.000	ULS-Set B (auto)/12	0.008	0.000	0.013	0.000	0.000	0.000
2646	0.623	ULS-Set B (auto)/33	0.160	0.000	-0.017	0.000	0.000	0.000
2646	0.000	ULS-Set B (auto)/3	-0.068	0.000	0.017	0.000	0.000	0.000
2646	0.000	ULS-Set B (auto)/10	0.076	0.000	0.013	0.000	0.000	0.000
2646	0.311-	ULS-Set B (auto)/33	0.160	0.000	0.000	0.000	0.003	0.000
2646	0.000	ULS-Set B (auto)/32	-0.104	0.000	0.013	0.000	0.000	0.000
3158	1.530-	ULS-Set B (auto)/6	-0.449	0.807	-0.001	0.000	-0.002	1.919
3158	3.095	ULS-Set B (auto)/4	-1.380	-3.561	-0.001	0.000	0.000	0.000
3158	0.000	ULS-Set B (auto)/4	-2.239	3.650	0.001	0.000	0.000	0.000
3158	1.530+	ULS-Set B (auto)/37	-0.934	-0.772	0.001	0.000	-0.002	1.918
3158	0.000	ULS-Set B (auto)/5	-3.365	1.970	0.001	0.000	0.000	0.000
3158	1.530-	ULS-Set B (auto)/37	-0.594	0.806	-0.001	0.000	-0.002	1.918
3158	1.530+	ULS-Set B (auto)/11	-2.169	-1.037	-0.001	0.000	0.001	2.331
3158	1.530-	ULS-Set B (auto)/3	-1.823	-0.929	0.001	0.000	0.001	-2.182
3158	1.530-	ULS-Set B (auto)/4	-2.137	1.875	0.001	0.000	0.001	4.227
3159	3.095	ULS-Set B (auto)/12	0.002	0.599	-0.004	0.000	-0.004	-0.767
3159	3.095	ULS-Set B (auto)/8	-1.122	-1.535	-0.001	0.000	0.000	1.949
3159	0.000	ULS-Set B (auto)/8	-3.357	2.780	0.001	0.000	0.000	0.000
3159	0.000	ULS-Set B (auto)/29	-4.010	1.055	0.000	0.000	0.000	0.000
3159	3.095	ULS-Set B (auto)/3	-0.498	0.593	-0.004	0.000	-0.004	-0.762
3159	3.095	ULS-Set B (auto)/16	-1.236	-0.948	0.002	0.000	0.004	1.222
3159	2.313-	ULS-Set B (auto)/7	-0.401	0.039	-0.004	0.000	-0.001	-1.017
3159	2.313-	ULS-Set B (auto)/8	-1.667	-0.135	-0.001	0.000	0.001	2.602
3160	3.095	ULS-Set B (auto)/12	-0.431	0.446	0.004	0.000	0.006	-1.537
3160	0.000	ULS-Set B (auto)/7	-2.050	-1.435	0.000	0.000	0.000	0.000
3160	0.000	ULS-Set B (auto)/8	-3.568	3.204	0.002	0.000	0.000	0.000
3160	1.530+	ULS-Set B (auto)/5	-3.105	1.280	-0.013	0.000	0.005	1.558
3160	1.530+	ULS-Set B	-1.731	1.154	0.008	0.000	-0.003	2.553

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/24						
3160	0.000	ULS-Set B (auto)/38	-4.427	0.801	-0.001	0.000	0.000	0.000
3160	3.095	ULS-Set B (auto)/27	-1.661	-0.511	-0.013	0.000	-0.015	2.159
3160	3.095	ULS-Set B (auto)/34	-1.294	-0.833	0.008	0.000	0.010	2.804
3160	2.469	ULS-Set B (auto)/7	-0.751	0.001	0.004	0.000	0.004	-1.677
3160	2.626	ULS-Set B (auto)/8	-1.832	-0.092	-0.006	0.000	-0.004	3.790
3161	0.000	ULS-Set B (auto)/17	-8.652	1.424	0.008	0.000	0.000	0.000
3161	0.500	ULS-Set B (auto)/16	3.534	1.491	0.013	0.000	0.007	0.819
3161	0.000	ULS-Set B (auto)/3	-4.567	-1.572	0.010	0.000	0.000	0.000
3161	0.000	ULS-Set B (auto)/4	1.608	3.191	0.011	0.000	0.000	0.000
3161	0.500+	ULS-Set B (auto)/21	-5.347	0.755	-0.031	0.000	0.005	0.402
3161	1.000+	ULS-Set B (auto)/17	-5.836	1.096	0.034	0.000	-0.011	1.260
3161	0.500+	ULS-Set B (auto)/9	-5.403	2.503	-0.028	0.000	0.004	1.333
3161	0.500+	ULS-Set B (auto)/12	-2.181	-1.389	-0.016	0.000	0.003	-0.740
3161	0.500	ULS-Set B (auto)/5	2.484	1.490	0.017	0.000	0.009	0.818
3161	1.942	ULS-Set B (auto)/3	-1.861	-0.017	-0.025	0.000	-0.002	-2.017
3161	2.354	ULS-Set B (auto)/4	-1.015	-0.035	0.015	0.000	0.001	4.097
3162	0.000	ULS-Set B (auto)/5	-9.956	2.186	0.079	0.000	0.000	0.000
3162	1.000	ULS-Set B (auto)/6	-0.464	1.087	-0.099	0.000	-0.042	1.432
3162	1.530+	ULS-Set B (auto)/12	-3.340	-3.040	-0.076	0.000	0.026	-2.167
3162	1.530+	ULS-Set B (auto)/39	-6.067	5.440	-0.085	0.000	0.023	4.425
3162	1.000+	ULS-Set B (auto)/20	-4.003	1.085	0.146	0.000	-0.052	1.429
3162	2.045+	ULS-Set B (auto)/9	-4.799	4.714	0.084	0.000	-0.027	6.403
3162	2.045+	ULS-Set B (auto)/7	-2.896	-2.646	0.046	0.000	-0.013	-3.631
3162	1.000	ULS-Set B (auto)/20	-2.090	1.085	-0.135	0.000	-0.052	1.430
3162	3.095	ULS-Set B (auto)/17	-4.550	1.650	0.050	0.000	0.043	5.333
3162	3.095	ULS-Set B (auto)/3	-3.836	-1.842	-0.003	0.000	0.015	-5.990
3162	3.095	ULS-Set B (auto)/4	-2.243	3.299	-0.041	0.000	-0.009	11.265
3163	1.381+	ULS-Set B (auto)/40	-3.216	-0.078	0.000	0.000	0.001	-1.204
3163	4.195	ULS-Set B (auto)/41	0.809	-0.791	0.000	0.000	0.000	0.000
3163	4.195	ULS-Set B (auto)/10	-0.387	-1.570	0.000	0.000	0.000	0.000
3163	0.000	ULS-Set B (auto)/8	-1.347	0.989	0.000	0.000	-0.001	0.716
3163	0.000	ULS-Set B (auto)/20	-1.333	0.496	-0.005	0.000	0.006	0.362
3163	0.000	ULS-Set B (auto)/22	-0.885	0.988	0.001	0.000	-0.002	0.718
3163	1.381+	ULS-Set B (auto)/5	-1.886	0.077	0.001	0.000	-0.002	1.065
3163	1.662	ULS-Set B (auto)/3	-3.133	0.023	0.000	0.000	0.001	-1.212
3163	1.662	ULS-Set B (auto)/10	-0.916	-0.033	0.000	0.000	0.000	2.145
3164	0.844	ULS-Set B (auto)/12	0.425	1.148	0.004	0.000	0.000	0.000
3164	0.844	ULS-Set B (auto)/8	0.425	1.148	0.004	0.000	0.000	0.000
3164	0.000	ULS-Set B (auto)/16	-1.212	-0.948	-0.005	0.000	0.004	1.222
3164	0.000	ULS-Set B (auto)/29	-1.745	-0.580	-0.002	0.000	0.001	0.743
3164	0.000	ULS-Set B (auto)/3	-0.466	0.593	0.005	0.000	-0.004	-0.762
3164	0.000	ULS-Set B (auto)/7	0.026	0.599	0.004	0.000	-0.004	-0.767
3164	0.000	ULS-Set B (auto)/8	-1.090	-1.535	0.000	0.000	0.000	1.949
3165	1.542	ULS-Set B (auto)/12	0.355	1.483	0.156	0.000	0.000	0.000
3165	1.542	ULS-Set B (auto)/8	-0.446	-3.517	-0.115	0.000	0.000	0.000
3165	1.542	ULS-Set B (auto)/7	0.355	1.483	0.156	0.000	0.000	0.000
3165	1.381+	ULS-Set B (auto)/23	-1.019	-2.100	-0.300	0.000	0.048	0.348
3165	1.381+	ULS-Set B (auto)/24	-0.185	-2.594	0.174	0.000	-0.028	0.428
3165	0.000	ULS-Set B (auto)/38	-2.182	-0.254	-0.009	0.000	0.004	0.850
3165	0.000	ULS-Set B (auto)/7	-0.407	0.446	-0.023	0.000	0.006	-1.537
3165	0.000	ULS-Set B (auto)/8	-1.475	-0.925	0.018	0.000	-0.007	3.551
3166	0.000	ULS-Set B (auto)/5	-3.843	-0.347	0.006	0.000	-0.006	2.219
3166	2.220	ULS-Set B (auto)/24	0.784	-2.060	-0.086	0.000	0.000	0.000
3166	2.220	ULS-Set B (auto)/4	-1.109	-2.571	-0.036	0.000	0.000	0.000
3166	2.220	ULS-Set B (auto)/3	0.134	1.148	0.002	0.000	0.000	0.000
3166	2.081+	ULS-Set B (auto)/17	-0.349	-1.034	-0.326	0.000	0.045	0.144
3166	2.081+	ULS-Set B (auto)/12	0.640	1.145	0.086	0.000	-0.012	-0.159
3166	0.000	ULS-Set B (auto)/42	-2.147	-0.459	-0.011	0.000	0.003	2.042
3166	1.381+	ULS-Set B (auto)/34	0.076	-1.628	0.028	0.000	-0.002	1.598
3166	0.000	ULS-Set B (auto)/3	-1.999	0.403	-0.013	0.000	0.003	-1.795
3166	0.000	ULS-Set B (auto)/4	-2.310	-0.710	0.002	0.000	-0.004	3.823
3167	0.000	ULS-Set B (auto)/28	-1.643	2.389	-0.007	0.000	0.000	0.000
3167	3.670	ULS-Set B (auto)/11	2.016	-1.004	0.001	0.000	0.000	0.000
3167	3.670	ULS-Set B (auto)/10	0.206	-1.993	0.002	0.000	0.000	0.000
3167	0.000	ULS-Set B (auto)/8	-0.806	2.389	-0.007	0.000	0.000	0.000
3167	2.081+	ULS-Set B (auto)/20	-0.132	-0.148	-0.018	0.000	0.006	0.973
3167	0.000	ULS-Set B (auto)/22	-0.424	2.389	-0.004	0.000	0.000	0.000
3167	1.941	ULS-Set B (auto)/3	-0.287	0.074	0.007	0.000	0.005	-1.098
3167	0.681	ULS-Set B (auto)/21	-1.037	0.402	-0.008	0.000	-0.005	0.365
3167	2.081	ULS-Set B (auto)/30	-0.222	-0.177	0.009	0.000	0.007	1.160
3167	1.801	ULS-Set B (auto)/7	-0.294	-0.017	0.005	0.000	0.003	-1.102
3167	1.801	ULS-Set B (auto)/8	0.353	0.030	0.006	0.000	0.002	1.970
3168	0.000	ULS-Set B (auto)/17	-6.467	-0.408	-0.101	0.000	0.043	5.333
3168	2.937	ULS-Set B (auto)/7	-0.166	3.395	0.151	0.000	0.000	0.000
3168	2.937	ULS-Set B	-0.403	-6.261	0.067	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/8						
3164	0.844	ULS-Set B (auto)/7	0.425	1.148	0.004	0.000	0.000	0.000
3164	0.000	ULS-Set B (auto)/16	-1.212	-0.948	-0.005	0.000	0.004	1.222
3164	0.000	ULS-Set B (auto)/29	-1.745	-0.580	-0.002	0.000	0.001	0.743
3164	0.000	ULS-Set B (auto)/3	-0.466	0.593	0.005	0.000	-0.004	-0.762
3164	0.000	ULS-Set B (auto)/7	0.026	0.599	0.004	0.000	-0.004	-0.767
3164	0.000	ULS-Set B (auto)/8	-1.090	-1.535	0.000	0.000	0.000	1.949
3165	1.542	ULS-Set B (auto)/12	0.355	1.483	0.156	0.000	0.000	0.000
3165	1.542	ULS-Set B (auto)/8	-0.446	-3.517	-0.115	0.000	0.000	0.000
3165	1.542	ULS-Set B (auto)/7	0.355	1.483	0.156	0.000	0.000	0.000
3165	1.381+	ULS-Set B (auto)/23	-1.019	-2.100	-0.300	0.000	0.048	0.348
3165	1.381+	ULS-Set B (auto)/24	-0.185	-2.594	0.174	0.000	-0.028	0.428
3165	0.000	ULS-Set B (auto)/38	-2.182	-0.254	-0.009	0.000	0.004	0.850
3165	0.000	ULS-Set B (auto)/7	-0.407	0.446	-0.023	0.000	0.006	-1.537
3165	0.000	ULS-Set B (auto)/8	-1.475	-0.925	0.018	0.000	-0.007	3.551
3166	0.000	ULS-Set B (auto)/5	-3.843	-0.347	0.006	0.000	-0.006	2.219
3166	2.220	ULS-Set B (auto)/24	0.784	-2.060	-0.086	0.000	0.000	0.000
3166	2.220	ULS-Set B (auto)/4	-1.109	-2.571	-0.036	0.000	0.000	0.000
3166	2.220	ULS-Set B (auto)/3	0.134	1.148	0.002	0.000	0.000	0.000
3166	2.081+	ULS-Set B (auto)/17	-0.349	-1.034	-0.326	0.000	0.045	0.144
3166	2.081+	ULS-Set B (auto)/12	0.640	1.145	0.086	0.000	-0.012	-0.159
3166	0.000	ULS-Set B (auto)/42	-2.147	-0.459	-0.011	0.000	0.003	2.042
3166	1.381+	ULS-Set B (auto)/34	0.076	-1.628	0.028	0.000	-0.002	1.598
3166	0.000	ULS-Set B (auto)/3	-1.999	0.403	-0.013	0.000	0.003	-1.795
3166	0.000	ULS-Set B (auto)/4	-2.310	-0.710	0.002	0.000	-0.004	3.823
3167	0.000	ULS-Set B (auto)/28	-1.643	2.389	-0.007	0.000	0.000	0.000
3167	3.670	ULS-Set B (auto)/11	2.016	-1.004	0.001	0.000	0.000	0.000
3167	3.670	ULS-Set B (auto)/10	0.206	-1.993	0.002	0.000	0.000	0.000
3167	0.000	ULS-Set B (auto)/8	-0.806	2.389	-0.007	0.000	0.000	0.000
3167	2.081+	ULS-Set B (auto)/20	-0.132	-0.148	-0.018	0.000	0.006	0.973
3167	0.000	ULS-Set B (auto)/22	-0.424	2.389	-0.004	0.000	0.000	0.000
3167	1.941	ULS-Set B (auto)/3	-0.287	0.074	0.007	0.000	0.005	-1.098
3167	0.681	ULS-Set B (auto)/21	-1.037	0.402	-0.008	0.000	-0.005	0.365
3167	2.081	ULS-Set B (auto)/30	-0.222	-0.177	0.009	0.000	0.007	1.160
3167	1.801	ULS-Set B (auto)/7	-0.294	-0.017	0.005	0.000	0.003	-1.102
3167	1.801	ULS-Set B (auto)/8	0.353	0.030	0.006	0.000	0.002	1.970
3168	0.000	ULS-Set B (auto)/17	-6.467	-0.408	-0.101	0.000	0.043	5.333
3168	2.937	ULS-Set B (auto)/7	-0.166	3.395	0.151	0.000	0.000	0.000
3168	2.937	ULS-Set B	-0.403	-6.261	0.067	0.000	0.000	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/4						
3168	2.937	ULS-Set B (auto)/3	-0.521	3.396	0.221	0.000	0.000	0.000
3168	2.081+	ULS-Set B (auto)/30	-1.531	-2.917	-0.176	0.000	0.047	2.849
3168	2.681+	ULS-Set B (auto)/31	-0.971	1.963	0.234	0.000	-0.060	-0.514
3168	0.000	ULS-Set B (auto)/3	-4.875	0.476	-0.057	0.000	0.015	-5.990
3168	0.000	ULS-Set B (auto)/4	-2.523	-1.040	-0.010	0.000	-0.009	11.265
3174	0.000	ULS-Set B (auto)/17	-9.834	5.524	-0.067	0.000	0.000	0.000
3174	1.260-	ULS-Set B (auto)/22	2.232	2.512	0.022	0.000	0.020	5.447
3174	4.132	ULS-Set B (auto)/10	-0.527	-9.776	-0.030	0.000	0.000	0.000
3174	0.000	ULS-Set B (auto)/10	-5.198	8.578	-0.033	0.000	0.000	0.000
3174	2.540+	ULS-Set B (auto)/6	-3.001	-1.265	-0.395	0.000	0.090	5.543
3174	0.620+	ULS-Set B (auto)/12	0.671	-2.482	0.002	0.000	0.002	-1.848
3174	0.000	ULS-Set B (auto)/28	-6.600	8.574	-0.044	0.000	0.000	0.000
3174	2.540-	ULS-Set B (auto)/3	-0.715	0.831	-0.347	0.000	-0.200	-3.512
3174	3.095-	ULS-Set B (auto)/3	-0.599	1.724	0.799	0.000	0.243	-2.803
3174	2.007-	ULS-Set B (auto)/3	-0.928	-0.026	-0.347	0.000	-0.015	-3.727
3174	2.007-	ULS-Set B (auto)/10	-2.736	0.177	-0.060	0.000	-0.006	9.081
3175	0.000	ULS-Set B (auto)/5	-6.227	0.440	-0.002	0.000	0.000	0.000
3175	0.620-	ULS-Set B (auto)/6	3.781	0.296	-0.011	0.000	-0.007	0.324
3175	1.900-	ULS-Set B (auto)/10	0.835	-1.034	-0.007	0.000	-0.004	0.091
3175	0.000	ULS-Set B (auto)/9	1.344	1.148	-0.009	0.000	0.000	0.000
3175	3.330+	ULS-Set B (auto)/8	-0.277	-0.687	-0.734	0.000	0.058	0.054
3175	3.330+	ULS-Set B (auto)/6	-0.534	-0.634	0.980	0.000	-0.077	0.050
3175	3.330+	ULS-Set B (auto)/7	0.145	0.100	-0.522	0.000	0.041	-0.008
3175	1.900-	ULS-Set B (auto)/25	-0.720	-0.683	-0.006	0.000	-0.002	-0.361
3175	1.047-	ULS-Set B (auto)/9	-0.033	-0.043	0.013	0.000	0.000	0.579
3454	0.617	ULS-Set B (auto)/5	-1.256	0.000	-0.017	0.000	0.000	0.000
3454	0.000	ULS-Set B (auto)/7	0.145	0.000	0.012	0.000	0.000	0.000
3454	0.000	ULS-Set B (auto)/8	-0.798	0.000	0.017	0.000	0.000	0.000
3454	0.308-	ULS-Set B (auto)/5	-1.256	0.000	0.000	0.000	0.003	0.000
3455	0.583	ULS-Set B (auto)/28	0.869	0.000	-0.016	0.000	0.000	0.000
3455	0.000	ULS-Set B (auto)/7	0.595	0.000	0.012	0.000	0.000	0.000
3455	0.000	ULS-Set B (auto)/8	-0.537	0.000	0.016	0.000	0.000	0.000
3455	0.233-	ULS-Set B (auto)/28	0.869	0.000	0.003	0.000	0.002	0.000
3455	0.000	ULS-Set B (auto)/16	-1.124	0.000	0.012	0.000	0.000	0.000
3456	0.593	ULS-Set B (auto)/28	0.898	0.000	-0.016	0.000	0.000	0.000
3456	0.000	ULS-Set B (auto)/4	-0.596	0.000	0.012	0.000	0.000	0.000
3456	0.000	ULS-Set B (auto)/3	0.646	0.000	0.016	0.000	0.000	0.000
3456	0.237-	ULS-Set B (auto)/9	0.898	0.000	0.003	0.000	0.002	0.000

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/28						
3456	0.000	ULS-Set B (auto)/16	-1.175	0.000	0.012	0.000	0.000	0.000
3457	0.600	ULS-Set B (auto)/28	0.904	0.000	-0.016	0.000	0.000	0.000
3457	0.000	ULS-Set B (auto)/10	0.870	0.000	0.012	0.000	0.000	0.000
3457	0.000	ULS-Set B (auto)/3	0.655	0.000	0.016	0.000	0.000	0.000
3457	0.300-	ULS-Set B (auto)/28	0.904	0.000	0.000	0.000	0.002	0.000
3457	0.000	ULS-Set B (auto)/16	-1.182	0.000	0.012	0.000	0.000	0.000
3458	0.617	ULS-Set B (auto)/38	0.543	0.000	-0.017	0.000	0.000	0.000
3458	0.000	ULS-Set B (auto)/10	0.332	0.000	0.012	0.000	0.000	0.000
3458	0.000	ULS-Set B (auto)/3	0.414	0.000	0.017	0.000	0.000	0.000
3458	0.308-	ULS-Set B (auto)/38	0.543	0.000	0.000	0.000	0.003	0.000
3458	0.000	ULS-Set B (auto)/16	0.211	0.000	0.012	0.000	0.000	0.000
3459	0.631+	ULS-Set B (auto)/23	-0.222	0.000	-0.076	0.000	0.040	0.000
3459	0.000	ULS-Set B (auto)/21	0.568	0.000	0.012	0.000	0.000	0.000
3459	0.000	ULS-Set B (auto)/43	0.282	0.000	0.026	0.000	0.000	0.000
3459	1.082	ULS-Set B (auto)/11	-0.219	0.000	-0.101	0.000	0.000	0.000
3459	0.000	ULS-Set B (auto)/11	0.270	0.000	0.081	0.000	0.000	0.000
3459	0.631+	ULS-Set B (auto)/7	0.033	0.000	0.000	0.000	0.004	0.000
3459	0.631+	ULS-Set B (auto)/8	-0.115	0.000	-0.052	0.001	0.029	0.000
3459	0.631-	ULS-Set B (auto)/37	0.447	0.000	-0.037	0.000	-0.015	0.000
3459	0.631+	ULS-Set B (auto)/11	-0.219	0.000	-0.077	0.000	0.040	0.000
3459	0.631-	ULS-Set B (auto)/9	0.525	0.000	-0.031	0.000	-0.009	0.000
3459	0.631+	ULS-Set B (auto)/9	-0.047	0.000	0.032	0.001	-0.009	0.000

Name	Combination key
ULS-Set B (auto)/1	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/2	G + G1 + 0.75*Q3 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/3	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/4	G + G1 + 1.05*Q1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/5	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/6	G + G1 + 1.05*Q1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/7	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/8	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/9	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/10	G + G1 + 1.05*Q1 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/11	1.35*G + 1.35*G1 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/12	G + G1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/13	G + G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/14	1.35*G + 1.35*G1 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/15	1.35*G + 1.35*G1 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/16	G + G1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/17	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/18	1.35*G + 1.35*G1 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/19	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/20	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/21	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2

Name	Combination key
ULS-Set B (auto)/22	G + G1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/23	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/24	G + G1 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/25	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/26	G + G1 + 1.05*Q1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/27	G + G1 + 0.75*Q3 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/28	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/29	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/30	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/31	1.35*G + 1.35*G1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q8
ULS-Set B (auto)/32	G + G1 + 0.75*Q3 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/33	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/34	1.35*G + 1.35*G1 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/35	1.35*G + 1.35*G1 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/36	1.35*G + 1.35*G1 + 1.05*Q1 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/37	G + G1 + 0.75*Q3 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/38	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/39	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/40	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/41	G + G1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/42	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/43	G + G1 + 1.50*Q1 + G3 + G2

Member 3168 check

EN 1993-1-3 Cold Formed Code Check

National annex: Standard EN

Member 3168	0.000 / 2.937 m	C100*50*15*1.2	S350GD+Z	ULS-Set B (auto)	0.90 -
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Combination key	
ULS-Set B (auto) / 1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2	

Partial safety factors	
γ_{M0} for resistance of cross-sections	1.00
γ_{M1} for resistance to instability	1.00
γ_{M2} for resistance of net sections	1.25

Material		
Yield strength f_y	350.0	MPa
Ultimate strength f_u	420.0	MPa
Fabrication	cold formed	

....SECTION CHECK:....

