Opgesteld:	LER	Gecontroleerd:	KER	Goedgekeurd:	RIW
Datum	17-8-2021	Datum	17-8-2021	Datum	17-8-2021

"For approval"

Expansion storage capacity TP3

Stair tower

Structural design / weight calculation

Klant	Neste Terminals	Klant projectnr.	2307
Project	Expansion storage capacity TP3	KH projectnr.	68685
Locatie	Vlaardingen		
Installatie	Tank pit 3	Revisie	0
documentnr.	2307-E40-CN-1732-0002	Datum	17-8-2021

Revision	Description	Date
0	Released for approval	17-8-2021

1 Index

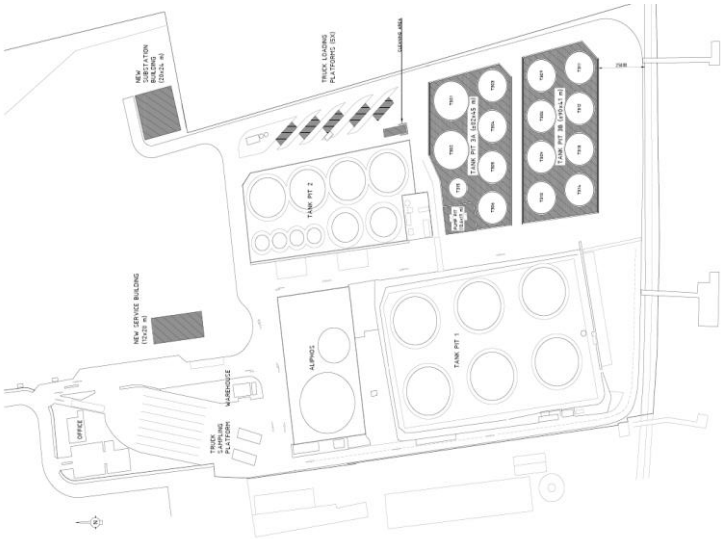
2 Introduction

Neste Terminal in Rotterdam has the intention to expand the storage capacity of their tank terminal in Rotterdam.

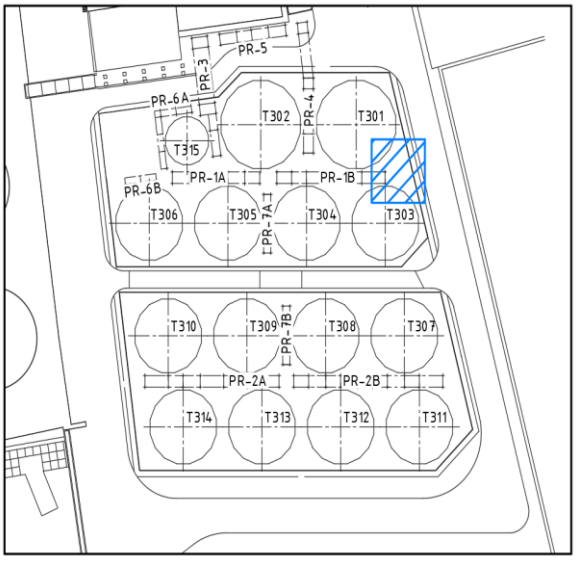
The expansion of the terminal consists of 15 tanks divided over two tank pits. There is a maintenance road between the two tank pits. Both tank pits are connected underground in order to guarantee the buffer capacity of the tank pits. The bund wall shall consist of either a retaining wall or sheet piling wall.

At the north-east side there is a new truck loading area with 5 bays.
The new tank pits are connected to the existing tank pit and new loading area by means of pipe racks.

On the north side of the new tank pits an recently built tank pit (built in 2017-2018) so called phase 1 is present. The tanks in this tank bund are founded on a crushed stone ring on a deep soil improvement.
At the westside also tank pit is present which is built in approximately 40 years ago (1960).



In this calculation the design of the stair tower is checked and the piling load is determined.



3 General

3.1 Standards

NEN-EN 1990/NB	Eurocode 0: Basis of structural design
NEN-EN 1991	Eurocode 1: Actions on structures
NEN-EN 1991-1-1/NB	General actions - Densities, self-weight, imposed loads for buildings
NEN-EN 1991-1-4/NB	General actions - Wind actions
NEN-EN 1991-1-5/NB	General actions - Thermal actions
NEN-EN 1992	Eurocode 2: Design of concrete structures
NEN-EN 1992-1-1/NB	General rules and rules for buildings
NEN-EN 1993	Eurocode 3: Design of steel structures
NEN-EN 1993-1-1/NB	General rules and rules for buildings
NEN-EN 1993-1-8/NB	Design of joints
2305-000-JSD-1700-04 Rev.4	General rules for steel structure and civil works
2307-000-DC-1708-0004_0	Calculation Note Assumptions

3.2 Reference documents

drawings:

- 2307-E40-DW-0051-0003 TP3 3D view

other:

- FA01-D02-2101015 Geotechnical advice TP03 Neste

3.3 Used programs

SCIA Engineer, version: 20.0.2028
Microsoft Office

3.4 Basis

consequence class	*CC2*	
reliability class	*RC2*	
design working life	*50*	Years

materials

steel grade	structural steel	*S355*
	stairs	*S235*
concrete class		*C30/37*

deformations limits

Steel structure:

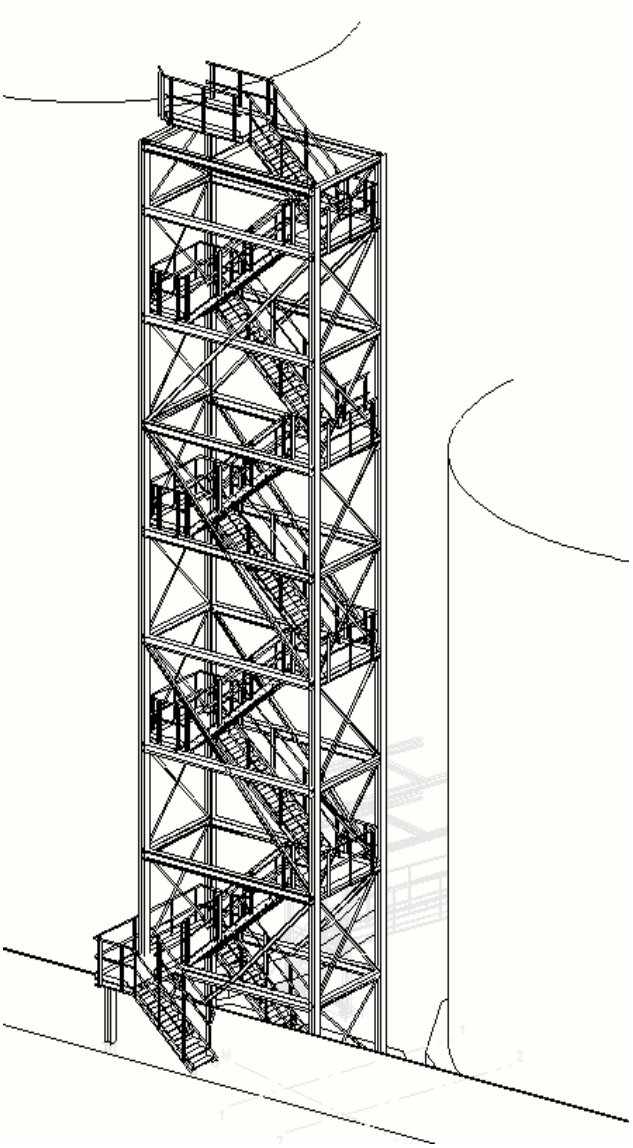
horizontal and vertical deflections	quasi permanent	$\omega_{lim} = l_{rep} / 250$
	frequent	$\omega_3 = l_{rep} / 333$
horizontal displacement	characteristic	$u = H / 250$

foundations

The springs constants are derived from the geotechnical advise. Because displacement is decisive the characteristic value is applied. The horizontal spring constant is estimated based on other calculations of this project.

$k_v =$ *60* MN/m
$k_h =$ *10* MN/m

4 Structure



dimensions

w	=	*3,25*	m
l	=	*6,2*	m
h	=	*25,6*	m

The stair tower is placed at the east side of tank pit 3A, adjacent to the bund wall. The foundation consist of deep beams beneath the columns that are integrated in a concrete slab. Top of the foundations is equal to the level of the tank pit floor (0,770m below grade). The stair tower is braced in both directions. In one direction with cross bracing (tension only) and in the other direction with single bracing. This single bracing allows for openings in the structure so that the stairs can be accessed at multiple locations.

5 Loads and load combinations

5.1 Dead load

grating	typical	g_k =	*0,5*	kN/m²
railing	typical	g_k =	*0,3*	kN/m
	on stairs	g_k =	*0,23*	kN/m

5.2 Imposed load

imposed load	- surface load	platform	q_k =	*5,0*	kN/m²
		stairs	q_k =	*4,0*	kN/m²
	- point load		Q_k =	*10,0*	kN

5.3 Wind load

For the wind load the structure is assumed to be at grade level, the effect of the bund wall is not taken into account.

5.3.1 Pressure

For the bottom part the reference height is increased due to effect from the adjacent tanks.

top of high structure		h_{high} =	*24,5*	m
largest width of high structure		d_{large} =	*16*	m
radius	$h_{high} \leq 2d_{large}$ -> h_{high}=	r =	24,5	m
reference height	$x \leq r$ -> 0,5r =	z_n =	12,25	m

terrain category	*II*	area not build on			
basic wind velocity		conform client spec.	v_b =	*30*	m/s
roughness length			z_0 =	0,2	m
			$z_{0,II}$ =	*0,05*	m
minimum height			z_{min} =	4	m
terrain factor			k_r =	0,209	
roughness factor			$c_r(h)$ =	0,862	
orography factor			$c_0(z)$ =	*1,00*	
mean wind velocity			$v_{m(h)}$ =	25,85	m/s
turbulence factor			k_I =	*1*	
turbulence intensity			$I_v(h)$ =	0,243	
air density			ρ =	*1,25*	kg/m³
peak velocity pressure			$q_p(z)$ =	1,128	

5.3.2 structural factor

height of structure				h =	*25,6*	m
reference height			$0{,}6h$ =	z_s =	15,36	m
turbulence intensity				$I_v(z_s)$ =	0,23	
The structural factor is calculated for both directions.						
width of the structure	b =	*6,2*		w =	*3,25*	m
reference length scale				L_t =	*300*	m
reference height				z_t =	*200*	m
factor				a =	0,59	
turbulent length scale				$L(z_s)$ =	66,1	m
background factor	B^2 =	0,62		=	0,63	
averaging time for the mean wind velocity				T =	*600*	s
natural frequency	$n_{1,x}$ =	*2,6*		=	*1,6*	Hz
up-crossing frequency	v =	0,75		=	0,87	Hz
peak factor	k_p =	3,52		=	3,56	
roughness factor				$c_r(zs)$ =	0,909	
mean wind velocity				$v_m(zs)$ =	27,3	m/s
total mass of steel structure				m =	*30000*	kg
equivalent mass per unit length				m_e =	1172	kg/m
logarithmic decrement of structural damping				δs =	*0,05*	
logarithmic decrement of damping due to special devices				δd =	*0,00*	
logarithmic decrement of aerodynamic damping	δa =	0,07		=	0,06	
logarithmic decrement of damping	δ =	0,12		=	0,11	
non-dimensional frequency	fL =	6,4		=	3,85	
wind power spectral density	$S_l(Z_s,n_{1,x})$ =	0,04		=	0,05	
factor				c_y =	*11,5*	
factor				c_z =	*11,5*	
	φ_y =	6,90		=	2,18	
	φ_z =	28,5		=	17,2	
constant	G_y =	*0,50*		=	*0,50*	
constant	G_z =	*0,41*		=	*0,38*	
size reduction function	$K_s(n_{1,x})$ =	0,03		=	0,11	
resonance response factor	R^2 =	0,05		=	0,27	
structural factor, calculated	$c_s c_d$ =	0,89		=	0,98	
structural factor, applied				$c_s c_d$ =	*1,0*	

5.3.3 wind load

force coefficient	c_f =	*2,0*	
height of handrailing with cf=2,0	h =	*0,275*	m

5.4 Accidental load

specific weight of product	γ =	*10*	kN/m³
height of bund wall	h =	*2,1*	m
product load	q_k =	21,0	kN/m²

5.5 Combinations

	ψ_0	ψ_1	ψ_2
industrial - short term	*0,5*	*0,5*	*0,3*
wind	*0,0*	*0,2*	*0,0*

$$ULS = \sum_{j\geq 1} \gamma_{G,j} G_{k,j} + \gamma_{Q,1}\psi_{0,1} Q_{k,1} + \sum_{i\geq 1} \gamma_{Q,i}\psi_{0,i} Q_{k,i}$$

$$ULS = \sum_{j\geq 1} \xi\gamma_{G,j} G_{k,j} + \gamma_{Q,1} Q_{k,1} + \sum_{i\geq 1} \gamma_{Q,i}\psi_{0,i} Q_{k,i}$$

ξ = *0,9* γ_G = *1,35* $\gamma_{G,inf}$ = *1,0* γ_Q = *1,5*

$$SLS_{char} = \sum_{j\geq 1} G_{k,j} + Q_{k,1} + \sum_{i>1} \psi_{0,i} Q_{k,i}$$

$$SLS_{freq} = \sum_{j\geq 1} G_{k,j} + \psi_{1,1} Q_{k,1} + \sum_{i>1} \psi_{2,i} Q_{k,i}$$

$$SLS_{quasi} = \sum_{j\geq 1} G_{k,j} + \psi_{2,1} Q_{k,1} + \sum_{i>1} \psi_{2,i} Q_{k,i}$$

6 Calc

6.1 Analysis type

The structure is braced in both directions. Therefore it is assumed non sway, resulting in a linear elastic, 1st order calculation, with buckling length equal to system length.

For the two cantilevers the buckling length is increased with a factor 2.
The bracing with HEA members span two levels and is thus separated in two parts by a beam Under compression this two parts of the bracing, in combination with imperfections, will apply a horizontal load on the beam. But since the normal force in this beam is relative low, αcr > 10, no imperfection and 2nd order effects are applied for this.

6.2 Displacement

6.2.1 columns

el.	h	uy	δuy	δulim		
26	1,8	*108*	7,1	7,2	Ok	l / 254
24	3	*101*	12,1	12,0	Not Ok	l / 248
21	3	*89*	12,4	12,0	Not Ok	l / 242
18	3	*76*	12,6	12,0	Not Ok	l / 238
15	3	*64*	12,6	12,0	Not Ok	l / 238
12	3	*51*	12,5	12,0	Not Ok	l / 240
8,7	3	*38*	12,2	12,0	Not Ok	l / 246
5,7	3	*26*	11,7	12,0	Ok	l / 256
2,7	2,7	*15*	9,6	10,8	Ok	l / 281
0		*4,9*				
			103	102	Not Ok	l / 248

The displacement of the structure is larger than the design limit of 1/250 conform client specifications. This is assumed acceptable as the exceedance of the limit is relative small. Also most of the displacement is as result of settlement of the foundations. Increasing dimensions of the steel structure will have minimal, or possibly a negative effect (more wind surface).

6.2.2 foundation

vertical displacement

l	$u_{z,min}$	$u_{z,max}$	δu	δu,lim			limit = *0,003 l*
3,3	1,9	-7,1	9,0	9,8	Ok	l / 361	

7 Conclusion

The structure is checked with Scia engineer, see appendix A. The results of the calculation are as follows.

member check		unity checks ULS	SLS
columns	HEB240	*0,4*	*1,05*
bracing	HEA140	*0,3*	*-*
	L100.10	*0,3*	*-*
beams	HEA180	*0,6*	*0,36*
	UNP180	*0,8*	*0,25*

maximum displacement = *108* mm

reaction forces

tension	$R_{z,min}$ =	*-255*	kN
compression	$R_{z,max}$ =	*600*	kN
shear	R_{xy} =	*45*	kN

pile bearing capacity Ø406/456, pile tip -21,000 N.A.P.

tension	$R_{t,d}$ =	*-273*	kN
compression	$R_{c,net,d}$ =	*990*	kN

Appendix A

Scia report

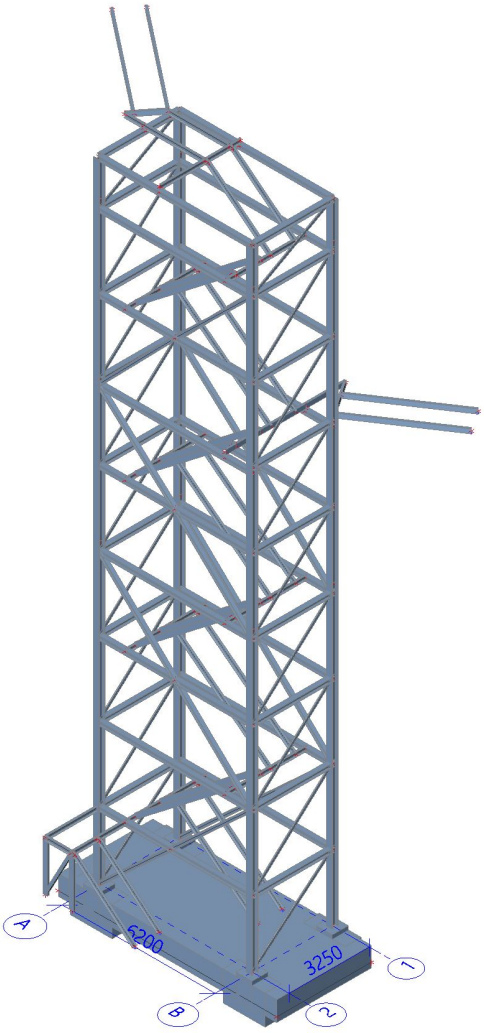
KH Engineering

1. Table of contents

2. General

2.1. Project

Licence name	KH Engineering
Project	Neste - Rotterdam terminal expansion
Part	Tank pit 3 - stair tower
Description	-
Author	LER
Date	19. 05. 2021
Structure	General XYZ
No. of nodes :	180
No. of beams :	137
No. of slabs :	1
No. of solids :	0
No. of used profiles :	10
No. of load cases :	8
No. of used materials :	4
Acceleration of gravity [m/s^2]	9,810
National code	EC - EN



2.2. Setup manager

(STR/GEO) alternative

Combination	Eq.6.10a & Eq.6.10b

Psi factors

Load	Psi0	Psi1	Psi2
CategoryA	0.4	0.5	0.3
CategoryB	0.5	0.5	0.3
CategoryC	0.6	0.7	0.6
CategoryD	0.4	0.7	0.6
CategoryE	1	0.9	0.8
CategoryF	0.7	0.7	0.6
CategoryG	0.7	0.5	0.3
CategoryH	0	0	0
Snow	0	0.2	0
Wind	0	0.2	0
Temperature	0	0.5	0
Rain water	0	0	0
Construction loads	1	0	0.2

Load combination factors

Permanent action - unfavorable	1,35
Permanent action - favorable [-]	0,90
Leading variable action	1,50
Accompanying variable action	1,50
Reduction factor ksi [-]	0,89

Member check

y-y	✓
z-z	×
Max. k ratio [-]	10,00
Max. slenderness [-]	1000,00
2nd order buckling ratios	Acc. to input
Lateral torsional buckling curves	Rolled section or equivalent welded
Method for C1 C2 C3	ECCS 119/Galea
Method for k_c	Determined from C1
Elastic verification	×
Verify only section checks	×
Flexural buckling accounted for by 2nd order calculation	×
Moments on columns in simple construction	×
Interaction Method	Annex B (alternative method 2)
Gamma M0 [-]	1,00
Gamma M1 [-]	1,00
Gamma M2 [-]	1,25
k [-]	0,50
a [-]	0,21
b [-]	0,34
c [-]	0,49
d [-]	0,76
LTB Curves	Use Table 6.4
Lambda,LT,0 [-]	0,40
Beta [-]	0,75
LTB Curves	Use Table 6.5
Modification factor f	Default EN Method

National Annex

Gamma,M0 [-]	1,00
Gamma,M1 [-]	1,00
Gamma,M2 [-]	1,25
Gamma,M3 [-]	1,25
Gamma,c [-]	1,50
Modification factor [-]	1,00
Triangular Limit	Dutch NEN-EN NA method