The critical check is on position 0.000 m

Internal forces		Calculated	Additional moments	Total	Unit
Normal force	N_{Ed}	-4.231		-4.231	kN
Shear force	$V_{y,Ed}$	0.032		0.032	kN
Shear force	$V_{z,Ed}$	-1.039		-1.039	kN
Torsion	T_{Ed}	0.000		0.000	kNm
Bending moment	$M_{y,Ed}$	11.262	0.000	11.262	kNm
Bending moment	$M_{z,Ed}$	0.003	-0.020	-0.017	kNm

Effective section N-

Effective width calculation

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	11.4	3.500e+05	3.500e+05	1.00	0.43	0.62	1.00	11.4		
2	I	48.8	3.500e+05	3.500e+05	1.00	4.00	0.87	0.86	41.8	20.9	20.9
3	I	76.0	3.500e+05	3.500e+05	1.00	4.00	1.36	0.62	46.8	23.4	23.4
4	I	48.8	3.500e+05	3.500e+05	1.00	4.00	0.44	1.00	48.8	24.4	24.4
5	UO	11.4	3.500e+05	3.500e+05	1.00	0.43	0.62	1.00	11.4		
6	UO	11.4	3.500e+05	3.500e+05	1.00	0.43	0.62	1.00	11.4		
7	I	76.0	3.500e+05	3.500e+05	1.00	4.00	1.36	0.62	46.8	23.4	23.4
8	I	48.8	3.500e+05	3.500e+05	1.00	4.00	0.87	0.86	41.8	20.9	20.9
9	UO	11.4	3.500e+05	3.500e+05	1.00	0.43	0.62	1.00	11.4		
10	I	11.4	3.500e+05	3.500e+05	1.00	4.00	0.10	1.00	11.4	5.7	5.7
11	I	48.8	3.500e+05	3.500e+05	1.00	4.00	0.87	0.86	41.8	20.9	20.9
12	I	98.8	3.500e+05	3.500e+05	1.00	4.00	1.77	0.49	48.9	24.5	24.5
13	I	48.8	3.500e+05	3.500e+05	1.00	4.00	0.44	1.00	48.8	24.4	24.4
14	I	11.4	3.500e+05	3.500e+05	1.00	4.00	0.10	1.00	11.4	5.7	5.7
15	I	11.4	3.500e+05	3.500e+05	1.00	4.00	0.10	1.00	11.4	5.7	5.7
16	I	98.8	3.500e+05	3.500e+05	1.00	4.00	1.77	0.49	48.9	24.5	24.5
17	I	48.8	3.500e+05	3.500e+05	1.00	4.00	0.87	0.86	41.8	20.9	20.9
18	I	11.4	3.500e+05	3.500e+05	1.00	4.00	0.10	1.00	11.4	5.7	5.7

Effective section My+**Effective width calculation**

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	11.4	-2.704e+05	-3.081e+05							
2	I	48.8	-3.081e+05	-3.119e+05							
3	I	76.0	-2.261e+04	-2.742e+05							
4	I	48.8	2.093e+04	1.712e+04	0.82	4.39	0.42	1.00	48.8	23.3	25.5
5	UO	11.4	1.895e+04	-1.879e+04	-0.99	23.49	0.08	1.00	11.4		
6	UO	11.4	6.066e+04	2.292e+04	0.38	0.50	0.58	1.00	11.4		
7	I	76.0	3.084e+05	5.684e+04	0.18	6.64	1.06	0.79	60.0	24.9	35.1
8	I	48.8	3.500e+05	3.462e+05	0.99	4.02	0.87	0.86	41.9	20.9	21.0
9	UO	11.4	3.500e+05	3.123e+05	0.89	0.47	0.60	1.00	11.4		
10	I	11.4	-2.743e+05	-3.120e+05							
11	I	48.8	-3.120e+05	-3.159e+05							
12	I	98.8	1.122e+04	-3.159e+05	-28.14	5077.50	0.05	1.00	3.4	1.4	2.0
13	I	48.8	1.702e+04	1.321e+04	0.78	4.49	0.41	1.00	48.8	23.1	25.7
14	I	11.4	1.509e+04	-2.266e+04	-1.50	37.43	0.03	1.00	4.6	1.8	2.7

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
15	I	11.4	5.680e+04	1.906e+04	0.34	5.92	0.08	1.00	11.4	4.9	6.5
16	I	98.8	3.423e+05	1.520e+04	0.04	7.49	1.29	0.67	66.5	26.9	39.7
17	I	48.8	3.461e+05	3.423e+05	0.99	4.02	0.87	0.86	41.9	20.9	21.0
18	I	11.4	3.461e+05	3.084e+05	0.89	4.22	0.10	1.00	11.4	5.5	5.9

Effective section Mz-**Effective width calculation**

According to EN 1993-1-3 article 5.5.2, 5.5.3 & EN 1993-1-5 article 4.4

Id	Type	b_p [mm]	σ_1 [kN/m ²]	σ_2 [kN/m ²]	ψ [-]	k_σ [-]	λ_p [-]	ρ [-]	b_e [mm]	b_{e1} [mm]	b_{e2} [mm]
1	UO	11.4	-3.500e+05	-3.500e+05							
2	I	48.8	-2.527e+04	-3.500e+05							
3	I	76.0	-2.527e+04	-2.527e+04							
4	I	48.8	-2.527e+04	-3.500e+05							
5	UO	11.4	-3.500e+05	-3.500e+05							
6	UO	11.4	-3.500e+05	-3.500e+05							
7	I	76.0	-2.527e+04	-2.527e+04							
8	I	48.8	-2.527e+04	-3.500e+05							
9	UO	11.4	-3.500e+05	-3.500e+05							
10	I	11.4	-2.128e+04	-2.128e+04							
11	I	48.8	3.074e+05	-1.729e+04	-0.06	8.19	0.61	1.00	46.2	18.5	27.7
12	I	98.8	3.074e+05	3.074e+05	1.00	4.00	1.77	0.49	48.9	24.5	24.5
13	I	48.8	3.074e+05	-1.729e+04	-0.06	8.19	0.31	1.00	46.2	18.5	27.7
14	I	11.4	-2.128e+04	-2.128e+04							
15	I	11.4	-2.128e+04	-2.128e+04							
16	I	98.8	3.074e+05	3.074e+05	1.00	4.00	1.77	0.49	48.9	24.5	24.5
17	I	48.8	3.074e+05	-1.729e+04	-0.06	8.19	0.61	1.00	46.2	18.5	27.7
18	I	11.4	-2.128e+04	-2.128e+04							

Effective properties						
Effective area	A_{eff}	8.2993e-04	m ²			
Effective second moment of area	$I_{eff,y}$	4.0016e-06	m ⁴	$I_{eff,z}$	7.9694e-07	m ⁴
Effective section modulus	$W_{eff,y}$	3.7646e-05	m ³	$W_{eff,z}$	1.4981e-05	m ³
Shift of the centroid	$e_{N,y}$	0.0	mm	$e_{N,z}$	4.8	mm

Compression check

According to EN 1993-1-3 article 6.1.3 and formula (6.2)

Effective section area	A_{eff}	8.2993e-04	m ²
Compression resistance	$N_{C,Rd}$	290.474	kN
Unity check		0.01	-

Bending moment check for M_y

According to EN 1993-1-3 article 6.1.4 and formula (6.4)

Effective section modulus	$W_{eff,y}$	3.7646e-05	m ³
Bending moment resistance	$M_{C,y,Rd}$	13.176	kNm
Unity check		0.85	-

Bending moment check for M_z

According to EN 1993-1-3 article 6.1.4 and formula (6.4)

Effective section modulus	$W_{eff,z}$	1.4981e-05	m ³
Bending moment resistance	$M_{C,z,Rd}$	5.243	kNm
Unity check		0.00	-

Biaxial bending moment check

According to EN 1993-1-3 article 6.1.4 and formula (6.7)

Bending moment resistance	$M_{C,y,Rd}$	13.176	kNm
Bending moment resistance	$M_{C,z,Rd}$	5.243	kNm

Unity check (6.7) = 0.85 + 0.00 = 0.86 -

Shear Force V_z

According to article EN 1993-1-3: 6.1.5 and formula (6.8).

Stiffening at the support.

Element ID	l_c [mm]	α [deg]	s_w [mm]	λ_w [-]	f_{bv} [MPa]	$V_{b,Rd,z,i}$ [kN]
1	11.4	270.00	11.4	0.13	203.0	2.777
2	48.8	180.00	48.8	0.57	203.0	0.000
3	76.0	90.00	76.0	0.89	187.8	17.127
4	48.8	0.00	48.8	0.29	203.0	0.000
5	11.4	270.00	11.4	0.13	203.0	2.777
6	11.4	270.00	11.4	0.13	203.0	2.777
7	76.0	90.00	76.0	0.89	187.8	17.127
8	48.8	0.00	48.8	0.57	203.0	0.000
9	11.4	270.00	11.4	0.13	203.0	2.777

Element ID	l_c [mm]	α [deg]	s_w [mm]	λ_w [-]	f_{bv} [MPa]	$V_{b,Rd,z,i}$ [kN]
10	11.4	270.00	11.4	0.07	203.0	5.554
11	48.8	180.00	48.8	0.57	203.0	0.000
12	98.8	90.00	98.8	1.16	144.5	17.127
13	48.8	0.00	48.8	0.29	203.0	0.000
14	11.4	270.00	11.4	0.07	203.0	5.554
15	11.4	270.00	11.4	0.07	203.0	5.554
16	98.8	90.00	98.8	1.16	144.5	17.127
17	48.8	0.00	48.8	0.57	203.0	0.000
18	11.4	270.00	11.4	0.07	203.0	5.554

Shear verification		
$V_{b,Rd,z}$	101.831	kN
Unity check	0.01	-

Torsional Moment Check

According to article EN 1993-1-3: 6.1.6 and formula (6.11a), (6.11b), (6.11c).

Elastic verification		
Critical Fibre	117	
σ_N	5.1	MPa
σ_{My}	295.5	MPa
σ_{Mz}	0.9	MPa
T_{Vy}	0.1	MPa
T_{Vz}	0.0	MPa
T_t	0.0	MPa
Direct Stress Check	0.86	-
Shear Stress Check	0.00	-
Composed Stress Check	0.78	-

Note: The Local Transverse Forces Check has been ignored due to user input.

Combined Compression and Bending Check

According to article EN 1993-1-3: 6.1.9 and formula (6.25), (6.26).

e_{Nz}	4.8	mm
$\Delta M_{z,Ed}$	-0.020	kNm
$N_{c,Rd}$	290.474	kN
$M_{cy,Rd,ten}$	14.741	kNm
$M_{cz,Rd,ten}$	5.243	kNm
$M_{cy,Rd,com}$	13.340	kNm
$M_{cz,Rd,com}$	5.960	kNm

Unity check (6.25) $0.01 + 0.84 + 0.00 = 0.86$ -

Unity check (6.26) $0.76 + 0.00 - 0.01 = 0.75$ -

The member satisfies the section check.

....:STABILITY CHECK:....

Flexural Buckling Strength

According to article EN 1993-1-3: 6.2.2

According to article EN 1993-1-1: 6.3.1 and formula (6.46)

Buckling parameters	yy	zz	
Sway type	sway	non-sway	
System Length L	6.032	0.681	m
Buckling factor k	1.00	0.92	
Buckling length L_{cr}	6.032	0.629	m
Critical Euler load N_{cr}	240.336	5155.029	kN
Slenderness	93.88	20.27	
Relative slenderness λ_{rel}	1.10	0.24	
Limit slenderness $\lambda_{rel,0}$	0.20	0.20	

The slenderness or compression force is such that Flexural Buckling effects may be ignored according to EN 1993-1-1 article 6.3.1.2(4)

Torsional (-Flexural) Buckling check

According to article EN 1993-1-3: 6.2.3

According to article EN 1993-1-1: 6.3.1 and formula (6.46)

Torsional Buckling length	0.681	m
$N_{cr,T}$	14253.712	kN
$N_{cr,TF}$	239.789	kN
Relative slenderness $\lambda_{rel,T}$	1.10	
Limit slenderness $\lambda_{rel,0}$	0.20	

The slenderness or compression force is such that Torsional (-Flexural) Buckling effects may be ignored according to EN 1993-1-1 article 6.3.1.2(4)

Lateral Torsional Buckling Check

According to article EN 1993-1-3: 6.2.4

According to article EN 1993-1-1: 6.3.2 and formula (6.55)

LTB Parameters		
Method for LTB Curve	art. 6.3.2.2	
$W_{eff,y}$	3.7646e-05	m ³
Elastic critical moment M_{cr}	636.075	kNm
Relative slenderness $\lambda_{rel,LT}$	0.14	
Limit slenderness $\lambda_{rel,LT,0}$	0.20	

M_{cr} Parameters		
LTB length	0.681	m
k	1.00	
k_w	1.00	
C_1	1.05	
C_2	0.00	
C_3	1.00	

The slenderness or bending moment is such that Lateral Torsional Buckling effects may be ignored according to EN 1993-1-1 article 6.3.2.2(4)

Bending and Axial Compression Check

According to article EN 1993-1-3: 6.2.5(1)

According to article EN 1993-1-1: 6.3.3 and formula (6.61), (6.62).

Interaction Method 1

Interaction method 1 parameters		
k_{yy}	1.01	
k_{yz}	0.81	
k_{zy}	1.02	
k_{zz}	0.82	
$\Delta M_{y,Ed}$	0.000	kNm
$\Delta M_{z,Ed}$	-0.020	kNm
A	8.2993e-04	m ²
W_y	3.7646e-05	m ³
W_z	1.7216e-05	m ³
N_{Rk}	290.474	kN
$M_{y,Rk}$	13.176	kNm
$M_{z,Rk}$	6.026	kNm
$M_{y,Ed}$	11.263	kNm
$M_{z,Ed}$	0.025	kNm
Interaction Method 1		
$M_{cr,0}$	606.506	kNm
reduced slenderness 0	0.15	
ψ_y	1.00	
ψ_z	0.13	
$C_{my,0}$	1.00	
$C_{mz,0}$	0.82	
C_{my}	1.00	
C_{mz}	0.82	
C_{mLT}	1.00	
μ_y	0.99	
μ_z	1.00	
α_{LT}	0.79	

Unity check $0.03 + 0.86 + 0.00 = 0.89$ -

Unity check $0.03 + 0.87 + 0.00 = 0.90$ -

The member satisfies the stability check.

All member type frame check

Overall Unity Check

Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
2057	1.193+	ULS-Set B (auto)/1	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.16	0.16	0.16
2058	0.340-	ULS-Set B (auto)/2	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.03	0.03	0.03
2059	0.340-	ULS-Set B (auto)/3	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.02	0.02	0.02
2060	0.407-	ULS-Set B (auto)/2	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.03	0.03	0.03
2061	0.402-	ULS-Set B (auto)/4	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.02	0.02	0.02
2062	0.402-	ULS-Set B (auto)/2	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.02	0.02	0.02
2063	0.408-	ULS-Set B (auto)/5	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.02	0.01	0.02
2064	0.000	ULS-Set B (auto)/6	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.00
2065	0.000	ULS-Set B (auto)/6	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.00
2066	0.000	ULS-Set B (auto)/6	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.00
2067	0.000	ULS-Set B (auto)/6	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.00
2068	0.631+	ULS-Set B (auto)/7	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.15	0.15	0.15
2069	0.233-	ULS-Set B (auto)/8	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.00	0.00	0.00
2070	0.510-	ULS-Set B (auto)/4	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.00
2071	0.415-	ULS-Set B (auto)/8	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.01
2072	0.415-	ULS-Set B (auto)/9	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.01
2073	0.000	ULS-Set B (auto)/10	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.00	0.00	0.00
2074	0.000	ULS-Set B (auto)/11	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.00
2075	0.516-	ULS-Set B (auto)/3	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.00
2076	0.419-	ULS-Set B (auto)/4	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.01
2077	0.419-	ULS-Set B (auto)/10	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.01
2078	0.435-	ULS-Set B (auto)/12	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.01
2079	0.000	ULS-Set B (auto)/10	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.00

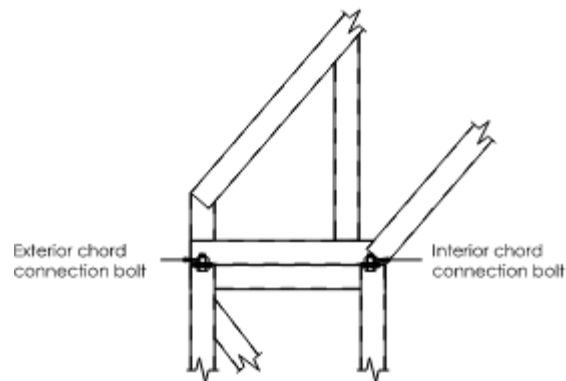
Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
2080	0.000	ULS-Set B (auto)/10	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.02	0.02	0.00
2081	0.000	ULS-Set B (auto)/10	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.02	0.02	0.00
2637	0.759	ULS-Set B (auto)/13	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.00
2638	0.623+	ULS-Set B (auto)/14	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.07	0.07	0.06
2639	0.439-	ULS-Set B (auto)/5	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.03	0.02	0.03
2640	0.446-	ULS-Set B (auto)/2	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.02	0.02	0.02
2641	0.446-	ULS-Set B (auto)/5	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.03	0.02	0.03
2642	0.446-	ULS-Set B (auto)/2	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.02	0.01	0.02
2643	0.503+	ULS-Set B (auto)/5	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.02	0.02	0.02
2644	0.000	ULS-Set B (auto)/11	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.02	0.02	0.00
2645	0.000	ULS-Set B (auto)/3	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.00
2646	0.000	ULS-Set B (auto)/11	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.00
3158	1.530-	ULS-Set B (auto)/7	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.81	0.66	0.81
3159	2.156-	ULS-Set B (auto)/10	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.55	0.41	0.55
3160	2.469-	ULS-Set B (auto)/10	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.80	0.59	0.80
3161	2.560+	ULS-Set B (auto)/7	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.70	0.65	0.70
3162	3.095	ULS-Set B (auto)/7	4*C100*50*15*1.3 - C100*50*15*1.2	S350GD+Z	0.90	0.86	0.90
3163	1.662-	ULS-Set B (auto)/7	2C100*50*15*1.2 - General cross-section	S350GD+Z	4.53	0.35	4.53
3164	0.000	ULS-Set B (auto)/10	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.41	0.30	0.41
3165	0.000	ULS-Set B (auto)/10	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.71	0.55	0.71
3166	0.000	ULS-Set B (auto)/7	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.71	0.60	0.71
3167	1.801-	ULS-Set B (auto)/15	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.38	0.30	0.38
3168	0.000	ULS-Set B (auto)/7	4*C100*50*15*1.3 - C100*50*15*1.2	S350GD+Z	0.90	0.86	0.90
3174	2.113-	ULS-Set B (auto)/3	4*C100*50*15*1.3 - C100*50*15*1.2	S350GD+Z	0.72	0.70	0.72
3175	0.620-	ULS-Set B (auto)/10	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.12	0.10	0.12
3454	0.000	ULS-Set B (auto)/2	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.01

Name	dx [m]	Case	Cross-section	Material	UC _{Overall} [-]	UC _{Sec} [-]	UC _{Stab} [-]
3455	0.000	ULS-Set B (auto)/16	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.01
3456	0.000	ULS-Set B (auto)/16	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.01
3457	0.000	ULS-Set B (auto)/16	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.01	0.01	0.01
3458	0.308-	ULS-Set B (auto)/17	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.00	0.00	0.00
3459	0.631-	ULS-Set B (auto)/8	2C100*50*15*1.2 - General cross-section	S350GD+Z	0.02	0.02	0.01

Name	Combination key
ULS-Set B (auto)/1	G + G1 + 1.05*Q1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/2	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/3	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/4	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/5	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/6	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/7	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/8	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/9	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/10	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/11	G + G1 + 1.05*Q1 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/12	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/13	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/14	G + G1 + 1.05*Q1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/15	G + G1 + 0.75*Q3 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/16	G + G1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/17	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2

2.4.5 CONNECTION CHECK

2.4.5.1 TRUSS TO COLUMN CONNECTION CHECK



Truss to column connection sketch

Exterior chord connection bolt check

Bolts	M 10	5.6 – Strength grades
<u>2</u>	PC	– Number of bolts at the cross-section
<u>2</u>	PC	– Total number of bolts in the connection
r =	1	– [number of bolts at the cross-section] / [total number of bolts in the connection]
As =	58 mm ²	– Tensile stress area of the bolt
d =	10 mm	– The nominal diameter of the fastener;
d0 =	11 mm	– The nominal diameter of the hole
e1 =	<u>25</u> mm	– The end distance from the centre of the fastener to the adjacent end of the connected part, in the direction of load transfer, see figure 8.1
e2 =	<u>20</u> mm	– The distance from the centre of the fastener to the adjacent of the connected part, in the direction perpendicular to the direction of load transfer, see figure 8.1
p1 =	0 mm	– The spacing centre-to-centre of fasteners in the direction of load transfer, see figure 8.1
p2 =	50 mm	– The spacing centre-to-centre of fasteners in the direction perpendicular to the direction of load transfer, see figure 8.1

$f_{yb} = 0.3 \text{ kH/mm}^2$ – Ultimate strength
 $f_{ub} = 0.5 \text{ kH/mm}^2$ – Ultimate tensile strength of the bolt
 $t = 1.2 \text{ mm}$ – The thickness of the thinner connected part or sheet

Steel S350GD

$f_y = 0.35 \text{ kH/mm}^2$ – Is yield strength
 $f_u = 0.42 \text{ kH/mm}^2$ – Is ultimate tensile strength

$\gamma_{m2} = 1.25$ – Safety factor

Connection load forces

$F_t = 4.5 \text{ kH}$ - Tensile load
 $F_s = 4.2 \text{ kH}$ - Shear load

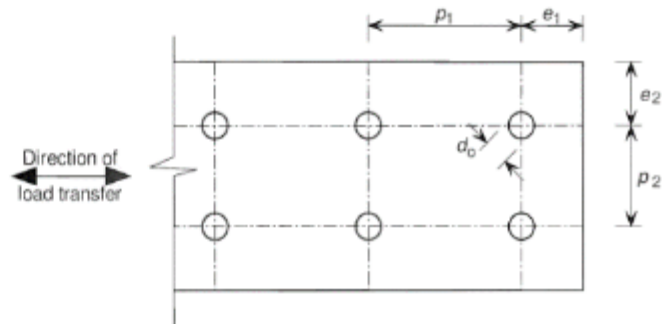


Figure 8.1: End distance, edge distance and spacings for fasteners and spot welds

Bolts loaded in shear:

Bearing resistance

$F_{b,Rd} = 2,5 \alpha b k t f_u d / \gamma_{m2} = 8.27 \text{ kH} > F_t = 2.1 \text{ kH}$ Satisfies the check

$\alpha b = \min(1 \text{ or } e_1 / 3d) = 0.83$

$kt = (0,8 t + 1.5) / 2.5 = 0.98$ for $0.75 \text{ mm } t < 1.25 \text{ mm}$

Net-sections resistance:

$F_{n,Rd} = (1 + 3r (D_0/u - 0.3)) A_{net} f_u / \gamma_{m2}$ but $F_{n,Rd} \leq A_{net} f_u / \gamma_{m2}$

$A_{net} = (50 - d_0) t = 46.8 \text{ mm}^2$ – The net cross-sectional area of the connected part

$u = 2 e_2$ but $u < p_2$ $u = 40 \text{ mm} < p_2 = 50$

$F_{n,Rd} = 14.5 \text{ kH}$ but $F_{n,Rd} = 13.1 \text{ kH}$

Shear resistance check (EN 1993-1-3 tab 8.4)

$F_{v,Rd} = 0.6 f_{ub} A_s / \gamma_{M2} = 13.9 \text{ kH} > F_s = 2.1 \text{ kH}$ Satisfies the check
Shear load per bolt

Conditions

$F_{v,Rd} \geq 1.2 \sum F_{b,Rd}$ $13.9 \text{ kH} > 19.8 \text{ kH}$

or

$\sum F_{v,Rd} \geq 1.2 F_n$ $27.8 \text{ kH} > 15.7 \text{ kH}$ Satisfies the check

Tension resistance check (EN 1993-1-3 tab 8.4)

$$F_{t,Rd} = 0.9 f_{ub} A_s / \gamma_{M2} = 20.9 \text{ kH} > F_t = 2.25 \text{ kH} \quad \text{Satisfies the check}$$

Tension load per bolt

Punching resistance check (EN 1993-1-8 tab 3.4)

$$B_{p,Rd} = 0.5 \pi d_m t f_u / \gamma_{m2} = 19 \text{ kH} > F_t = 2.25 \text{ kH} \quad \text{Satisfies the check}$$

$d_m = 30 \text{ mm}$ – The mean of the across points and across flats dimensions of the bolt head or the nut, whichever is smaller

Interior chord connection bolt check

Bolts	M 10	5.6 – Strength grades
	<u>2</u> PC	– Number of bolts at the cross-section
	<u>2</u> PC	– Total number of bolts in the connection
$r =$	1	– [number of bolts at the cross-section] / [total number of bolts in the connection]
$A_s =$	58 mm ²	– Tensile stress area of the bolt
$d =$	10 mm	– The nominal diameter of the fastener;
$d_0 =$	11 mm	– The nominal diameter of the hole
$e_1 =$	<u>25</u> mm	– The end distance from the centre of the fastener to the adjacent end of the connected part, in the direction of load transfer, see figure 8.1
$e_2 =$	<u>20</u> mm	– The distance from the centre of the fastener to the adjacent of the connected part, in the direction perpendicular to the direction of load transfer, see figure 8.1
$p_1 =$	0 mm	– The spacing centre-to-centre of fasteners in the direction of load transfer, see figure 8.1
$p_2 =$	50 mm	– The spacing centre-to-centre of fasteners in the direction perpendicular to the direction of load transfer, see figure 8.1
$f_{yb} =$	<u>0.3</u> kH/mm ²	– Ultimate strength
$f_{ub} =$	<u>0.5</u> kH/mm ²	– Ultimate tensile strength of the bolt
$t =$	1.2 mm	– The thickness of the thinner connected part or sheet
Steel	S350GD	
$f_y =$	0.35 kH/mm ²	– Is yield strength
$f_u =$	0.42 kH/mm ²	– Is ultimate tensile strength

$Y_{m2} = 1.25$ – Safety factor

Connection load forces

$F_t = 22$ kH - Tensile load
 $F_s = 7.2$ kH - Shear load

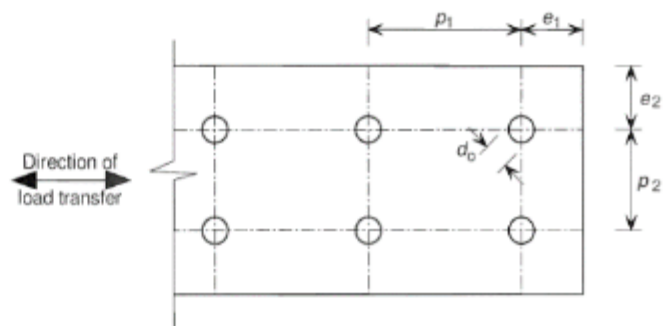


Figure 8.1: End distance, edge distance and spacings for fasteners and spot weld

Bolts loaded in shear:**Bearing resistance**

$$F_{b,Rd} = 2,5 \alpha_b k_t f_u d t / \gamma_{M2} = \underline{8.27 \text{ kH}} > F_t = 3.6 \text{ kH} \quad \text{Satisfies the check}$$

$$\alpha_b = \min(1 \text{ or } e_1 / 3d) = 0.83$$

$$k_t = (0,8 t + 1.5) / 2.5 = 0.98 \quad \text{for } 0.75 \text{ mm } t < 1.25 \text{ mm}$$

Net-sections resistance:

$$F_{n,Rd} = (1 + 3r (D_0/u - 0.3)) A_{net} f_u / \gamma_{M2} \quad \text{but} \quad F_{n,Rd} \leq A_{net} f_u / \gamma_{M2}$$

$$A_{net} = (50 - d_0) t = 46.8 \text{ mm}^2 \quad - \text{The net cross-sectional area of the connected part}$$

$$u = 2 e_2 \quad \text{but} \quad u < p_2 \quad \underline{u = 40 \text{ mm}} < \underline{p_2 = 50}$$

$$F_{n,Rd} = \underline{14.5 \text{ kH}} \quad \text{but} \quad F_{n,Rd} = \underline{13.1 \text{ kH}}$$

Shear resistance check (EN 1993-1-3 tab 8.4)

$$F_{v,Rd} = 0.6 f_{ub} A_s / \gamma_{M2} = 13.9 \text{ kH} > F_s = 3.6 \text{ kH} \quad \text{Satisfies the check}$$

Shear load per bolt

Conditions

$$F_{v,Rd} \geq 1.2 \sum F_{b,Rd} \quad 13.9 \text{ kH} > 19.8 \text{ kH}$$

or

$$\sum F_{v,Rd} \geq 1.2 F_{n,Rd} \quad 27.8 \text{ kH} > 15.7 \text{ kH} \quad \text{Satisfies the check}$$

Tension resistance check (EN 1993-1-3 tab 8.4)

$$F_{t,Rd} = 0.9 f_{ub} A_s / \gamma_{M2} = \underline{20.9 \text{ kH}} > F_t = 11 \text{ kH} \quad \text{Satisfies the check}$$

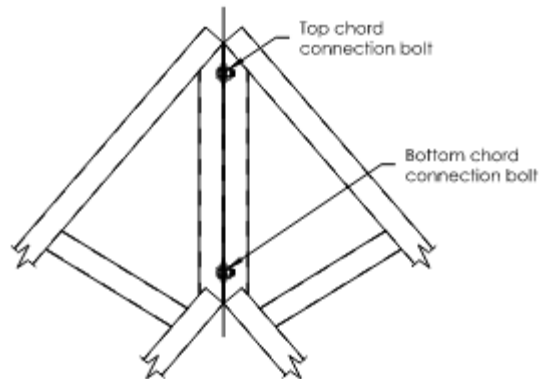
Tension load per bolt

Punching resistance check (EN 1993-1-8 tab 3.4)

$$B_{p,Rd} = 0.5 \pi d_m t f_u / \gamma_{M2} = 19 \text{ kH} > F_t = 11 \text{ kH} \quad \text{Satisfies the check}$$

$$d_m = 30 \text{ mm} \quad - \text{The mean of the across points and across flats dimensions of the bolt head or the nut, whichever is smaller}$$

2.4.5.2 TRUSS TO TRUSS CONNECTION CHECK



Truss to truss connection sketch

Top chord connection bolt check

Bolts	M 10	5.6 – Strength grades
	<u>2</u> PC	– Number of bolts at the cross-section
	<u>2</u> PC	– Total number of bolts in the connection
$r =$	1	– [number of bolts at the cross-section] / [total number of bolts in the connection]
$A_s =$	58 mm ²	– Tensile stress area of the bolt
$d =$	10 mm	– The nominal diameter of the fastener;
$d_0 =$	11 mm	– The nominal diameter of the hole
$e_1 =$	<u>25</u> mm	– The end distance from the centre of the fastener to the adjacent end of the connected part, in the direction of load transfer, see figure 8.1
$e_2 =$	<u>20</u> mm	– The distance from the centre of the fastener to the adjacent of the connected part, in the direction perpendicular to the direction of load transfer, see figure 8.1

$p_1 = 0 \text{ mm}$ – The spacing centre-to-centre of fasteners in the direction of load transfer, see figure 8.1

$p_2 = 50 \text{ mm}$ – The spacing centre-to-centre of fasteners in the direction perpendicular to the direction of load transfer, see figure 8.1

$f_{yb} = 0.3 \text{ kH/mm}^2$ – Ultimate strength

$f_{ub} = 0.5 \text{ kH/mm}^2$ – Ultimate tensile strength of the bolt

$t = 1.2 \text{ mm}$ – The thickness of the thinner connected part or sheet

Steel S350GD

$f_y = 0.35 \text{ kH/mm}^2$ – Is yield strength

$f_u = 0.42 \text{ kH/mm}^2$ – Is ultimate tensile strength

$Y_{m2} = 1.25$ – Safety factor

Connection load forces

$F_t = 7.5 \text{ kH}$ - Tensile load

$F_s = 3.1 \text{ kH}$ - Shear load

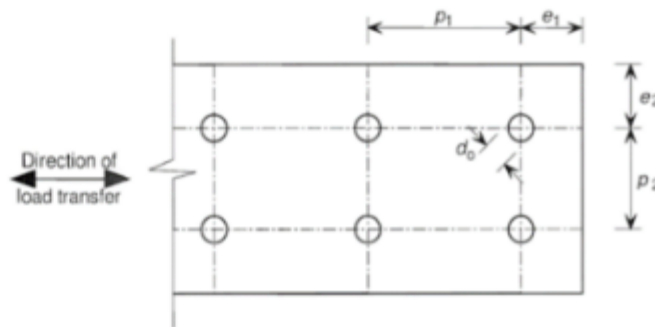


Figure 8.1: End distance, edge distance and spacings for fasteners and spot weld

Bolts loaded in shear:

Bearing resistance

$$F_{b,Rd} = 2,5 \alpha_b k t f_u d t / Y_{m2} = \underline{8.27 \text{ kH}} > F_t = 1.55 \text{ kH} \quad \text{Satisfies the check}$$

$$\alpha_b = \min(1 \text{ or } e_1 / 3d) = 0.83$$

$$k t = (0,8 t + 1.5) / 2.5 = 0.98 \quad \text{for } 0.75 \text{ mm } t < 1.25 \text{ mm}$$

Net-sections resistance:

$$F_{n,Rd} = (1 + 3r (D0/u - 0.3)) A_{net} f_u / \gamma_{M2} \quad \text{but} \quad F_{n,Rd} \leq A_{net} f_u / \gamma_{M2}$$

$$A_{net} = (50 - d_0) t = 46.8 \text{ mm}^2 \quad - \text{The net cross-sectional area of the connected part}$$

$$u = 2 e_2 \quad \text{but} \quad u < p_2 \quad \underline{u = 40 \text{ mm}} < \underline{p_2 = 50}$$

$$\underline{F_{n,Rd} = 14.5 \text{ kH}} \quad \text{but} \quad \underline{F_{n,Rd} = 13.1 \text{ kH}}$$

Shear resistance check (EN 1993-1-3 tab 8.4)

$$F_{v,Rd} = 0.6 f_{ub} A_s / \gamma_{M2} = 13.9 \text{ kH} > F_s = 1.55 \text{ kH} \quad \text{Satisfies the check}$$

Shear load per bolt

Conditions

$$F_{v,Rd} \geq 1.2 \sum F_{b,Rd} \quad 13.9 \text{ kH} > 19.8 \text{ kH}$$

or

$$\sum F_{v,Rd} \geq 1.2 F_{n,Rd} \quad 27.8 \text{ kH} > 15.7 \text{ kH} \quad \text{Satisfies the check}$$

Tension resistance check (EN 1993-1-3 tab 8.4)

$$F_{t,Rd} = 0.9 f_{ub} A_s / \gamma_{M2} = 20.9 \text{ kH} > F_t = 3.75 \text{ kH} \quad \text{Satisfies the check}$$

Tension load per bolt

Punching resistance check (EN 1993-1-8 tab 3.4)

$$B_{p,Rd} = 0.5 \pi d_m t f_u / \gamma_{M2} = 19 \text{ kH} > F_t = 3.75 \text{ kH} \quad \text{Satisfies the check}$$

$$d_m = 30 \text{ mm} \quad - \text{The mean of the across points and across flats dimensions of the bolt head or the nut, whichever is smaller}$$

Bottom chord connection bolt check

Bolts	M 10	5.6 – Strength grades
	<u>2</u> PC	– Number of bolts at the cross-section
	<u>2</u> PC	– Total number of bolts in the connection
$r =$	1	– [number of bolts at the cross-section] / [total number of bolts in the connection]
$A_s =$	58 mm ²	– Tensile stress area of the bolt
$d =$	10 mm	– The nominal diameter of the fastener;
$d_0 =$	11 mm	– The nominal diameter of the hole
$e_1 =$	<u>25</u> mm	– The end distance from the centre of the fastener to the adjacent end of the connected part, in the direction of load transfer, see figure 8.1
$e_2 =$	<u>20</u> mm	– The distance from the centre of the fastener to the adjacent of the connected part, in the direction perpendicular to the direction of load transfer, see figure 8.1
$p_1 =$	0 mm	– The spacing centre-to-centre of fasteners in the direction of load transfer, see figure 8.1
$p_2 =$	50 mm	– The spacing centre-to-centre of fasteners in the direction perpendicular to the direction of load transfer, see figure 8.1
$f_{yb} =$	<u>0.3</u> kH/mm ²	– Ultimate strength
$f_{ub} =$	<u>0.5</u> kH/mm ²	– Ultimate tensile strength of the bolt
$t =$	1.2 mm	– The thickness of the thinner connected part or sheet
	<u>Steel S350GD</u>	
$f_y =$	0.35 kH/mm ²	– Is yield strength
$f_u =$	0.42 kH/mm ²	– Is ultimate tensile strength

Bolts loaded in shear:

Bearing resistance

$$F_{b,Rd} = 2,5 \alpha_b k_t f_u d t / \gamma_{M2} = \underline{8.27 \text{ kH}} > F_t = 2 \text{ kH} \quad \text{Satisfies the check}$$

$$\alpha_b = \min(1 \text{ or } e_1 / 3d) = 0.83$$

$$k_t = (0,8 t + 1.5) / 2.5 = 0.98 \quad \text{for } 0.75 \text{ mm } t < 1.25 \text{ mm}$$

$$\gamma_{M2} = 1.25 \quad \text{– Safety factor}$$

Connection load forces

$$F_t = 10.8 \text{ kH} \quad \text{– Tensile load}$$

$$F_s = 4 \text{ kH} \quad \text{– Shear load}$$

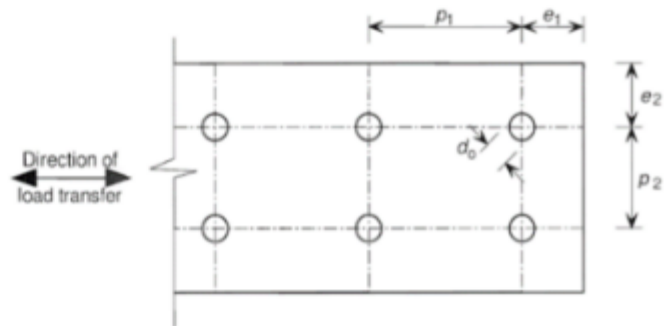


Figure 8.1: End distance, edge distance and spacings for fasteners and spot weld:

Net-sections resistance:

$$F_{n,Rd} = (1 + 3r (D_0/u - 0.3)) A_{net} f_u / \gamma_{M2} \quad \text{but} \quad F_{n,Rd} \leq A_{net} f_u / \gamma_{M2}$$

$$A_{net} = (50 - d_0) t = 46.8 \text{ mm}^2 \quad \text{– The net cross-sectional area of the connected part}$$

$$u = 2 e_2 \quad \text{but} \quad u < p_2 \quad \underline{u = 40 \text{ mm}} < \underline{p_2 = 50}$$

$$F_{n,Rd} = \underline{14.5 \text{ kH}} \quad \text{but} \quad F_{n,Rd} = \underline{13.1 \text{ kH}}$$

Shear resistance check (EN 1993-1-3 tab 8.4)

$$F_{v,Rd} = 0.6 f_{ub} A_s / \gamma_{M2} = 13.9 \text{ kH} > F_s = 2 \text{ kH} \quad \text{Satisfies the check}$$

Shear load per bolt

Conditions

$$F_{v,Rd} \geq 1.2 \sum F_{b,Rd} \quad 13.9 \text{ kH} > 19.8 \text{ kH}$$

or

$$\sum F_{v,Rd} \geq 1.2 F_{n,Rd} \quad 27.8 \text{ kH} > 15.7 \text{ kH} \quad \text{Satisfies the check}$$

Tension resistance check (EN 1993-1-3 tab 8.4)

$$F_{t,Rd} = 0.9 f_{ub} A_s / \gamma_{M2} = 20.9 \text{ kH} > F_t = 5.4 \text{ kH} \quad \text{Satisfies the check}$$

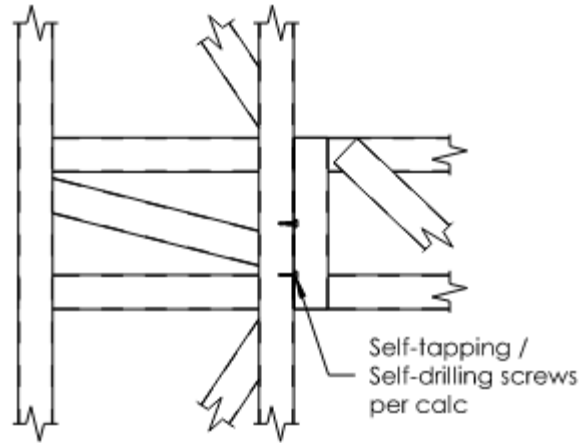
Tension load per bolt

Punching resistance check (EN 1993-1-8 tab 3.4)

$$B_{p,Rd} = 0.5 \pi d_m t f_u / \gamma_{M2} = 19 \text{ kH} > F_t = 5.4 \text{ kH} \quad \text{Satisfies the check}$$

$d_m = 30 \text{ mm}$ – The mean of the across points and across flats dimensions of the bolt head or the nut, whichever is smaller



2.4.5.3 FLOOR TRUSS TO COLUMN CONNECTION CHECK

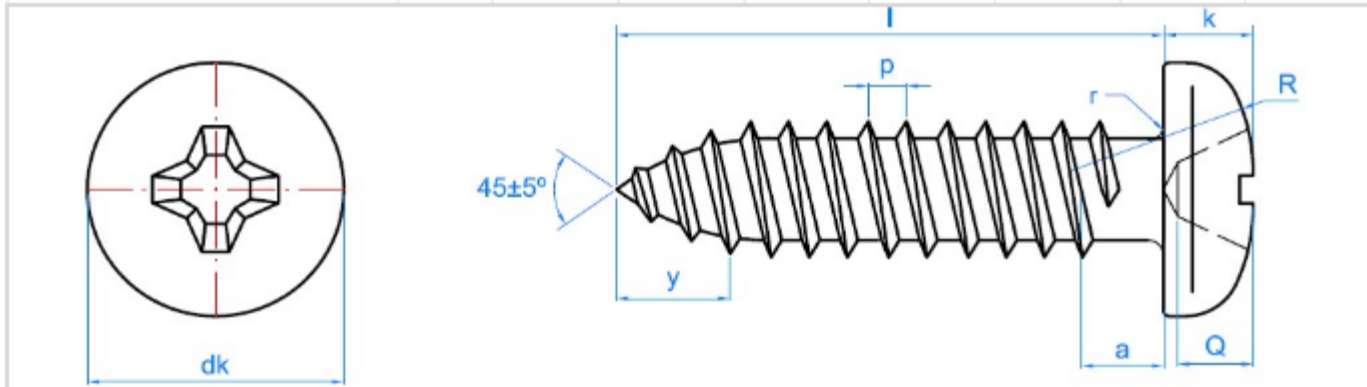


Truss to Column connection sketch

Floor truss to column Interior chord connection design

Screw technical data sheet

Code T81		ST 2.9	ST 3.5	ST 3.9	ST 4.2	ST 4.8	ST 5.5	ST 6.3
d_k : head diameter	[mm]	5.45	6.7	7.3	8.0	9.4	10.6	12.3
k: head thickness	[mm]	2.2	2.6	2.8	3.05	3.55	3.95	4.55
Ph bit no.		1	2	2	2	2	3	3
R: head radius	[mm]	4.4	5.4	5.8	6.2	7.2	8.2	9.5
D: exterior thread diameter	[mm]	2.90	3.53	3.90	4.22	4.80	5.46	6.25
d: interior thread diameter	[mm]	2.18	2.64	2.92	3.10	3.58	4.17	4.88
p: thread	[mm]	1.1	1.3	1.3	1.4	1.6	1.8	1.8
y: point length \leq	[mm]	2.6	3.2	3.5	3.7	4.3	5	6
l: lengths	[mm]	6.5 -- 25	6.5 -- 32	9.5 -- 50	9.5 -- 90	9.5 -- 120	13-- 120	16-- 120
l_G : maximum thread length	[mm]	--	--	--	--	90	90	90
Installation bit point code (Ph)		PUPHC01	PUPHC02	PUPHC02	PUPHC02	PUPHC02	PUPHC03	PUPHC03
		PUPHL01	PUPHL02	PUPHL02	PUPHL02	PUPHL02	PUPHL03	PUPHL03



SCREW RESISTANCE CHARACTERISTICS

SZE	TENSION [kN]	SHEAR [kN]
ST 2.9	2.62	1.31
ST 3.5	3.81	1.91
ST 3.9	4.64	2.32
ST 4.2	5.26	2.63
ST 4.8	7.11	3.56
ST 5.5	9.63	4.82
ST 6.3	13.36	6.68

- Screw ϕ** 6 – For design, use screws from the manufacturer Index
- 4 PC – Number of screw at the cross-section
- 4 PC – Total number of bolts in the connection
- $F_{v,Rk}$ 6.68 kH – Shear resistance characteristics
- $F_{t,Rd}$ 13.4 kH – Tension resistance characteristics
- 8.8 – Strength grades
- $d_w =$ 12.3 mm – The diameter of the washer or the head of the fastener;
- $s =$ 1.8 mm – The thread pitch
- $e_1 =$ 10 mm – The end distance from the centre of the fastener to the adjacent end of the connected part, in the direction of load transfer, see figure 8.1
- $e_2 =$ 25 mm – The distance from the centre of the fastener to the adjacent of the connected part, in the direction perpendicular to the direction of load transfer, see figure 8.1
- $p_1 =$ 75 mm – The spacing centre-to-centre of fasteners in the direction of load transfer, see figure 8.1
- $p_2 =$ 50 mm – The spacing centre-to-centre of fasteners in the direction perpendicular to the direction of load transfer, see figure 8.1
- Steel S350GD**
- $t =$ 1.2 mm – The thickness of the thinner connected part or sheet
- $f_y =$ 0.35 kH/mm² – Is yield strength
- $f_u =$ 0.42 kH/mm² – Is ultimate tensile strength
- $t_{sup} =$ 1.2 mm – The thickness of the supporting member into which a screw or a pin is fixed.

$Y_{m2} = 1.25$ – Safety factor

Connection load forces

$F_t = 0$ kH - Tensile load

$F_s = 3.9$ kH - Shear load

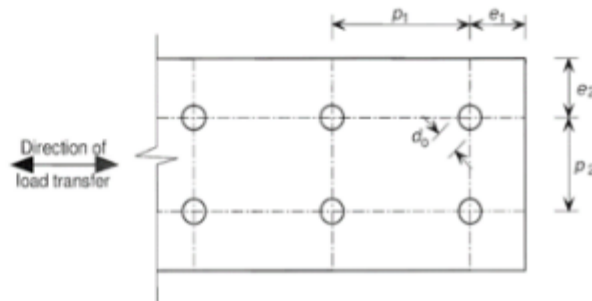


Figure 8.1: End distance, edge distance and spacings for fasteners and spot welds

Screws loaded in shear (EN 1993-1-3 tab 8.2)

Bearing resistance

$F_{b,Rd} = \alpha f_u d t / Y_{m2} = 3.46$ kH > $F_t = 0.98$ kH **Satisfies the check**

In which α is given by the following:

- if $t = t_1$ $\alpha = 3.2vt/d$ but $\alpha \leq 2.1$ $\alpha = 1.43$
- if $t_1 \geq 2.5t$ and $t < 1.0$ mm $\alpha = 3.2vt/d$ but $\alpha \leq 2.1$
- if $t_1 \geq 2.5t$ and $t \geq 1.0$ mm $\alpha = 2.1$
- if $t < t_1 < 2.5t$ obtain α by linear interpolation.

Net-sections resistance:

$F_{n,Rd} = A_{net} f_u / Y_{m2} = 17.7$ kH > $F_t = 0.98$ kH **Satisfies the check**

$A_{net} = (p_2 - d) t = 52.8$ mm² – The net cross-sectional area of the connected part

Shear resistance:

$F_{v,Rd} = F_{v,Rk} / Y_{m2} = 5.34$ kH > $F_t = 0.98$ kH **Satisfies the check**

Conditions

$F_{v,Rd} \geq 1.2 \sum F_{b,Rd}$ 5.34 kH < 16.6 kH

or

$\sum F_{v,Rd} \geq 1.2 F_{n,Rd}$ 21.4 kH > 21.3 kH **Satisfies the check**

Screws loaded in tension (EN 1993-1-3 tab 8.2)

Pull-through resistance:

For static loads:

$F_{p,Rd} = d_w t f_u / Y_{m2} = 4.96$ kH > $F_t = 0$ kH **Satisfies the check**

For screws subject to wind loads and combination of wind loads and static loads

$F_{p,Rd} = 0.5 d_w t f_u / Y_{m2} = 2.48$ kH > $F_t = 0$ kH **Satisfies the check**

Pull-out resistance

$$\text{If } t_{\text{sup}} / s < 1 \quad t_{\text{sup}} / s = 0.67 < 1$$

$$F_{o,Rd} = 0.45 d t_{\text{sup}} f_{u,\text{sup}} / Y_{m2} = 1.09 \text{ kH} > F_t = 0 \text{ kH} \quad \text{Satisfies the check}$$

$$\text{If } t_{\text{sup}} / s \geq 1 \quad t_{\text{sup}} / s = 0.67 \geq 1$$

$$F_{o,Rd} = 0.65 d t_{\text{sup}} f_{u,\text{sup}} / Y_{m2} = 1.57 \text{ kH} > F_t = 0 \text{ kH} \quad \text{Satisfies the check}$$

Tension resistance

$$F_{t,Rd} > F_t \quad F_{t,Rd} = 13.4 \text{ kH} > F_t = 0 \text{ kH} \quad \text{Satisfies the check}$$

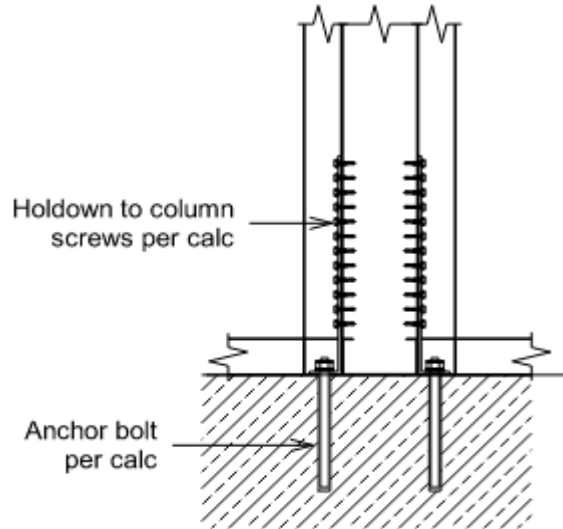
Conditions

$$F_{t,Rd} \geq \sum F_{p,Rd} \quad 13.4 \text{ kH} > 9.92 \text{ kH} \quad \text{Satisfies the check}$$

or

$$F_{t,Rd} \geq F_{o,Rd} \quad 13.4 \text{ kH} > 1.57 \text{ kH} \quad \text{Satisfies the check}$$

2.4.5.4 COLUMN TO FOUNDATION CONNECTION DETAIL



Column to foundations connection sketch



Company:	ORIGIN	Date:	5/21/2023
Engineer:	DZ	Page:	1/6
Project:	THE SWEET CUPCAKE LOFT		
Address:			
Phone:			
E-mail:			

CALCULATION SHEET FOR SIMPSON STRONG-TIE ANCHOR DESIGNER™ SOFTWARE

1. Project information

Customer company:
Customer contact name:
Customer e-mail:
Comment:

Project description: RESIDENTIAL (SINGLE APARTMENT)
BUILDING
Location: BAUNHØJVEJ 4 6840 OKSBØL, DENMARK, EUROPE
Fastening description:

2. Input Data & Anchor Parameters

General

Design method: ETAG 001 Annex C / TR 029
Units: SI units (metric)

Anchor Information:

Anchor type: Bonded anchor
Material: Steel Grade 10.9
Diameter [mm]: 12
Effective Embedment depth, h_{ef} [mm]: 195
 h_{min} [mm]: 225
 $C_{cr,N}$ [mm]: 293
 $S_{cr,N}$ [mm]: 585
 $C_{cr,sp}$ [mm]: 357
 $S_{cr,sp}$ [mm]: 714
 C_{min} [mm]: 60
 S_{min} [mm]: 60

Base Material

Concrete: Normal-weight C20/25
Concrete thickness, h [mm]: 300
State: Non-cracked
Compressive strength, $f_{ck,base}$ [N/mm²]: 25.00
Temperature range, Short/Long: 40/24°C
Hole condition: Dry or Wet

Reinforcement

Reinforcement to control splitting provided: Yes
Normal reinforcement: Yes

Base Plate

Length x Width x Thickness [mm]: 200 x 100 x 6

Recommended Anchor

Anchor Name: AT-HP/AT-HP PLUS - AT-HP/AT-HP PLUS M12 - 10.9
Code Report: ETA-19/0265

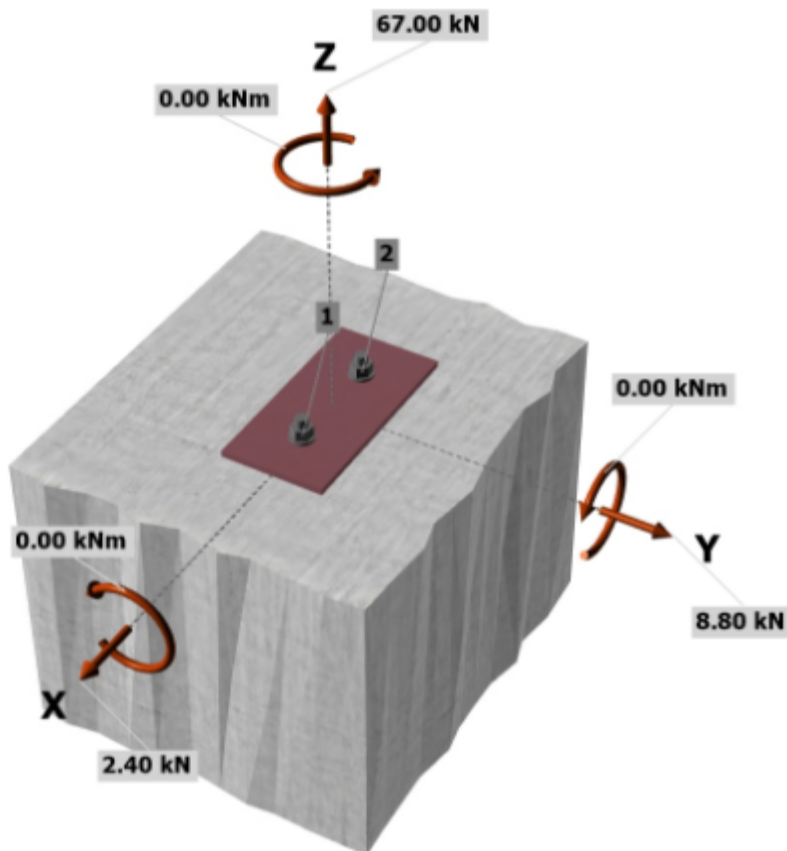


Load and Geometry

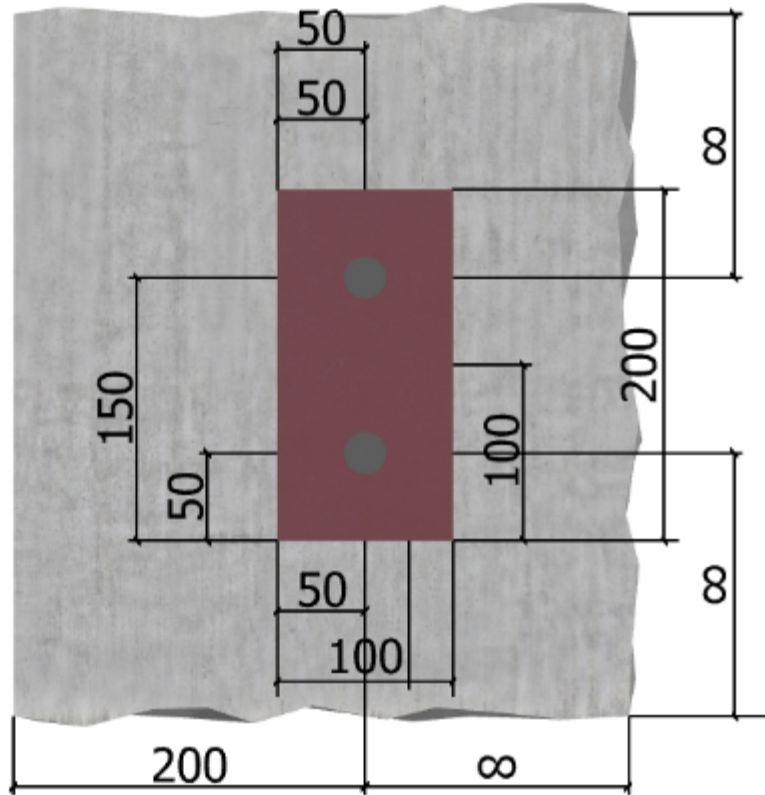
Design loads:
 N_{sd} [kN]: 67.00
 V_{xsd} [kN]: 2.40
 V_{ysd} [kN]: 8.80
 M_{xsd} [kNm]: 0.00
 M_{ysd} [kNm]: 0.00
 M_{zsd} [kNm]: 0.00