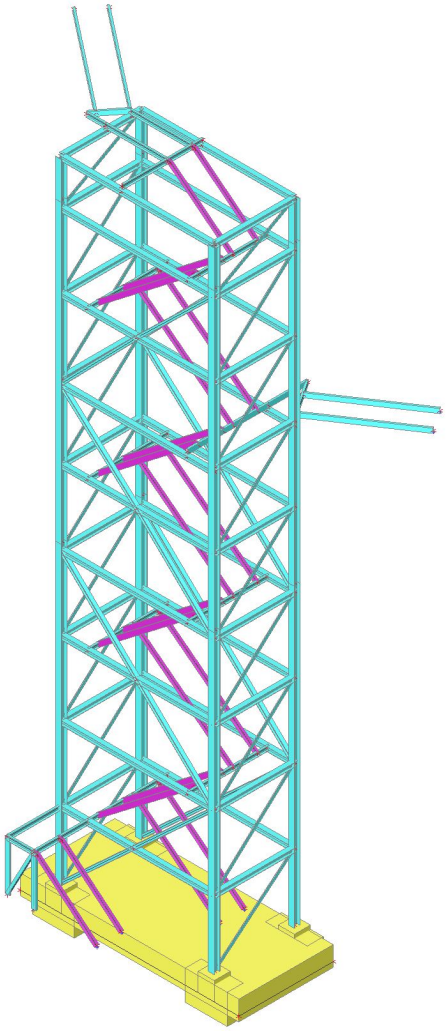
2.3. Materials

Steel EC3

Name	ρ [kg/m³]	E_{mod} [MPa] G_{mod} [MPa]	μ α [m/mK]	Lower limit [mm]	Upper limit [mm]	F_y [MPa]	F_u [MPa]	Colour
S 235	7850,0	2,1000e+05 8,0769e+04	0.3 0,00	0 40	40 80	235,0 215,0	360,0 360,0	
S 355	7850,0	2,1000e+05 8,0769e+04	0.3 0,00	0 40	40 80	355,0 335,0	490,0 470,0	
Dummy	7850,0	1,0000e+14 3,8462e+13	0.3 0,00	0	100	140,0	270,0	

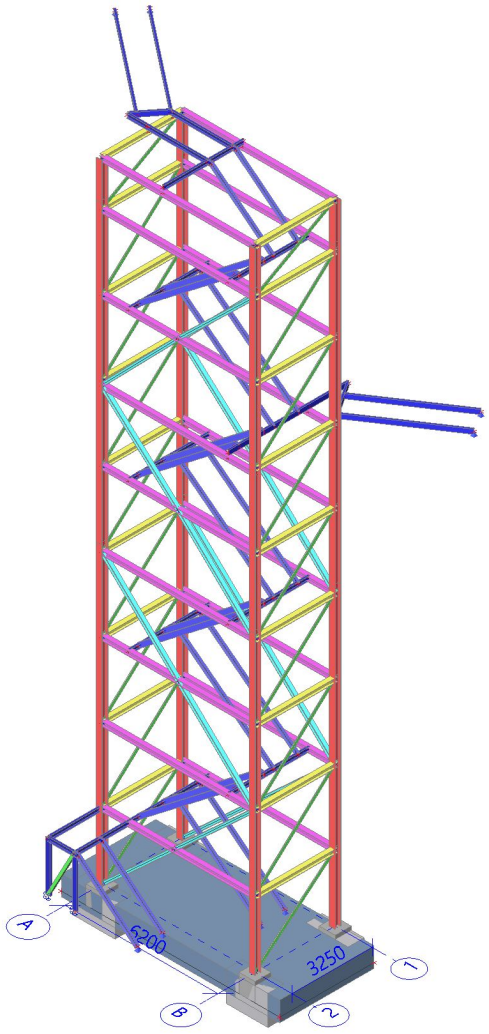
Name	Type	ρ [kg/m³]	Density in fresh state [kg/m³]	E_{mod} [MPa]	μ	α [m/mK]	$f_{c.k.28}$ [MPa]	Colour
C30/37	Concrete	2500,0	2600,0	3,2800e+04	0.2	0,00	30,00	

Explanations of symbols	
Density in fresh state	The value in the density in fresh state property is used only in case a composite deck is input and its self-weight load is taken into account.



2.4. Cross-sections

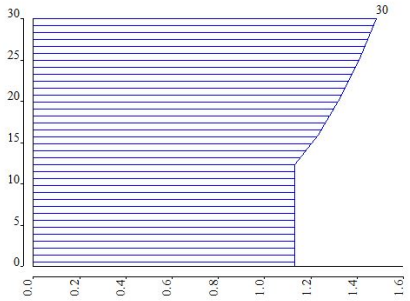
Name	Type Detailed	Item material	Fabrication	A [m²]	A_y [m²] A_z [m²]	I_y [m⁴] I_z [m⁴]	$W_{el.y}$ [m³] $W_{el.z}$ [m³]	$W_{pl.y}$ [m³] $W_{pl.z}$ [m³]	Colour
CS1	Rectangle 650; 650	C30/37	concrete	4,2250e-01	3,5245e-01 3,5245e-01	1,4876e-02 1,4876e-02	4,5771e-02 4,5771e-02	0,0000e+00 0,0000e+00	
CS2	Rectangle 1200; 650	C30/37	concrete	7,8000e-01	6,5133e-01 6,5038e-01	9,3600e-02 2,7463e-02	1,5600e-01 8,4500e-02	0,0000e+00 0,0000e+00	
CS3	HEA140	S 355	rolled	3,1400e-03	2,2882e-03 7,8192e-04	1,0300e-05 3,8900e-06	1,5500e-04 5,5600e-05	1,7333e-04 8,5000e-05	
CS4	HEA180	S 355	rolled	4,5300e-03	3,2772e-03 1,0992e-03	2,5100e-05 9,2500e-06	2,9400e-04 1,0300e-04	3,2500e-04 1,5667e-04	
CS5	HEA180	S 355	rolled	4,5300e-03	3,2772e-03 1,0992e-03	2,5100e-05 9,2500e-06	2,9400e-04 1,0300e-04	3,2500e-04 1,5667e-04	
CS6	HEB240	S 355	rolled	1,0600e-02	7,8218e-03 2,5536e-03	1,1260e-04 3,9230e-05	9,3830e-04 3,2690e-04	1,0530e-03 4,9840e-04	
CS7	HFLeq100x100x10	S 355	rolled	1,9150e-03	1,6118e-03 1,6187e-03	2,8030e-06 7,3000e-07	3,9631e-05 1,8292e-05	6,2946e-05 3,2343e-05	
CS8	RD50	Dummy	rolled	1,9625e-03	1,7638e-03 1,7638e-03	3,0037e-07 3,0037e-07	1,2015e-05 1,2015e-05	2,0505e-05 2,0505e-05	
CS9	UNP180	S 235	rolled	2,8000e-03	1,4920e-03 1,4353e-03	1,3500e-05 1,1400e-06	1,5000e-04 2,2400e-05	1,7920e-04 4,2900e-05	
CS10	UNP180	S 355	rolled	2,8000e-03	1,4920e-03 1,4353e-03	1,3500e-05 1,1400e-06	1,5000e-04 2,2400e-05	1,7920e-04 4,2900e-05	



2.5. Wind pressures

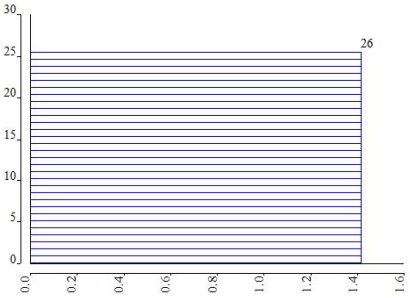
Name	Beams
Input	user
Height / Pressure	0.000000 / 1129.000000 12.300000 / 1129.000000 16.000000 / 1230.000000 20.000000 / 1318.000000 25.000000 / 1408.000000 30.000000 / 1484.000000

Drawing



Name	Columns
Input	user
Height / Pressure	0.000000 / 1416.000000 25.500000 / 1416.000000

Drawing



3. Structure

3.1. Nodes

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N001	6,200	3,250	-0,750
N1	5,125	2,825	17,700
N002	0,000	3,250	-0,750
N003	6,200	0,000	-0,750
N004	0,000	0,000	-0,750
N005	-1,325	-0,325	-0,750
N006	7,525	-0,325	-0,750
N007	7,525	3,500	-0,750
N008	-1,325	3,500	-0,750
N009	5,350	0,000	-0,750
N010	7,050	0,000	-0,750
N011	0,850	0,000	-0,750
N012	-0,850	0,000	-0,750
N013	5,350	3,250	-0,750
N014	7,050	3,250	-0,750
N015	-0,850	3,250	-0,750
N016	0,850	3,250	-0,750
N017	0,850	3,250	-0,750
N018	5,350	3,250	-0,750
N019	6,200	3,250	0,000
N020	6,200	0,000	0,000
N021	0,000	0,000	0,000
N022	0,000	3,250	0,000
N023	4,600	2,825	0,000
N024	4,600	1,825	0,000
N025	0,000	-2,175	0,700
N026	1,075	-2,175	0,700
N027	3,625	-2,175	0,700
N028	3,625	-1,175	0,700
N029	6,200	0,000	2,700
N030	0,000	0,000	2,700
N031	6,200	3,250	2,700
N032	0,000	3,250	2,700
N033	1,075	3,250	2,700
N034	1,075	0,000	2,700
N035	1,225	2,825	2,700
N036	1,225	1,825	2,700
N037	1,075	1,425	2,700
N038	1,075	0,425	2,700
N039	1,075	2,825	2,700
N040	1,075	1,825	2,700
N041	2,937	3,250	2,700
N042	2,937	0,000	2,700
N043	1,075	-2,175	2,700
N044	0,000	-2,175	2,700
N045	1,225	-2,175	2,700
N046	1,225	-1,175	2,700
N047	1,075	-1,175	2,700
N048	6,200	0,000	5,700
N049	0,000	0,000	5,700
N050	6,200	3,250	5,700
N051	0,000	3,250	5,700
N052	5,125	3,250	5,700
N053	5,125	0,000	5,700
N054	5,125	2,825	5,700
N055	5,125	1,825	5,700
N056	5,125	1,425	5,700
N057	5,125	0,425	5,700
N058	4,975	0,425	5,700
N059	4,975	1,425	5,700
N060	6,200	0,000	8,700
N061	0,000	0,000	8,700
N062	6,200	3,250	8,700
N063	0,000	3,250	8,700
N064	1,075	3,250	8,700
N065	1,075	0,000	8,700
N066	1,075	1,425	8,700
N067	1,075	0,425	8,700
N068	1,075	2,825	8,700
N069	1,075	1,825	8,700
N070	3,100	0,000	8,700
N071	3,100	3,250	8,700
N072	1,225	2,825	8,700
N073	1,225	1,825	8,700
N074	6,200	3,250	11,700
N075	6,200	0,000	11,700
N076	0,000	3,250	11,700
N077	0,000	0,000	11,700
N078	5,125	3,250	11,700
N079	5,125	0,000	11,700
N080	5,125	2,825	11,700
N081	5,125	1,825	11,700
N082	5,125	1,425	11,700
N083	5,125	0,425	11,700
N084	4,975	0,425	11,700
N085	4,975	1,425	11,700
N086	0,000	0,000	12,000
N087	0,000	3,250	12,000
N088	6,200	3,250	12,000
N089	6,200	0,000	12,000
N090	6,200	3,250	14,700
N091	0,000	3,250	14,700
N092	6,200	0,000	14,700
N093	0,000	0,000	14,700
N094	1,075	3,250	14,700
N095	1,075	0,000	14,700
N096	1,075	1,425	14,700
N097	1,075	0,425	14,700
N098	1,075	2,825	14,700
N099	1,075	1,825	14,700
N100	3,100	0,000	14,700
N101	3,100	3,250	14,700
N102	1,225	2,825	14,700
N103	1,225	1,825	14,700
N104	0,000	3,250	17,520
N105	6,200	0,000	17,520
N106	0,000	0,000	17,520
N107	5,125	3,250	17,520
N108	5,125	0,000	17,520
N109	6,200	3,250	17,520
N110	5,125	3,250	17,610
N112	6,200	3,250	17,700
N113	0,000	3,250	17,700
N114	6,200	0,000	17,700
N115	0,000	0,000	17,700
N124	5,480	4,332	17,700
N125	6,034	3,499	17,700
N126	9,364	5,716	17,700
N128	8,809	6,548	17,700
N129	3,100	0,000	20,700
N130	6,200	3,250	20,700
N131	0,000	3,250	20,700
N132	6,200	0,000	20,700
N133	0,000	0,000	20,700
N134	1,075	3,250	20,700
N135	1,075	0,000	20,700
N136	1,075	1,425	20,700
N137	1,075	0,425	20,700
N140	1,075	2,825	20,700
N141	1,075	1,825	20,700
N142	3,100	3,250	20,700
N143	6,200	3,250	23,700
N144	6,200	0,000	23,700
N145	0,000	3,250	23,700
N146	0,000	0,000	23,700
N147	5,125	3,250	23,700
N148	5,125	0,000	23,700
N149	4,975	1,425	23,700
N150	4,975	0,425	23,700
N151	5,125	1,425	23,700
N152	5,125	0,425	23,700
N153	5,125	2,825	23,700
N154	5,125	1,825	23,700
N155	6,200	3,250	24,000
N156	6,200	0,000	24,000
N157	0,000	3,250	24,000
N158	0,000	0,000	24,000
N159	6,200	3,250	25,500
N160	6,200	0,000	25,500
N161	0,000	3,250	25,500
N162	0,000	0,000	25,500
N163	2,470	0,000	25,500
N164	2,470	3,250	25,500
N165	0,000	2,825	25,500
N166	0,000	1,825	25,500
N170	0,000	1,825	25,590
N171	0,000	2,825	25,680
N172	-0,616	2,038	25,680
N173	2,470	2,825	25,680
N174	2,470	3,250	25,680
N175	2,470	0,000	25,680
N176	2,620	2,825	25,680
N177	2,620	1,825	25,680
N178	2,470	1,825	25,680
N179	-4,085	6,022	25,680
N180	-4,702	5,235	25,680
N184	5,125	4,865	17,700
N185	-0,783	1,825	25,680
N186	0,000	1,825	25,680
N187	5,125	0,000	17,700
N188	1,225	2,825	20,700
N189	5,125	1,825	17,700
N190	1,225	1,825	20,700
N191	4,975	0,425	17,700
N192	5,125	0,425	17,700
N193	4,975	1,425	17,700
N194	5,125	1,425	17,700
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N196	5,350	3,500	-0,750
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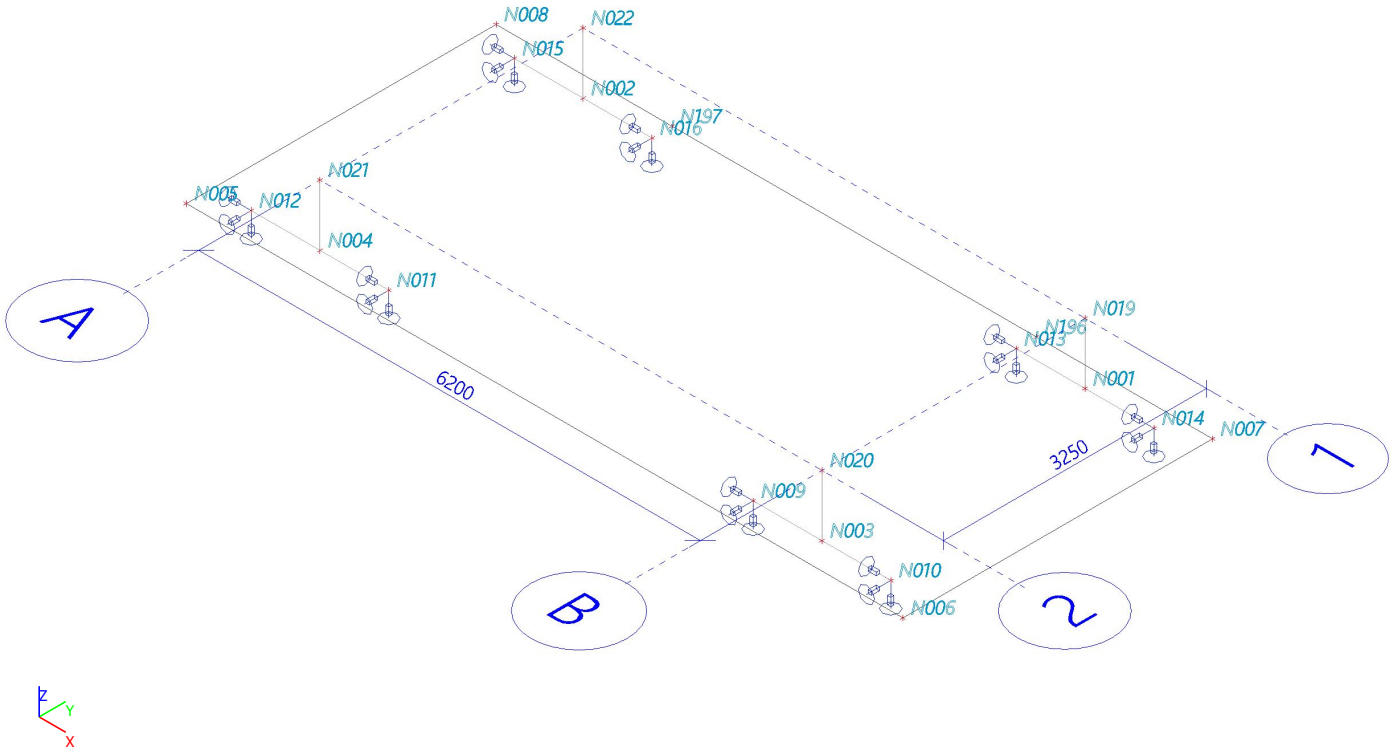
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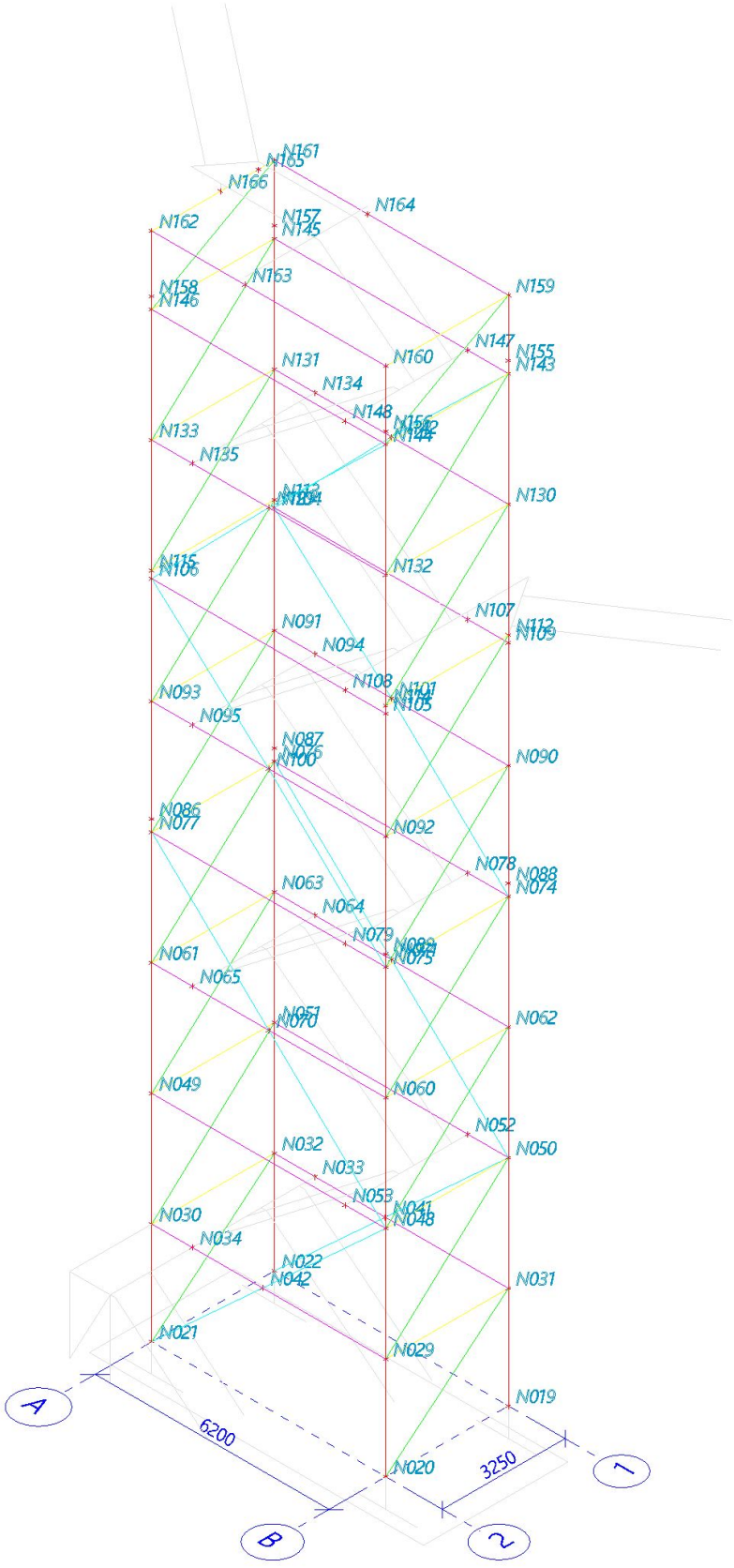
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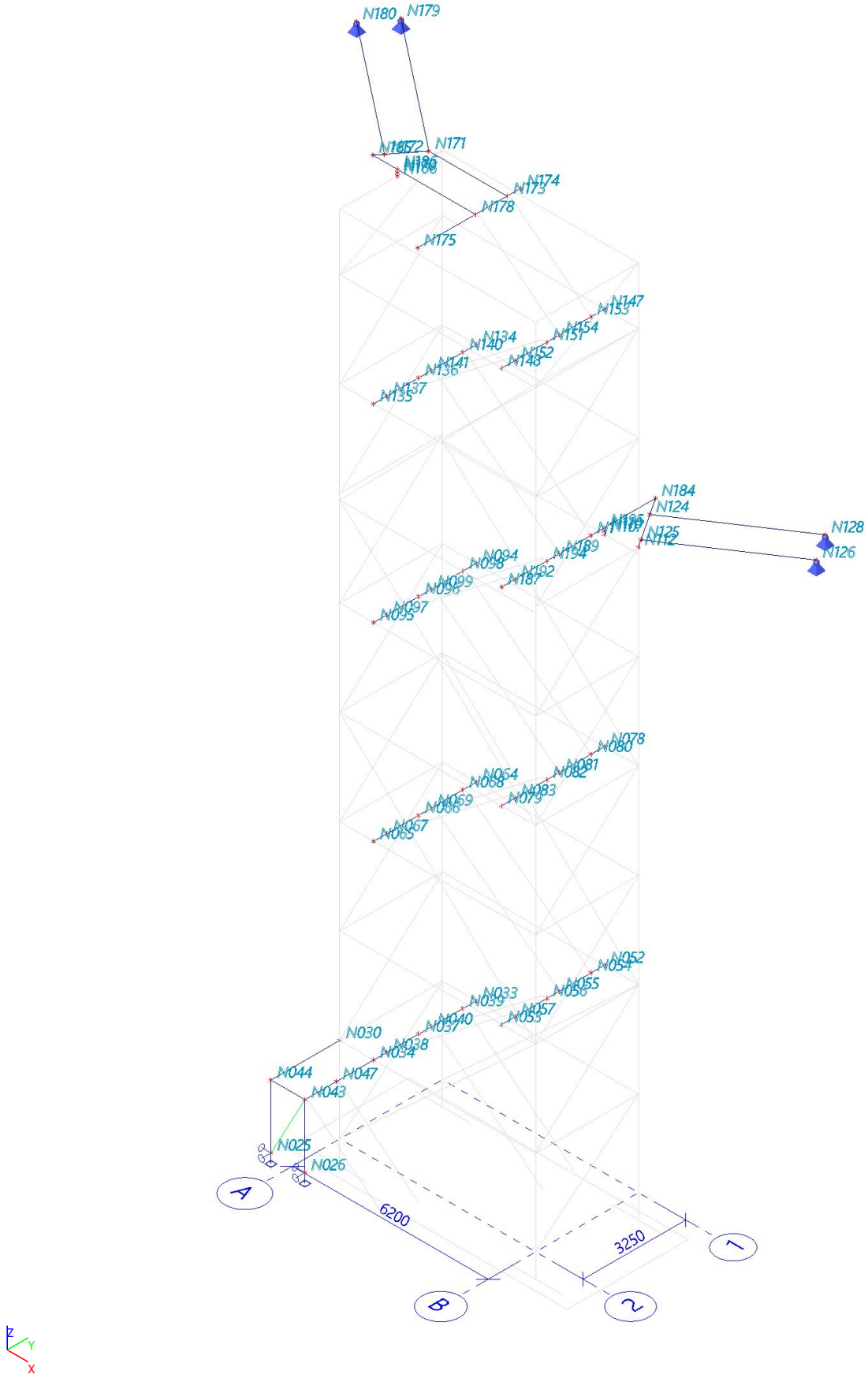
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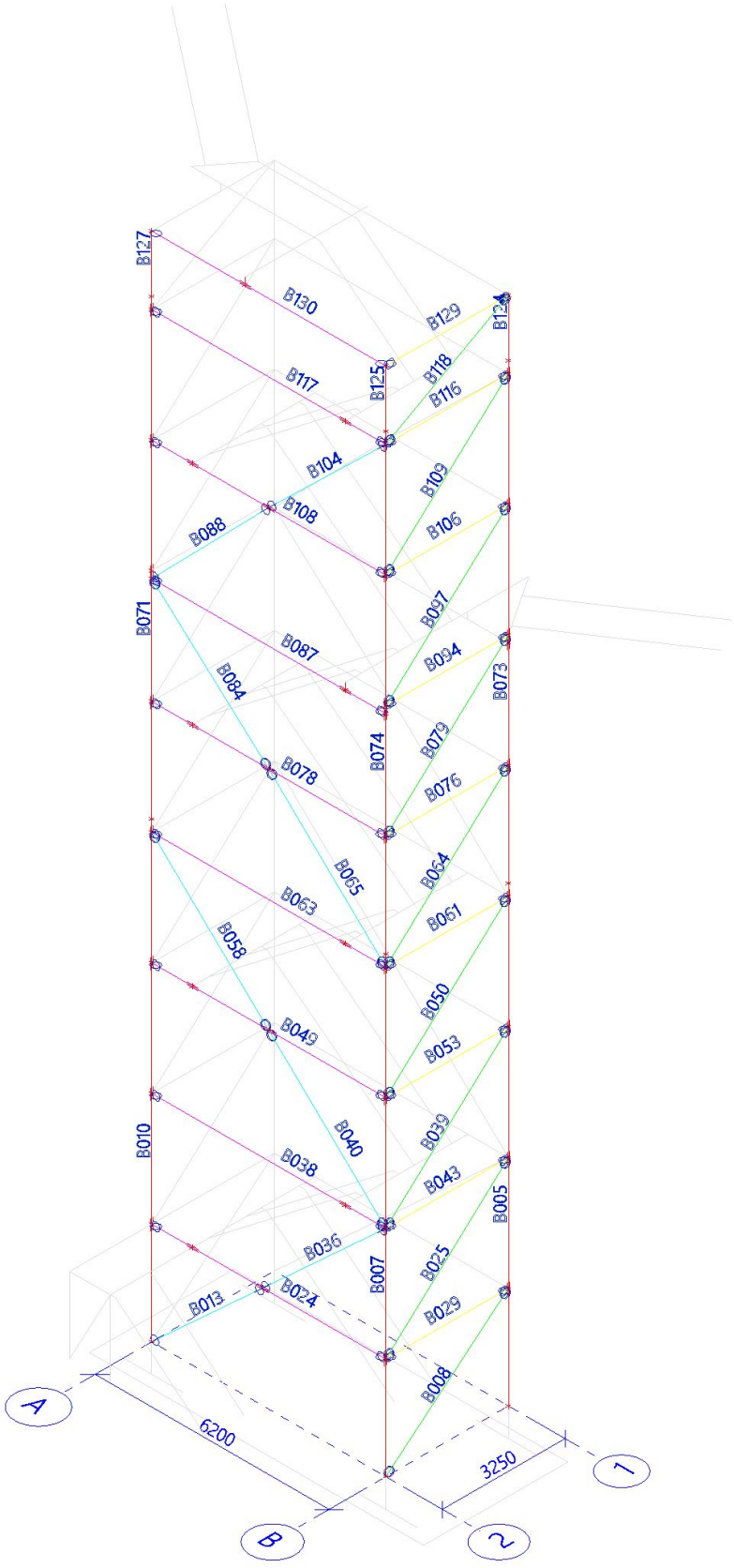
3.2. Members

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type	System lengths and buckling settings	Layer
B001	CS2 - Rectangle (1200; 650)	C30/37	1,700	N009	N010	general (0)	Default	Layer1
B002	CS2 - Rectangle (1200; 650)	C30/37	1,700	N012	N011	general (0)	Default	Layer1
B003	CS2 - Rectangle (1200; 650)	C30/37	1,700	N013	N014	general (0)	Default	Layer1
B004	CS2 - Rectangle (1200; 650)	C30/37	1,700	N015	N016	general (0)	Default	Layer1
B005	CS6 - HEB240	S 355	12,000	N019	N088	column (100)	C_2	Layer1
B006	CS1 - Rectangle (650; 650)	C30/37	0,750	N019	N001	general (0)	Default	Layer1
B007	CS6 - HEB240	S 355	12,000	N020	N089	column (100)	C_2	Layer1
B008	CS7 - HFLeq100x100x10	S 355	4,225	N020	N031	wall bracing (0)	B_1	Layer1
B009	CS1 - Rectangle (650; 650)	C30/37	0,750	N020	N003	general (0)	Default	Layer1
B010	CS6 - HEB240	S 355	12,000	N021	N086	column (100)	C_2	Layer1
B011	CS7 - HFLeq100x100x10	S 355	4,225	N021	N032	wall bracing (0)	B_1	Layer1
B012	CS1 - Rectangle (650; 650)	C30/37	0,750	N021	N004	general (0)	Default	Layer1
B013	CS3 - HEA140	S 355	3,989	N021	N042	wall bracing (0)	B_1	Layer1
B014	CS6 - HEB240	S 355	12,000	N022	N087	column (100)	C_2	Layer1
B015	CS1 - Rectangle (650; 650)	C30/37	0,750	N022	N002	general (0)	Default	Layer1
B016	CS3 - HEA140	S 355	3,989	N022	N041	wall bracing (0)	B_1	Layer1
B017	CS9 - UNP180	S 235	4,472	N023	N039	general (0)	Tr_1	Layer1
B018	CS9 - UNP180	S 235	4,472	N024	N040	general (0)	Tr_1	Layer1
B019	CS10 - UNP180	S 355	2,000	N025	N044	column (100)	C_1	Layer1
B020	CS7 - HFLeq100x100x10	S 355	2,271	N025	N043	general (0)	B_1	Layer1
B021	CS10 - UNP180	S 355	2,000	N026	N043	column (100)	C_1	Layer1
B022	CS9 - UNP180	S 235	3,274	N027	N043	general (0)	Tr_1	Layer1
B023	CS9 - UNP180	S 235	3,274	N028	N047	general (0)	Tr_1	Layer1
B024	CS4 - HEA180	S 355	6,200	N029	N030	beam (80)	B_3	Layer1
B025	CS7 - HFLeq100x100x10	S 355	4,423	N029	N050	wall bracing (0)	B_1	Layer1
B026	CS7 - HFLeq100x100x10	S 355	4,423	N030	N051	wall bracing (0)	B_1	Layer1
B027	CS10 - UNP180	S 355	2,175	N030	N044	beam (80)	B_1	Layer1
B028	CS4 - HEA180	S 355	6,200	N031	N032	beam (80)	B_3	Layer1
B029	CS5 - HEA180	S 355	3,250	N031	N029	beam (80)	B_1	Layer1
B030	CS5 - HEA180	S 355	3,250	N032	N030	beam (80)	B_1	Layer1
B031	CS10 - UNP180	S 355	3,250	N033	N034	beam (80)	B_4	Layer1
B032	CS10 - UNP180	S 355	2,175	N034	N043	beam (80)	B_2	Layer1
B033	CS9 - UNP180	S 235	5,070	N037	N056	general (0)	Tr_1	Layer1
B034	CS9 - UNP180	S 235	5,070	N038	N057	general (0)	Tr_1	Layer1
B035	CS3 - HEA140	S 355	4,433	N041	N050	wall bracing (0)	B_1	Layer1
B036	CS3 - HEA140	S 355	4,433	N042	N048	wall bracing (0)	B_1	Layer1
B037	CS10 - UNP180	S 355	1,075	N043	N044	beam (80)	B_1	Layer1
B038	CS4 - HEA180	S 355	6,200	N048	N049	beam (80)	B_2	Layer1
B039	CS7 - HFLeq100x100x10	S 355	4,423	N048	N062	wall bracing (0)	B_1	Layer1
B040	CS3 - HEA140	S 355	4,314	N048	N070	wall bracing (0)	B_1	Layer1
B041	CS7 - HFLeq100x100x10	S 355	4,423	N049	N063	wall bracing (0)	B_1	Layer1
B042	CS4 - HEA180	S 355	6,200	N050	N051	beam (80)	B_2	Layer1
B043	CS5 - HEA180	S 355	3,250	N050	N048	beam (80)	B_1	Layer1
B044	CS3 - HEA140	S 355	4,314	N050	N071	wall bracing (0)	B_1	Layer1
B045	CS5 - HEA180	S 355	3,250	N051	N049	beam (80)	B_1	Layer1
B046	CS10 - UNP180	S 355	3,250	N052	N053	beam (80)	B_4	Layer1
B047	CS9 - UNP180	S 235	5,070	N054	N068	general (0)	Tr_1	Layer1
B048	CS9 - UNP180	S 235	5,070	N055	N069	general (0)	Tr_1	Layer1
B049	CS4 - HEA180	S 355	6,200	N060	N061	beam (80)	B_3	Layer1
B050	CS7 - HFLeq100x100x10	S 355	4,423	N060	N074	wall bracing (0)	B_1	Layer1
B051	CS7 - HFLeq100x100x10	S 355	4,423	N061	N076	wall bracing (0)	B_1	Layer1
B052	CS4 - HEA180	S 355	6,200	N062	N063	beam (80)	B_3	Layer1
B053	CS5 - HEA180	S 355	3,250	N062	N060	beam (80)	B_1	Layer1
B054	CS5 - HEA180	S 355	3,250	N063	N061	beam (80)	B_1	Layer1
B055	CS10 - UNP180	S 355	3,250	N064	N065	beam (80)	B_4	Layer1
B056	CS9 - UNP180	S 235	5,070	N066	N082	general (0)	Tr_1	Layer1
B057	CS9 - UNP180	S 235	5,070	N067	N083	general (0)	Tr_1	Layer1
B058	CS3 - HEA140	S 355	4,314	N070	N077	wall bracing (0)	B_1	Layer1
B059	CS3 - HEA140	S 355	4,314	N071	N076	wall bracing (0)	B_1	Layer1
B060	CS4 - HEA180	S 355	6,200	N074	N076	beam (80)	B_2	Layer1
B061	CS5 - HEA180	S 355	3,250	N074	N075	beam (80)	B_1	Layer1
B062	CS3 - HEA140	S 355	4,314	N074	N101	wall bracing (0)	B_1	Layer1
B063	CS4 - HEA180	S 355	6,200	N075	N077	beam (80)	B_2	Layer1
B064	CS7 - HFLeq100x100x10	S 355	4,423	N075	N090	wall bracing (0)	B_1	Layer1
B065	CS3 - HEA140	S 355	4,314	N075	N100	wall bracing (0)	B_1	Layer1
B066	CS5 - HEA180	S 355	3,250	N076	N077	beam (80)	B_1	Layer1
B067	CS7 - HFLeq100x100x10	S 355	4,423	N077	N091	wall bracing (0)	B_1	Layer1
B068	CS10 - UNP180	S 355	3,250	N078	N079	beam (80)	B_4	Layer1
B069	CS9 - UNP180	S 235	5,070	N080	N098	general (0)	Tr_1	Layer1
B070	CS9 - UNP180	S 235	5,070	N081	N099	general (0)	Tr_1	Layer1
B071	CS6 - HEB240	S 355	12,000	N086	N158	column (100)	C_2	Layer1
B072	CS6 - HEB240	S 355	12,000	N087	N157	column (100)	C_2	Layer1
B073	CS6 - HEB240	S 355	12,000	N088	N155	column (100)	C_2	Layer1