Ignore $c < \max(10h_{ef}, 60d)$ requirement: Yes

<Figure 1>



<Figure 2>



3. Resulting Anchor Forces

Anchor	Tension load, $N_{s,d}$ [kN]	Shear load x, $V_{x,s,d}$ [kN]	Shear load y, $V_{y,s,d}$ [kN]	Shear load combined, $V_{s,d} = \sqrt{(V_{x,s,d})^2 + (V_{y,s,d})^2}$ [kN]
1	33.50	1.20	4.40	4.56
2	33.50	1.20	4.40	4.56
Sum	67.00	2.40	8.80	9.12

Maximum concrete compression strain [‰]: 0.00
 Maximum concrete compression stress [N/mm²]: 0.00
 Resultant tension force [kN]: 67.00
 Resultant compression force [kN]: 0.00
 Eccentricity of resultant tension forces in x-axis, e'_{nx} (mm): 0
 Eccentricity of resultant tension forces in y-axis, e'_{ny} (mm): 0
 Eccentricity of resultant shear forces in x-axis, e'_{vx} (mm): 0
 Eccentricity of resultant shear forces in y-axis, e'_{vy} (mm): 0

<Figure 3>



4. Resistance to Tension Loads

Steel Resistance [Sec. 5.2.2.2]

$$N_{Rd,s} = N_{RK,s} / \gamma_{Ms}$$

$N_{RK,s}$ [kN]	γ_{Ms}	$N_{Rd,s}$ [kN]
84.00	1.40	60.00

Combined Pull-out and Concrete Resistance [Sec. 5.2.2.3]

$$N_{RK,p}^0 = \pi d h_{ef} \tau_{RK} \Psi_c \text{ [Eq. 5.2a]}$$

d [mm]	h_{ef} [mm]	τ_{RK} [N/mm ²]	Ψ_c	$N_{RK,p}^0$ [kN]
12	195	9.00	1.00	66.16

$$N_{Rd,p} = N_{RK,p} / \gamma_{Mp} = N_{RK,p}^0 (A_{p,N} / A_{p,N}^0) \Psi_{s,Np} \Psi_{g,Np} \Psi_{ec,Np} \Psi_{re,Np} / \gamma_{Mp} \text{ [Eq. 3.2 \& 5.2]}$$

$A_{p,N}$ [mm ²]	$A_{p,N}^0$ [mm ²]	$\Psi_{s,Np}$	$\Psi_{g,Np}$	$\Psi_{ec,Np}$	$\Psi_{re,Np}$	$N_{RK,p}^0$ [kN]	γ_{Mp}	$N_{Rd,p}$ [kN]
95411	69120	1.000	1.105	1.000	1.000	66.16	1.50	67.30

Concrete Cone Resistance [Sec. 5.2.2.4]

$$N_{RK,c}^0 = k_1 \alpha_{fck, cube} h_{ef}^{1.5} \text{ [Eq. 5.3a]}$$

k_1	$f_{ck, cube}$ [N/mm ²]	h_{ef} [mm]	$N_{RK,c}^0$ [kN]
10.1	25.00	195	137.51

$$N_{Rd,c} = N_{RK,c} / \gamma_{Mc} = N_{RK,c}^0 (A_{c,N} / A_{c,N}^0) \Psi_{s,N} \Psi_{re,N} \Psi_{ec,N} / \gamma_{Mc} \text{ [Eq. 3.2 \& 5.3]}$$

$A_{c,N}$ [mm ²]	$A_{c,N}^0$ [mm ²]	$\Psi_{s,N}$	$\Psi_{re,N}$	$\Psi_{ec,N}$	$N_{RK,c}^0$ [kN]	γ_{Mc}	$N_{Rd,c}$ [kN]
337363	342225	0.905	1.000	1.000	137.51	1.50	81.80

Splitting Resistance [Sec. 5.2.2.6]

$$N_{RK,c}^0 = k_1 \alpha_{fck, cube} h_{ef}^{1.5} \text{ [Eq. 5.3a]}$$

k_1	$f_{ck, cube}$ [N/mm ²]	h_{ef} [mm]	$N_{RK,c}^0$ [kN]
10.1	25.00	195	137.51

$$N_{Rd,sp} = N_{RK,c} / \gamma_{Msp} = N_{RK,c}^0 (A_{c,N} / A_{c,N}^0) \Psi_{s,N} \Psi_{re,N} \Psi_{ec,N} \Psi_{h,sp} / \gamma_{Msp} \text{ [Eq. 3.2 \& 5.4]}$$

$A_{c,N}$ [mm ²]	$A_{c,N}^0$ [mm ²]	$\Psi_{s,N}$	$\Psi_{re,N}$	$\Psi_{ec,N}$	$N_{RK,c}^0$ [kN]	$\Psi_{h,sp}$	γ_{Msp}	$N_{Rd,sp}$ [kN]
453398	509796	0.868	1.000	1.000	137.51	1.211	1.50	85.74

5. Resistances to Shear Loads

Steel Resistance [Sec. 5.2.3.2]

Shear without lever arm

$$V_{Rd,s} = V_{RK,s} / \gamma_{Ms}$$

$V_{RK,s}$ [kN]	γ_{Ms}	$V_{Rd,s}$ [kN]
42.00	1.50	28.00

Concrete Pry-out Resistance [Sec. 5.2.3.3]

$$V_{Rd,op} = V_{RK,op} / \gamma_{Mc} = \min[k N_{RK,p} ; k N_{RK,c}] / \gamma_{Mc} = \min[k N_{RK,p}^0 (A_{p,N} / A_{p,N}^0) \Psi_{s,Np} \Psi_{g,Np} \Psi_{ec,Np} \Psi_{re,Np} ; k N_{RK,c}^0 (A_{c,N} / A_{c,N}^0) \Psi_{s,N} \Psi_{re,N} \Psi_{ec,N}] / \gamma_{Mc} \text{ [Eq. 3.2, 5.7 \& 5.7a]}$$

k	$A_{p,N}$ [mm ²]	$A_{p,N}^0$ [mm ²]	$\Psi_{s,Np}$	$\Psi_{g,Np}$	$\Psi_{ec,Np}$	$\Psi_{re,Np}$	$N_{RK,p}^0$ [kN]
2.0	95411	69120	1.000	1.105	1.000	1.000	66.16

$A_{c,N}$ [mm ²]	$A_{c,N}^0$ [mm ²]	$\Psi_{s,N}$	$\Psi_{re,N}$	$\Psi_{ec,N}$	$N_{Rk,c}^0$ [kN]	γ_{Mc}	$V_{Rd,cp}$ [kN]
337363	342225	0.905	1.000	1.000	137.51	1.50	134.60

Concrete Edge Resistance [Sec. 5.2.3.4]

$$V_{Rk,c}^0 = k_1 d^{\alpha} h_{ef}^{\beta} \bar{\sigma}_{f_{ck,cube}} c_1^{1.5} \quad [\text{Eq. 5.8a}]$$

k_1	d [mm]	α	β	h_{ef} [mm]	$f_{ck,cube}$ [N/mm ²]	c_1 [mm]	$V_{Rk,c}^0$ [kN]
2.40	12	0.10	0.06	195	25.00	200	58.58

$$V_{Rd,c} = V_{Rk,c} / \gamma_{Mc} = V_{Rk,c}^0 (A_{c,V} / A_{c,N}^0) \Psi_{s,V} \Psi_{h,V} \Psi_{\alpha,V} \Psi_{ec,V} \Psi_{re,V} / \gamma_{Mc} \quad [\text{Eq. 3.2 \& 5.8}]$$

$A_{c,V}$ [mm ²]	$A_{c,N}^0$ [mm ²]	$\Psi_{s,V}$	$\Psi_{h,V}$	α_V	$\Psi_{\alpha,V}$	$\Psi_{ec,V}$	$\Psi_{re,V}$	$V_{Rd,c}^0$ [kN]
210000	180000	1.000	1.000	90.0°	2.500	1.000	1.000	58.58

γ_{Mc}	$V_{Rd,c}$ [kN]
1.50	113.90

6. Results

Proof of Tensile and Shear Failure and Interaction [Sec. 5.2.4]

Tension	Action Load, N_{Sd} [kN]	Resistance, N_{Rd} [kN]	Ratio	Status
Steel	33.50	60.00	0.56	Pass
Pullout	67.00	67.30	1.00	Pass (Governs)
Concrete Cone	67.00	81.80	0.82	Pass
Splitting	67.00	85.74	0.78	Pass
Shear	Action Load, V_{Sd} [kN]	Resistance, V_{Rd} [kN]	Ratio	Status
Steel	4.56	28.00	0.16	Pass (Governs)
Pry-out	9.12	134.60	0.07	Pass
Concrete Edge	2.40	113.90	0.02	Pass
Interaction check	$\beta_N = N_{Sd}/N_{Rd}$	$\beta_V = V_{Sd}/V_{Rd}$	Ratio	Status
$\beta_N + \beta_V \leq 1.2$	1.00	0.16	1.16	Pass

AT-HP/AT-HP PLUS M12 - 10.9 meets the selected design criteria. Fixture hole size is 14 mm.

7. Installation

Effective embedment depth, h_{ef} [mm]: 195
Concrete thickness, h [mm]: 300
Drilled hole diameter, d_o [mm]: 14
Drilled hole depth, h_1 [mm]: 195
Installation torque, T_{inst} [Nm]: 30.00
Base plate thickness, t_{bx} [mm]: 6
Fixture hole diameter [mm]: 14

Screws connections check

Screw ϕ	4.8	– For design, use screws from the manufacturer Index
	<u>18</u> PC	– Number of screw at the cross-section
	<u>18</u> PC	– Total number of bolts in the connection
$F_{v,Rk}$	6.68 kH	– Shear resistance characteristics
$F_{t,Rd}$	13.4 kH	– Tension resistance characteristics
	8.8	– Strength grades
$d_w =$	12.3 mm	– The diameter of the washer or the head of the fastener;
$s =$	1.8 mm	– The thread pitch
$e_1 =$	<u>10</u> mm	– The end distance from the centre of the fastener to the adjacent end of the connected part, in the direction of load transfer, see figure 8.1
$e_2 =$	<u>25</u> mm	– The distance from the centre of the fastener to the adjacent of the connected part, in the direction perpendicular to the direction of load transfer, see figure 8.1
$p_1 =$	75 mm	– The spacing centre-to-centre of fasteners in the direction of load transfer, see figure 8.1
$p_2 =$	50 mm	– The spacing centre-to-centre of fasteners in the direction perpendicular to the direction of load transfer, see figure 8.1

Steel S350GD

$t =$	1.20 mm	– The thickness of the thinner connected part or sheet
$f_y =$	0.35 kH/mm ²	– Is yield strength
$f_u =$	0.42 kH/mm ²	– Is ultimate tensile strength
$t_{sup} =$	1.20 mm	– The thickness of the supporting member into which a screw or a pin is fixed.

$Y_{m2} = 1.25$ – Safety factor

Connection load forces

$F_t = 0$ kH - Tensile load
 $F_s = 36.0$ kH - Shear load

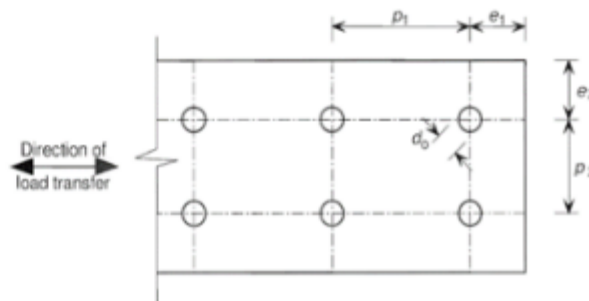


Figure 8.1: End distance, edge distance and spacings for fasteners and spot welds

Screws loaded in shear (EN 1993-1-3 tab 8.2)

Bearing resistance

$$F_{b,Rd} = \alpha f_u d t / Y_{m2} = 3.1 \text{ kH} > F_t = 2.00 \text{ kH} \quad \text{Satisfies the check}$$

In which α is given by the following:

- if $t = t_1$ $\alpha = 3.2\sqrt{t}/d$ but $\alpha \leq 2.1$ $\alpha = 1.60$
- if $t_1 \geq 2.5t$ and $t < 1.0 \text{ mm}$ $\alpha = 3.2\sqrt{t}/d$ but $\alpha \leq 2.1$
- if $t_1 \geq 2.5t$ and $t \geq 1.0 \text{ mm}$ $\alpha = 2.1$
- if $t < t_1 < 2.5t$ obtain α by linear interpolation.

Net-sections resistance:

$$F_{n,Rd} = A_{net} f_u / Y_{m2} = 18.2 \text{ kH} > F_t = 2 \text{ kH} \quad \text{Satisfies the check}$$

$$A_{net} = (p_2 - d) t = 54.2 \text{ mm}^2 \quad \text{– The net cross-sectional area of the connected part}$$

Shear resistance:

$$F_{v,Rd} = F_{v,Rk} / Y_{m2} = 5.34 \text{ kH} > F_t = 2 \text{ kH} \quad \text{Satisfies the check}$$

Conditions

$$F_{v,Rd} \geq 1.2 \sum F_{b,Rd} \quad 5.34 \text{ kH} < 66.9 \text{ kH}$$

or

$$\sum F_{v,Rd} \geq 1.2 F_{n,Rd} \quad 96.2 \text{ kH} > 21.9 \text{ kH} \quad \text{Satisfies the check}$$

Screws loaded in tension (EN 1993-1-3 tab 8.2)

Pull-through resistance:

For static loads:

$$F_{p,Rd} = d_w t f_u / Y_{m2} = 4.96 \text{ kH} > F_t = 0 \text{ kH} \quad \text{Satisfies the check}$$

For screws subject to wind loads and combination of wind loads and static loads

$$F_{p,Rd} = 0.5 d_w t f_u / Y_{m2} = 2.48 \text{ kH} > F_t = 0 \text{ kH} \quad \text{Satisfies the check}$$

Pull-out resistance

$$\text{If } t_{sup} / s < 1 \quad t_{sup} / s = 0.67 < 1$$

$$F_{o,Rd} = 0.45 d t_{sup} f_{u,sup} / Y_{m2} = 0.87 \text{ kH} > F_t = 0 \text{ kH} \quad \text{Satisfies the check}$$

$$\text{If } t_{sup} / s \geq 1 \quad t_{sup} / s = 0.67 \geq 1$$

$$F_{o,Rd} = 0.65 d t_{sup} f_{u,sup} / Y_{m2} = 1.26 \text{ kH} > F_t = 0 \text{ kH} \quad \text{Satisfies the check}$$

Tension resistance

$$F_{t,Rd} > F_t \quad F_{t,Rd} \quad 13.4 \text{ kH} > F_t = 0 \text{ kH} \quad \text{Satisfies the check}$$

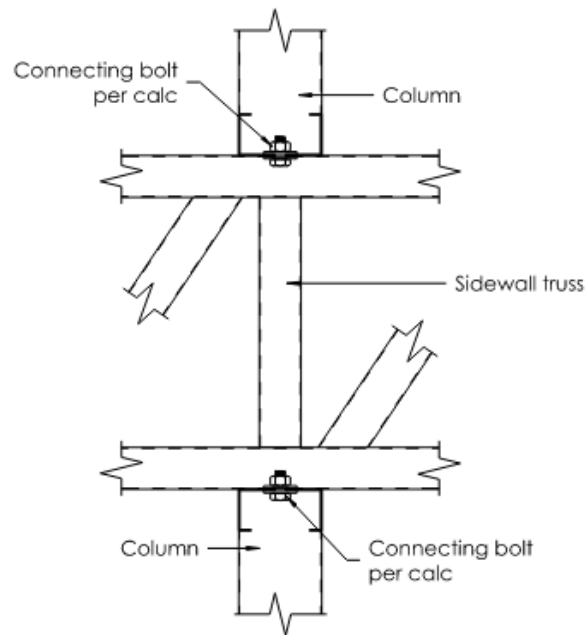
Conditions

$$F_{t,Rd} \geq \sum F_{p,Rd} \quad 13.4 \text{ kH} > 44.6 \text{ kH}$$

or

$$F_{t,Rd} \geq F_{o,Rd} \quad 13.4 \text{ kH} > 1.26 \text{ kH} \quad \text{Satisfies the check}$$

2.4.5.5 COLUMN TO SIDE WALL TRUSS CONNECTION DETAIL



Column to side wall truss connection sketch

Connecting bolt check

Bolts M 10 5.6 – Strength grades

2 PC – Number of bolts at the cross-section

2 PC – Total number of bolts in the connection

$r =$ 1 – [number of bolts at the cross-section] / [total number of bolts in the connection]

$A_s =$ 58 mm² – Tensile stress area of the bolt

$d =$ 10 mm – The nominal diameter of the fastener;

$d_0 =$ 11 mm – The nominal diameter of the hole

$e_1 =$ 25 mm – The end distance from the centre of the fastener to the adjacent end of the connected part, in the direction of load transfer, see figure 8.1

$e_2 = 20$ mm – The distance from the centre of the fastener to the adjacent of the connected part, in the direction perpendicular to the direction of load transfer, see figure 8.1

$p_1 = 0$ mm – The spacing centre-to-centre of fasteners in the direction of load transfer, see figure 8.1

$p_2 = 50$ mm – The spacing centre-to-centre of fasteners in the direction perpendicular to the direction of load transfer, see figure 8.1

$f_{yb} = 0.3$ kH/mm² – Ultimate strength

$f_{ub} = 0.5$ kH/mm² – Ultimate tensile strength of the bolt

$t = 1.2$ mm – The thickness of the thinner connected part or sheet

Steel S350GD

$f_y = 0.35$ kH/mm² – Is yield strength

$f_u = 0.42$ kH/mm² – Is ultimate tensile strength

$Y_{m2} = 1.25$ – Safety factor

Connection load forces

$F_t = 9.3$ kH - Tensile load

$F_s = 1.5$ kH - Shear load

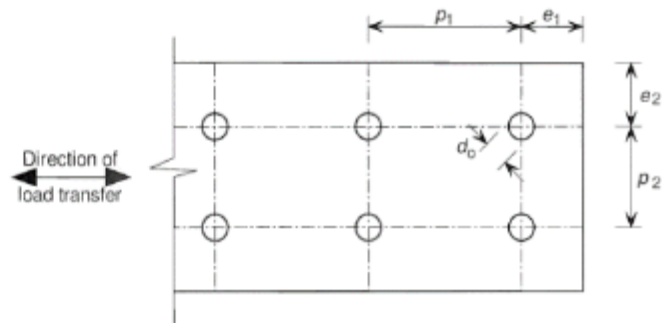


Figure 8.1: End distance, edge distance and spacings for fasteners and spot weld:

Bolts loaded in shear:

Bearing resistance

$$F_{b,Rd} = 2,5 \alpha_b k t f_u d t / Y_{m2} = \underline{8.27 \text{ kH}} > F_t = 0.75 \text{ kH} \quad \text{Satisfies the check}$$

$$\alpha_b = \min(1 \text{ or } e_1 / 3d) = 0.83$$

$$k_t = (0,8 t + 1.5) / 2.5 = 0.98 \quad \text{for } 0.75 \text{ mm } t < 1.25 \text{ mm}$$

Net-sections resistance:

$$F_{n,Rd} = (1 + 3r (D_0/u - 0.3)) A_{net} f_u / \gamma_{M2} \quad \text{but} \quad F_{n,Rd} \leq A_{net} f_u / \gamma_{M2}$$

$$A_{net} = (50 - d_0) t = 46.8 \text{ mm}^2 \quad - \text{ The net cross-sectional area of the connected part}$$

$$u = 2 e_2 \quad \text{but} \quad u < p_2 \quad \underline{u = 40 \text{ mm}} < \underline{p_2 = 50}$$

$$\underline{F_{n,Rd} = 14.5 \text{ kH}} \quad \text{but} \quad \underline{F_{n,Rd} = 13.1 \text{ kH}}$$

Shear resistance check (EN 1993-1-3 tab 8.4)

$$F_{v,Rd} = 0.6 f_{ub} A_s / \gamma_{M2} = 13.9 \text{ kH} > F_s = 0.75 \text{ kH} \quad \text{Satisfies the check}$$

Shear load per bolt

Conditions

$$F_{v,Rd} \geq 1.2 \sum F_{b,Rd} \quad 13.9 \text{ kH} > 19.8 \text{ kH}$$

or

$$\sum F_{v,Rd} \geq 1.2 F_{n,Rd} \quad 27.8 \text{ kH} > 15.7 \text{ kH} \quad \text{Satisfies the check}$$

Tension resistance check (EN 1993-1-3 tab 8.4)

$$F_{t,Rd} = 0.9 f_{ub} A_s / \gamma_{M2} = 20.9 \text{ kH} > F_t = 4.65 \text{ kH} \quad \text{Satisfies the check}$$

Tension load per bolt

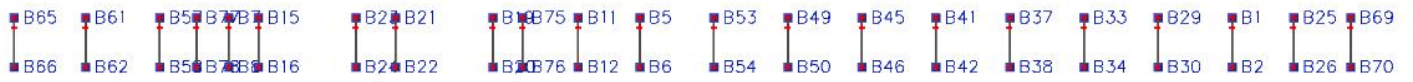
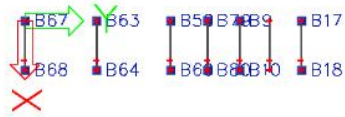
Punching resistance check (EN 1993-1-8 tab 3.4)

$$B_{p,Rd} = 0.5 \pi d_m t f_u / \gamma_{M2} = 19 \text{ kH} > F_t = 4.65 \text{ kH} \quad \text{Satisfies the check}$$

$$d_m = 30 \text{ mm} \quad - \text{ The mean of the across points and across flats dimensions of the bolt head or the nut, whichever is smaller}$$

2.4.6. COLUMN REACTIONS

Main column base name



Main column supports reaction table

For Rz reactions values Compression are given with (+), Tension with (-)