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type	System lengths and buckling settings	Layer
B074	CS6 - HEB240	S 355	12,000	N089	N156	column (100)	C_2	Layer1
B075	CS4 - HEA180	S 355	6,200	N090	N091	beam (80)	B_3	Layer1
B076	CS5 - HEA180	S 355	3,250	N090	N092	beam (80)	B_1	Layer1
B077	CS5 - HEA180	S 355	3,250	N091	N093	beam (80)	B_1	Layer1
B078	CS4 - HEA180	S 355	6,200	N092	N093	beam (80)	B_3	Layer1
B079	CS7 - HFLeq100x100x10	S 355	4,423	N092	N112	wall bracing (0)	B_1	Layer1
B080	CS7 - HFLeq100x100x10	S 355	4,423	N093	N113	wall bracing (0)	B_1	Layer1
B081	CS10 - UNP180	S 355	3,250	N094	N095	beam (80)	B_4	Layer1
B084	CS3 - HEA140	S 355	4,191	N100	N106	wall bracing (0)	B_1	Layer1
B085	CS3 - HEA140	S 355	4,191	N101	N104	wall bracing (0)	B_1	Layer1
B086	CS3 - HEA140	S 355	4,441	N104	N142	wall bracing (0)	B_1	Layer1
B087	CS4 - HEA180	S 355	6,200	N105	N106	beam (80)	B_2	Layer1
B088	CS3 - HEA140	S 355	4,441	N106	N129	wall bracing (0)	B_1	Layer1
B089	CS4 - HEA180	S 355	6,200	N109	N104	beam (80)	B_2	Layer1
B090	CS8 - RD50	Dummy	0,090	N110	N107	general (0)	Default	Layer2
B094	CS5 - HEA180	S 355	3,250	N112	N114	beam (80)	B_1	Layer1
B095	CS10 - UNP180	S 355	1,940	N112	N184	general (0)	B_3	Layer1
B096	CS5 - HEA180	S 355	3,250	N113	N115	beam (80)	B_1	Layer1
B097	CS7 - HFLeq100x100x10	S 355	4,423	N114	N130	wall bracing (0)	B_1	Layer1
B098	CS7 - HFLeq100x100x10	S 355	4,423	N115	N131	wall bracing (0)	B_1	Layer1
B101	CS10 - UNP180	S 355	4,000	N124	N128	general (0)	B_1	Layer1
B103	CS10 - UNP180	S 355	4,000	N125	N126	general (0)	B_1	Layer1
B104	CS3 - HEA140	S 355	4,314	N129	N144	wall bracing (0)	B_1	Layer1
B105	CS4 - HEA180	S 355	6,200	N130	N131	beam (80)	B_3	Layer1
B106	CS5 - HEA180	S 355	3,250	N130	N132	beam (80)	B_1	Layer1
B107	CS5 - HEA180	S 355	3,250	N131	N133	beam (80)	B_1	Layer1
B108	CS4 - HEA180	S 355	6,200	N132	N133	beam (80)	B_3	Layer1
B109	CS7 - HFLeq100x100x10	S 355	4,423	N132	N143	wall bracing (0)	B_1	Layer1
B110	CS7 - HFLeq100x100x10	S 355	4,423	N133	N145	wall bracing (0)	B_1	Layer1
B111	CS10 - UNP180	S 355	3,250	N134	N135	beam (80)	B_4	Layer1
B112	CS9 - UNP180	S 235	5,070	N136	N151	general (0)	Tr_1	Layer1
B113	CS9 - UNP180	S 235	5,070	N137	N152	general (0)	Tr_1	Layer1
B114	CS3 - HEA140	S 355	4,314	N142	N143	wall bracing (0)	B_1	Layer1
B115	CS4 - HEA180	S 355	6,200	N143	N145	beam (80)	B_2	Layer1
B116	CS5 - HEA180	S 355	3,250	N143	N144	beam (80)	B_1	Layer1
B117	CS4 - HEA180	S 355	6,200	N144	N146	beam (80)	B_2	Layer1
B118	CS7 - HFLeq100x100x10	S 355	3,715	N144	N159	wall bracing (0)	B_1	Layer1
B119	CS5 - HEA180	S 355	3,250	N145	N146	beam (80)	B_1	Layer1
B120	CS7 - HFLeq100x100x10	S 355	3,715	N146	N161	wall bracing (0)	B_1	Layer1
B121	CS10 - UNP180	S 355	3,250	N147	N148	beam (80)	B_4	Layer1
B122	CS9 - UNP180	S 235	3,343	N153	N173	general (0)	Tr_1	Layer1
B123	CS9 - UNP180	S 235	3,343	N154	N178	general (0)	Tr_1	Layer1
B124	CS6 - HEB240	S 355	1,500	N155	N159	column (100)	C_2	Layer1
B125	CS6 - HEB240	S 355	1,500	N156	N160	column (100)	C_2	Layer1
B126	CS6 - HEB240	S 355	1,500	N157	N161	column (100)	C_2	Layer1
B127	CS6 - HEB240	S 355	1,500	N158	N162	column (100)	C_2	Layer1
B128	CS4 - HEA180	S 355	6,200	N159	N161	beam (80)	B_2	Layer1
B129	CS5 - HEA180	S 355	3,250	N159	N160	beam (80)	B_1	Layer1
B130	CS4 - HEA180	S 355	6,200	N160	N162	beam (80)	B_2	Layer1
B131	CS5 - HEA180	S 355	3,250	N161	N162	beam (80)	B_3	Layer1
B138	CS8 - RD50	Dummy	0,090	N170	N166	general (0)	Default	Layer2
B140	CS10 - UNP180	S 355	5,188	N171	N179	general (0)	B_1	Layer1
B141	CS10 - UNP180	S 355	1,270	N185	N171	beam (80)	B_2	Layer1
B142	CS10 - UNP180	S 355	5,188	N172	N180	general (0)	B_1	Layer1
B143	CS10 - UNP180	S 355	2,470	N173	N171	general (0)	B_1	Layer1
B144	CS10 - UNP180	S 355	3,250	N174	N175	general (0)	B_3	Layer1
B481	CS10 - UNP180	S 355	3,253	N178	N185	general (0)	Bc_1	Layer1
B482	CS8 - RD50	Dummy	0,090	N170	N186	general (0)	Default	Layer2
B483	CS10 - UNP180	S 355	4,865	N187	N184	general (0)	Bc_2	Layer1
B484	CS9 - UNP180	S 235	5,070	N1	N140	general (0)	Tr_1	Layer1
B485	CS9 - UNP180	S 235	5,070	N189	N141	general (0)	Tr_1	Layer1
B486	CS9 - UNP180	S 235	5,070	N097	N192	general (0)	Tr_1	Layer1
B487	CS9 - UNP180	S 235	5,070	N096	N194	general (0)	Tr_1	Layer1
B488	CS8 - RD50	Dummy	0,090	N195	N110	general (0)	Default	Layer2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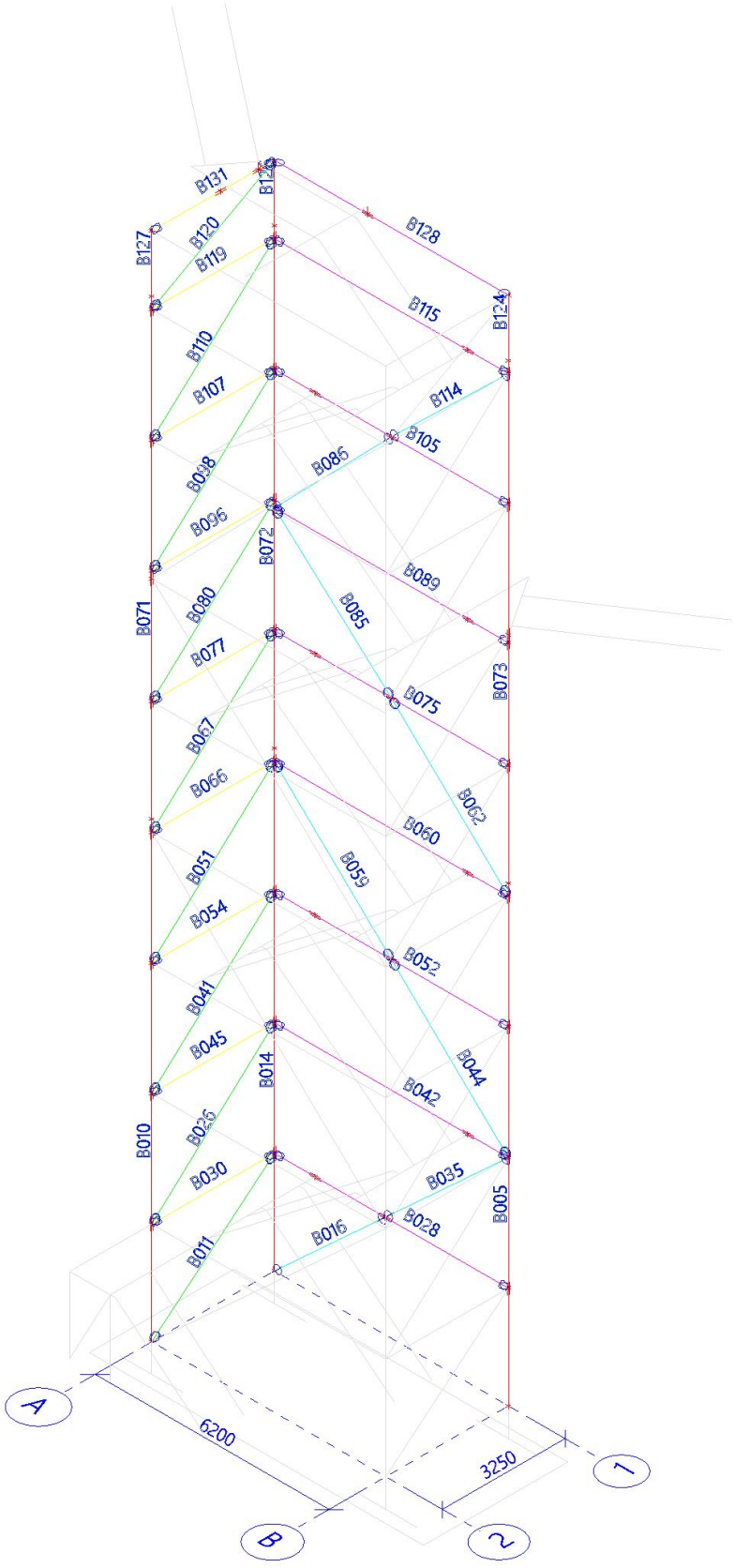
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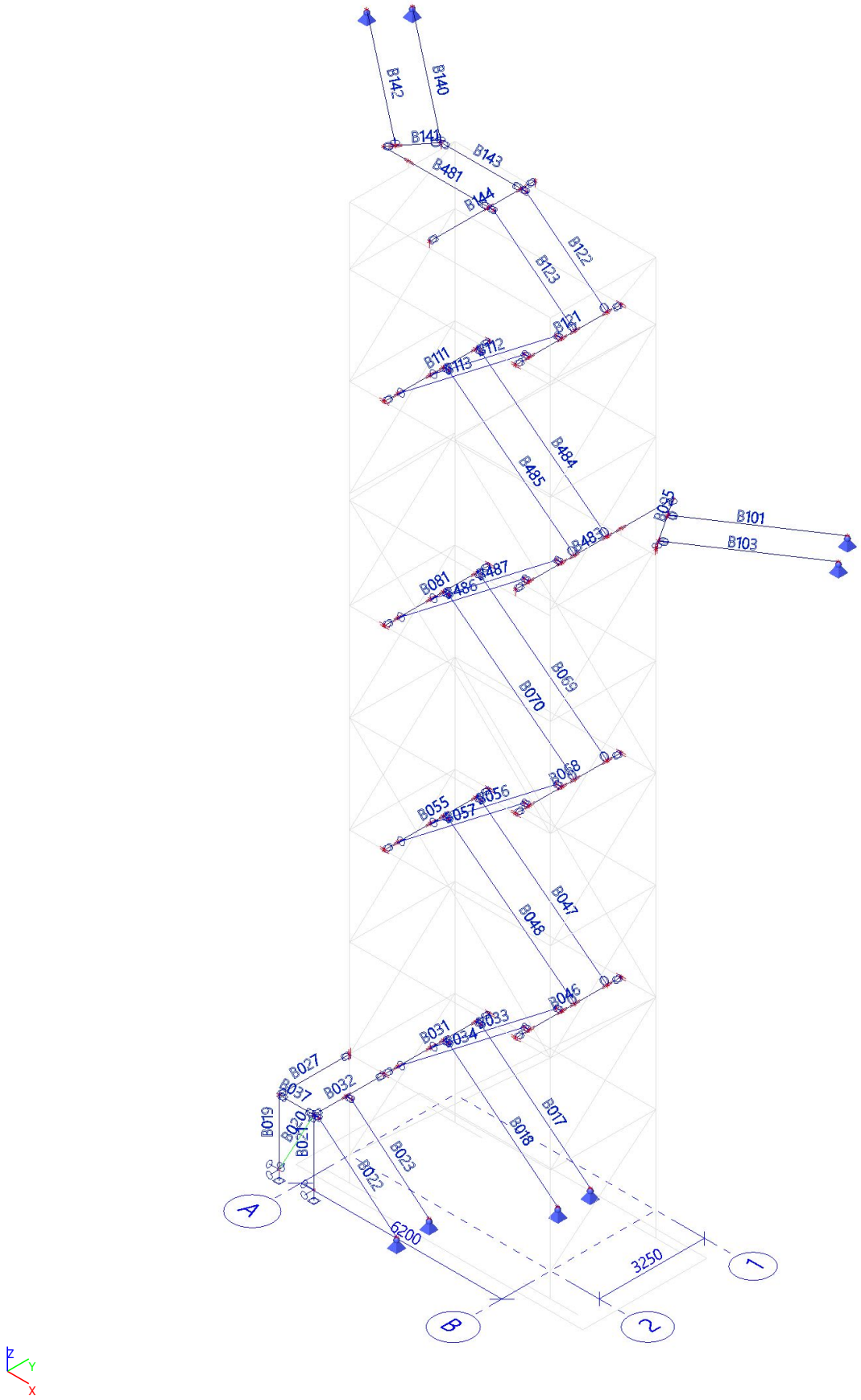
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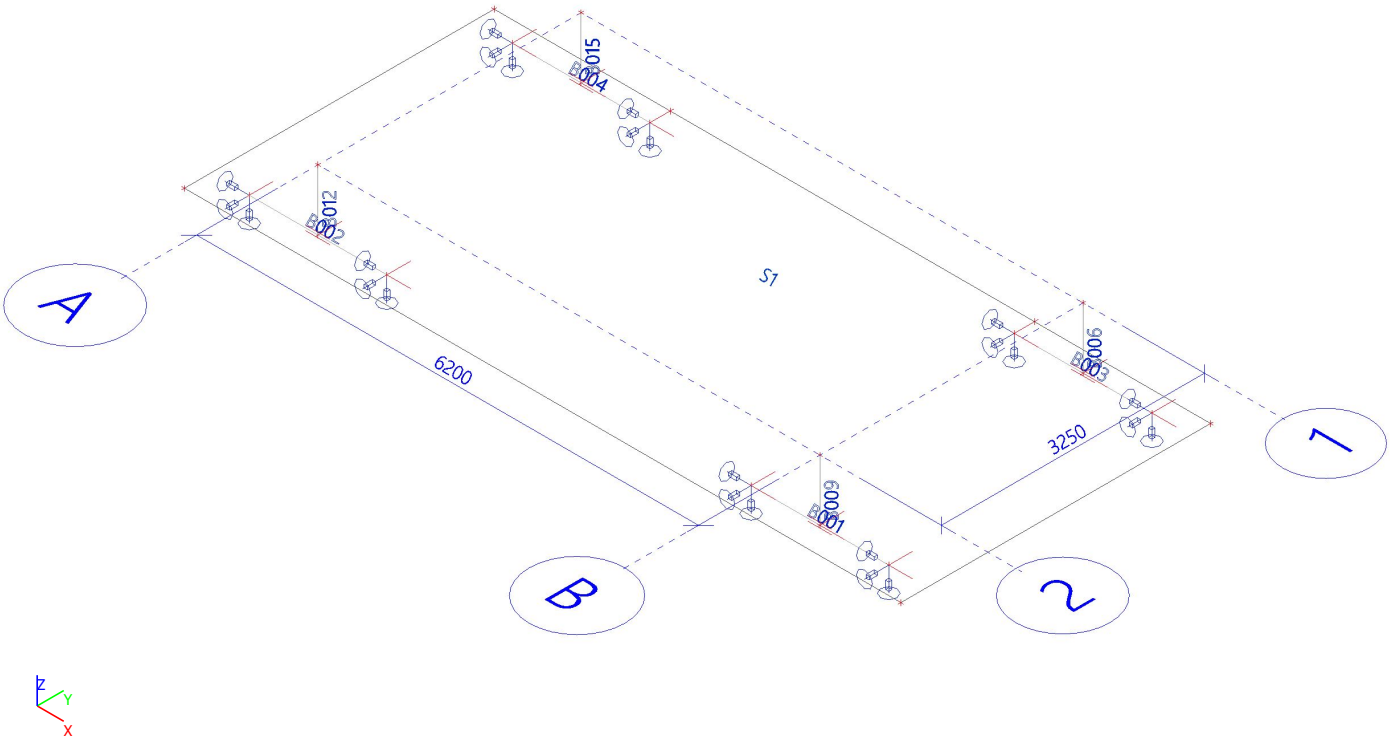

3.3. 2D members

Name	Layer	Type	Element type	Material	Thickness type	Th. [mm]
S1	Layer1	plate (90)	Standard	C30/37	constant	800

3.4. Hinges

Name	Mem.	Pos.	ux	uy	uz	fix	fiy	fiz
H008	B008	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H011	B011	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H013	B013	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H016	B016	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H017	B017	End	Free	Rigid	Rigid	Rigid	Free	Free
H018	B018	End	Free	Rigid	Rigid	Rigid	Free	Free
H020	B020	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H022	B022	End	Free	Rigid	Rigid	Rigid	Free	Free
H023	B023	End	Free	Rigid	Rigid	Rigid	Free	Free
H024	B024	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H025	B025	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H026	B026	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H027	B027	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H028	B028	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H029	B029	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H030	B030	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H031	B031	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H032	B032	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H033	B033	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H033i	B033	End	Free	Rigid	Rigid	Rigid	Free	Free
H034	B034	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H034i	B034	End	Free	Rigid	Rigid	Rigid	Free	Free
H035	B035	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H036	B036	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H037	B037	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H038	B038	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H039	B039	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H040	B040	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H041	B041	Both	Rigid	Rigid	Rigid	Rigid	Free	Free

Name	Mem.	Pos.	ux	uy	uz	fix	fiy	fiz
H042	B042	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H043	B043	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H044	B044	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H045	B045	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H046	B046	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H047	B047	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H047i	B047	End	Free	Rigid	Rigid	Rigid	Free	Free
H048	B048	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H048i	B048	End	Free	Rigid	Rigid	Rigid	Free	Free
H049	B049	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H050	B050	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H051	B051	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H052	B052	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H053	B053	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H054	B054	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H055	B055	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H056	B056	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H056i	B056	End	Free	Rigid	Rigid	Rigid	Free	Free
H056i1	B487	End	Free	Rigid	Rigid	Rigid	Free	Free
H057	B057	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H057i	B057	End	Free	Rigid	Rigid	Rigid	Free	Free
H057i1	B486	End	Free	Rigid	Rigid	Rigid	Free	Free
H058	B058	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H059	B059	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H060	B060	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H061	B061	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H062	B062	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H063	B063	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H064	B064	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H065	B065	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H066	B066	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H067	B067	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H068	B068	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H069	B069	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H069i	B069	End	Free	Rigid	Rigid	Rigid	Free	Free
H069i1	B484	End	Free	Rigid	Rigid	Rigid	Free	Free
H070	B070	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H070i	B070	End	Free	Rigid	Rigid	Rigid	Free	Free
H070i1	B485	End	Free	Rigid	Rigid	Rigid	Free	Free
H075	B075	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H076	B076	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H077	B077	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H078	B078	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H079	B079	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H080	B080	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H081	B081	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H084	B084	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H085	B085	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H086	B086	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H087	B087	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H088	B088	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H089	B089	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H094	B094	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
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H096	B096	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H097	B097	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H098	B098	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H101	B101	Begin	Free	Rigid	Rigid	Rigid	Free	Free
H103	B103	Begin	Free	Rigid	Rigid	Rigid	Free	Free
H104	B104	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H105	B105	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H106	B106	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H107	B107	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H108	B108	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H109	B109	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H110	B110	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H111	B111	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H112	B112	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H112i	B112	End	Free	Rigid	Rigid	Rigid	Free	Free
H113	B113	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H113i	B113	End	Free	Rigid	Rigid	Rigid	Free	Free
H114	B114	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H115	B115	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H116	B116	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H117	B117	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H118	B118	Both	Rigid	Rigid	Rigid	Rigid	Free	Free

Name	Mem.	Pos.	ux	uy	uz	fix	fiy	fiz
H119	B119	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H120	B120	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H121	B121	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H122	B122	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H122i	B122	End	Free	Rigid	Rigid	Rigid	Free	Free
H123	B123	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H123i	B123	End	Free	Rigid	Rigid	Rigid	Free	Free
H128	B128	Both	Rigid	Rigid	Rigid	Rigid	Rigid	Free
H129	B129	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H130	B130	Both	Rigid	Rigid	Rigid	Rigid	Rigid	Free
H131	B131	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H140	B140	Begin	Free	Rigid	Rigid	Rigid	Free	Free
H141	B141	End	Rigid	Rigid	Rigid	Rigid	Free	Free
H141i	B141	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H142	B142	Begin	Free	Rigid	Rigid	Rigid	Free	Free
H143	B143	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H380	B144	Both	Rigid	Rigid	Rigid	Rigid	Free	Free
H385	B481	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H386	B484	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H387	B485	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H388	B486	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H389	B487	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free
H390	B488	Begin	Rigid	Rigid	Rigid	Rigid	Rigid	Free
H391	B482	End	Rigid	Rigid	Rigid	Rigid	Free	Rigid
H392	B483	Begin	Rigid	Rigid	Rigid	Rigid	Free	Free

3.5. Nodal supports

Name	Node	System	Type	X	Y	Z	Rx	Ry	Rz	Stiffness X [MN/m]	Stiffness Y [MN/m]	Stiffness Z [MN/m]
Sn09	N023	GCS	Standard	Rigid	Rigid	Rigid	Free	Free	Free			
Sn10	N024	GCS	Standard	Rigid	Rigid	Rigid	Free	Free	Free			
Sn04	N012	GCS	Standard	Flexible	Flexible	Flexible	Free	Free	Free	1,0000e+01	1,0000e+01	6,0000e+01
Sn03	N011	GCS	Standard	Flexible	Flexible	Flexible	Free	Free	Free	1,0000e+01	1,0000e+01	6,0000e+01
Sn01	N009	GCS	Standard	Flexible	Flexible	Flexible	Free	Free	Free	1,0000e+01	1,0000e+01	6,0000e+01
Sn02	N010	GCS	Standard	Flexible	Flexible	Flexible	Free	Free	Free	1,0000e+01	1,0000e+01	6,0000e+01
Sn07	N015	GCS	Standard	Flexible	Flexible	Flexible	Free	Free	Free	1,0000e+01	1,0000e+01	6,0000e+01
Sn08	N016	GCS	Standard	Flexible	Flexible	Flexible	Free	Free	Free	1,0000e+01	1,0000e+01	6,0000e+01
Sn05	N013	GCS	Standard	Flexible	Flexible	Flexible	Free	Free	Free	1,0000e+01	1,0000e+01	6,0000e+01
Sn06	N014	GCS	Standard	Flexible	Flexible	Flexible	Free	Free	Free	1,0000e+01	1,0000e+01	6,0000e+01
Sn17	N179	GCS	Standard	Rigid	Rigid	Rigid	Free	Free	Free			
Sn18	N180	GCS	Standard	Rigid	Rigid	Rigid	Free	Free	Free			
Sn15	N126	GCS	Standard	Rigid	Rigid	Rigid	Free	Free	Free			
Sn16	N128	GCS	Standard	Rigid	Rigid	Rigid	Free	Free	Free			
Sn11	N025	GCS	Standard	Rigid	Rigid	Rigid	Free	Free	Rigid			
Sn12	N026	GCS	Standard	Rigid	Rigid	Rigid	Free	Free	Rigid			
Sn13	N027	GCS	Standard	Rigid	Rigid	Rigid	Free	Free	Free			
Sn14	N028	GCS	Standard	Rigid	Rigid	Rigid	Free	Free	Free			

3.6. System lengths and buckling groups

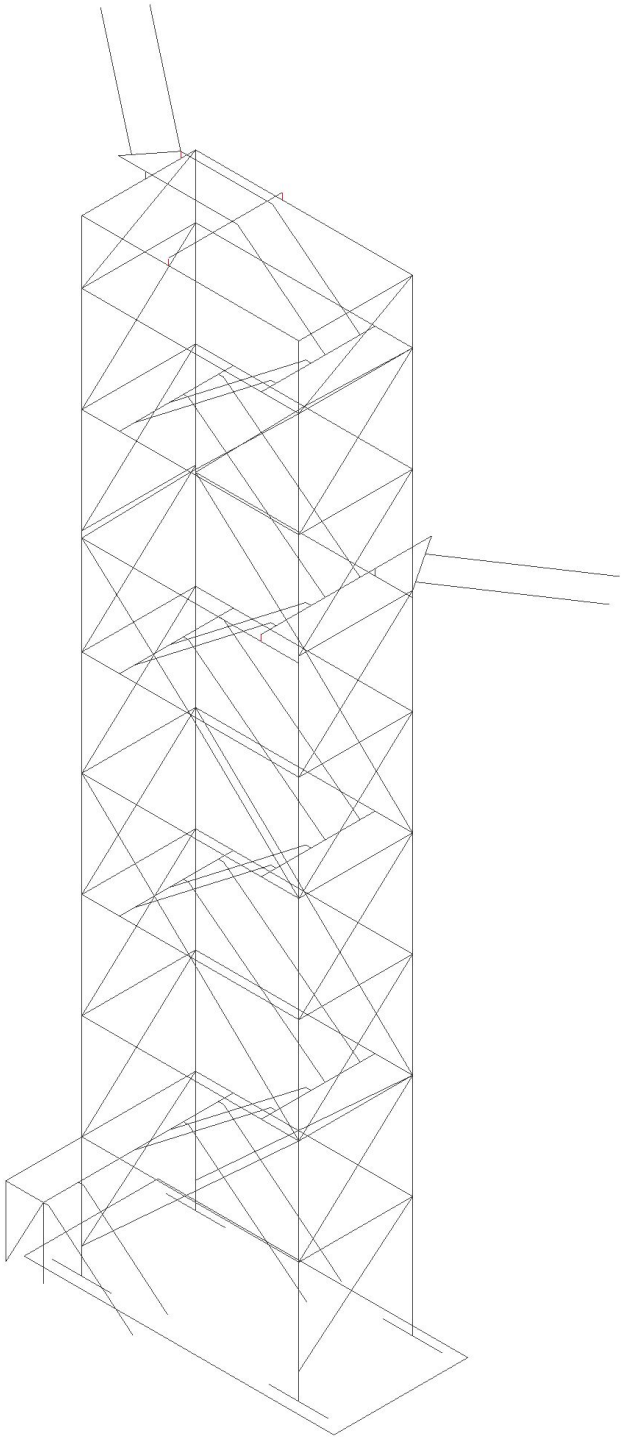
Name Description	Number of parts	Member(s) material	ky factor kz factor	Point of load application	Bow imperfection e0,y Bow imperfection e0,z	Total loads [-] Variable loads [-]	Total loads [-] Variable loads [-]
B_1	1	Steel, other	Factor Factor	In shear center	no bow imperfection no bow imperfection	250,00 333,00	250,00 333,00
B_2	2	Steel, other	Factor Factor	In shear center	no bow imperfection no bow imperfection	250,00 333,00	250,00 333,00
B_3	3	Steel, other	Factor Factor	In shear center	no bow imperfection no bow imperfection	250,00 333,00	250,00 333,00
B_4	5	Steel, other	Factor Factor	In shear center	no bow imperfection no bow imperfection	250,00 333,00	250,00 333,00
Bc_1	2	Steel, other	Factor Factor	In shear center	no bow imperfection no bow imperfection	250,00 333,00	250,00 333,00
Bc_2	6	Steel, other	Factor Factor	In shear center	no bow imperfection no bow imperfection	250,00 333,00	250,00 333,00
C_1	1	Steel, other	Factor Factor	In shear center	no bow imperfection no bow imperfection	250,00 250,00	250,00 250,00
C_2	12	Steel, other	Factor Factor	In shear center	no bow imperfection no bow imperfection	250,00 333,00	250,00 333,00
Tr_1	2	Steel, other	Factor Factor	In shear center	no bow imperfection no bow imperfection	250,00 333,00	250,00 333,00

4. Loads

4.1. Load cases

4.1.1. Load cases - DL1

Name	Description	Action type	Load type	Load group	Direction
DL1	Dead load - Self weight	Permanent	Self weight	LG1	-Z



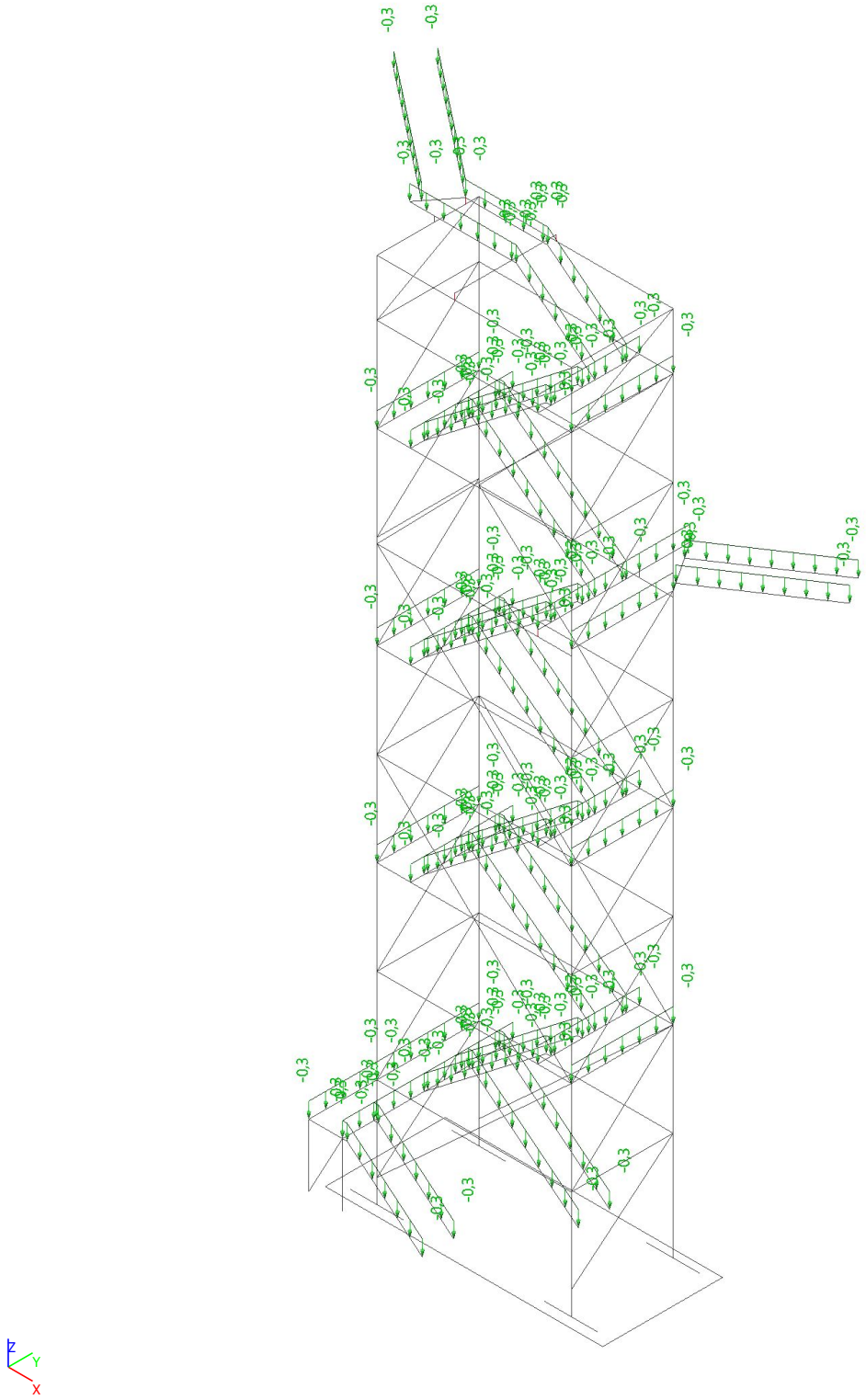
4.1.1.1. Resultant of reactions

Linear calculation
Load case: DL1
Extreme: Global
Selection: All
System: Global

x [m]	y [m]	z [m]	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
2,873	1,860	4,642	DL1	**0,0**	**0,0**	**1031,0**	**-264,4**	**-220,7**	**0,0**

4.1.2. Load cases - DL2

Name	Description	Action type	Load type	Load group
DL2	Dead load - grating	Permanent	Standard	LG1



4.1.2.1. Line force

Member	Name	Type	Sys.	Dir	Distr.	P1 [kN/m] P2 [kN/m]	Pos x_1 Pos x_2	Coor	Loc	Orig	Ecc ey [m] Ecc ez [m]
B017	LF695	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B018	LF699	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B022	LF912	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B023	LF916	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B027	LF909	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B030	LF618	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B031	LF644	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B032	LF906	Force	GCS	Z	Uniform	-0,3	0.000 2.175	Abso	Length	From start	0,000 0,000
B033	LF854	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B034	LF850	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B043	LF614	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B046	LF632	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B047	LF874	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B048	LF878	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B054	LF608	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B055	LF641	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B056	LF846	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B057	LF842	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B061	LF604	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B068	LF629	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B069	LF866	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B070	LF870	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B077	LF598	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B081	LF638	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B094	LF594	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B101	LF893	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B103	LF894	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B107	LF588	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B111	LF635	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B112	LF647	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B113	LF651	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B116	LF583	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B121	LF623	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B122	LF785	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B123	LF789	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B140	LF895	Force	GCS	Z	Uniform	-0,3	0.000	Rela	Length	From start	0,000

Member	Name	Type	Sys.	Dir	Distr.	P1 [kN/m] P2 [kN/m]	Pos x_1 Pos x_2	Coor	Loc	Orig	Ecc ey [m] Ecc ez [m]
							1.000				0,000
B142	LF896	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B143	LF804	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B481	LF962	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From end	0,000 0,000
B483	LF963	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From end	0,000 0,000
B484	LF946	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B485	LF950	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B486	LF954	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B487	LF958	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000

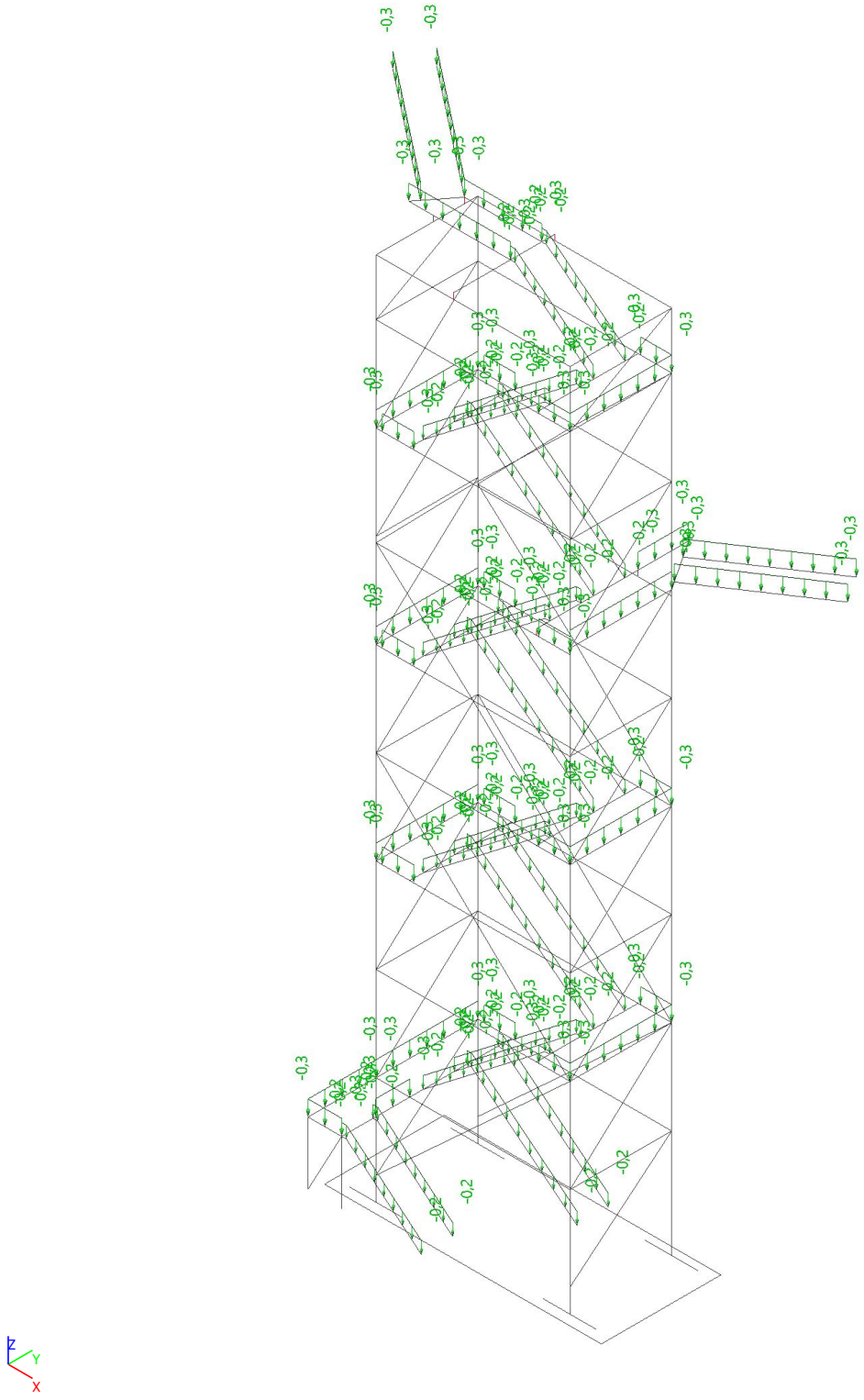
4.1.2.2. Resultant of reactions

Linear calculation
Load case: DL2
Extreme: Global
Selection: All
System: Global

x [m]	y [m]	z [m]	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
2,873	1,860	4,642	DL2	**0,0**	**0,0**	**43,8**	**-2,7**	**1,1**	**0,0**

4.1.3. Load cases - DL3

Name	Description	Action type	Load type	Load group
DL3	Dead load - railing	Permanent	Standard	LG1



4.1.3.1. Line force

Member	Name	Type	Sys.	Dir	Distr.	P1 [kN/m] P2 [kN/m]	Pos x_1 [m] Pos x_2 [m]	Coor	Loc	Orig	Ecc ey [m] Ecc ez [m]
B017	LF696	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B018	LF700	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B022	LF913	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B023	LF917	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B027	LF921	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B028	LF581	Force	GCS	Z	Uniform	-0,3	5,000 6,000	Abso	Length	From start	0,000 0,000
B030	LF619	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B032	LF922	Force	GCS	Z	Uniform	-0,3	0.000 0.500	Rela	Length	From start	0,000 0,000
B033	LF855	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B034	LF851	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B037	LF920	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B038	LF571	Force	GCS	Z	Uniform	-0,3	0,000 1,000	Abso	Length	From start	0,000 0,000
B042	LF573	Force	GCS	Z	Uniform	-0,3	0,000 1,000	Abso	Length	From start	0,000 0,000
B043	LF615	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B047	LF875	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B048	LF879	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B049	LF563	Force	GCS	Z	Uniform	-0,3	5,000 6,000	Abso	Length	From start	0,000 0,000
B052	LF565	Force	GCS	Z	Uniform	-0,3	5,000 6,000	Abso	Length	From start	0,000 0,000
B054	LF609	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B056	LF847	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B057	LF843	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B060	LF551	Force	GCS	Z	Uniform	-0,3	0,000 1,000	Abso	Length	From start	0,000 0,000
B061	LF605	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B063	LF553	Force	GCS	Z	Uniform	-0,3	0,000 1,000	Abso	Length	From start	0,000 0,000
B069	LF867	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B070	LF871	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B075	LF575	Force	GCS	Z	Uniform	-0,3	5,000 6,000	Abso	Length	From start	0,000 0,000
B077	LF599	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B078	LF577	Force	GCS	Z	Uniform	-0,3	5,000 6,000	Abso	Length	From start	0,000 0,000
B087	LF569	Force	GCS	Z	Uniform	-0,3	0,000 1,000	Abso	Length	From start	0,000 0,000
B094	LF595	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B101	LF897	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B103	LF898	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B105	LF559	Force	GCS	Z	Uniform	-0,3	5,000 6,000	Abso	Length	From start	0,000 0,000
B107	LF589	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B108	LF561	Force	GCS	Z	Uniform	-0,3	5,000	Abso	Length	From start	0,000

Member	Name	Type	Sys.	Dir	Distr.	P1 [kN/m] P2 [kN/m]	Pos x_1 [m] Pos x_2 [m]	Coor	Loc	Orig	Ecc ey [m] Ecc ez [m]
							6,000				0,000
B112	LF648	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B113	LF652	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B115	LF557	Force	GCS	Z	Uniform	-0,3	0,000 1,000	Abso	Length	From start	0,000 0,000
B116	LF584	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B117	LF555	Force	GCS	Z	Uniform	-0,3	0,000 1,000	Abso	Length	From start	0,000 0,000
B122	LF786	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B123	LF790	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B140	LF900	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B142	LF901	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B143	LF805	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From start	0,000 0,000
B481	LF964	Force	GCS	Z	Uniform	-0,3	0.000 1.000	Rela	Length	From end	0,000 0,000
B483	LF965	Force	GCS	Z	Uniform	-0,3	3,250 4,865	Abso	Length	From start	0,000 0,000
B484	LF947	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B485	LF951	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B486	LF955	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000
B487	LF959	Force	GCS	Z	Uniform	-0,2	0.000 1.000	Rela	Length	From start	0,000 0,000