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B1/N2923	ULS-Set B (auto)/1	0.079	-0.121	-1.944	0.000	0.000	0.000	0.0	0.0
B1/N2923	ULS-Set B (auto)/2	0.043	-0.704	3.150	0.000	0.000	0.000	0.0	0.0
B1/N2923	ULS-Set B (auto)/3	-0.015	0.667	-4.502	0.000	0.000	0.000	0.0	0.0
B1/N2923	ULS-Set B (auto)/4	0.030	-0.203	-6.719	0.000	0.000	0.000	0.0	0.0
B1/N2923	ULS-Set B (auto)/5	0.019	-0.212	14.830	0.000	0.000	0.000	0.0	0.0
B1/N2923	ULS-Set B (auto)/6	-0.017	-0.297	6.748	0.000	0.000	0.000	0.0	0.0
B2/N2924	ULS-Set B (auto)/7	2.964	-0.173	-6.374	0.000	0.000	0.000	0.0	0.0
B2/N2924	ULS-Set B (auto)/2	-0.819	-0.677	9.401	0.000	0.000	0.000	0.0	0.0
B2/N2924	ULS-Set B (auto)/3	-3.928	0.619	2.440	0.000	0.000	0.000	0.0	0.0
B2/N2924	ULS-Set B (auto)/6	2.113	-0.329	-6.740	0.000	0.000	0.000	0.0	0.0
B2/N2924	ULS-Set B (auto)/1	-1.832	-0.231	16.999	0.000	0.000	0.000	0.0	0.0
B2/N2924	ULS-Set B (auto)/8	-4.287	0.605	6.607	0.000	0.000	0.000	0.0	0.0
B3/N2953	ULS-Set B (auto)/9	3.536	0.077	3.259	0.000	0.000	0.000	0.0	0.0
B3/N2953	ULS-Set B (auto)/2	1.162	-0.153	10.005	0.000	0.000	0.000	0.0	0.0
B3/N2953	ULS-Set B (auto)/3	3.312	0.087	1.132	0.000	0.000	0.000	0.0	0.0
B3/N2953	ULS-Set B (auto)/4	-2.155	-0.109	-6.885	0.000	0.000	0.000	0.0	0.0
B3/N2953	ULS-Set B (auto)/5	1.828	-0.129	16.890	0.000	0.000	0.000	0.0	0.0
B3/N2953	ULS-Set B (auto)/10	-3.115	-0.089	-4.890	0.000	0.000	0.000	0.0	0.0
B4/N2954	ULS-Set B (auto)/2	-0.047	-0.223	3.834	0.000	0.000	0.000	0.0	0.0
B4/N2954	ULS-Set B (auto)/3	0.020	0.183	-5.731	0.000	0.000	0.000	0.0	0.0
B4/N2954	ULS-Set B (auto)/11	-0.030	-0.020	-5.985	0.000	0.000	0.000	0.0	0.0
B4/N2954	ULS-Set B (auto)/12	-0.014	-0.132	15.104	0.000	0.000	0.000	0.0	0.0
B4/N2954	ULS-Set B (auto)/5	-0.075	-0.025	-2.057	0.000	0.000	0.000	0.0	0.0
B5/N2983	ULS-Set B (auto)/13	0.152	0.022	-21.919	0.000	0.000	0.000	0.0	0.0
B5/N2983	ULS-Set B (auto)/14	0.042	-0.670	-10.976	0.000	0.000	0.000	0.0	0.0
B5/N2983	ULS-Set B (auto)/8	0.084	0.780	-19.865	0.000	0.000	0.000	0.0	0.0
B5/N2983	ULS-Set B (auto)/15	0.131	-0.143	-26.180	0.000	0.000	0.000	0.0	0.0
B5/N2983	ULS-Set B (auto)/16	-0.025	-0.158	19.558	0.000	0.000	0.000	0.0	0.0
B6/N2984	ULS-Set B (auto)/17	-3.150	-0.737	23.911	0.000	0.000	0.000	0.0	0.0
B6/N2984	ULS-Set B (auto)/18	-4.245	0.579	14.327	0.000	0.000	0.000	0.0	0.0
B6/N2984	ULS-Set B (auto)/16	3.683	-0.107	-12.293	0.000	0.000	0.000	0.0	0.0
B6/N2984	ULS-Set B (auto)/13	-4.215	-0.201	37.122	0.000	0.000	0.000	0.0	0.0
B6/N2984	ULS-Set B (auto)/19	-5.407	0.545	24.788	0.000	0.000	0.000	0.0	0.0
B7/N3009	ULS-Set B (auto)/20	0.097	0.035	-15.898	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B7/N3009	ULS-Set B (auto)/21	0.030	-0.024	-8.910	0.000	0.000	0.000	0.0	0.0
B7/N3009	ULS-Set B (auto)/22	0.023	0.198	0.738	0.000	0.000	0.000	0.0	0.0
B7/N3009	ULS-Set B (auto)/23	0.084	0.093	-17.244	0.000	0.000	0.000	0.0	0.0
B7/N3009	ULS-Set B (auto)/7	-0.017	0.152	11.193	0.000	0.000	0.000	0.0	0.0
B8/N3010	ULS-Set B (auto)/17	-2.763	-0.506	16.615	0.000	0.000	0.000	0.0	0.0
B8/N3010	ULS-Set B (auto)/18	-1.920	0.520	9.790	0.000	0.000	0.000	0.0	0.0
B8/N3010	ULS-Set B (auto)/7	1.884	0.218	-7.326	0.000	0.000	0.000	0.0	0.0
B8/N3010	ULS-Set B (auto)/20	-2.976	0.065	24.168	0.000	0.000	0.000	0.0	0.0
B8/N3010	ULS-Set B (auto)/23	-3.280	0.230	22.453	0.000	0.000	0.000	0.0	0.0
B9/N3035	ULS-Set B (auto)/22	4.515	0.556	35.281	0.000	0.000	0.000	0.0	0.0
B9/N3035	ULS-Set B (auto)/24	4.231	0.617	39.611	0.000	0.000	0.000	0.0	0.0
B9/N3035	ULS-Set B (auto)/25	-2.426	-0.114	-9.603	0.000	0.000	0.000	0.0	0.0
B9/N3035	ULS-Set B (auto)/26	4.225	0.495	42.184	0.000	0.000	0.000	0.0	0.0
B9/N3035	ULS-Set B (auto)/27	-2.430	-0.114	-9.601	0.000	0.000	0.000	0.0	0.0
B10/N3036	ULS-Set B (auto)/25	0.022	0.254	17.365	0.000	0.000	0.000	0.0	0.0
B10/N3036	ULS-Set B (auto)/22	-0.140	-0.297	-24.454	0.000	0.000	0.000	0.0	0.0
B10/N3036	ULS-Set B (auto)/17	-0.041	-0.255	-30.564	0.000	0.000	0.000	0.0	0.0
B10/N3036	ULS-Set B (auto)/27	0.022	0.254	17.365	0.000	0.000	0.000	0.0	0.0
B10/N3036	ULS-Set B (auto)/26	-0.167	-0.261	-12.277	0.000	0.000	0.000	0.0	0.0
B11/N3061	ULS-Set B (auto)/13	0.152	0.043	-26.437	0.000	0.000	0.000	0.0	0.0
B11/N3061	ULS-Set B (auto)/14	0.032	-0.555	-13.154	0.000	0.000	0.000	0.0	0.0
B11/N3061	ULS-Set B (auto)/8	0.104	0.661	-22.433	0.000	0.000	0.000	0.0	0.0
B11/N3061	ULS-Set B (auto)/15	0.135	-0.104	-29.279	0.000	0.000	0.000	0.0	0.0
B11/N3061	ULS-Set B (auto)/16	-0.028	-0.142	20.078	0.000	0.000	0.000	0.0	0.0
B12/N3062	ULS-Set B (auto)/17	-5.629	-0.726	24.368	0.000	0.000	0.000	0.0	0.0
B12/N3062	ULS-Set B (auto)/18	-2.043	0.570	16.403	0.000	0.000	0.000	0.0	0.0
B12/N3062	ULS-Set B (auto)/16	3.281	-0.107	-12.358	0.000	0.000	0.000	0.0	0.0
B12/N3062	ULS-Set B (auto)/13	-4.819	-0.200	38.459	0.000	0.000	0.000	0.0	0.0
B12/N3062	ULS-Set B (auto)/15	-5.768	-0.359	36.847	0.000	0.000	0.000	0.0	0.0
B13/N3087	ULS-Set B (auto)/14	-0.116	-4.196	11.182	0.000	0.000	0.000	0.0	0.0
B13/N3087	ULS-Set B (auto)/8	-0.063	6.081	70.904	0.000	0.000	0.000	0.0	0.0
B13/N3087	ULS-Set B (auto)/25	0.209	-1.190	-21.828	0.000	0.000	0.000	0.0	0.0
B13/N3087	ULS-Set B (auto)/28	-0.331	1.921	81.841	0.000	0.000	0.000	0.0	0.0
B13/N3087	ULS-Set B (auto)/5	-0.365	1.959	78.533	0.000	0.000	0.000	0.0	0.0
B14/N3088	ULS-Set B (auto)/2	6.567	-7.482	-52.506	0.000	0.000	0.000	0.0	0.0
B14/N3088	ULS-Set B (auto)/3	5.307	5.788	-18.132	0.000	0.000	0.000	0.0	0.0
B14/N3088	ULS-Set B (auto)/29	7.946	-2.381	-58.536	0.000	0.000	0.000	0.0	0.0
B14/N3088	ULS-Set B (auto)/25	-4.933	0.999	42.985	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B15/N3101	ULS-Set B (auto)/20	0.200	0.035	-33.186	0.000	0.000	0.000	0.0	0.0
B15/N3101	ULS-Set B (auto)/21	0.065	-0.023	-19.372	0.000	0.000	0.000	0.0	0.0
B15/N3101	ULS-Set B (auto)/22	0.048	0.197	0.068	0.000	0.000	0.000	0.0	0.0
B15/N3101	ULS-Set B (auto)/23	0.166	0.092	-34.751	0.000	0.000	0.000	0.0	0.0
B15/N3101	ULS-Set B (auto)/7	-0.033	0.152	21.287	0.000	0.000	0.000	0.0	0.0
B16/N3102	ULS-Set B (auto)/17	-6.234	-0.503	36.069	0.000	0.000	0.000	0.0	0.0
B16/N3102	ULS-Set B (auto)/18	-4.414	0.517	21.216	0.000	0.000	0.000	0.0	0.0
B16/N3102	ULS-Set B (auto)/7	3.737	0.217	-14.155	0.000	0.000	0.000	0.0	0.0
B16/N3102	ULS-Set B (auto)/20	-6.170	0.065	49.907	0.000	0.000	0.000	0.0	0.0
B16/N3102	ULS-Set B (auto)/30	-6.620	0.134	48.798	0.000	0.000	0.000	0.0	0.0
B17/N3127	ULS-Set B (auto)/17	-0.167	-6.658	73.863	0.000	0.000	0.000	0.0	0.0
B17/N3127	ULS-Set B (auto)/18	-0.199	2.912	31.967	0.000	0.000	0.000	0.0	0.0
B17/N3127	ULS-Set B (auto)/27	0.205	0.872	-25.254	0.000	0.000	0.000	0.0	0.0
B17/N3127	ULS-Set B (auto)/24	-0.435	-3.464	99.167	0.000	0.000	0.000	0.0	0.0
B17/N3127	ULS-Set B (auto)/31	-0.441	-3.411	93.379	0.000	0.000	0.000	0.0	0.0
B18/N3128	ULS-Set B (auto)/21	5.301	-3.000	-23.898	0.000	0.000	0.000	0.0	0.0
B18/N3128	ULS-Set B (auto)/19	7.977	6.379	-63.719	0.000	0.000	0.000	0.0	0.0
B18/N3128	ULS-Set B (auto)/22	8.790	2.395	-66.329	0.000	0.000	0.000	0.0	0.0
B18/N3128	ULS-Set B (auto)/27	-5.268	-1.112	43.955	0.000	0.000	0.000	0.0	0.0
B19/N3141	ULS-Set B (auto)/13	0.194	0.013	-31.703	0.000	0.000	0.000	0.0	0.0
B19/N3141	ULS-Set B (auto)/14	0.052	-0.477	-17.453	0.000	0.000	0.000	0.0	0.0
B19/N3141	ULS-Set B (auto)/8	0.117	0.533	-24.106	0.000	0.000	0.000	0.0	0.0
B19/N3141	ULS-Set B (auto)/15	0.168	-0.109	-34.355	0.000	0.000	0.000	0.0	0.0
B19/N3141	ULS-Set B (auto)/16	-0.030	-0.087	21.900	0.000	0.000	0.000	0.0	0.0
B20/N3142	ULS-Set B (auto)/6	1.627	-0.119	-5.525	0.000	0.000	0.000	0.0	0.0
B20/N3142	ULS-Set B (auto)/2	-5.334	0.105	31.092	0.000	0.000	0.000	0.0	0.0
B20/N3142	ULS-Set B (auto)/16	3.695	-0.076	-13.731	0.000	0.000	0.000	0.0	0.0
B20/N3142	ULS-Set B (auto)/13	-5.961	-0.019	48.291	0.000	0.000	0.000	0.0	0.0
B20/N3142	ULS-Set B (auto)/15	-6.591	-0.081	44.782	0.000	0.000	0.000	0.0	0.0
B21/N3167	ULS-Set B (auto)/20	0.205	0.000	-34.051	0.000	0.000	0.000	0.0	0.0
B21/N3167	ULS-Set B (auto)/21	0.062	0.000	-18.571	0.000	0.000	0.000	0.0	0.0
B21/N3167	ULS-Set B (auto)/19	0.124	0.000	-27.395	0.000	0.000	0.000	0.0	0.0
B21/N3167	ULS-Set B (auto)/23	0.174	0.000	-36.548	0.000	0.000	0.000	0.0	0.0
B21/N3167	ULS-Set B (auto)/7	-0.043	0.000	24.094	0.000	0.000	0.000	0.0	0.0
B22/N3168	ULS-Set B (auto)/19	-5.856	0.000	34.708	0.000	0.000	0.000	0.0	0.0
B22/N3168	ULS-Set B (auto)/21	-4.048	0.000	19.619	0.000	0.000	0.000	0.0	0.0
B22/N3168	ULS-Set B (auto)/7	4.235	0.000	-16.975	0.000	0.000	0.000	0.0	0.0
B22/N3168	ULS-Set B (auto)/20	-6.325	0.000	51.174	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B22/N3168	ULS-Set B (auto)/23	-6.922	0.000	46.737	0.000	0.000	0.000	0.0	0.0
B23/N3193	ULS-Set B (auto)/13	0.200	0.000	-32.922	0.000	0.000	0.000	0.0	0.0
B23/N3193	ULS-Set B (auto)/21	0.053	0.000	-17.082	0.000	0.000	0.000	0.0	0.0
B23/N3193	ULS-Set B (auto)/19	0.119	0.000	-23.977	0.000	0.000	0.000	0.0	0.0
B23/N3193	ULS-Set B (auto)/15	0.174	0.000	-35.607	0.000	0.000	0.000	0.0	0.0
B23/N3193	ULS-Set B (auto)/16	-0.032	0.000	22.375	0.000	0.000	0.000	0.0	0.0
B24/N3194	ULS-Set B (auto)/19	-5.218	0.000	32.281	0.000	0.000	0.000	0.0	0.0
B24/N3194	ULS-Set B (auto)/21	-3.436	0.000	17.042	0.000	0.000	0.000	0.0	0.0
B24/N3194	ULS-Set B (auto)/16	3.902	0.000	-14.255	0.000	0.000	0.000	0.0	0.0
B24/N3194	ULS-Set B (auto)/13	-6.147	0.000	49.828	0.000	0.000	0.000	0.0	0.0
B24/N3194	ULS-Set B (auto)/15	-6.862	0.000	46.379	0.000	0.000	0.000	0.0	0.0
B25/N3219	ULS-Set B (auto)/1	0.070	-0.114	-0.335	0.000	0.000	0.000	0.0	0.0
B25/N3219	ULS-Set B (auto)/2	0.027	-0.712	3.126	0.000	0.000	0.000	0.0	0.0
B25/N3219	ULS-Set B (auto)/3	-0.001	0.677	-3.308	0.000	0.000	0.000	0.0	0.0
B25/N3219	ULS-Set B (auto)/5	0.016	-0.201	12.620	0.000	0.000	0.000	0.0	0.0
B25/N3219	ULS-Set B (auto)/6	-0.005	-0.280	7.239	0.000	0.000	0.000	0.0	0.0
B26/N3220	ULS-Set B (auto)/2	-2.202	-0.671	6.881	0.000	0.000	0.000	0.0	0.0
B26/N3220	ULS-Set B (auto)/3	-1.098	0.630	1.977	0.000	0.000	0.000	0.0	0.0
B26/N3220	ULS-Set B (auto)/7	2.393	-0.193	-4.442	0.000	0.000	0.000	0.0	0.0
B26/N3220	ULS-Set B (auto)/1	-2.258	-0.231	14.895	0.000	0.000	0.000	0.0	0.0
B26/N3220	ULS-Set B (auto)/23	-2.741	-0.326	12.524	0.000	0.000	0.000	0.0	0.0
B27/N3249	ULS-Set B (auto)/29	2.462	-0.142	12.404	0.000	0.000	0.000	0.0	0.0
B27/N3249	ULS-Set B (auto)/2	1.637	-0.226	7.756	0.000	0.000	0.000	0.0	0.0
B27/N3249	ULS-Set B (auto)/3	1.401	0.182	0.297	0.000	0.000	0.000	0.0	0.0
B27/N3249	ULS-Set B (auto)/5	2.058	-0.140	14.824	0.000	0.000	0.000	0.0	0.0
B27/N3249	ULS-Set B (auto)/25	-2.550	-0.093	-4.754	0.000	0.000	0.000	0.0	0.0
B28/N3250	ULS-Set B (auto)/2	-0.034	-0.229	3.366	0.000	0.000	0.000	0.0	0.0
B28/N3250	ULS-Set B (auto)/3	0.013	0.191	-4.001	0.000	0.000	0.000	0.0	0.0
B28/N3250	ULS-Set B (auto)/18	0.010	0.190	-4.006	0.000	0.000	0.000	0.0	0.0
B28/N3250	ULS-Set B (auto)/12	-0.011	-0.125	12.504	0.000	0.000	0.000	0.0	0.0
B28/N3250	ULS-Set B (auto)/5	-0.069	-0.021	-0.421	0.000	0.000	0.000	0.0	0.0
B29/N3279	ULS-Set B (auto)/1	0.094	-0.143	-1.868	0.000	0.000	0.000	0.0	0.0
B29/N3279	ULS-Set B (auto)/2	0.022	-0.711	1.515	0.000	0.000	0.000	0.0	0.0
B29/N3279	ULS-Set B (auto)/3	0.021	0.674	0.446	0.000	0.000	0.000	0.0	0.0
B29/N3279	ULS-Set B (auto)/4	0.047	-0.247	-5.851	0.000	0.000	0.000	0.0	0.0
B29/N3279	ULS-Set B (auto)/5	0.040	-0.180	20.127	0.000	0.000	0.000	0.0	0.0
B29/N3279	ULS-Set B (auto)/14	-0.006	-0.704	-1.579	0.000	0.000	0.000	0.0	0.0
B30/N3280	ULS-Set B (auto)/2	-2.560	-0.663	6.825	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B30/N3280	ULS-Set B (auto)/3	-0.232	0.606	4.555	0.000	0.000	0.000	0.0	0.0
B30/N3280	ULS-Set B (auto)/7	3.062	-0.174	-4.209	0.000	0.000	0.000	0.0	0.0
B30/N3280	ULS-Set B (auto)/1	-2.699	-0.230	20.664	0.000	0.000	0.000	0.0	0.0
B30/N3280	ULS-Set B (auto)/23	-3.256	-0.349	17.943	0.000	0.000	0.000	0.0	0.0
B31/N3309	ULS-Set B (auto)/29	2.934	-0.151	17.601	0.000	0.000	0.000	0.0	0.0
B31/N3309	ULS-Set B (auto)/3	0.966	0.083	5.954	0.000	0.000	0.000	0.0	0.0
B31/N3309	ULS-Set B (auto)/5	2.485	-0.129	20.576	0.000	0.000	0.000	0.0	0.0
B31/N3309	ULS-Set B (auto)/25	-3.377	-0.070	-4.966	0.000	0.000	0.000	0.0	0.0
B32/N3310	ULS-Set B (auto)/14	0.005	-0.209	-1.500	0.000	0.000	0.000	0.0	0.0
B32/N3310	ULS-Set B (auto)/2	-0.021	-0.225	1.282	0.000	0.000	0.000	0.0	0.0
B32/N3310	ULS-Set B (auto)/3	-0.025	0.191	0.381	0.000	0.000	0.000	0.0	0.0
B32/N3310	ULS-Set B (auto)/11	-0.051	-0.051	-5.465	0.000	0.000	0.000	0.0	0.0
B32/N3310	ULS-Set B (auto)/12	-0.031	-0.096	20.033	0.000	0.000	0.000	0.0	0.0
B32/N3310	ULS-Set B (auto)/5	-0.094	-0.042	-2.142	0.000	0.000	0.000	0.0	0.0
B33/N3339	ULS-Set B (auto)/1	0.106	-0.137	-2.580	0.000	0.000	0.000	0.0	0.0
B33/N3339	ULS-Set B (auto)/2	0.034	-0.705	1.907	0.000	0.000	0.000	0.0	0.0
B33/N3339	ULS-Set B (auto)/3	0.014	0.671	-0.110	0.000	0.000	0.000	0.0	0.0
B33/N3339	ULS-Set B (auto)/4	0.055	-0.236	-7.075	0.000	0.000	0.000	0.0	0.0
B33/N3339	ULS-Set B (auto)/5	0.030	-0.171	19.995	0.000	0.000	0.000	0.0	0.0
B33/N3339	ULS-Set B (auto)/6	-0.003	-0.285	11.112	0.000	0.000	0.000	0.0	0.0
B34/N3340	ULS-Set B (auto)/17	-0.492	-0.722	6.794	0.000	0.000	0.000	0.0	0.0
B34/N3340	ULS-Set B (auto)/18	-3.136	0.661	6.762	0.000	0.000	0.000	0.0	0.0
B34/N3340	ULS-Set B (auto)/7	3.563	-0.133	-6.765	0.000	0.000	0.000	0.0	0.0
B34/N3340	ULS-Set B (auto)/1	-2.718	-0.222	23.150	0.000	0.000	0.000	0.0	0.0
B34/N3340	ULS-Set B (auto)/8	-3.252	0.648	10.938	0.000	0.000	0.000	0.0	0.0
B35/N3369	ULS-Set B (auto)/32	2.999	-0.113	15.984	0.000	0.000	0.000	0.0	0.0
B35/N3369	ULS-Set B (auto)/2	1.018	-0.241	6.345	0.000	0.000	0.000	0.0	0.0
B35/N3369	ULS-Set B (auto)/3	2.060	0.169	5.142	0.000	0.000	0.000	0.0	0.0
B35/N3369	ULS-Set B (auto)/25	-3.853	-0.039	-7.912	0.000	0.000	0.000	0.0	0.0
B35/N3369	ULS-Set B (auto)/5	2.603	-0.121	22.037	0.000	0.000	0.000	0.0	0.0
B35/N3369	ULS-Set B (auto)/10	-3.877	-0.058	-5.552	0.000	0.000	0.000	0.0	0.0
B36/N3370	ULS-Set B (auto)/4	0.010	-0.094	12.058	0.000	0.000	0.000	0.0	0.0
B36/N3370	ULS-Set B (auto)/2	-0.028	-0.225	2.119	0.000	0.000	0.000	0.0	0.0
B36/N3370	ULS-Set B (auto)/3	-0.015	0.192	-1.039	0.000	0.000	0.000	0.0	0.0
B36/N3370	ULS-Set B (auto)/11	-0.054	-0.047	-6.433	0.000	0.000	0.000	0.0	0.0
B36/N3370	ULS-Set B (auto)/12	-0.020	-0.092	20.064	0.000	0.000	0.000	0.0	0.0
B36/N3370	ULS-Set B (auto)/5	-0.102	-0.040	-2.877	0.000	0.000	0.000	0.0	0.0
B37/N3399	ULS-Set B (auto)/1	0.113	-0.126	-3.332	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B37/N3399	ULS-Set B (auto)/2	0.031	-0.734	2.111	0.000	0.000	0.000	0.0	0.0
B37/N3399	ULS-Set B (auto)/3	0.024	0.695	0.279	0.000	0.000	0.000	0.0	0.0
B37/N3399	ULS-Set B (auto)/4	0.062	-0.222	-7.323	0.000	0.000	0.000	0.0	0.0
B37/N3399	ULS-Set B (auto)/5	0.031	-0.172	22.288	0.000	0.000	0.000	0.0	0.0
B37/N3399	ULS-Set B (auto)/6	-0.001	-0.280	13.258	0.000	0.000	0.000	0.0	0.0
B38/N3400	ULS-Set B (auto)/17	-2.762	-0.709	8.148	0.000	0.000	0.000	0.0	0.0
B38/N3400	ULS-Set B (auto)/18	-1.187	0.647	7.069	0.000	0.000	0.000	0.0	0.0
B38/N3400	ULS-Set B (auto)/7	3.430	-0.133	-7.218	0.000	0.000	0.000	0.0	0.0
B38/N3400	ULS-Set B (auto)/1	-3.318	-0.222	25.156	0.000	0.000	0.000	0.0	0.0
B38/N3400	ULS-Set B (auto)/23	-3.936	-0.327	22.364	0.000	0.000	0.000	0.0	0.0
B39/N3429	ULS-Set B (auto)/29	3.629	-0.132	21.438	0.000	0.000	0.000	0.0	0.0
B39/N3429	ULS-Set B (auto)/2	2.334	-0.236	9.401	0.000	0.000	0.000	0.0	0.0
B39/N3429	ULS-Set B (auto)/3	1.334	0.161	4.633	0.000	0.000	0.000	0.0	0.0
B39/N3429	ULS-Set B (auto)/5	3.170	-0.121	24.668	0.000	0.000	0.000	0.0	0.0
B39/N3429	ULS-Set B (auto)/25	-3.721	-0.039	-7.770	0.000	0.000	0.000	0.0	0.0
B40/N3430	ULS-Set B (auto)/4	0.002	-0.063	14.338	0.000	0.000	0.000	0.0	0.0
B40/N3430	ULS-Set B (auto)/2	-0.040	-0.212	3.166	0.000	0.000	0.000	0.0	0.0
B40/N3430	ULS-Set B (auto)/3	-0.016	0.161	-0.793	0.000	0.000	0.000	0.0	0.0
B40/N3430	ULS-Set B (auto)/16	-0.086	0.001	-6.715	0.000	0.000	0.000	0.0	0.0
B40/N3430	ULS-Set B (auto)/12	-0.026	-0.084	22.641	0.000	0.000	0.000	0.0	0.0
B40/N3430	ULS-Set B (auto)/5	-0.113	-0.018	-3.283	0.000	0.000	0.000	0.0	0.0
B41/N3459	ULS-Set B (auto)/1	0.124	-0.121	-4.091	0.000	0.000	0.000	0.0	0.0
B41/N3459	ULS-Set B (auto)/2	0.056	-0.723	3.759	0.000	0.000	0.000	0.0	0.0
B41/N3459	ULS-Set B (auto)/3	0.015	0.687	-0.404	0.000	0.000	0.000	0.0	0.0