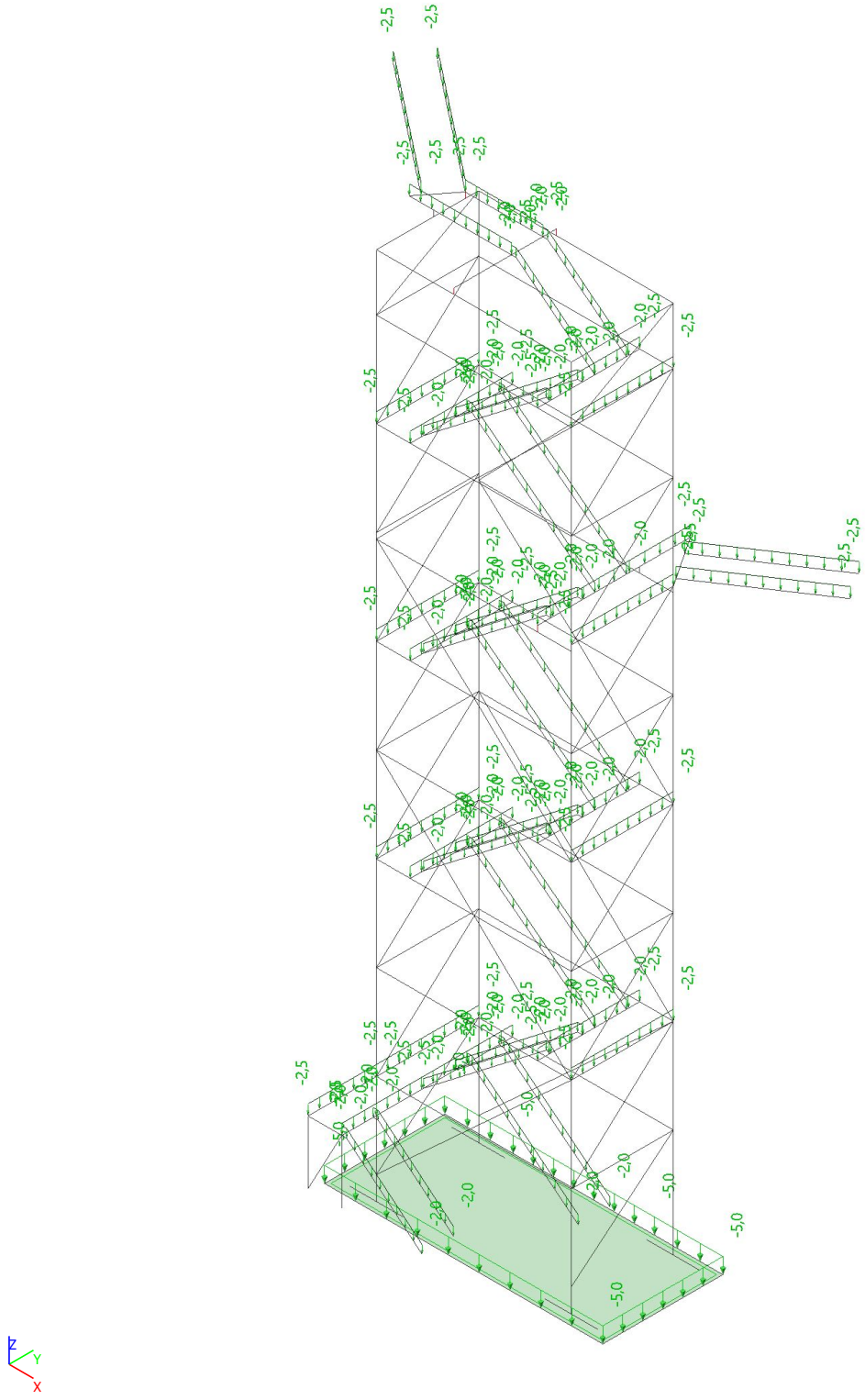
4.1.3.2. Resultant of reactions

Linear calculation
Load case: DL3
Extreme: Global
Selection: All
System: Global

x [m]	y [m]	z [m]	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
2,873	1,860	4,642	DL3	**0,0**	**0,0**	**42,4**	**0,2**	**3,2**	**0,0**

4.1.4. Load cases - LL

Name	Description	Spec	Action type	Load type	Load group	Duration	Master load case
LL	Imposed load	Standard	Variable	Static	LG2	Short	None



4.1.4.1. Line force

Member	Name	Type	Sys.	Dir	Distr.	P1 [kN/m] P2 [kN/m]	Pos x_1 Pos x_2	Coor	Loc	Orig	Ecc ey [m] Ecc ez [m]
B017	LF697	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B018	LF701	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B022	LF914	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B023	LF918	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B027	LF910	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B030	LF620	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B031	LF645	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B032	LF907	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B033	LF856	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B034	LF852	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B043	LF616	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B046	LF633	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B047	LF876	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B048	LF880	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B054	LF610	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B055	LF642	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B056	LF848	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B057	LF844	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B061	LF606	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B068	LF630	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B069	LF868	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B070	LF872	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B077	LF600	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B081	LF639	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B094	LF596	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B101	LF902	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B103	LF903	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B107	LF590	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B111	LF636	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B112	LF649	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B113	LF653	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B116	LF585	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B121	LF624	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B122	LF787	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B123	LF791	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B140	LF904	Force	GCS	Z	Uniform	-2,5	0.000	Rela	Length	From start	0,000

Member	Name	Type	Sys.	Dir	Distr.	P1 [kN/m] P2 [kN/m]	Pos x_1 Pos x_2	Coor	Loc	Orig	Ecc ey [m] Ecc ez [m]
							1.000				0,000
B142	LF905	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B143	LF806	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From start	0,000 0,000
B481	LF967	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From end	0,000 0,000
B483	LF966	Force	GCS	Z	Uniform	-2,5	0.000 1.000	Rela	Length	From end	0,000 0,000
B484	LF948	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B485	LF952	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B486	LF956	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000
B487	LF960	Force	GCS	Z	Uniform	-2,0	0.000 1.000	Rela	Length	From start	0,000 0,000

4.1.4.2. Surface load

Name	Dir	Type	Value [kN/m²]	2D member	System	Loc
SF1	Z	Force	-5,0	S1	LCS	Length

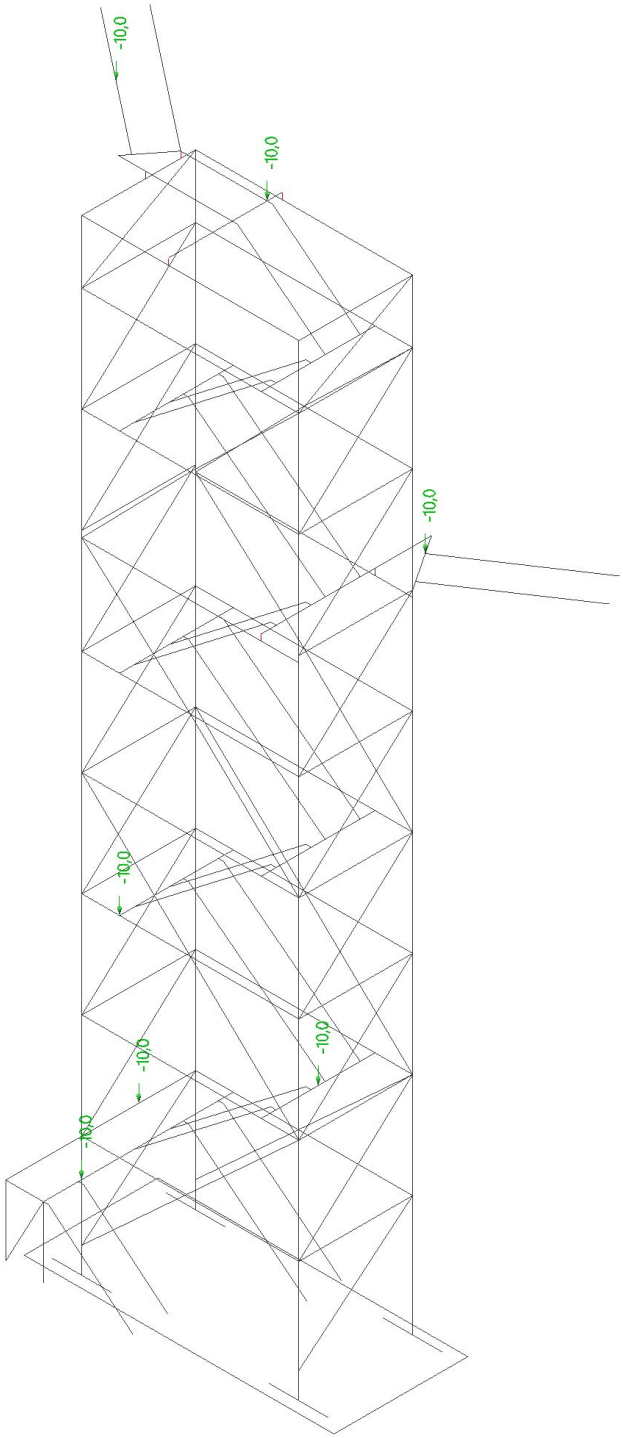
4.1.4.3. Resultant of reactions

Linear calculation
Load case: LL
Extreme: Global
Selection: All
System: Global

x [m]	y [m]	z [m]	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
2,873	1,860	4,642	LL	**0,0**	**0,0**	**560,7**	**-53,7**	**-18,1**	**0,0**

4.1.5. Load cases - LL1

Name	Description	Spec	Action type	Load type	Load group	Duration	Master load case
LL1	Imposed load	Standard	Variable	Static	LG2	Short	None



4.1.5.1. Point force in node

Node	Name	System	Dir	Type	Value - F [kN]
N065	F1	GCS	Z	Force	-10,0
N124	F3	GCS	Z	Force	-10,0
N173	F2	GCS	Z	Force	-10,0

4.1.5.2. Point force on beam

Member	Name	System	Dir	Value - F [kN]	Type	Pos x	Coor	Orig	Rep (n)
B030	Fb2	GCS	Z	-10,0	Force	0.500	Rela	From start	1
B032	Fb4	GCS	Z	-10,0	Force	0.500	Rela	From start	1
B046	Fb5	GCS	Z	-10,0	Force	0.500	Rela	From start	1
B142	Fb6	GCS	Z	-10,0	Force	0.500	Rela	From start	1

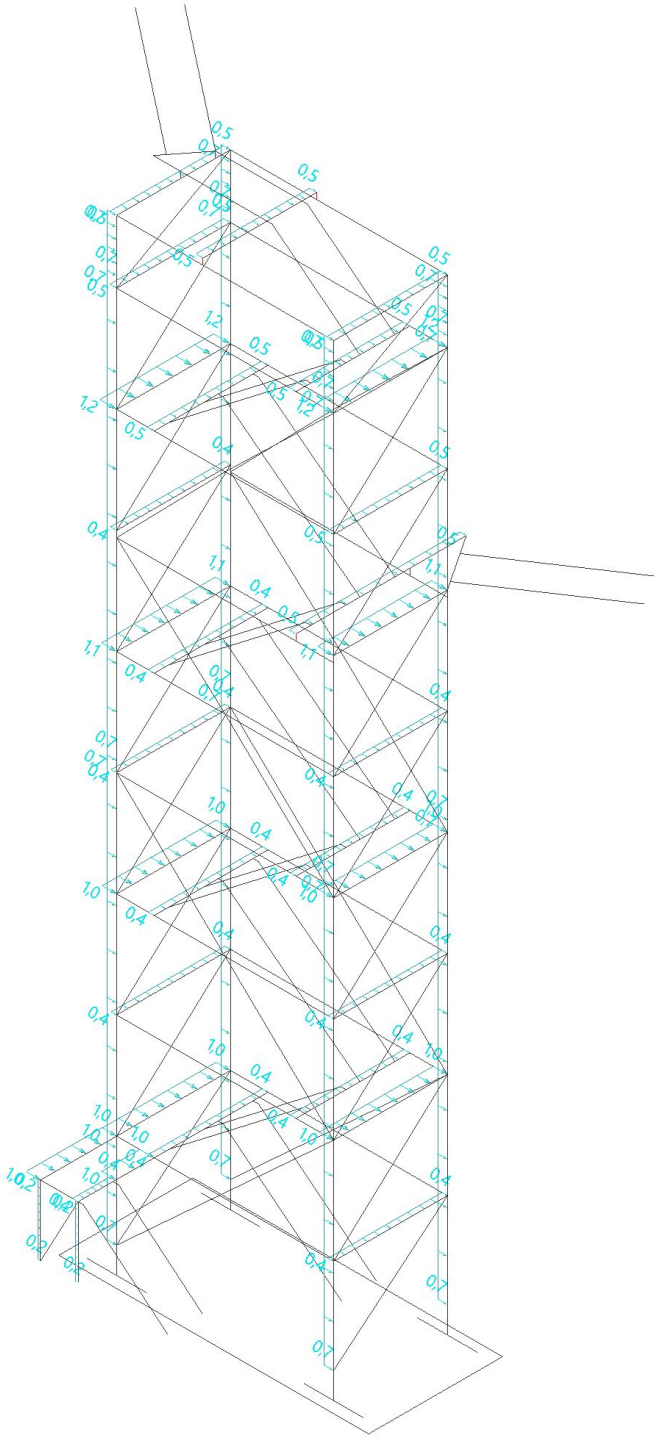
4.1.5.3. Resultant of reactions

Linear calculation
Load case: LL1
Extreme: Global
Selection: All
System: Global

x [m]	y [m]	z [m]	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
2,873	1,860	4,642	LL1	**0,0**	**0,0**	**70,0**	**-0,6**	**75,4**	**0,0**

4.1.6. Load cases - WL_x

Name	Description	Spec	Action type	Load type	Load group	Duration	Master load case
WL_x	Wind load	Standard	Variable	Static	LG3	Short	None



4.1.6.1. Line force

Member	Name	Type	Sys.	Dir	Distr.	P1 [kN/m] P2 [kN/m]	Pos x_1 Pos x_2	Coor	Loc	Orig	Ecc ey [m] Ecc ez [m]	Wind curve	Coeff1 Coeff2	W_1 [m] W_2 [m]
B005	LF535	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B007	LF537	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B010	LF541	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B014	LF539	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B019	LF925	Wind	GCS	X	Uniform	0,2 0,2	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,070
B021	LF924	Wind	GCS	X	Uniform	0,2 0,2	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,070
B027	LF911	Wind	GCS	X	Uniform	1,0 1,0	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,455
B029	LF622	Wind	GCS	X	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B030	LF621	Wind	GCS	X	Uniform	1,0 1,0	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B031	LF646	Wind	GCS	X	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,180
B032	LF908	Wind	GCS	X	Uniform	1,0 1,0	0.000 0.500	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,455
B032	LF926	Wind	GCS	X	Uniform	0,4 0,4	0.500 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,180
B043	LF617	Wind	GCS	X	Uniform	1,0 1,0	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B045	LF613	Wind	GCS	X	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B046	LF634	Wind	GCS	X	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,180
B053	LF612	Wind	GCS	X	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B054	LF611	Wind	GCS	X	Uniform	1,0 1,0	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B055	LF643	Wind	GCS	X	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,180
B061	LF607	Wind	GCS	X	Uniform	1,0 1,0	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B066	LF603	Wind	GCS	X	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B068	LF631	Wind	GCS	X	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,180
B071	LF549	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B072	LF547	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B073	LF543	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B074	LF545	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B076	LF602	Wind	GCS	X	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B077	LF601	Wind	GCS	X	Uniform	1,1 1,1	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B081	LF640	Wind	GCS	X	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,180
B094	LF597	Wind	GCS	X	Uniform	1,1 1,1	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B096	LF593	Wind	GCS	X	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B106	LF592	Wind	GCS	X	Uniform	0,5 0,5	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B107	LF591	Wind	GCS	X	Uniform	1,2 1,2	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B111	LF637	Wind	GCS	X	Uniform	0,5 0,5	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,180
B116	LF586	Wind	GCS	X	Uniform	1,2 1,2	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B119	LF587	Wind	GCS	X	Uniform	0,5 0,5	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B121	LF625	Wind	GCS	X	Uniform	0,5	0.000	Rela	Length	From start	0,000	Beams	2.000	0,180

Member	Name	Type	Sys.	Dir	Distr.	P1 [kN/m] P2 [kN/m]	Pos x_1 Pos x_2	Coor	Loc	Orig	Ecc ey [m] Ecc ez [m]	Wind curve	Coeff1 Coeff2	W_1 [m] W_2 [m]
						0,5	1.000				0,000		2.000	
B124	LF795	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B125	LF793	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B126	LF797	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B127	LF799	Wind	GCS	X	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B129	LF777	Wind	GCS	X	Uniform	0,5 0,5	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B131	LF778	Wind	GCS	X	Uniform	0,5 0,5	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B144	LF923	Wind	GCS	X	Uniform	0,5 0,5	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,180
B483	LF968	Wind	GCS	X	Uniform	0,5 0,5	0.000 1.000	Rela	Length	From end	0,000 0,000	Beams	2.000 2.000	0,180

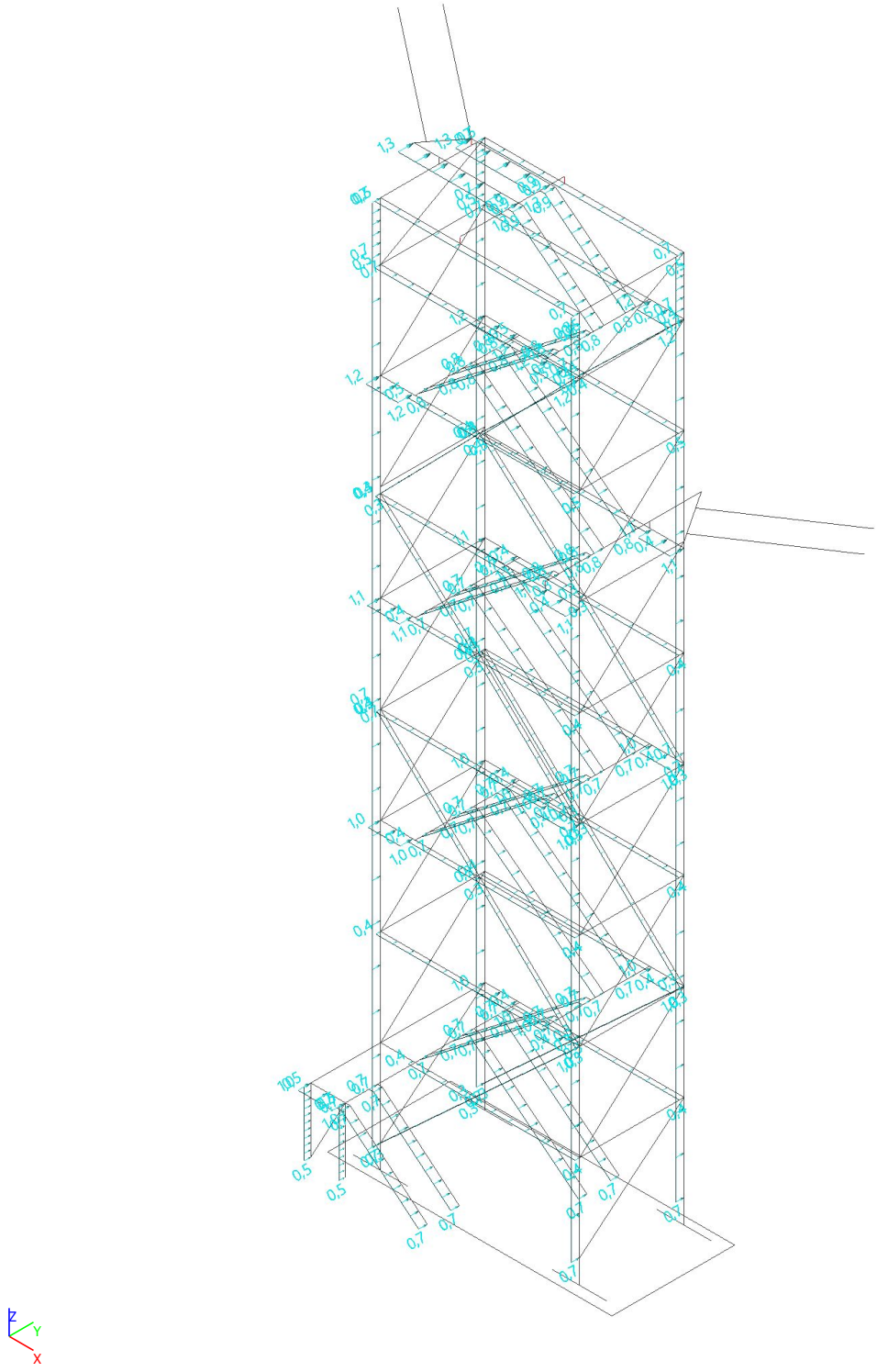
4.1.6.2. Resultant of reactions

Linear calculation
Load case: WL_x
Extreme: Global
Selection: All
System: Global

x [m]	y [m]	z [m]	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
2,873	1,860	4,642	WL_x	**-129,7**	**0,0**	**0,0**	**0,0**	**-1117,7**	**-41,6**

4.1.7. Load cases - WL_y

Name	Description	Spec	Action type	Load type	Load group	Duration	Master load case
WL_y	Wind load	Standard	Variable	Static	LG3	Short	None



4.1.7.1. Line force

Member	Name	Type	Sys.	Dir	Distr.	P1 [kN/m] P2 [kN/m]	Pos x_1 Pos x_2	Coor	Loc	Orig	Ecc ey [m] Ecc ez [m]	Wind curve	Coeff1 Coeff2	W_1 [m] W_2 [m]
B005	LF536	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B007	LF538	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B010	LF542	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B013	LF827	Wind	GCS	Y	Uniform	0,3 0,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B014	LF540	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B016	LF829	Wind	GCS	Y	Uniform	0,3 0,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B017	LF698	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B018	LF702	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B019	LF929	Wind	GCS	Y	Uniform	0,5 0,5	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,180
B021	LF928	Wind	GCS	Y	Uniform	0,5 0,5	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,180
B022	LF915	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B023	LF919	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B024	LF580	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B028	LF582	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B028	LF945	Wind	GCS	Y	Uniform	1,0 1,0	0.000 1.000	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,446
B033	LF857	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B034	LF853	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B035	LF833	Wind	GCS	Y	Uniform	0,3 0,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B036	LF826	Wind	GCS	Y	Uniform	0,3 0,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B037	LF927	Wind	GCS	Y	Uniform	1,0 1,0	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,455
B038	LF572	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,171
B038	LF930	Wind	GCS	Y	Uniform	1,0 1,0	0.000 1.000	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B040	LF828	Wind	GCS	Y	Uniform	0,3 0,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B042	LF574	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,171
B042	LF931	Wind	GCS	Y	Uniform	1,0 1,0	0.000 1.000	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B044	LF830	Wind	GCS	Y	Uniform	0,3 0,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B047	LF877	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B048	LF881	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B049	LF564	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B049	LF942	Wind	GCS	Y	Uniform	1,0 1,0	0.000 1.000	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,446
B052	LF943	Wind	GCS	Y	Uniform	1,0 1,0	0.000 1.000	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,446
B052	LF566	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B056	LF849	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B057	LF845	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B058	LF831	Wind	GCS	Y	Uniform	0,3 0,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B059	LF832	Wind	GCS	Y	Uniform	0,3	0.000	Rela	Length	From start	0,000	Beams	2.000	0,133

Member	Name	Type	Sys.	Dir	Distr.	P1 [kN/m] P2 [kN/m]	Pos x_1 Pos x_2	Coor	Loc	Orig	Ecc ey [m] Ecc ez [m]	Wind curve	Coeff1 Coeff2	W_1 [m] W_2 [m]
						0,3	1.000				0,000		2.000	
B060	LF552	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,171
B060	LF933	Wind	GCS	Y	Uniform	1,0 1,0	0.000 1.000	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B062	LF835	Wind	GCS	Y	Uniform	0,3 0,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B063	LF932	Wind	GCS	Y	Uniform	1,0 1,0	0.000 1.000	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B063	LF554	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,171
B065	LF834	Wind	GCS	Y	Uniform	0,3 0,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B069	LF869	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B070	LF873	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B071	LF550	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B072	LF548	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B073	LF544	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B074	LF546	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B075	LF576	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B075	LF940	Wind	GCS	Y	Uniform	1,1 1,1	0.000 1.000	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,446
B078	LF578	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B078	LF941	Wind	GCS	Y	Uniform	1,1 1,1	0.000 1.000	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,446
B084	LF836	Wind	GCS	Y	Uniform	0,3 0,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B085	LF837	Wind	GCS	Y	Uniform	0,3 0,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B086	LF839	Wind	GCS	Y	Uniform	0,3 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B087	LF570	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,171
B087	LF934	Wind	GCS	Y	Uniform	1,1 1,1	0.000 1.000	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B088	LF838	Wind	GCS	Y	Uniform	0,3 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B089	LF935	Wind	GCS	Y	Uniform	1,1 1,1	0.000 1.000	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B089	LF568	Wind	GCS	Y	Uniform	0,4 0,4	0.000 5.200	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,171
B104	LF840	Wind	GCS	Y	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B105	LF560	Wind	GCS	Y	Uniform	0,5 0,5	0.000 5.200	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B105	LF939	Wind	GCS	Y	Uniform	1,2 1,2	0.000 1.000	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,446
B108	LF562	Wind	GCS	Y	Uniform	0,5 0,5	0.000 5.200	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B108	LF938	Wind	GCS	Y	Uniform	1,2 1,2	0.000 1.000	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,446
B112	LF650	Wind	GCS	Y	Uniform	0,8 0,8	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B113	LF654	Wind	GCS	Y	Uniform	0,8 0,8	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B114	LF841	Wind	GCS	Y	Uniform	0,4 0,4	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,133
B115	LF558	Wind	GCS	Y	Uniform	0,5 0,5	0.000 5.200	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,171
B115	LF937	Wind	GCS	Y	Uniform	1,2 1,2	0.000 1.000	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446
B117	LF556	Wind	GCS	Y	Uniform	0,5 0,5	0.000 5.200	Abso	Length	From end	0,000 0,000	Beams	2.000 2.000	0,171
B117	LF936	Wind	GCS	Y	Uniform	1,2 1,2	0.000 1.000	Abso	Length	From start	0,000 0,000	Beams	2.000 2.000	0,446

Member	Name	Type	Sys.	Dir	Distr.	P1 [kN/m] P2 [kN/m]	Pos x_1 Pos x_2	Coor	Loc	Orig	Ecc ey [m] Ecc ez [m]	Wind curve	Coeff1 Coeff2	W_1 [m] W_2 [m]
B122	LF788	Wind	GCS	Y	Uniform	0,8 0,9	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B123	LF792	Wind	GCS	Y	Uniform	0,8 0,9	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B124	LF796	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B125	LF794	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B126	LF798	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B127	LF800	Wind	GCS	Y	Uniform	0,7 0,7	0.000 1.000	Rela	Length	From start	0,000 0,000	Columns	2.000 2.000	0,240
B128	LF776	Wind	GCS	Y	Uniform	0,5 0,5	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B130	LF775	Wind	GCS	Y	Uniform	0,5 0,5	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,171
B143	LF886	Wind	GCS	Y	Uniform	1,3 1,3	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,455
B481	LF969	Wind	GCS	Y	Uniform	1,3 1,3	0.000 1.000	Rela	Length	From end	0,000 0,000	Beams	2.000 2.000	0,455
B484	LF949	Wind	GCS	Y	Uniform	0,8 0,8	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B485	LF953	Wind	GCS	Y	Uniform	0,8 0,8	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B486	LF957	Wind	GCS	Y	Uniform	0,7 0,8	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305
B487	LF961	Wind	GCS	Y	Uniform	0,7 0,8	0.000 1.000	Rela	Length	From start	0,000 0,000	Beams	2.000 2.000	0,305

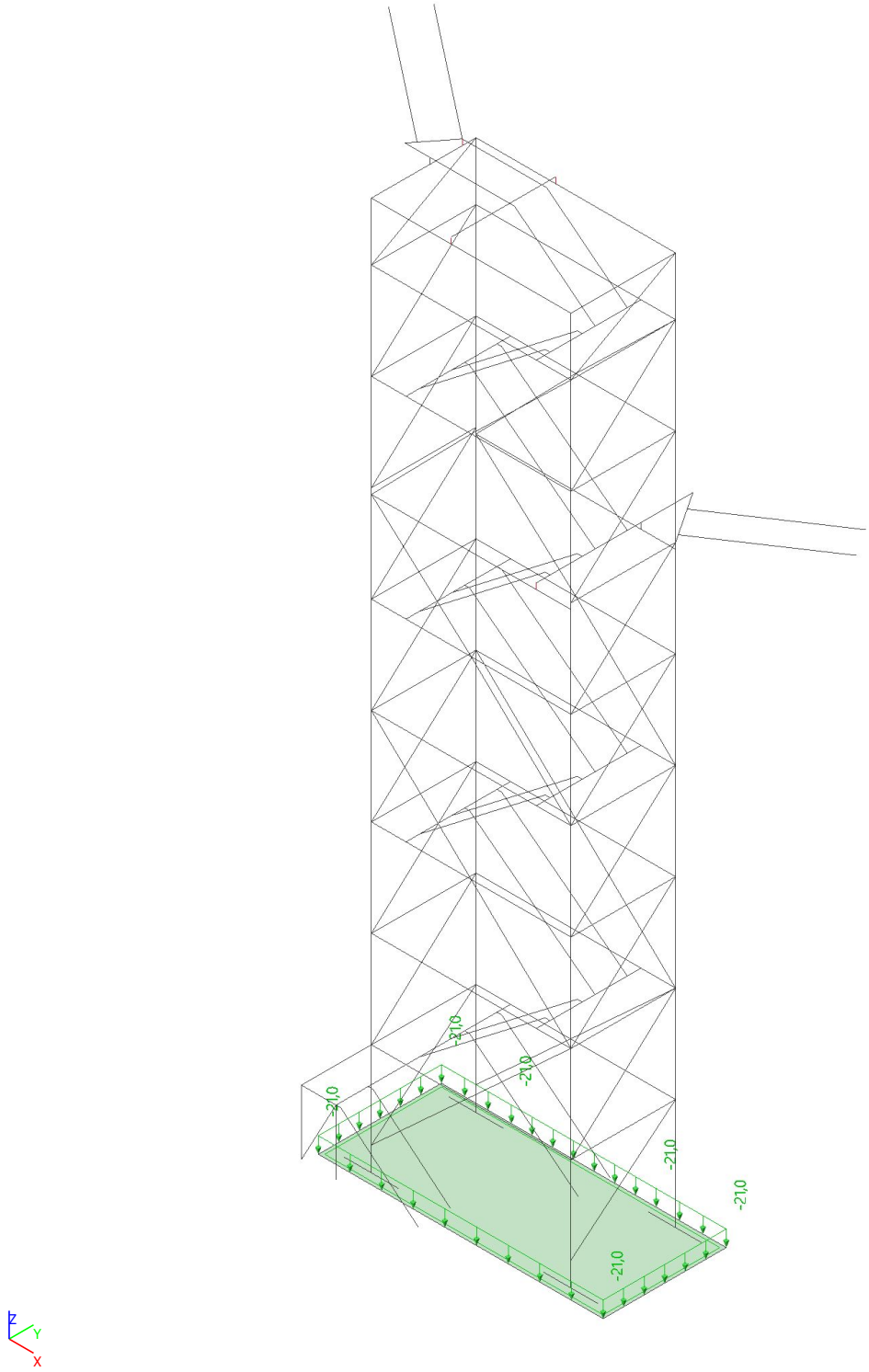
4.1.7.2. Resultant of reactions

Linear calculation
Load case: WL_y
Extreme: Global
Selection: All
System: Global

x [m]	y [m]	z [m]	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
2,873	1,860	4,642	WL_y	**0,0**	**-227,0**	**0,0**	**2021,9**	**0,0**	**-30,1**

4.1.8. Load cases - A

Name	Description	Spec	Action type	Load type	Load group	Duration	Master load case
A	Accidental	Standard	Variable	Static	LG4	Short	None



4.1.8.1. Surface load

Name	Dir	Type	Value [kN/m²]	2D member	System	Loc
SF2	Z	Force	-21,0	S1	LCS	Length

4.1.8.2. Resultant of reactions

Linear calculation
Load case: A
Extreme: Global
Selection: All
System: Global

x [m]	y [m]	z [m]	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
2,873	1,860	4,642	A	**0,0**	**0,0**	**710,9**	**-193,4**	**-161,5**	**0,0**

4.2. Load groups

Name	Load	Relation	Type
LG1	Permanent		
LG2	Variable	Exclusive	Cat B : Offices
LG3	Variable	Exclusive	Wind
LG4	Accidental	Exclusive	

4.3. Combinations

Name	Description	Type	Load cases	Coeff. [-]
ULS		EN-ULS (STR/GEO) Set B	DL1 - Dead load - Self weight DL2 - Dead load - grating DL3 - Dead load - railing LL - Imposed load LL1 - Imposed load WL_x - Wind load WL_y - Wind load	1,00 1,00 1,00 1,00 1,00 1,00 1,00
ULS_A		EN-Accidental 2	DL1 - Dead load - Self weight DL2 - Dead load - grating DL3 - Dead load - railing LL - Imposed load LL1 - Imposed load WL_x - Wind load WL_y - Wind load A - Accidental	1,00 1,00 1,00 1,00 1,00 1,00 1,00 1,00
Characteristic		EN-SLS Characteristic	DL1 - Dead load - Self weight DL2 - Dead load - grating DL3 - Dead load - railing LL - Imposed load LL1 - Imposed load WL_x - Wind load WL_y - Wind load	1,00 1,00 1,00 1,00 1,00 1,00 1,00
Quasi-Permanent		EN-SLS Quasi-permanent	DL1 - Dead load - Self weight DL2 - Dead load - grating DL3 - Dead load - railing LL - Imposed load LL1 - Imposed load WL_x - Wind load WL_y - Wind load	1,00 1,00 1,00 1,00 1,00 1,00 1,00
Frequent		EN-SLS Frequent	DL1 - Dead load - Self weight DL2 - Dead load - grating DL3 - Dead load - railing LL - Imposed load LL1 - Imposed load WL_x - Wind load WL_y - Wind load	1,00 1,00 1,00 1,00 1,00 1,00 1,00

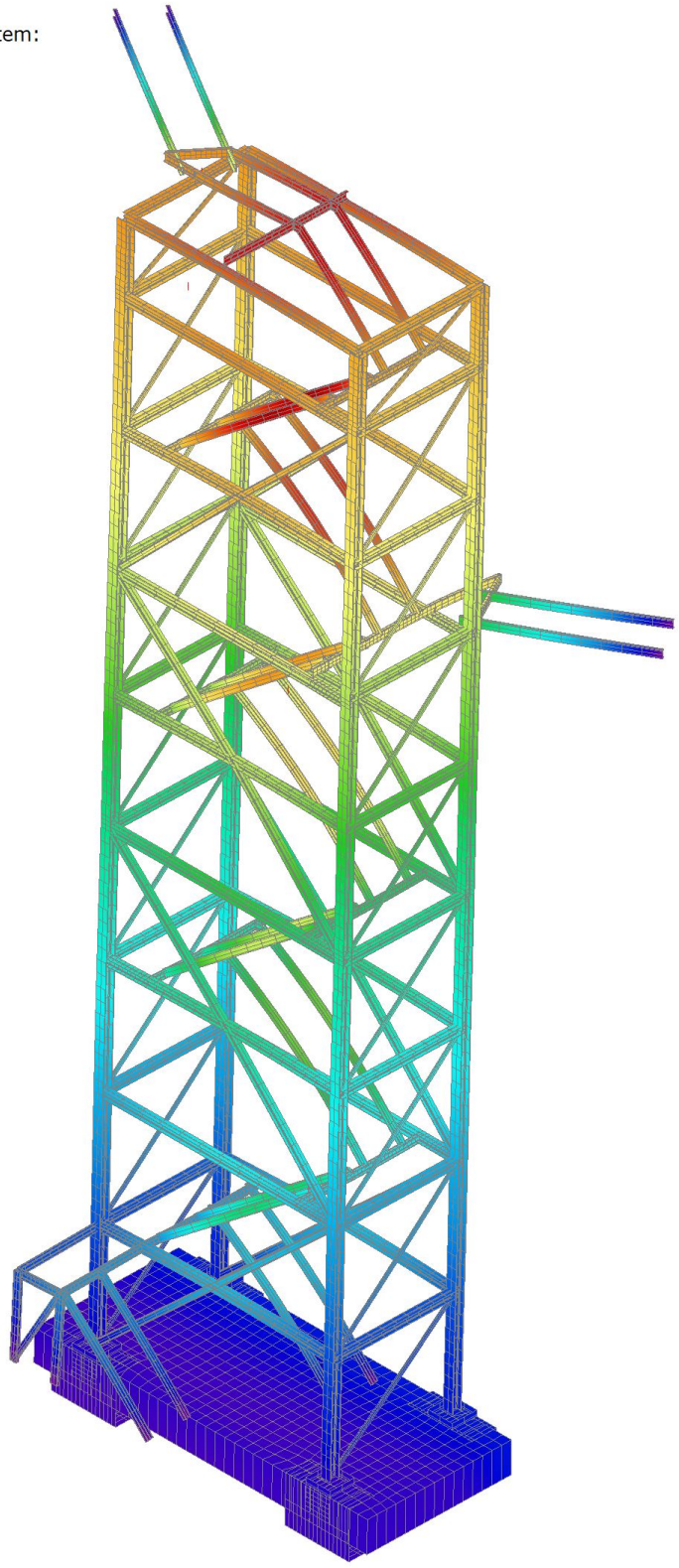
4.4. Result classes

Name	List
All ULS	ULS - EN-ULS (STR/GEO) Set B ULS_A - EN-Accidental 2

5. Results

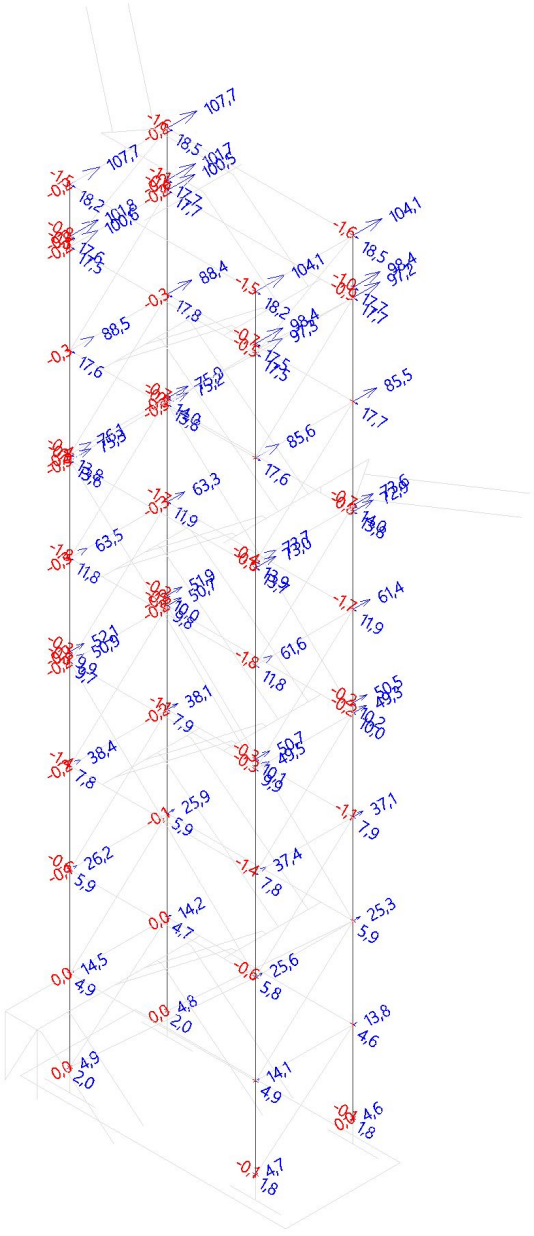
5.1. 3D displacement; U_total

Values: **U_{total}**
Linear calculation
Combination: Characteristic
Selection: All
Location: In nodes avg.. System: Global

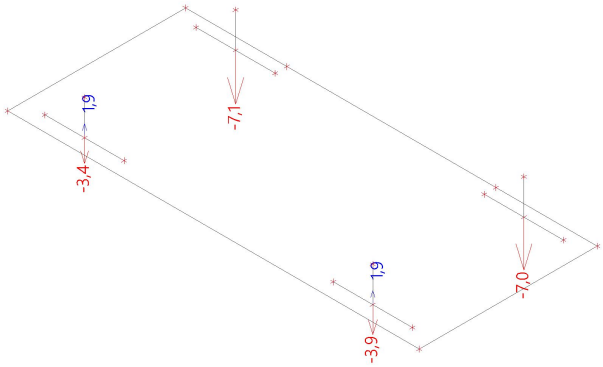


5.2. Displacement of nodes; U_x; U_y

Values: U_y, U_x
Linear calculation
Combination: Characteristic
Extreme: Node
Selection: All



Values: U_z
Linear calculation
Combination: Characteristic
Extreme: Node
Selection: N1..N4



5.3. Reactions

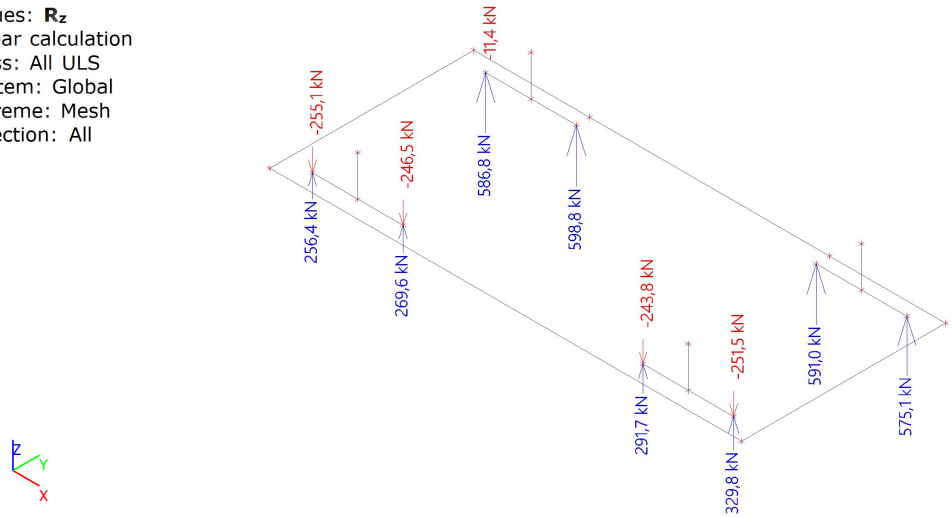
Linear calculation
Class: All ULS
System: Global
Extreme: Global
Selection: All