B41/N3459	ULS-Set B (auto)/4	0.066	-0.215	-8.646	0.000	0.000	0.000	0.0	0.0
B41/N3459	ULS-Set B (auto)/5	0.023	-0.166	22.222	0.000	0.000	0.000	0.0	0.0
B41/N3459	ULS-Set B (auto)/7	-0.012	-0.161	18.374	0.000	0.000	0.000	0.0	0.0
B42/N3460	ULS-Set B (auto)/17	-1.198	-0.729	11.518	0.000	0.000	0.000	0.0	0.0
B42/N3460	ULS-Set B (auto)/18	-2.945	0.641	6.740	0.000	0.000	0.000	0.0	0.0
B42/N3460	ULS-Set B (auto)/7	3.864	-0.112	-9.896	0.000	0.000	0.000	0.0	0.0
B42/N3460	ULS-Set B (auto)/1	-3.120	-0.224	27.603	0.000	0.000	0.000	0.0	0.0
B42/N3460	ULS-Set B (auto)/23	-3.488	-0.328	24.033	0.000	0.000	0.000	0.0	0.0
B43/N3489	ULS-Set B (auto)/29	3.143	-0.146	21.079	0.000	0.000	0.000	0.0	0.0
B43/N3489	ULS-Set B (auto)/2	1.563	-0.261	10.118	0.000	0.000	0.000	0.0	0.0
B43/N3489	ULS-Set B (auto)/3	2.433	0.132	7.132	0.000	0.000	0.000	0.0	0.0
B43/N3489	ULS-Set B (auto)/5	2.914	-0.135	25.729	0.000	0.000	0.000	0.0	0.0
B43/N3489	ULS-Set B (auto)/25	-4.212	-0.034	-11.161	0.000	0.000	0.000	0.0	0.0
B44/N3490	ULS-Set B (auto)/4	0.021	-0.055	13.211	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B44/N3490	ULS-Set B (auto)/2	-0.049	-0.205	3.385	0.000	0.000	0.000	0.0	0.0
B44/N3490	ULS-Set B (auto)/3	-0.024	0.157	-0.412	0.000	0.000	0.000	0.0	0.0
B44/N3490	ULS-Set B (auto)/11	-0.060	-0.004	-8.239	0.000	0.000	0.000	0.0	0.0
B44/N3490	ULS-Set B (auto)/12	-0.015	-0.078	22.404	0.000	0.000	0.000	0.0	0.0
B44/N3490	ULS-Set B (auto)/5	-0.119	-0.015	-4.481	0.000	0.000	0.000	0.0	0.0
B45/N3519	ULS-Set B (auto)/1	0.139	0.036	-5.206	0.000	0.000	0.000	0.0	0.0
B45/N3519	ULS-Set B (auto)/14	0.021	-0.618	-1.328	0.000	0.000	0.000	0.0	0.0
B45/N3519	ULS-Set B (auto)/8	0.083	0.893	2.850	0.000	0.000	0.000	0.0	0.0
B45/N3519	ULS-Set B (auto)/4	0.080	-0.124	-8.676	0.000	0.000	0.000	0.0	0.0
B45/N3519	ULS-Set B (auto)/5	0.017	-0.109	21.468	0.000	0.000	0.000	0.0	0.0
B45/N3519	ULS-Set B (auto)/7	-0.022	-0.183	18.425	0.000	0.000	0.000	0.0	0.0
B46/N3520	ULS-Set B (auto)/17	-3.838	-0.719	13.519	0.000	0.000	0.000	0.0	0.0
B46/N3520	ULS-Set B (auto)/18	-1.857	0.626	9.654	0.000	0.000	0.000	0.0	0.0
B46/N3520	ULS-Set B (auto)/7	4.151	-0.113	-12.026	0.000	0.000	0.000	0.0	0.0
B46/N3520	ULS-Set B (auto)/1	-4.151	-0.225	30.037	0.000	0.000	0.000	0.0	0.0
B46/N3520	ULS-Set B (auto)/23	-4.824	-0.329	27.051	0.000	0.000	0.000	0.0	0.0
B47/N3549	ULS-Set B (auto)/29	4.112	-0.147	25.481	0.000	0.000	0.000	0.0	0.0
B47/N3549	ULS-Set B (auto)/2	2.968	-0.257	14.162	0.000	0.000	0.000	0.0	0.0
B47/N3549	ULS-Set B (auto)/3	2.256	0.124	9.116	0.000	0.000	0.000	0.0	0.0
B47/N3549	ULS-Set B (auto)/5	3.685	-0.137	29.278	0.000	0.000	0.000	0.0	0.0
B47/N3549	ULS-Set B (auto)/25	-3.982	-0.034	-10.598	0.000	0.000	0.000	0.0	0.0
B48/N3550	ULS-Set B (auto)/25	0.015	-0.019	19.100	0.000	0.000	0.000	0.0	0.0
B48/N3550	ULS-Set B (auto)/21	-0.027	-0.163	-0.314	0.000	0.000	0.000	0.0	0.0
B48/N3550	ULS-Set B (auto)/19	-0.072	0.233	1.455	0.000	0.000	0.000	0.0	0.0
B48/N3550	ULS-Set B (auto)/6	-0.071	-0.033	-7.866	0.000	0.000	0.000	0.0	0.0
B48/N3550	ULS-Set B (auto)/1	-0.025	-0.010	22.053	0.000	0.000	0.000	0.0	0.0
B48/N3550	ULS-Set B (auto)/28	-0.135	-0.003	1.312	0.000	0.000	0.000	0.0	0.0
B49/N3579	ULS-Set B (auto)/12	0.124	0.032	-14.407	0.000	0.000	0.000	0.0	0.0
B49/N3579	ULS-Set B (auto)/14	0.024	-0.612	-6.524	0.000	0.000	0.000	0.0	0.0
B49/N3579	ULS-Set B (auto)/8	0.055	0.885	-9.389	0.000	0.000	0.000	0.0	0.0
B49/N3579	ULS-Set B (auto)/23	0.103	-0.049	-16.356	0.000	0.000	0.000	0.0	0.0
B49/N3579	ULS-Set B (auto)/7	-0.021	-0.182	18.664	0.000	0.000	0.000	0.0	0.0
B49/N3579	ULS-Set B (auto)/16	-0.021	-0.178	18.628	0.000	0.000	0.000	0.0	0.0
B50/N3580	ULS-Set B (auto)/17	-1.391	-0.762	14.460	0.000	0.000	0.000	0.0	0.0
B50/N3580	ULS-Set B (auto)/18	-2.996	0.611	8.086	0.000	0.000	0.000	0.0	0.0
B50/N3580	ULS-Set B (auto)/7	3.898	-0.125	-11.533	0.000	0.000	0.000	0.0	0.0
B50/N3580	ULS-Set B (auto)/1	-2.675	-0.252	28.442	0.000	0.000	0.000	0.0	0.0
B50/N3580	ULS-Set B (auto)/8	-3.305	0.576	14.730	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B51/N3605	ULS-Set B (auto)/29	4.912	-0.130	30.665	0.000	0.000	0.000	0.0	0.0
B51/N3605	ULS-Set B (auto)/17	2.816	-0.272	17.399	0.000	0.000	0.000	0.0	0.0
B51/N3605	ULS-Set B (auto)/18	3.357	0.142	11.577	0.000	0.000	0.000	0.0	0.0
B51/N3605	ULS-Set B (auto)/5	4.496	-0.122	34.498	0.000	0.000	0.000	0.0	0.0
B51/N3605	ULS-Set B (auto)/25	-4.470	-0.028	-12.677	0.000	0.000	0.000	0.0	0.0
B52/N3606	ULS-Set B (auto)/25	0.030	-0.016	16.382	0.000	0.000	0.000	0.0	0.0
B52/N3606	ULS-Set B (auto)/21	-0.035	-0.158	-2.575	0.000	0.000	0.000	0.0	0.0
B52/N3606	ULS-Set B (auto)/19	-0.076	0.231	-4.335	0.000	0.000	0.000	0.0	0.0
B52/N3606	ULS-Set B (auto)/6	-0.086	-0.029	-8.646	0.000	0.000	0.000	0.0	0.0
B52/N3606	ULS-Set B (auto)/1	-0.015	-0.006	17.384	0.000	0.000	0.000	0.0	0.0
B52/N3606	ULS-Set B (auto)/5	-0.157	-0.026	-6.213	0.000	0.000	0.000	0.0	0.0
B53/N3635	ULS-Set B (auto)/13	0.131	0.022	-18.057	0.000	0.000	0.000	0.0	0.0
B53/N3635	ULS-Set B (auto)/14	0.017	-0.676	-10.619	0.000	0.000	0.000	0.0	0.0
B53/N3635	ULS-Set B (auto)/8	0.079	0.788	-15.694	0.000	0.000	0.000	0.0	0.0
B53/N3635	ULS-Set B (auto)/15	0.110	-0.144	-22.756	0.000	0.000	0.000	0.0	0.0
B53/N3635	ULS-Set B (auto)/16	-0.017	-0.159	20.424	0.000	0.000	0.000	0.0	0.0
B54/N3636	ULS-Set B (auto)/7	3.500	-0.126	-10.808	0.000	0.000	0.000	0.0	0.0
B54/N3636	ULS-Set B (auto)/17	-4.317	-0.749	17.726	0.000	0.000	0.000	0.0	0.0
B54/N3636	ULS-Set B (auto)/18	-2.041	0.598	12.243	0.000	0.000	0.000	0.0	0.0
B54/N3636	ULS-Set B (auto)/16	3.498	-0.125	-10.828	0.000	0.000	0.000	0.0	0.0
B54/N3636	ULS-Set B (auto)/12	-3.787	-0.252	31.817	0.000	0.000	0.000	0.0	0.0
B54/N3636	ULS-Set B (auto)/23	-4.665	-0.356	29.721	0.000	0.000	0.000	0.0	0.0
B55/N3661	ULS-Set B (auto)/2	3.354	-0.261	19.463	0.000	0.000	0.000	0.0	0.0
B55/N3661	ULS-Set B (auto)/17	3.333	-0.265	19.329	0.000	0.000	0.000	0.0	0.0
B55/N3661	ULS-Set B (auto)/18	1.557	0.138	8.264	0.000	0.000	0.000	0.0	0.0
B55/N3661	ULS-Set B (auto)/5	2.586	-0.121	30.347	0.000	0.000	0.000	0.0	0.0
B55/N3661	ULS-Set B (auto)/25	-3.119	-0.027	-9.439	0.000	0.000	0.000	0.0	0.0
B56/N3662	ULS-Set B (auto)/21	-0.036	-0.084	-5.243	0.000	0.000	0.000	0.0	0.0
B56/N3662	ULS-Set B (auto)/19	-0.046	0.152	-17.315	0.000	0.000	0.000	0.0	0.0
B56/N3662	ULS-Set B (auto)/29	-0.102	0.050	-18.832	0.000	0.000	0.000	0.0	0.0
B56/N3662	ULS-Set B (auto)/25	0.012	-0.040	19.415	0.000	0.000	0.000	0.0	0.0
B56/N3662	ULS-Set B (auto)/5	-0.124	0.042	-17.043	0.000	0.000	0.000	0.0	0.0
B57/N3691	ULS-Set B (auto)/33	0.169	-0.007	-25.208	0.000	0.000	0.000	0.0	0.0
B57/N3691	ULS-Set B (auto)/21	0.104	-0.023	-14.767	0.000	0.000	0.000	0.0	0.0
B57/N3691	ULS-Set B (auto)/22	0.021	0.197	-2.376	0.000	0.000	0.000	0.0	0.0
B57/N3691	ULS-Set B (auto)/23	0.128	0.092	-32.140	0.000	0.000	0.000	0.0	0.0
B57/N3691	ULS-Set B (auto)/7	-0.041	0.152	17.651	0.000	0.000	0.000	0.0	0.0
B57/N3691	ULS-Set B (auto)/16	-0.041	0.152	17.647	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B58/N3692	ULS-Set B (auto)/7	3.379	0.288	-14.530	0.000	0.000	0.000	0.0	0.0
B58/N3692	ULS-Set B (auto)/17	-5.266	-0.589	39.888	0.000	0.000	0.000	0.0	0.0
B58/N3692	ULS-Set B (auto)/18	-3.014	0.557	2.788	0.000	0.000	0.000	0.0	0.0
B58/N3692	ULS-Set B (auto)/16	3.378	0.288	-14.533	0.000	0.000	0.000	0.0	0.0
B58/N3692	ULS-Set B (auto)/33	-5.414	-0.386	42.322	0.000	0.000	0.000	0.0	0.0
B58/N3692	ULS-Set B (auto)/23	-5.853	0.233	35.974	0.000	0.000	0.000	0.0	0.0
B59/N3717	ULS-Set B (auto)/29	5.318	-0.082	35.966	0.000	0.000	0.000	0.0	0.0
B59/N3717	ULS-Set B (auto)/17	5.082	-0.095	34.170	0.000	0.000	0.000	0.0	0.0
B59/N3717	ULS-Set B (auto)/18	2.716	0.012	7.539	0.000	0.000	0.000	0.0	0.0
B59/N3717	ULS-Set B (auto)/28	4.897	-0.086	40.580	0.000	0.000	0.000	0.0	0.0
B59/N3717	ULS-Set B (auto)/25	-3.503	0.006	-12.841	0.000	0.000	0.000	0.0	0.0
B60/N3718	ULS-Set B (auto)/14	-0.075	-0.042	-17.649	0.000	0.000	0.000	0.0	0.0
B60/N3718	ULS-Set B (auto)/23	-0.033	0.068	-0.016	0.000	0.000	0.000	0.0	0.0
B60/N3718	ULS-Set B (auto)/29	-0.132	0.048	-29.247	0.000	0.000	0.000	0.0	0.0
B60/N3718	ULS-Set B (auto)/25	0.030	0.046	18.546	0.000	0.000	0.000	0.0	0.0
B60/N3718	ULS-Set B (auto)/28	-0.163	0.017	-26.774	0.000	0.000	0.000	0.0	0.0
B61/N3743	ULS-Set B (auto)/20	0.174	0.172	-28.101	0.000	0.000	0.000	0.0	0.0
B61/N3743	ULS-Set B (auto)/14	0.028	-0.820	-18.273	0.000	0.000	0.000	0.0	0.0
B61/N3743	ULS-Set B (auto)/8	0.128	0.925	-20.147	0.000	0.000	0.000	0.0	0.0
B61/N3743	ULS-Set B (auto)/15	0.151	0.397	-30.154	0.000	0.000	0.000	0.0	0.0
B61/N3743	ULS-Set B (auto)/16	-0.017	0.327	19.754	0.000	0.000	0.000	0.0	0.0
B61/N3743	ULS-Set B (auto)/7	-0.017	0.326	19.753	0.000	0.000	0.000	0.0	0.0
B62/N3744	ULS-Set B (auto)/16	3.840	0.288	-10.740	0.000	0.000	0.000	0.0	0.0
B62/N3744	ULS-Set B (auto)/18	-1.691	0.548	18.406	0.000	0.000	0.000	0.0	0.0
B62/N3744	ULS-Set B (auto)/7	3.840	0.287	-10.741	0.000	0.000	0.000	0.0	0.0
B62/N3744	ULS-Set B (auto)/20	-5.099	0.016	43.044	0.000	0.000	0.000	0.0	0.0
B62/N3744	ULS-Set B (auto)/17	-7.080	-0.581	27.739	0.000	0.000	0.000	0.0	0.0
B63/N3769	ULS-Set B (auto)/17	6.738	-0.092	29.212	0.000	0.000	0.000	0.0	0.0
B63/N3769	ULS-Set B (auto)/33	6.379	-0.093	36.196	0.000	0.000	0.000	0.0	0.0
B63/N3769	ULS-Set B (auto)/18	2.359	0.010	16.254	0.000	0.000	0.000	0.0	0.0
B63/N3769	ULS-Set B (auto)/25	-3.452	0.006	-11.187	0.000	0.000	0.000	0.0	0.0
B63/N3769	ULS-Set B (auto)/28	5.421	-0.087	42.445	0.000	0.000	0.000	0.0	0.0
B63/N3769	ULS-Set B (auto)/27	-3.453	0.006	-11.185	0.000	0.000	0.000	0.0	0.0
B64/N3770	ULS-Set B (auto)/25	0.020	-0.002	19.547	0.000	0.000	0.000	0.0	0.0
B64/N3770	ULS-Set B (auto)/21	-0.045	-0.183	-16.843	0.000	0.000	0.000	0.0	0.0
B64/N3770	ULS-Set B (auto)/19	-0.106	0.244	-22.065	0.000	0.000	0.000	0.0	0.0
B64/N3770	ULS-Set B (auto)/22	-0.143	0.065	-30.775	0.000	0.000	0.000	0.0	0.0
B64/N3770	ULS-Set B (auto)/27	0.020	-0.002	19.548	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B64/N3770	ULS-Set B (auto)/28	-0.169	0.079	-28.450	0.000	0.000	0.000	0.0	0.0
B65/N3795	ULS-Set B (auto)/20	0.174	0.172	-27.809	0.000	0.000	0.000	0.0	0.0
B65/N3795	ULS-Set B (auto)/14	0.017	-0.818	-15.283	0.000	0.000	0.000	0.0	0.0
B65/N3795	ULS-Set B (auto)/8	0.155	0.922	-19.589	0.000	0.000	0.000	0.0	0.0
B65/N3795	ULS-Set B (auto)/34	0.172	0.270	-28.657	0.000	0.000	0.000	0.0	0.0
B65/N3795	ULS-Set B (auto)/16	-0.024	0.325	18.122	0.000	0.000	0.000	0.0	0.0
B65/N3795	ULS-Set B (auto)/7	-0.024	0.324	18.119	0.000	0.000	0.000	0.0	0.0
B66/N3796	ULS-Set B (auto)/8	-5.299	-0.047	38.260	0.000	0.000	0.000	0.0	0.0
B66/N3796	ULS-Set B (auto)/6	0.529	0.075	-1.396	0.000	0.000	0.000	0.0	0.0
B66/N3796	ULS-Set B (auto)/7	2.379	0.056	-10.348	0.000	0.000	0.000	0.0	0.0
B66/N3796	ULS-Set B (auto)/30	-5.789	0.021	43.494	0.000	0.000	0.000	0.0	0.0
B66/N3796	ULS-Set B (auto)/23	-5.843	0.039	41.083	0.000	0.000	0.000	0.0	0.0
B67/N3821	ULS-Set B (auto)/3	3.336	-0.059	22.612	0.000	0.000	0.000	0.0	0.0
B67/N3821	ULS-Set B (auto)/2	4.393	0.063	26.093	0.000	0.000	0.000	0.0	0.0
B67/N3821	ULS-Set B (auto)/35	5.784	-0.002	44.688	0.000	0.000	0.000	0.0	0.0
B67/N3821	ULS-Set B (auto)/27	-2.636	-0.007	-11.549	0.000	0.000	0.000	0.0	0.0
B68/N3822	ULS-Set B (auto)/21	-0.036	-0.186	-13.803	0.000	0.000	0.000	0.0	0.0
B68/N3822	ULS-Set B (auto)/19	-0.143	0.246	-22.575	0.000	0.000	0.000	0.0	0.0
B68/N3822	ULS-Set B (auto)/35	-0.176	0.077	-30.509	0.000	0.000	0.000	0.0	0.0
B68/N3822	ULS-Set B (auto)/27	0.030	0.001	17.377	0.000	0.000	0.000	0.0	0.0
B68/N3822	ULS-Set B (auto)/24	-0.179	0.079	-29.313	0.000	0.000	0.000	0.0	0.0
B69/N3847	ULS-Set B (auto)/11	0.002	-0.396	4.364	0.000	0.000	0.000	0.0	0.0
B69/N3847	ULS-Set B (auto)/19	-0.018	0.225	-4.959	0.000	0.000	0.000	0.0	0.0
B69/N3847	ULS-Set B (auto)/2	0.056	-0.240	7.675	0.000	0.000	0.000	0.0	0.0
B69/N3847	ULS-Set B (auto)/3	-0.024	0.221	-5.697	0.000	0.000	0.000	0.0	0.0
B70/N3848	ULS-Set B (auto)/2	-0.044	-0.792	8.265	0.000	0.000	0.000	0.0	0.0
B70/N3848	ULS-Set B (auto)/3	-1.442	0.738	-2.224	0.000	0.000	0.000	0.0	0.0
B70/N3848	ULS-Set B (auto)/7	1.432	-0.352	-5.905	0.000	0.000	0.000	0.0	0.0
B70/N3848	ULS-Set B (auto)/1	-1.534	-0.320	11.768	0.000	0.000	0.000	0.0	0.0
B70/N3848	ULS-Set B (auto)/23	-1.737	-0.503	10.210	0.000	0.000	0.000	0.0	0.0
B71/N3877	ULS-Set B (auto)/32	1.790	-0.294	9.412	0.000	0.000	0.000	0.0	0.0
B71/N3877	ULS-Set B (auto)/23	-0.582	-0.389	-2.726	0.000	0.000	0.000	0.0	0.0
B71/N3877	ULS-Set B (auto)/3	0.858	0.285	-1.094	0.000	0.000	0.000	0.0	0.0
B71/N3877	ULS-Set B (auto)/25	-1.414	-0.252	-5.972	0.000	0.000	0.000	0.0	0.0
B71/N3877	ULS-Set B (auto)/5	1.460	-0.229	11.014	0.000	0.000	0.000	0.0	0.0
B71/N3877	ULS-Set B (auto)/10	-1.446	-0.277	-5.873	0.000	0.000	0.000	0.0	0.0
B72/N3878	ULS-Set B (auto)/25	0.016	-0.316	5.392	0.000	0.000	0.000	0.0	0.0
B72/N3878	ULS-Set B (auto)/4	0.009	-0.473	3.020	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B72/N3878	ULS-Set B (auto)/8	0.004	0.196	-1.499	0.000	0.000	0.000	0.0	0.0
B72/N3878	ULS-Set B (auto)/11	-0.032	-0.314	-4.291	0.000	0.000	0.000	0.0	0.0
B72/N3878	ULS-Set B (auto)/12	0.012	-0.315	6.129	0.000	0.000	0.000	0.0	0.0
B72/N3878	ULS-Set B (auto)/5	-0.042	-0.147	-2.804	0.000	0.000	0.000	0.0	0.0
B73/N3936	ULS-Set B (auto)/29	3.667	-0.399	33.916	0.000	0.000	0.000	0.0	0.0
B73/N3936	ULS-Set B (auto)/28	2.870	-0.468	37.386	0.000	0.000	0.000	0.0	0.0
B73/N3936	ULS-Set B (auto)/25	-3.146	0.101	-10.300	0.000	0.000	0.000	0.0	0.0
B74/N3950	ULS-Set B (auto)/3	-0.011	-0.192	-22.945	0.000	0.000	0.000	0.0	0.0
B74/N3950	ULS-Set B (auto)/2	-0.095	0.397	-1.865	0.000	0.000	0.000	0.0	0.0
B74/N3950	ULS-Set B (auto)/8	-0.050	-0.161	-27.014	0.000	0.000	0.000	0.0	0.0
B74/N3950	ULS-Set B (auto)/25	0.015	-0.180	17.813	0.000	0.000	0.000	0.0	0.0
B74/N3950	ULS-Set B (auto)/28	-0.132	0.157	-16.431	0.000	0.000	0.000	0.0	0.0
B75/N3963	ULS-Set B (auto)/20	0.164	0.043	-28.633	0.000	0.000	0.000	0.0	0.0
B75/N3963	ULS-Set B (auto)/14	0.028	-0.540	-17.475	0.000	0.000	0.000	0.0	0.0
B75/N3963	ULS-Set B (auto)/8	0.135	0.645	-18.907	0.000	0.000	0.000	0.0	0.0
B75/N3963	ULS-Set B (auto)/15	0.144	-0.101	-31.606	0.000	0.000	0.000	0.0	0.0
B75/N3963	ULS-Set B (auto)/16	-0.042	-0.140	18.068	0.000	0.000	0.000	0.0	0.0
B75/N3963	ULS-Set B (auto)/7	-0.042	-0.141	18.053	0.000	0.000	0.000	0.0	0.0
B76/N3964	ULS-Set B (auto)/6	1.579	-0.120	-6.443	0.000	0.000	0.000	0.0	0.0
B76/N3964	ULS-Set B (auto)/2	-4.056	0.106	23.404	0.000	0.000	0.000	0.0	0.0
B76/N3964	ULS-Set B (auto)/16	3.324	-0.077	-14.667	0.000	0.000	0.000	0.0	0.0
B76/N3964	ULS-Set B (auto)/13	-5.302	-0.020	41.309	0.000	0.000	0.000	0.0	0.0
B76/N3964	ULS-Set B (auto)/15	-5.603	-0.082	38.666	0.000	0.000	0.000	0.0	0.0
B77/N3989	ULS-Set B (auto)/12	0.020	0.165	0.524	0.000	0.000	0.000	0.0	0.0
B77/N3989	ULS-Set B (auto)/21	0.006	-0.141	-0.418	0.000	0.000	0.000	0.0	0.0
B77/N3989	ULS-Set B (auto)/22	0.002	0.459	2.580	0.000	0.000	0.000	0.0	0.0
B77/N3989	ULS-Set B (auto)/36	0.013	0.316	-0.515	0.000	0.000	0.000	0.0	0.0
B77/N3989	ULS-Set B (auto)/31	0.000	0.305	3.627	0.000	0.000	0.000	0.0	0.0
B77/N3989	ULS-Set B (auto)/7	-0.004	0.300	3.136	0.000	0.000	0.000	0.0	0.0
B78/N3990	ULS-Set B (auto)/18	-0.541	0.528	1.554	0.000	0.000	0.000	0.0	0.0
B78/N3990	ULS-Set B (auto)/16	0.732	0.220	-1.415	0.000	0.000	0.000	0.0	0.0
B78/N3990	ULS-Set B (auto)/12	-0.438	0.115	4.206	0.000	0.000	0.000	0.0	0.0
B78/N3990	ULS-Set B (auto)/17	-0.773	-0.513	2.358	0.000	0.000	0.000	0.0	0.0
B79/N4015	ULS-Set B (auto)/2	0.871	-0.079	2.477	0.000	0.000	0.000	0.0	0.0
B79/N4015	ULS-Set B (auto)/17	0.871	-0.079	2.477	0.000	0.000	0.000	0.0	0.0
B79/N4015	ULS-Set B (auto)/18	0.613	0.044	1.686	0.000	0.000	0.000	0.0	0.0
B79/N4015	ULS-Set B (auto)/29	0.684	-0.025	3.562	0.000	0.000	0.000	0.0	0.0
B79/N4015	ULS-Set B (auto)/25	-0.980	0.005	-2.845	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B80/N4016	ULS-Set B (auto)/21	0.016	-0.060	-1.072	0.000	0.000	0.000	0.0	0.0
B80/N4016	ULS-Set B (auto)/23	-0.017	0.136	1.808	0.000	0.000	0.000	0.0	0.0
B80/N4016	ULS-Set B (auto)/14	0.016	-0.060	-1.072	0.000	0.000	0.000	0.0	0.0
B80/N4016	ULS-Set B (auto)/1	-0.027	0.090	2.856	0.000	0.000	0.000	0.0	0.0
B80/N4016	ULS-Set B (auto)/12	-0.027	0.090	2.856	0.000	0.000	0.000	0.0	0.0

Name	Combination key
ULS-Set B (auto)/1	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/2	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/3	G + G1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/4	G + G1 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/5	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/6	G + G1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/7	G + G1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/8	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/9	1.35*G + 1.35*G1 + 1.05*Q1 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/10	G + G1 + 0.75*Q3 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/11	G + G1 + 1.05*Q1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/12	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/13	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/14	G + G1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/15	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/16	G + G1 + 1.05*Q1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/17	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/18	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/19	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/20	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/21	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/22	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/23	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/24	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/25	G + G1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/26	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q9
ULS-Set B (auto)/27	G + G1 + 1.05*Q1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/28	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/29	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/30	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/31	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/32	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/33	1.35*G + 1.35*G1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q8
ULS-Set B (auto)/34	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/35	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/36	G + G1 + 1.05*Q1 + 1.50*Q4 + G3 + G2

For R_z reactions values Compression are given with (+), Tension with (-)

End wall post base name



End wall supports reaction table

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B69/N3847	ULS-Set B (auto)/1	0.002	-0.396	4.364	0.000	0.000	0.000	0.0	0.0
B69/N3847	ULS-Set B (auto)/2	-0.018	0.225	-4.959	0.000	0.000	0.000	0.0	0.0
B69/N3847	ULS-Set B (auto)/3	0.056	-0.240	7.675	0.000	0.000	0.000	0.0	0.0
B69/N3847	ULS-Set B (auto)/4	-0.024	0.221	-5.697	0.000	0.000	0.000	0.0	0.0
B72/N3878	ULS-Set B (auto)/5	0.016	-0.316	5.392	0.000	0.000	0.000	0.0	0.0
B72/N3878	ULS-Set B (auto)/6	0.009	-0.473	3.020	0.000	0.000	0.000	0.0	0.0
B72/N3878	ULS-Set B (auto)/7	0.004	0.196	-1.499	0.000	0.000	0.000	0.0	0.0
B72/N3878	ULS-Set B (auto)/1	-0.032	-0.314	-4.291	0.000	0.000	0.000	0.0	0.0
B72/N3878	ULS-Set B (auto)/8	0.012	-0.315	6.129	0.000	0.000	0.000	0.0	0.0
B72/N3878	ULS-Set B (auto)/9	-0.042	-0.147	-2.804	0.000	0.000	0.000	0.0	0.0
B80/N4016	ULS-Set B (auto)/10	0.016	-0.060	-1.072	0.000	0.000	0.000	0.0	0.0
B80/N4016	ULS-Set B (auto)/11	-0.017	0.136	1.808	0.000	0.000	0.000	0.0	0.0
B80/N4016	ULS-Set B (auto)/12	0.016	-0.060	-1.072	0.000	0.000	0.000	0.0	0.0
B80/N4016	ULS-Set B (auto)/13	-0.027	0.090	2.856	0.000	0.000	0.000	0.0	0.0
B80/N4016	ULS-Set B (auto)/8	-0.027	0.090	2.856	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/1	0.041	-0.063	-0.633	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/14	0.040	-0.064	-0.271	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/4	-0.023	0.032	0.738	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/15	0.039	-0.033	-0.810	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/8	-0.021	-0.031	2.511	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/2	-0.024	0.031	1.099	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/16	0.010	-0.010	1.396	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/17	-0.006	-0.022	1.528	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/18	-0.004	0.013	0.912	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/4	-0.004	0.013	0.745	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/19	-0.005	-0.008	1.935	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/20	-0.008	-0.013	1.468	0.000	0.000	0.000	0.0	0.0
B96/N4261	ULS-Set B (auto)/20	0.028	-0.318	1.634	0.000	0.000	0.000	0.0	0.0
B96/N4261	ULS-Set B (auto)/21	-0.042	-0.649	3.304	0.000	0.000	0.000	0.0	0.0
B96/N4261	ULS-Set B (auto)/22	0.005	0.346	1.636	0.000	0.000	0.000	0.0	0.0
B96/N4261	ULS-Set B (auto)/23	0.015	-0.646	1.521	0.000	0.000	0.000	0.0	0.0
B96/N4261	ULS-Set B (auto)/24	-0.009	-0.414	3.694	0.000	0.000	0.000	0.0	0.0
B96/N4261	ULS-Set B (auto)/16	-0.046	-0.332	3.538	0.000	0.000	0.000	0.0	0.0
B97/N4262	ULS-Set B (auto)/8	0.101	-0.995	-5.682	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B97/N4262	ULS-Set B (auto)/11	0.078	-1.961	-2.964	0.000	0.000	0.000	0.0	0.0
B97/N4262	ULS-Set B (auto)/4	0.019	1.021	1.118	0.000	0.000	0.000	0.0	0.0
B97/N4262	ULS-Set B (auto)/5	0.092	-0.992	-7.193	0.000	0.000	0.000	0.0	0.0
B97/N4262	ULS-Set B (auto)/9	-0.050	-0.991	17.663	0.000	0.000	0.000	0.0	0.0
B97/N4262	ULS-Set B (auto)/15	-0.059	-0.988	16.152	0.000	0.000	0.000	0.0	0.0
B98/N4267	ULS-Set B (auto)/16	4.368	-0.313	-9.092	0.000	0.000	0.000	0.0	0.0
B98/N4267	ULS-Set B (auto)/25	-2.688	-0.619	9.264	0.000	0.000	0.000	0.0	0.0
B98/N4267	ULS-Set B (auto)/22	-0.571	0.338	2.757	0.000	0.000	0.000	0.0	0.0
B98/N4267	ULS-Set B (auto)/15	4.350	-0.312	-9.702	0.000	0.000	0.000	0.0	0.0
B98/N4267	ULS-Set B (auto)/8	-3.815	-0.309	12.616	0.000	0.000	0.000	0.0	0.0
B98/N4267	ULS-Set B (auto)/20	-3.833	-0.308	12.006	0.000	0.000	0.000	0.0	0.0
B99/N4557	ULS-Set B (auto)/20	0.001	1.700	0.699	0.000	0.000	0.000	0.0	0.0
B99/N4557	ULS-Set B (auto)/24	-0.001	-1.923	1.964	0.000	0.000	0.000	0.0	0.0
B99/N4557	ULS-Set B (auto)/1	-0.001	3.650	2.242	0.000	0.000	0.000	0.0	0.0
B99/N4557	ULS-Set B (auto)/26	0.001	1.701	0.553	0.000	0.000	0.000	0.0	0.0
B99/N4557	ULS-Set B (auto)/27	-0.001	1.970	3.369	0.000	0.000	0.000	0.0	0.0
B99/N4557	ULS-Set B (auto)/28	-0.001	1.971	3.223	0.000	0.000	0.000	0.0	0.0
B100/N4560	ULS-Set B (auto)/28	2.120	2.187	11.411	0.000	0.000	0.000	0.0	0.0
B100/N4560	ULS-Set B (auto)/24	-0.502	-2.004	4.384	0.000	0.000	0.000	0.0	0.0
B100/N4560	ULS-Set B (auto)/1	1.366	3.941	7.775	0.000	0.000	0.000	0.0	0.0
B100/N4560	ULS-Set B (auto)/26	-1.224	1.776	-0.128	0.000	0.000	0.000	0.0	0.0
B100/N4560	ULS-Set B (auto)/27	2.119	2.186	11.772	0.000	0.000	0.000	0.0	0.0
B100/N4560	ULS-Set B (auto)/29	-1.263	3.528	0.370	0.000	0.000	0.000	0.0	0.0
B101/N6444	ULS-Set B (auto)/30	1.009	6.133	-2.202	0.000	0.000	0.000	0.0	0.0
B101/N6444	ULS-Set B (auto)/24	0.443	-3.484	0.544	0.000	0.000	0.000	0.0	0.0
B101/N6444	ULS-Set B (auto)/23	-0.945	8.579	6.210	0.000	0.000	0.000	0.0	0.0
B101/N6444	ULS-Set B (auto)/31	0.997	6.136	-2.809	0.000	0.000	0.000	0.0	0.0
B101/N6444	ULS-Set B (auto)/13	-1.447	5.524	11.391	0.000	0.000	0.000	0.0	0.0
B101/N6444	ULS-Set B (auto)/32	-1.459	5.527	10.785	0.000	0.000	0.000	0.0	0.0
B102/N7707	ULS-Set B (auto)/8	0.119	-0.892	-4.323	0.000	0.000	0.000	0.0	0.0
B102/N7707	ULS-Set B (auto)/33	-0.019	-1.793	15.032	0.000	0.000	0.000	0.0	0.0
B102/N7707	ULS-Set B (auto)/34	0.039	0.903	0.602	0.000	0.000	0.000	0.0	0.0
B102/N7707	ULS-Set B (auto)/5	0.103	-0.889	-6.211	0.000	0.000	0.000	0.0	0.0
B102/N7707	ULS-Set B (auto)/9	-0.027	-0.916	18.720	0.000	0.000	0.000	0.0	0.0
B102/N7707	ULS-Set B (auto)/15	-0.043	-0.913	16.832	0.000	0.000	0.000	0.0	0.0
B103/N7712	ULS-Set B (auto)/30	2.277	-2.316	-5.250	0.000	0.000	0.000	0.0	0.0
B103/N7712	ULS-Set B (auto)/35	-1.072	0.901	5.200	0.000	0.000	0.000	0.0	0.0
B103/N7712	ULS-Set B (auto)/15	3.191	-1.486	-7.366	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B103/N7712	ULS-Set B (auto)/8	-3.213	-0.839	13.126	0.000	0.000	0.000	0.0	0.0
B104/N7748	ULS-Set B (auto)/20	0.045	-0.719	3.636	0.000	0.000	0.000	0.0	0.0
B104/N7748	ULS-Set B (auto)/36	0.042	-1.403	4.132	0.000	0.000	0.000	0.0	0.0
B104/N7748	ULS-Set B (auto)/34	-0.005	0.724	2.081	0.000	0.000	0.000	0.0	0.0
B104/N7748	ULS-Set B (auto)/4	-0.003	0.723	1.990	0.000	0.000	0.000	0.0	0.0
B104/N7748	ULS-Set B (auto)/19	0.022	-0.434	4.832	0.000	0.000	0.000	0.0	0.0
B104/N7748	ULS-Set B (auto)/16	-0.039	-0.693	3.441	0.000	0.000	0.000	0.0	0.0
B105/N7753	ULS-Set B (auto)/16	3.007	-0.733	11.999	0.000	0.000	0.000	0.0	0.0
B105/N7753	ULS-Set B (auto)/37	-1.408	-2.023	-2.200	0.000	0.000	0.000	0.0	0.0
B105/N7753	ULS-Set B (auto)/35	0.372	0.791	3.187	0.000	0.000	0.000	0.0	0.0
B105/N7753	ULS-Set B (auto)/5	-2.300	-1.300	-4.046	0.000	0.000	0.000	0.0	0.0
B105/N7753	ULS-Set B (auto)/9	2.976	-0.734	12.136	0.000	0.000	0.000	0.0	0.0
B105/N7753	ULS-Set B (auto)/20	-2.331	-1.301	-3.909	0.000	0.000	0.000	0.0	0.0
B106/N8035	ULS-Set B (auto)/38	0.000	0.000	-12.669	0.000	0.000	0.000	0.0	0.0
B106/N8035	ULS-Set B (auto)/26	0.000	0.000	6.720	0.000	0.000	0.000	0.0	0.0
B107/N8037	ULS-Set B (auto)/14	0.000	0.000	-9.498	0.000	0.000	0.000	0.0	0.0
B107/N8037	ULS-Set B (auto)/5	0.000	0.000	5.708	0.000	0.000	0.000	0.0	0.0
B108/N8039	ULS-Set B (auto)/14	0.000	0.000	-11.785	0.000	0.000	0.000	0.0	0.0
B108/N8039	ULS-Set B (auto)/5	0.000	0.000	6.578	0.000	0.000	0.000	0.0	0.0
B128/N8327	ULS-Set B (auto)/5	0.001	1.069	2.510	0.000	0.000	0.000	0.0	0.0
B128/N8327	ULS-Set B (auto)/10	-0.001	-1.089	1.610	0.000	0.000	0.000	0.0	0.0
B128/N8327	ULS-Set B (auto)/33	-0.001	2.780	3.357	0.000	0.000	0.000	0.0	0.0
B128/N8327	ULS-Set B (auto)/12	-0.001	-1.089	1.610	0.000	0.000	0.000	0.0	0.0
B128/N8327	ULS-Set B (auto)/39	0.000	1.055	4.010	0.000	0.000	0.000	0.0	0.0
B128/N8327	ULS-Set B (auto)/24	-0.002	-1.080	2.681	0.000	0.000	0.000	0.0	0.0
B129/N8329	ULS-Set B (auto)/5	0.002	1.330	3.132	0.000	0.000	0.000	0.0	0.0
B129/N8329	ULS-Set B (auto)/10	0.000	-1.435	2.049	0.000	0.000	0.000	0.0	0.0
B129/N8329	ULS-Set B (auto)/33	-0.002	3.204	3.567	0.000	0.000	0.000	0.0	0.0
B129/N8329	ULS-Set B (auto)/12	0.000	-1.435	2.049	0.000	0.000	0.000	0.0	0.0
B129/N8329	ULS-Set B (auto)/19	0.001	0.801	4.426	0.000	0.000	0.000	0.0	0.0
B129/N8329	ULS-Set B (auto)/27	-0.003	1.894	4.039	0.000	0.000	0.000	0.0	0.0
B130/N8331	ULS-Set B (auto)/6	-0.004	2.830	6.747	0.000	0.000	0.000	0.0	0.0
B130/N8331	ULS-Set B (auto)/24	-0.010	-1.572	4.548	0.000	0.000	0.000	0.0	0.0
B130/N8331	ULS-Set B (auto)/1	-0.011	3.191	-1.623	0.000	0.000	0.000	0.0	0.0
B130/N8331	ULS-Set B (auto)/40	-0.013	1.785	-3.290	0.000	0.000	0.000	0.0	0.0
B130/N8331	ULS-Set B (auto)/13	-0.008	1.424	8.632	0.000	0.000	0.000	0.0	0.0
B130/N8331	ULS-Set B (auto)/27	-0.017	1.784	-2.154	0.000	0.000	0.000	0.0	0.0
B131/N8355	ULS-Set B (auto)/33	6.018	0.000	13.650	0.000	0.000	0.000	0.0	0.0

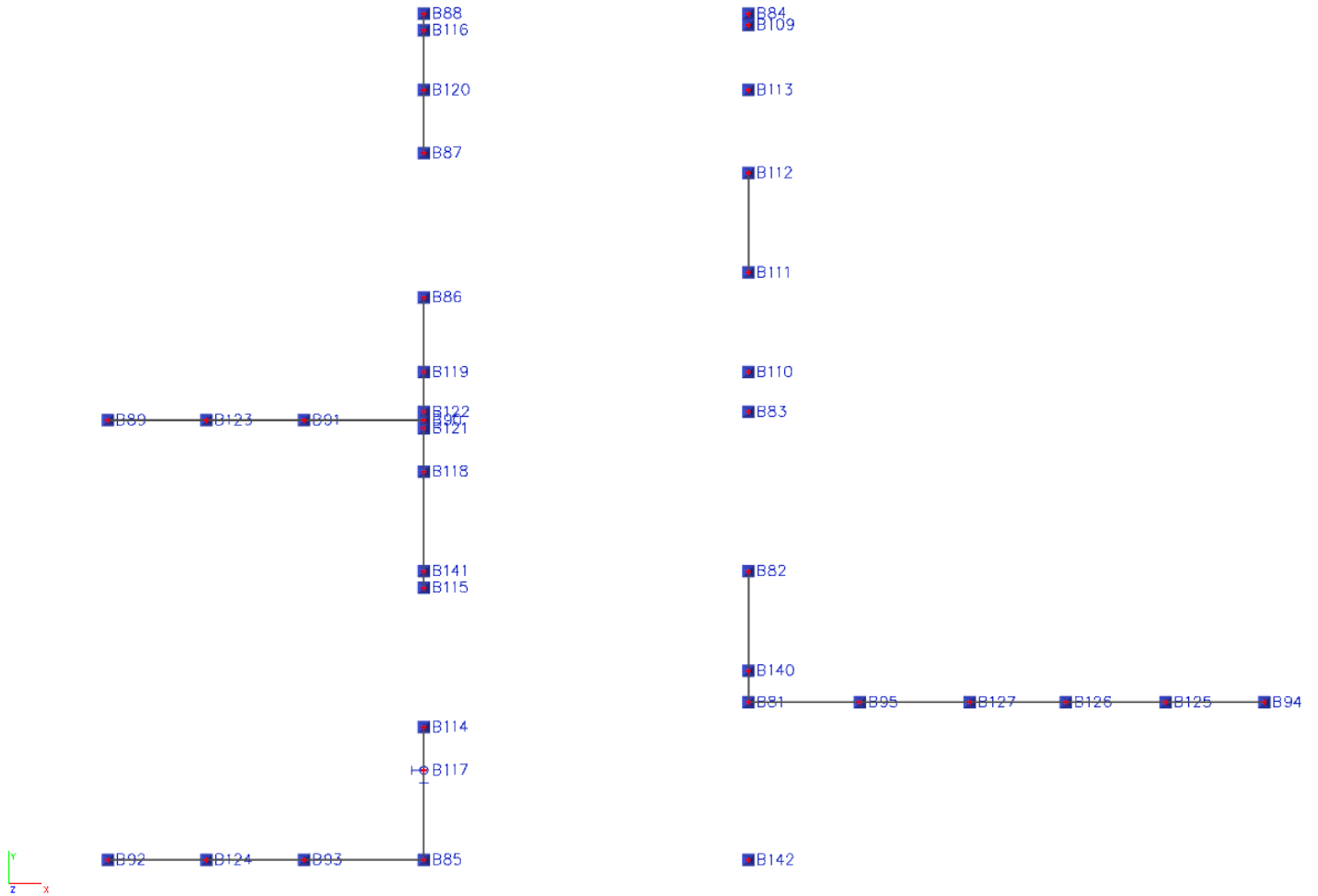
Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B131/N8355	ULS-Set B (auto)/38	5.930	0.000	13.768	0.000	0.000	0.000	0.0	0.0
B131/N8355	ULS-Set B (auto)/26	-3.392	0.000	-6.066	0.000	0.000	0.000	0.0	0.0
B132/N8357	ULS-Set B (auto)/14	4.671	0.000	10.159	0.000	0.000	0.000	0.0	0.0
B132/N8357	ULS-Set B (auto)/5	-3.002	0.000	-5.060	0.000	0.000	0.000	0.0	0.0
B133/N8359	ULS-Set B (auto)/14	5.666	0.000	12.833	0.000	0.000	0.000	0.0	0.0
B133/N8359	ULS-Set B (auto)/5	-3.327	0.000	-5.914	0.000	0.000	0.000	0.0	0.0
B134/N8545	ULS-Set B (auto)/8	0.014	0.770	-2.628	0.000	0.000	0.000	0.0	0.0
B134/N8545	ULS-Set B (auto)/10	0.000	-0.232	2.294	0.000	0.000	0.000	0.0	0.0
B134/N8545	ULS-Set B (auto)/36	0.009	1.147	-1.165	0.000	0.000	0.000	0.0	0.0
B134/N8545	ULS-Set B (auto)/26	0.012	0.750	-3.414	0.000	0.000	0.000	0.0	0.0
B134/N8545	ULS-Set B (auto)/27	0.002	0.440	6.363	0.000	0.000	0.000	0.0	0.0
B134/N8545	ULS-Set B (auto)/31	-0.002	0.799	5.031	0.000	0.000	0.000	0.0	0.0
B135/N8695	ULS-Set B (auto)/11	0.011	-0.889	2.297	0.000	0.000	0.000	0.0	0.0
B135/N8695	ULS-Set B (auto)/1	0.002	-1.238	1.773	0.000	0.000	0.000	0.0	0.0
B135/N8695	ULS-Set B (auto)/2	0.000	0.510	1.125	0.000	0.000	0.000	0.0	0.0
B135/N8695	ULS-Set B (auto)/4	0.000	0.509	0.442	0.000	0.000	0.000	0.0	0.0
B135/N8695	ULS-Set B (auto)/3	0.002	-0.580	3.101	0.000	0.000	0.000	0.0	0.0
B135/N8695	ULS-Set B (auto)/40	-0.002	-0.794	1.882	0.000	0.000	0.000	0.0	0.0
B136/N8697	ULS-Set B (auto)/13	0.010	-0.702	4.613	0.000	0.000	0.000	0.0	0.0
B136/N8697	ULS-Set B (auto)/30	0.000	-1.939	2.925	0.000	0.000	0.000	0.0	0.0
B136/N8697	ULS-Set B (auto)/35	0.002	0.771	3.834	0.000	0.000	0.000	0.0	0.0
B136/N8697	ULS-Set B (auto)/6	0.009	-1.394	2.193	0.000	0.000	0.000	0.0	0.0
B136/N8697	ULS-Set B (auto)/39	-0.001	-0.745	5.400	0.000	0.000	0.000	0.0	0.0
B136/N8697	ULS-Set B (auto)/40	-0.003	-1.246	3.569	0.000	0.000	0.000	0.0	0.0
B137/N8713	ULS-Set B (auto)/20	0.003	-0.793	1.840	0.000	0.000	0.000	0.0	0.0
B137/N8713	ULS-Set B (auto)/25	-0.001	-1.236	1.989	0.000	0.000	0.000	0.0	0.0
B137/N8713	ULS-Set B (auto)/22	0.002	0.484	0.820	0.000	0.000	0.000	0.0	0.0
B137/N8713	ULS-Set B (auto)/4	0.002	0.484	0.708	0.000	0.000	0.000	0.0	0.0
B137/N8713	ULS-Set B (auto)/3	-0.003	-0.556	2.377	0.000	0.000	0.000	0.0	0.0
B137/N8713	ULS-Set B (auto)/21	-0.008	-0.894	1.680	0.000	0.000	0.000	0.0	0.0
B138/N8717	ULS-Set B (auto)/5	0.003	-1.458	10.772	0.000	0.000	0.000	0.0	0.0
B138/N8717	ULS-Set B (auto)/37	0.001	-2.267	7.807	0.000	0.000	0.000	0.0	0.0
B138/N8717	ULS-Set B (auto)/35	-0.008	0.888	2.552	0.000	0.000	0.000	0.0	0.0
B138/N8717	ULS-Set B (auto)/15	-0.019	-0.819	-6.871	0.000	0.000	0.000	0.0	0.0
B138/N8717	ULS-Set B (auto)/8	0.000	-1.459	11.923	0.000	0.000	0.000	0.0	0.0
B138/N8717	ULS-Set B (auto)/9	-0.023	-0.820	-5.720	0.000	0.000	0.000	0.0	0.0
B139/N8719	ULS-Set B (auto)/20	0.009	-0.136	1.897	0.000	0.000	0.000	0.0	0.0
B139/N8719	ULS-Set B (auto)/36	0.008	-0.256	2.117	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B139/N8719	ULS-Set B (auto)/34	-0.001	0.114	1.134	0.000	0.000	0.000	0.0	0.0
B139/N8719	ULS-Set B (auto)/4	0.000	0.113	1.077	0.000	0.000	0.000	0.0	0.0
B139/N8719	ULS-Set B (auto)/13	0.008	-0.136	2.465	0.000	0.000	0.000	0.0	0.0
B139/N8719	ULS-Set B (auto)/16	-0.008	-0.122	1.845	0.000	0.000	0.000	0.0	0.0
B143/N9141	ULS-Set B (auto)/10	0.000	-3.520	2.654	0.000	0.000	0.000	0.0	0.0
B143/N9141	ULS-Set B (auto)/33	0.000	6.313	3.130	0.000	0.000	0.000	0.0	0.0
B143/N9141	ULS-Set B (auto)/15	0.001	3.186	1.841	0.000	0.000	0.000	0.0	0.0
B143/N9141	ULS-Set B (auto)/24	-0.001	-3.519	3.574	0.000	0.000	0.000	0.0	0.0
B143/N9141	ULS-Set B (auto)/8	-0.002	3.169	3.004	0.000	0.000	0.000	0.0	0.0
B144/N9142	ULS-Set B (auto)/40	0.005	0.870	4.132	0.000	0.000	0.000	0.0	0.0
B144/N9142	ULS-Set B (auto)/10	-0.011	-0.960	5.302	0.000	0.000	0.000	0.0	0.0
B144/N9142	ULS-Set B (auto)/33	0.000	1.729	6.608	0.000	0.000	0.000	0.0	0.0
B144/N9142	ULS-Set B (auto)/5	-0.029	0.865	2.270	0.000	0.000	0.000	0.0	0.0
B144/N9142	ULS-Set B (auto)/3	-0.015	-0.958	7.030	0.000	0.000	0.000	0.0	0.0
B144/N9142	ULS-Set B (auto)/13	-0.033	0.867	3.998	0.000	0.000	0.000	0.0	0.0
B145/N9147	ULS-Set B (auto)/41	0.030	3.923	4.073	0.000	0.000	0.000	0.0	0.0
B145/N9147	ULS-Set B (auto)/24	-0.036	-4.386	4.238	0.000	0.000	0.000	0.0	0.0
B145/N9147	ULS-Set B (auto)/23	-0.023	7.821	3.733	0.000	0.000	0.000	0.0	0.0
B145/N9147	ULS-Set B (auto)/10	-0.035	-4.382	2.347	0.000	0.000	0.000	0.0	0.0
B145/N9147	ULS-Set B (auto)/42	-0.003	2.358	6.956	0.000	0.000	0.000	0.0	0.0
B145/N9147	ULS-Set B (auto)/43	-0.037	-4.383	3.572	0.000	0.000	0.000	0.0	0.0
B146/N9184	ULS-Set B (auto)/35	0.000	0.000	0.002	0.000	0.000	0.000	0.0	0.0
B146/N9184	ULS-Set B (auto)/30	0.000	0.000	0.001	0.000	0.000	0.000	0.0	0.0

Name	Combination key
ULS-Set B (auto)/1	G + G1 + 1.05*Q1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/2	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/3	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/4	G + G1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/5	G + G1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/6	G + G1 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/7	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/8	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/9	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/10	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/11	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/12	G + G1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/13	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/14	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/15	G + G1 + 1.05*Q1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/16	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/17	1.35*G + 1.35*G1 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/18	G + G1 + 1.05*Q1 + 0.75*Q3 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/19	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2

Name	Combination key
ULS-Set B (auto)/20	G + G1 + 0.75*Q3 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/21	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/22	G + G1 + 0.75*Q3 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/23	G + G1 + 1.05*Q1 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/24	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/25	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/26	G + G1 + 1.05*Q1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/27	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/28	1.35*G + 1.35*G1 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/29	G + G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/30	G + G1 + 0.75*Q3 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/31	G + G1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/32	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/33	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/34	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/35	1.35*G + 1.35*G1 + 1.05*Q1 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/36	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/37	G + G1 + 0.75*Q3 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/38	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/39	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/40	G + G1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/41	G + G1 + 0.75*Q3 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/42	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/43	1.35*G + 1.35*G1 + 1.05*Q1 + 1.35*G3 + 1.35*G2 + 1.50*Q8

Interior wall post base name



Interior wall base reaction table

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B81/N4097	ULS-Set B (auto)/1	0.047	0.029	-0.567	0.000	0.000	0.000	0.0	0.0
B81/N4097	ULS-Set B (auto)/2	-0.030	-0.043	10.000	0.000	0.000	0.000	0.0	0.0
B81/N4097	ULS-Set B (auto)/3	0.034	0.053	-4.146	0.000	0.000	0.000	0.0	0.0
B81/N4097	ULS-Set B (auto)/4	-0.063	0.024	2.824	0.000	0.000	0.000	0.0	0.0
B82/N4098	ULS-Set B (auto)/5	0.008	0.255	39.485	0.000	0.000	0.000	0.0	0.0
B82/N4098	ULS-Set B (auto)/3	-0.005	0.325	44.598	0.000	0.000	0.000	0.0	0.0
B82/N4098	ULS-Set B (auto)/6	-0.010	-0.344	-24.087	0.000	0.000	0.000	0.0	0.0
B82/N4098	ULS-Set B (auto)/7	-0.001	0.254	53.281	0.000	0.000	0.000	0.0	0.0
B82/N4098	ULS-Set B (auto)/2	-0.012	-0.395	-18.602	0.000	0.000	0.000	0.0	0.0
B83/N4099	ULS-Set B (auto)/2	0.001	-0.040	1.670	0.000	0.000	0.000	0.0	0.0
B83/N4099	ULS-Set B (auto)/5	0.000	0.036	8.023	0.000	0.000	0.000	0.0	0.0
B83/N4099	ULS-Set B (auto)/6	0.001	-0.038	-1.303	0.000	0.000	0.000	0.0	0.0
B83/N4099	ULS-Set B (auto)/7	0.001	0.028	12.643	0.000	0.000	0.000	0.0	0.0
B83/N4099	ULS-Set B (auto)/8	0.000	0.036	7.918	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/9	0.041	-0.063	-0.633	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/10	0.040	-0.064	-0.271	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/11	-0.023	0.032	0.738	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/12	0.039	-0.033	-0.810	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/13	-0.021	-0.031	2.511	0.000	0.000	0.000	0.0	0.0
B84/N4100	ULS-Set B (auto)/14	-0.024	0.031	1.099	0.000	0.000	0.000	0.0	0.0
B85/N4135	ULS-Set B (auto)/15	0.004	-0.048	7.504	0.000	0.000	0.000	0.0	0.0
B85/N4135	ULS-Set B (auto)/16	-0.003	-0.083	4.760	0.000	0.000	0.000	0.0	0.0
B85/N4135	ULS-Set B (auto)/6	-0.011	0.039	-4.177	0.000	0.000	0.000	0.0	0.0
B85/N4135	ULS-Set B (auto)/4	-0.019	-0.032	-9.802	0.000	0.000	0.000	0.0	0.0
B85/N4135	ULS-Set B (auto)/1	0.002	-0.054	7.963	0.000	0.000	0.000	0.0	0.0
B85/N4135	ULS-Set B (auto)/17	-0.020	-0.038	-9.344	0.000	0.000	0.000	0.0	0.0
B86/N4138	ULS-Set B (auto)/15	0.038	0.043	4.755	0.000	0.000	0.000	0.0	0.0
B86/N4138	ULS-Set B (auto)/18	-0.006	-0.046	6.690	0.000	0.000	0.000	0.0	0.0
B86/N4138	ULS-Set B (auto)/19	0.029	0.075	5.598	0.000	0.000	0.000	0.0	0.0
B86/N4138	ULS-Set B (auto)/5	0.002	0.052	2.367	0.000	0.000	0.000	0.0	0.0
B86/N4138	ULS-Set B (auto)/20	-0.005	-0.027	8.154	0.000	0.000	0.000	0.0	0.0
B86/N4138	ULS-Set B (auto)/17	-0.041	0.033	5.449	0.000	0.000	0.000	0.0	0.0
B87/N4139	ULS-Set B (auto)/21	0.003	-0.006	4.893	0.000	0.000	0.000	0.0	0.0
B87/N4139	ULS-Set B (auto)/22	-0.002	-0.015	5.856	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B87/N4139	ULS-Set B (auto)/18	0.002	0.014	3.854	0.000	0.000	0.000	0.0	0.0
B87/N4139	ULS-Set B (auto)/11	0.002	0.014	2.283	0.000	0.000	0.000	0.0	0.0
B87/N4139	ULS-Set B (auto)/23	0.002	-0.003	7.754	0.000	0.000	0.000	0.0	0.0
B87/N4139	ULS-Set B (auto)/24	-0.002	-0.015	7.404	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/25	0.010	-0.010	1.396	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/19	-0.006	-0.022	1.528	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/18	-0.004	0.013	0.912	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/11	-0.004	0.013	0.745	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/26	-0.005	-0.008	1.935	0.000	0.000	0.000	0.0	0.0
B88/N4140	ULS-Set B (auto)/21	-0.008	-0.013	1.468	0.000	0.000	0.000	0.0	0.0
B89/N4165	ULS-Set B (auto)/15	0.013	-0.006	0.844	0.000	0.000	0.000	0.0	0.0
B89/N4165	ULS-Set B (auto)/19	0.010	-0.010	1.086	0.000	0.000	0.000	0.0	0.0
B89/N4165	ULS-Set B (auto)/18	-0.002	0.006	0.754	0.000	0.000	0.000	0.0	0.0
B89/N4165	ULS-Set B (auto)/27	-0.013	-0.004	0.660	0.000	0.000	0.000	0.0	0.0
B89/N4165	ULS-Set B (auto)/28	0.013	-0.006	1.109	0.000	0.000	0.000	0.0	0.0
B89/N4165	ULS-Set B (auto)/17	-0.013	-0.004	0.924	0.000	0.000	0.000	0.0	0.0
B90/N4166	ULS-Set B (auto)/15	0.030	0.033	11.975	0.000	0.000	0.000	0.0	0.0
B90/N4166	ULS-Set B (auto)/18	-0.004	-0.035	-0.647	0.000	0.000	0.000	0.0	0.0
B90/N4166	ULS-Set B (auto)/19	0.021	0.057	10.529	0.000	0.000	0.000	0.0	0.0
B90/N4166	ULS-Set B (auto)/27	-0.038	0.025	-9.012	0.000	0.000	0.000	0.0	0.0
B90/N4166	ULS-Set B (auto)/28	0.029	0.034	12.200	0.000	0.000	0.000	0.0	0.0
B90/N4166	ULS-Set B (auto)/17	-0.039	0.025	-8.787	0.000	0.000	0.000	0.0	0.0
B91/N4169	ULS-Set B (auto)/18	0.285	-0.013	2.134	0.000	0.000	0.000	0.0	0.0
B91/N4169	ULS-Set B (auto)/19	-4.159	0.021	-12.818	0.000	0.000	0.000	0.0	0.0
B91/N4169	ULS-Set B (auto)/17	5.822	0.009	21.956	0.000	0.000	0.000	0.0	0.0
B91/N4169	ULS-Set B (auto)/15	-5.461	0.012	-17.808	0.000	0.000	0.000	0.0	0.0
B92/N4183	ULS-Set B (auto)/1	0.002	0.011	0.331	0.000	0.000	0.000	0.0	0.0
B92/N4183	ULS-Set B (auto)/6	-0.001	-0.008	0.625	0.000	0.000	0.000	0.0	0.0
B92/N4183	ULS-Set B (auto)/16	0.001	0.016	0.622	0.000	0.000	0.000	0.0	0.0
B92/N4183	ULS-Set B (auto)/15	0.002	0.009	0.220	0.000	0.000	0.000	0.0	0.0
B92/N4183	ULS-Set B (auto)/17	-0.002	0.007	1.134	0.000	0.000	0.000	0.0	0.0
B92/N4183	ULS-Set B (auto)/4	-0.002	0.006	1.023	0.000	0.000	0.000	0.0	0.0
B93/N4187	ULS-Set B (auto)/16	-0.578	-0.034	0.567	0.000	0.000	0.000	0.0	0.0
B93/N4187	ULS-Set B (auto)/6	1.954	0.016	6.689	0.000	0.000	0.000	0.0	0.0
B93/N4187	ULS-Set B (auto)/17	4.046	-0.016	13.173	0.000	0.000	0.000	0.0	0.0
B93/N4187	ULS-Set B (auto)/15	-1.902	-0.020	-3.819	0.000	0.000	0.000	0.0	0.0
B94/N4201	ULS-Set B (auto)/29	0.075	0.040	2.124	0.000	0.000	0.000	0.0	0.0
B94/N4201	ULS-Set B (auto)/30	0.042	-0.030	1.069	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B94/N4201	ULS-Set B (auto)/31	0.026	0.090	4.292	0.000	0.000	0.000	0.0	0.0
B94/N4201	ULS-Set B (auto)/3	0.043	0.054	-0.771	0.000	0.000	0.000	0.0	0.0
B94/N4201	ULS-Set B (auto)/17	0.008	0.063	5.785	0.000	0.000	0.000	0.0	0.0
B94/N4201	ULS-Set B (auto)/12	-0.016	0.059	4.528	0.000	0.000	0.000	0.0	0.0
B95/N4205	ULS-Set B (auto)/6	0.458	0.000	5.709	0.000	0.000	0.000	0.0	0.0
B95/N4205	ULS-Set B (auto)/16	-4.183	0.005	-10.378	0.000	0.000	0.000	0.0	0.0
B95/N4205	ULS-Set B (auto)/4	5.837	0.002	22.424	0.000	0.000	0.000	0.0	0.0
B95/N4205	ULS-Set B (auto)/1	-5.510	0.003	-15.548	0.000	0.000	0.000	0.0	0.0
B109/N8151	ULS-Set B (auto)/13	0.000	-0.003	1.440	0.000	0.000	0.000	0.0	0.0
B109/N8151	ULS-Set B (auto)/10	0.000	-0.007	1.034	0.000	0.000	0.000	0.0	0.0
B109/N8151	ULS-Set B (auto)/5	0.000	0.001	0.826	0.000	0.000	0.000	0.0	0.0
B109/N8151	ULS-Set B (auto)/32	0.000	-0.005	0.527	0.000	0.000	0.000	0.0	0.0
B109/N8151	ULS-Set B (auto)/33	0.000	-0.004	1.617	0.000	0.000	0.000	0.0	0.0
B109/N8151	ULS-Set B (auto)/7	0.000	-0.007	1.018	0.000	0.000	0.000	0.0	0.0
B110/N8159	ULS-Set B (auto)/12	0.001	0.000	8.105	0.000	0.000	0.000	0.0	0.0
B110/N8159	ULS-Set B (auto)/2	-0.002	-0.003	3.462	0.000	0.000	0.000	0.0	0.0
B110/N8159	ULS-Set B (auto)/5	0.001	0.002	6.295	0.000	0.000	0.000	0.0	0.0
B110/N8159	ULS-Set B (auto)/6	-0.002	-0.003	0.077	0.000	0.000	0.000	0.0	0.0
B110/N8159	ULS-Set B (auto)/7	0.000	0.001	10.837	0.000	0.000	0.000	0.0	0.0
B110/N8159	ULS-Set B (auto)/34	-0.003	0.001	7.452	0.000	0.000	0.000	0.0	0.0
B111/N8161	ULS-Set B (auto)/35	0.005	-11.518	-31.457	0.000	0.000	0.000	0.0	0.0
B111/N8161	ULS-Set B (auto)/7	0.005	-11.632	-30.551	0.000	0.000	0.000	0.0	0.0
B111/N8161	ULS-Set B (auto)/6	-0.002	7.568	30.590	0.000	0.000	0.000	0.0	0.0
B111/N8161	ULS-Set B (auto)/3	0.000	-11.127	-33.693	0.000	0.000	0.000	0.0	0.0
B111/N8161	ULS-Set B (auto)/2	-0.002	7.362	33.516	0.000	0.000	0.000	0.0	0.0
B111/N8161	ULS-Set B (auto)/28	-0.002	-6.095	-16.027	0.000	0.000	0.000	0.0	0.0
B112/N8163	ULS-Set B (auto)/13	0.007	0.408	26.133	0.000	0.000	0.000	0.0	0.0
B112/N8163	ULS-Set B (auto)/2	0.004	-0.529	-17.536	0.000	0.000	0.000	0.0	0.0
B112/N8163	ULS-Set B (auto)/32	-0.010	0.806	44.307	0.000	0.000	0.000	0.0	0.0
B112/N8163	ULS-Set B (auto)/6	0.004	-0.509	-22.879	0.000	0.000	0.000	0.0	0.0
B112/N8163	ULS-Set B (auto)/7	-0.010	0.786	49.650	0.000	0.000	0.000	0.0	0.0
B112/N8163	ULS-Set B (auto)/12	-0.011	0.398	30.289	0.000	0.000	0.000	0.0	0.0
B113/N8165	ULS-Set B (auto)/12	0.006	-0.013	6.332	0.000	0.000	0.000	0.0	0.0
B113/N8165	ULS-Set B (auto)/10	0.006	-0.020	8.359	0.000	0.000	0.000	0.0	0.0
B113/N8165	ULS-Set B (auto)/36	0.000	-0.002	3.036	0.000	0.000	0.000	0.0	0.0
B113/N8165	ULS-Set B (auto)/6	-0.003	-0.003	1.338	0.000	0.000	0.000	0.0	0.0
B113/N8165	ULS-Set B (auto)/7	0.006	-0.020	8.368	0.000	0.000	0.000	0.0	0.0
B113/N8165	ULS-Set B (auto)/13	-0.004	-0.011	4.917	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B114/N8167	ULS-Set B (auto)/15	0.000	0.009	1.855	0.000	0.000	0.000	0.0	0.0
B114/N8167	ULS-Set B (auto)/6	-0.002	-0.008	2.362	0.000	0.000	0.000	0.0	0.0
B114/N8167	ULS-Set B (auto)/16	0.000	0.015	2.814	0.000	0.000	0.000	0.0	0.0
B114/N8167	ULS-Set B (auto)/37	-0.001	0.011	0.381	0.000	0.000	0.000	0.0	0.0
B114/N8167	ULS-Set B (auto)/38	-0.001	-0.002	4.095	0.000	0.000	0.000	0.0	0.0
B114/N8167	ULS-Set B (auto)/39	-0.003	-0.003	3.666	0.000	0.000	0.000	0.0	0.0
B115/N8169	ULS-Set B (auto)/13	0.015	0.050	-0.029	0.000	0.000	0.000	0.0	0.0
B115/N8169	ULS-Set B (auto)/6	0.002	-0.044	8.088	0.000	0.000	0.000	0.0	0.0
B115/N8169	ULS-Set B (auto)/16	0.010	0.083	-2.793	0.000	0.000	0.000	0.0	0.0
B115/N8169	ULS-Set B (auto)/32	-0.012	0.063	-5.611	0.000	0.000	0.000	0.0	0.0
B115/N8169	ULS-Set B (auto)/2	0.002	-0.039	10.060	0.000	0.000	0.000	0.0	0.0
B115/N8169	ULS-Set B (auto)/12	-0.015	0.036	-1.299	0.000	0.000	0.000	0.0	0.0
B116/N9219	ULS-Set B (auto)/21	0.008	-0.101	2.604	0.000	0.000	0.000	0.0	0.0
B116/N9219	ULS-Set B (auto)/7	-0.011	-0.201	3.363	0.000	0.000	0.000	0.0	0.0
B116/N9219	ULS-Set B (auto)/6	0.002	0.118	1.954	0.000	0.000	0.000	0.0	0.0
B116/N9219	ULS-Set B (auto)/11	0.002	0.118	1.866	0.000	0.000	0.000	0.0	0.0
B116/N9219	ULS-Set B (auto)/40	-0.002	-0.080	4.100	0.000	0.000	0.000	0.0	0.0
B116/N9219	ULS-Set B (auto)/25	-0.011	-0.101	3.450	0.000	0.000	0.000	0.0	0.0
B117/N8179	ULS-Set B (auto)/1	0.006	-0.009	4.869	0.000	0.000	0.000	0.0	0.0
B117/N8179	ULS-Set B (auto)/16	0.003	-0.014	4.985	0.000	0.000	0.000	0.0	0.0
B117/N8179	ULS-Set B (auto)/6	-0.006	0.007	1.892	0.000	0.000	0.000	0.0	0.0
B117/N8179	ULS-Set B (auto)/41	-0.009	-0.005	0.666	0.000	0.000	0.000	0.0	0.0
B117/N8179	ULS-Set B (auto)/42	0.003	-0.007	5.876	0.000	0.000	0.000	0.0	0.0
B117/N8179	ULS-Set B (auto)/4	-0.010	-0.006	1.350	0.000	0.000	0.000	0.0	0.0
B118/N8185	ULS-Set B (auto)/13	0.030	0.003	23.373	0.000	0.000	0.000	0.0	0.0
B118/N8185	ULS-Set B (auto)/2	0.000	-0.049	-14.311	0.000	0.000	0.000	0.0	0.0
B118/N8185	ULS-Set B (auto)/32	-0.020	0.029	28.183	0.000	0.000	0.000	0.0	0.0
B118/N8185	ULS-Set B (auto)/11	0.000	-0.040	-16.822	0.000	0.000	0.000	0.0	0.0
B118/N8185	ULS-Set B (auto)/43	0.024	0.017	36.948	0.000	0.000	0.000	0.0	0.0
B118/N8185	ULS-Set B (auto)/12	-0.028	0.008	16.466	0.000	0.000	0.000	0.0	0.0
B119/N8187	ULS-Set B (auto)/15	0.031	0.010	4.163	0.000	0.000	0.000	0.0	0.0
B119/N8187	ULS-Set B (auto)/18	-0.006	-0.010	2.650	0.000	0.000	0.000	0.0	0.0
B119/N8187	ULS-Set B (auto)/19	0.024	0.017	4.649	0.000	0.000	0.000	0.0	0.0
B119/N8187	ULS-Set B (auto)/44	-0.030	0.008	0.606	0.000	0.000	0.000	0.0	0.0
B119/N8187	ULS-Set B (auto)/33	0.030	0.010	6.006	0.000	0.000	0.000	0.0	0.0
B119/N8187	ULS-Set B (auto)/17	-0.031	0.008	2.449	0.000	0.000	0.000	0.0	0.0
B120/N8193	ULS-Set B (auto)/7	0.003	-0.021	3.229	0.000	0.000	0.000	0.0	0.0
B120/N8193	ULS-Set B (auto)/34	0.000	-0.024	2.714	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B120/N8193	ULS-Set B (auto)/30	0.002	0.015	3.087	0.000	0.000	0.000	0.0	0.0
B120/N8193	ULS-Set B (auto)/32	0.003	-0.021	1.337	0.000	0.000	0.000	0.0	0.0
B120/N8193	ULS-Set B (auto)/23	-0.001	-0.008	4.719	0.000	0.000	0.000	0.0	0.0
B120/N8193	ULS-Set B (auto)/8	-0.001	-0.017	2.309	0.000	0.000	0.000	0.0	0.0
B121/N8195	ULS-Set B (auto)/15	0.031	0.007	7.533	0.000	0.000	0.000	0.0	0.0
B121/N8195	ULS-Set B (auto)/18	-0.003	-0.007	-1.219	0.000	0.000	0.000	0.0	0.0
B121/N8195	ULS-Set B (auto)/19	0.026	0.013	8.517	0.000	0.000	0.000	0.0	0.0
B121/N8195	ULS-Set B (auto)/41	-0.029	0.005	-1.477	0.000	0.000	0.000	0.0	0.0
B121/N8195	ULS-Set B (auto)/16	0.026	0.013	8.687	0.000	0.000	0.000	0.0	0.0
B121/N8195	ULS-Set B (auto)/17	-0.029	0.005	-0.906	0.000	0.000	0.000	0.0	0.0
B122/N8197	ULS-Set B (auto)/15	0.032	0.008	5.268	0.000	0.000	0.000	0.0	0.0
B122/N8197	ULS-Set B (auto)/18	-0.003	-0.008	0.391	0.000	0.000	0.000	0.0	0.0
B122/N8197	ULS-Set B (auto)/19	0.026	0.014	4.758	0.000	0.000	0.000	0.0	0.0
B122/N8197	ULS-Set B (auto)/41	-0.029	0.006	-3.295	0.000	0.000	0.000	0.0	0.0
B122/N8197	ULS-Set B (auto)/45	0.031	0.008	5.682	0.000	0.000	0.000	0.0	0.0
B122/N8197	ULS-Set B (auto)/17	-0.030	0.006	-2.880	0.000	0.000	0.000	0.0	0.0
B123/N8205	ULS-Set B (auto)/18	-0.001	-0.002	1.065	0.000	0.000	0.000	0.0	0.0
B123/N8205	ULS-Set B (auto)/19	0.006	0.003	1.033	0.000	0.000	0.000	0.0	0.0
B123/N8205	ULS-Set B (auto)/15	0.007	0.002	0.562	0.000	0.000	0.000	0.0	0.0
B123/N8205	ULS-Set B (auto)/17	-0.006	0.001	1.894	0.000	0.000	0.000	0.0	0.0
B124/N8213	ULS-Set B (auto)/1	0.001	-0.003	0.801	0.000	0.000	0.000	0.0	0.0
B124/N8213	ULS-Set B (auto)/16	0.001	-0.005	1.564	0.000	0.000	0.000	0.0	0.0
B124/N8213	ULS-Set B (auto)/6	-0.001	0.002	1.678	0.000	0.000	0.000	0.0	0.0
B124/N8213	ULS-Set B (auto)/15	0.001	-0.003	0.556	0.000	0.000	0.000	0.0	0.0
B124/N8213	ULS-Set B (auto)/17	-0.001	-0.002	2.933	0.000	0.000	0.000	0.0	0.0
B124/N8213	ULS-Set B (auto)/46	-0.001	-0.001	2.606	0.000	0.000	0.000	0.0	0.0
B125/N8221	ULS-Set B (auto)/30	-0.002	-0.026	1.527	0.000	0.000	0.000	0.0	0.0
B125/N8221	ULS-Set B (auto)/31	-0.008	0.095	2.360	0.000	0.000	0.000	0.0	0.0
B125/N8221	ULS-Set B (auto)/15	0.008	0.031	1.184	0.000	0.000	0.000	0.0	0.0
B125/N8221	ULS-Set B (auto)/17	-0.010	0.063	2.488	0.000	0.000	0.000	0.0	0.0
B126/N8223	ULS-Set B (auto)/15	0.008	0.016	2.515	0.000	0.000	0.000	0.0	0.0
B126/N8223	ULS-Set B (auto)/30	-0.002	-0.009	1.396	0.000	0.000	0.000	0.0	0.0
B126/N8223	ULS-Set B (auto)/31	-0.008	0.041	1.183	0.000	0.000	0.000	0.0	0.0
B126/N8223	ULS-Set B (auto)/41	-0.009	0.025	0.461	0.000	0.000	0.000	0.0	0.0
B126/N8223	ULS-Set B (auto)/45	0.007	0.016	3.074	0.000	0.000	0.000	0.0	0.0
B126/N8223	ULS-Set B (auto)/17	-0.009	0.025	1.020	0.000	0.000	0.000	0.0	0.0
B127/N8225	ULS-Set B (auto)/15	0.023	0.005	19.340	0.000	0.000	0.000	0.0	0.0
B127/N8225	ULS-Set B (auto)/11	-0.010	0.000	0.063	0.000	0.000	0.000	0.0	0.0

Name	Case	R _x [kN]	R _y [kN]	R _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	e _x [mm]	e _y [mm]
B127/N8225	ULS-Set B (auto)/10	-0.031	0.011	-12.433	0.000	0.000	0.000	0.0	0.0
B127/N8225	ULS-Set B (auto)/41	-0.036	0.006	-16.839	0.000	0.000	0.000	0.0	0.0
B127/N8225	ULS-Set B (auto)/45	0.020	0.005	19.903	0.000	0.000	0.000	0.0	0.0
B127/N8225	ULS-Set B (auto)/17	-0.038	0.006	-16.275	0.000	0.000	0.000	0.0	0.0
B140/N8727	ULS-Set B (auto)/1	0.029	-7.819	-17.727	0.000	0.000	0.000	0.0	0.0
B140/N8727	ULS-Set B (auto)/32	-0.025	-15.745	-38.593	0.000	0.000	0.000	0.0	0.0
B140/N8727	ULS-Set B (auto)/3	0.023	-15.417	-39.384	0.000	0.000	0.000	0.0	0.0
B140/N8727	ULS-Set B (auto)/2	0.011	13.189	41.012	0.000	0.000	0.000	0.0	0.0
B140/N8727	ULS-Set B (auto)/4	-0.032	-7.998	-16.469	0.000	0.000	0.000	0.0	0.0
B141/N8728	ULS-Set B (auto)/15	0.015	-5.239	-10.323	0.000	0.000	0.000	0.0	0.0
B141/N8728	ULS-Set B (auto)/47	0.012	-9.341	-20.917	0.000	0.000	0.000	0.0	0.0
B141/N8728	ULS-Set B (auto)/14	-0.001	6.712	23.159	0.000	0.000	0.000	0.0	0.0
B141/N8728	ULS-Set B (auto)/3	0.012	-9.330	-22.257	0.000	0.000	0.000	0.0	0.0
B141/N8728	ULS-Set B (auto)/2	-0.002	6.702	24.499	0.000	0.000	0.000	0.0	0.0
B141/N8728	ULS-Set B (auto)/17	-0.015	-4.211	-7.630	0.000	0.000	0.000	0.0	0.0
B142/N8729	ULS-Set B (auto)/15	0.002	-0.032	0.542	0.000	0.000	0.000	0.0	0.0
B142/N8729	ULS-Set B (auto)/48	0.000	-0.060	-0.282	0.000	0.000	0.000	0.0	0.0
B142/N8729	ULS-Set B (auto)/37	-0.004	-0.056	-0.296	0.000	0.000	0.000	0.0	0.0
B142/N8729	ULS-Set B (auto)/49	-0.006	0.046	4.183	0.000	0.000	0.000	0.0	0.0
B142/N8729	ULS-Set B (auto)/39	-0.008	0.026	3.581	0.000	0.000	0.000	0.0	0.0

Name	Combination key
ULS-Set B (auto)/1	G + G1 + 1.05*Q1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/2	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/3	G + G1 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/4	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/5	G + G1 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/6	G + G1 + 0.75*Q3 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/7	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/8	G + G1 + 0.75*Q3 + G3 + G2 + 1.50*Q8
ULS-Set B (auto)/9	G + G1 + 1.05*Q1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/10	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/11	G + G1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/12	G + G1 + 1.05*Q1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/13	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/14	1.35*G + 1.35*G1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 1.50*Q9
ULS-Set B (auto)/15	G + G1 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/16	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/17	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/18	G + G1 + 1.05*Q1 + 0.75*Q3 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/19	1.35*G + 1.35*G1 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/20	1.35*G + 1.35*G1 + 1.50*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q9
ULS-Set B (auto)/21	G + G1 + 0.75*Q3 + 1.50*Q6 + G3 + G2
ULS-Set B (auto)/22	1.35*G + 1.35*G1 + 1.35*G3 + 1.35*G2 + 1.50*Q8
ULS-Set B (auto)/23	1.35*G + 1.35*G1 + 1.50*Q1 + 0.75*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/24	1.35*G + 1.35*G1 + 1.05*Q1 + 1.35*G3 + 1.35*G2 + 1.50*Q8

Name	Combination key
ULS-Set B (auto)/25	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/26	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/27	G + G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/28	1.35*G + 1.35*G1 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/29	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/30	G + G1 + 1.05*Q1 + G3 + G2 + 1.50*Q9
ULS-Set B (auto)/31	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q5 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/32	G + G1 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/33	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/34	1.35*G + 1.35*G1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/35	G + G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/36	G + G1 + G3 + G2
ULS-Set B (auto)/37	G + G1 + 0.75*Q3 + 1.50*Q5 + G3 + G2
ULS-Set B (auto)/38	1.35*G + 1.35*G1 + 1.50*Q1 + 1.35*G3 + 1.35*G2 + 0.90*Q9
ULS-Set B (auto)/39	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q9
ULS-Set B (auto)/40	1.35*G + 1.35*G1 + 1.50*Q1 + 0.75*Q3 + 1.35*G3 + 1.35*G2 + 0.90*Q8
ULS-Set B (auto)/41	G + G1 + 0.75*Q3 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/42	1.35*G + 1.35*G1 + 1.50*Q1 + 0.90*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/43	1.35*G + 1.35*G1 + 1.05*Q1 + 0.75*Q3 + 1.50*Q4 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/44	G + G1 + 1.50*Q7 + G3 + G2
ULS-Set B (auto)/45	1.35*G + 1.35*G1 + 1.05*Q1 + 1.50*Q6 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/46	1.35*G + 1.35*G1 + 1.50*Q3 + 0.90*Q7 + 1.35*G3 + 1.35*G2
ULS-Set B (auto)/47	G + G1 + 1.05*Q1 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/48	G + G1 + 0.75*Q3 + 1.50*Q4 + G3 + G2
ULS-Set B (auto)/49	1.35*G + 1.35*G1 + 1.05*Q1 + 1.35*G3 + 1.35*G2 + 1.50*Q9