Nodal reactions

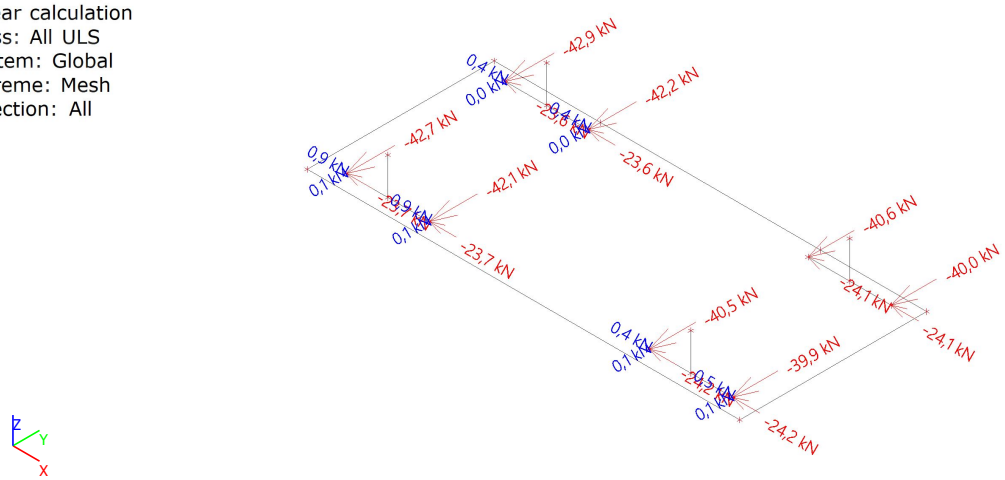
Name	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]	e_x [mm]	e_y [mm]
Sn02/N010	ULS/1	**-24,2**	0,0	329,8	0,0	0,0	0,0	0,0	0,0
Sn03/N011	ULS/2	**0,9**	-42,1	-154,7	**0,0**	**0,0**	0,0	0,0	0,0
Sn07/N015	ULS/2	-0,3	**-42,9**	586,8	0,0	0,0	0,0	0,0	0,0
Sn04/N012	ULS/1	-23,6	**0,1**	78,5	0,0	0,0	0,0	0,0	0,0
Sn04/N012	ULS/3	0,8	-42,7	**-255,1**	0,0	0,0	0,0	0,0	0,0
Sn08/N016	ULS/2	-0,4	-42,2	**598,8**	0,0	0,0	0,0	0,0	0,0
Sn12/N026	ULS/4	0,0	-0,7	7,5	0,0	0,0	**0,0**	0,0	0,0
Sn11/N025	ULS/4	0,0	-0,7	2,1	0,0	0,0	**0,0**	0,0	0,0

Name	Combination key
ULS/1	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 0.75*LL + 1.50*WL_x
ULS/2	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 0.75*LL + 1.50*WL_y
ULS/3	0.90*DL1 + 0.90*DL2 + 0.90*DL3 + 1.50*WL_y
ULS/4	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 1.50*WL_y + 0.75*LL1

Values: **R_z**
Linear calculation
Class: All ULS
System: Global
Extreme: Mesh
Selection: All



Values: **R_x, R_y**
Linear calculation
Class: All ULS
System: Global
Extreme: Mesh
Selection: All



Linear calculation
Combination: Characteristic
System: Global
Extreme: Global
Selection: All

Nodal reactions

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]
Sn02/N010	Characteristic/1	**-16,2**	0,0	246,2	0,0	0,0	0,0	0,0	0,0
Sn03/N011	Characteristic/2	**0,6**	-28,1	-74,5	**0,0**	**0,0**	0,0	0,0	0,0
Sn07/N015	Characteristic/2	-0,2	**-28,6**	417,6	0,0	0,0	0,0	0,0	0,0
Sn04/N012	Characteristic/1	-15,7	**0,1**	79,1	0,0	0,0	0,0	0,0	0,0
Sn04/N012	Characteristic/3	0,6	-28,5	**-116,3**	0,0	0,0	0,0	0,0	0,0
Sn08/N016	Characteristic/2	-0,2	-28,1	**427,5**	0,0	0,0	0,0	0,0	0,0
Sn12/N026	Characteristic/4	0,0	-0,5	5,6	0,0	0,0	**0,0**	0,0	0,0
Sn11/N025	Characteristic/4	0,0	-0,5	1,7	0,0	0,0	**0,0**	0,0	0,0

Name	Combination key
Characteristic/1	DL1 + DL2 + DL3 + 0.50*LL + WL_x
Characteristic/2	DL1 + DL2 + DL3 + 0.50*LL + WL_y
Characteristic/3	DL1 + DL2 + DL3 + WL_y
Characteristic/4	DL1 + DL2 + DL3 + WL_y + 0.50*LL1

5.4. Reactions - Secundairy

Linear calculation
Class: All ULS
System: Global
Extreme: Global
Selection: Sn9, Sn10, Sn17, Sn18, Sn15, Sn16, Sn11..Sn14

Nodal reactions

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]
Sn11/N025	ULS/1	**-3,5**	0,0	-1,8	0,0	0,0	0,0	0,0	0,0
Sn12/N026	ULS/2	**0,0**	0,0	15,4	**0,0**	**0,0**	0,0	0,0	0,0
Sn09/N023	ULS/3	0,0	**-2,3**	1,9	0,0	0,0	0,0	0,0	0,0
Sn11/N025	ULS/4	-3,5	**0,0**	-3,9	0,0	0,0	0,0	0,0	0,0
Sn11/N025	ULS/5	-3,5	0,0	**-4,4**	0,0	0,0	0,0	0,0	0,0
Sn12/N026	ULS/1	-0,3	0,0	**15,6**	0,0	0,0	0,0	0,0	0,0
Sn12/N026	ULS/6	0,0	-0,7	7,5	0,0	0,0	**0,0**	0,0	0,0
Sn11/N025	ULS/6	0,0	-0,7	2,1	0,0	0,0	**0,0**	0,0	0,0

Name	Combination key
ULS/1	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 0.75*LL + 1.50*WL_x
ULS/2	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 1.50*LL
ULS/3	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 1.50*WL_y
ULS/4	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 1.50*WL_x + 0.75*LL1
ULS/5	0.90*DL1 + 0.90*DL2 + 0.90*DL3 + 1.50*WL_x + 0.75*LL1
ULS/6	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 1.50*WL_y + 0.75*LL1

5.5. Bill of material

Selection: All
Type of sorting: Material

Summary

Material	Mass [kg]	Surface [m^2]	Volume [m^3]
Steel	20970,4	498,255	2,6714e+00
Concrete	84131,3	66,811	3,3653e+01
Total	105101,7	565,067	3,6324e+01

Note: Value 'Surface' represents for 1D members the total exposed surface area, while for 2D members it corresponds only to the surface area of the centroidal plane.

Steel (1D)

Material	Density [kg/m^3]	Mass [kg]	Surface [m^2]	Volume [m^3]
S 235	7850,0	2047,7	56,923	2,6086e-01
S 355	7850,0	18917,2	441,276	2,4098e+00
Dummy	7850,0	5,5	0,056	7,0650e-04
Total		20970,4	498,255	2,6714e+00

Concrete (1D)

Material	Density [kg/m³]	Mass [kg]	Surface [m²]	Volume [m³]
C30/37	2500,0	16428,8	32,960	6,5715e+00
Total		16428,8	32,960	6,5715e+00

Concrete (2D)

Material	Density [kg/m³]	Mass [kg]	Surface [m²]	Volume [m³]
C30/37	2500,0	67702,5	33,851	2,7081e+01
Total		67702,5	33,851	2,7081e+01

6. Steel check

6.1. Steel slenderness

Linear calculation

Member	CS Name	Part	Sway y	Sway z	Ly [m]	Lz [m]	ky [-]	kz [-]	Iy [m]	Iz [m]	Lam y [-]	Lam z [-]	Iyz [m]	I LTB [m]
B005	CS6	5	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B005	CS6	2	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B005	CS6	4	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B005	CS6	3	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B005	CS6	1	Yes	No	2,700	2,700	1,00	1,00	2,700	2,700	26,20	44,38	2,700	2,700
B007	CS6	4	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B007	CS6	5	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B007	CS6	3	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B007	CS6	1	Yes	No	2,700	2,700	1,00	1,00	2,700	2,700	26,20	44,38	2,700	2,700
B007	CS6	2	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B008	CS7	1	Yes	No	4,225	4,225	1,00	1,00	4,225	4,225	110,44	216,41	4,225	4,225
B010	CS6	4	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B010	CS6	3	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B010	CS6	5	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B010	CS6	1	Yes	No	2,700	2,700	1,00	1,00	2,700	2,700	26,20	44,38	2,700	2,700
B010	CS6	2	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B011	CS7	1	Yes	No	4,225	4,225	1,00	1,00	4,225	4,225	110,44	216,41	4,225	4,225
B013	CS3	1	Yes	No	3,989	3,989	1,00	1,00	3,989	3,989	69,65	113,34	3,989	3,989
B014	CS6	4	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B014	CS6	3	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B014	CS6	2	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B014	CS6	1	Yes	No	2,700	2,700	1,00	1,00	2,700	2,700	26,20	44,38	2,700	2,700
B014	CS6	5	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B016	CS3	1	Yes	No	3,989	3,989	1,00	1,00	3,989	3,989	69,65	113,34	3,989	3,989
B017	CS9	2	Yes	No	4,472	4,472	1,00	1,00	4,472	4,472	64,41	221,64	4,472	4,472
B017	CS9	1	Yes	No	4,472	4,472	1,00	1,00	4,472	4,472	64,41	221,64	4,472	4,472
B018	CS9	1	Yes	No	4,472	4,472	1,00	1,00	4,472	4,472	64,41	221,64	4,472	4,472
B018	CS9	2	Yes	No	4,472	4,472	1,00	1,00	4,472	4,472	64,41	221,64	4,472	4,472
B019	CS10	1	Yes	No	2,000	2,000	1,00	1,00	2,000	2,000	28,80	99,12	2,000	2,000
B020	CS7	1	Yes	No	2,271	2,271	1,00	1,00	2,271	2,271	59,35	116,30	2,271	2,271
B021	CS10	1	Yes	No	2,000	2,000	1,00	1,00	2,000	2,000	28,80	99,12	2,000	2,000
B022	CS9	1	Yes	No	3,274	3,274	1,00	1,00	3,274	3,274	47,15	162,26	3,274	3,274
B022	CS9	2	Yes	No	3,274	3,274	1,00	1,00	3,274	3,274	47,15	162,26	3,274	3,274
B023	CS9	1	Yes	No	3,274	3,274	1,00	1,00	3,274	3,274	47,15	162,26	3,274	3,274
B023	CS9	2	Yes	No	3,274	3,274	1,00	1,00	3,274	3,274	47,15	162,26	3,274	3,274
B024	CS4	3	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B024	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B024	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B025	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B026	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B027	CS10	1	Yes	No	2,175	2,175	1,00	1,00	2,175	2,175	31,32	107,79	2,175	2,175
B028	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B028	CS4	3	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B028	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B029	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B030	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B031	CS10	2	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B031	CS10	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B031	CS10	4	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B031	CS10	3	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B031	CS10	5	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B032	CS10	2	Yes	No	2,175	2,175	1,00	1,00	2,175	2,175	31,32	107,79	2,175	2,175
B032	CS10	1	Yes	No	2,175	2,175	1,00	1,00	2,175	2,175	31,32	107,79	2,175	2,175
B033	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B033	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B034	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B034	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B035	CS3	1	Yes	No	4,433	4,433	1,00	1,00	4,433	4,433	77,39	125,94	4,433	4,433
B036	CS3	1	Yes	No	4,433	4,433	1,00	1,00	4,433	4,433	77,39	125,94	4,433	4,433
B037	CS10	1	Yes	No	1,075	1,075	1,00	1,00	1,075	1,075	15,48	53,28	1,075	1,075
B038	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B038	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B039	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B040	CS3	1	Yes	No	4,314	4,314	1,00	1,00	4,314	4,314	75,32	122,56	4,314	4,314
B041	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B042	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B042	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B043	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B044	CS3	1	Yes	No	4,314	4,314	1,00	1,00	4,314	4,314	75,32	122,56	4,314	4,314
B045	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250

Member	CS Name	Part	Sway y	Sway z	Ly [m]	Lz [m]	ky [-]	kz [-]	Iy [m]	Iz [m]	Lam y [-]	Lam z [-]	Iyz [m]	I LTB [m]
B046	CS10	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B046	CS10	5	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B046	CS10	2	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B046	CS10	3	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B046	CS10	4	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B047	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B047	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B048	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B048	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B049	CS4	3	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B049	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B049	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B050	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B051	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B052	CS4	3	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B052	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B052	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B053	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B054	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B055	CS10	3	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B055	CS10	4	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B055	CS10	5	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B055	CS10	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B055	CS10	2	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B056	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B056	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B057	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B057	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B058	CS3	1	Yes	No	4,314	4,314	1,00	1,00	4,314	4,314	75,32	122,56	4,314	4,314
B059	CS3	1	Yes	No	4,314	4,314	1,00	1,00	4,314	4,314	75,32	122,56	4,314	4,314
B060	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B060	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B061	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B062	CS3	1	Yes	No	4,314	4,314	1,00	1,00	4,314	4,314	75,32	122,56	4,314	4,314
B063	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B063	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B064	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B065	CS3	1	Yes	No	4,314	4,314	1,00	1,00	4,314	4,314	75,32	122,56	4,314	4,314
B066	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B067	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B068	CS10	2	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B068	CS10	5	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B068	CS10	4	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B068	CS10	3	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B068	CS10	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B069	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B069	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B070	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B070	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B071	CS6	1	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B071	CS6	2	Yes	No	3,000	2,820	1,00	1,00	3,000	2,820	29,11	46,35	2,820	2,820
B071	CS6	3	Yes	No	3,000	3,180	1,00	1,00	3,000	3,180	29,11	52,27	3,180	3,180
B071	CS6	4	Yes	No	3,000	3,180	1,00	1,00	3,000	3,180	29,11	52,27	3,180	3,180
B071	CS6	5	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B071	CS6	6	Yes	No	1,800	1,800	1,00	1,00	1,800	1,800	17,46	29,59	1,800	1,800
B072	CS6	5	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B072	CS6	6	Yes	No	1,800	1,800	1,00	1,00	1,800	1,800	17,46	29,59	1,800	1,800
B072	CS6	1	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B072	CS6	2	Yes	No	3,000	2,820	1,00	1,00	3,000	2,820	29,11	46,35	2,820	2,820
B072	CS6	3	Yes	No	3,000	3,180	1,00	1,00	3,000	3,180	29,11	52,27	3,180	3,180
B072	CS6	4	Yes	No	3,000	3,180	1,00	1,00	3,000	3,180	29,11	52,27	3,180	3,180
B073	CS6	1	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B073	CS6	2	Yes	No	3,000	2,820	1,00	1,00	3,000	2,820	29,11	46,35	2,820	2,820
B073	CS6	3	Yes	No	3,000	3,180	1,00	1,00	3,000	3,180	29,11	52,27	3,180	3,180
B073	CS6	4	Yes	No	3,000	3,180	1,00	1,00	3,000	3,180	29,11	52,27	3,180	3,180
B073	CS6	5	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B073	CS6	6	Yes	No	1,800	1,800	1,00	1,00	1,800	1,800	17,46	29,59	1,800	1,800
B074	CS6	6	Yes	No	1,800	1,800	1,00	1,00	1,800	1,800	17,46	29,59	1,800	1,800
B074	CS6	1	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B074	CS6	2	Yes	No	3,000	2,820	1,00	1,00	3,000	2,820	29,11	46,35	2,820	2,820
B074	CS6	3	Yes	No	3,000	3,180	1,00	1,00	3,000	3,180	29,11	52,27	3,180	3,180
B074	CS6	4	Yes	No	3,000	3,180	1,00	1,00	3,000	3,180	29,11	52,27	3,180	3,180
B074	CS6	5	Yes	No	3,000	3,000	1,00	1,00	3,000	3,000	29,11	49,31	3,000	3,000
B075	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B075	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200

Member	CS Name	Part	Sway y	Sway z	Ly [m]	Lz [m]	ky [-]	kz [-]	Iy [m]	Iz [m]	Lam y [-]	Lam z [-]	Iyz [m]	I LTB [m]
B075	CS4	3	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B076	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B077	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B078	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B078	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B078	CS4	3	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B079	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B080	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B081	CS10	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B081	CS10	2	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B081	CS10	3	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B081	CS10	4	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B081	CS10	5	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B084	CS3	1	Yes	No	4,191	4,191	1,00	1,00	4,191	4,191	73,17	119,06	4,191	4,191
B085	CS3	1	Yes	No	4,191	4,191	1,00	1,00	4,191	4,191	73,17	119,06	4,191	4,191
B086	CS3	1	Yes	No	4,441	4,441	1,00	1,00	4,441	4,441	77,54	126,17	4,441	4,441
B087	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B087	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B088	CS3	1	Yes	No	4,441	4,441	1,00	1,00	4,441	4,441	77,54	126,17	4,441	4,441
B089	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B089	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B094	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B095	CS10	2	Yes	No	1,940	1,940	1,00	1,00	1,940	1,940	27,94	96,13	1,940	1,940
B095	CS10	1	Yes	No	1,940	1,940	1,00	1,00	1,940	1,940	27,94	96,13	1,940	1,940
B095	CS10	3	Yes	No	1,940	1,940	1,00	1,00	1,940	1,940	27,94	96,13	1,940	1,940
B096	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B097	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B098	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B101	CS10	1	Yes	No	4,000	4,000	1,00	1,00	4,000	4,000	57,61	198,24	4,000	4,000
B103	CS10	1	Yes	No	4,000	4,000	1,00	1,00	4,000	4,000	57,61	198,24	4,000	4,000
B104	CS3	1	Yes	No	4,314	4,314	1,00	1,00	4,314	4,314	75,32	122,56	4,314	4,314
B105	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B105	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B105	CS4	3	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B106	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B107	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B108	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B108	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B108	CS4	3	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B109	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B110	CS7	1	Yes	No	4,423	4,423	1,00	1,00	4,423	4,423	115,61	226,53	4,423	4,423
B111	CS10	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B111	CS10	2	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B111	CS10	3	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B111	CS10	4	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B111	CS10	5	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B112	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B112	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B113	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B113	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B114	CS3	1	Yes	No	4,314	4,314	1,00	1,00	4,314	4,314	75,32	122,56	4,314	4,314
B115	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B115	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B116	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B117	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B117	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B118	CS7	1	Yes	No	3,715	3,715	1,00	1,00	3,715	3,715	97,11	190,28	3,715	3,715
B119	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B120	CS7	1	Yes	No	3,715	3,715	1,00	1,00	3,715	3,715	97,11	190,28	3,715	3,715
B121	CS10	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B121	CS10	2	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B121	CS10	3	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B121	CS10	4	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B121	CS10	5	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B122	CS9	1	Yes	No	3,343	3,343	1,00	1,00	3,343	3,343	48,15	165,68	3,343	3,343
B122	CS9	2	Yes	No	3,343	3,343	1,00	1,00	3,343	3,343	48,15	165,68	3,343	3,343
B123	CS9	1	Yes	No	3,343	3,343	1,00	1,00	3,343	3,343	48,15	165,68	3,343	3,343
B123	CS9	2	Yes	No	3,343	3,343	1,00	1,00	3,343	3,343	48,15	165,68	3,343	3,343
B124	CS6	1	Yes	No	1,800	1,800	1,00	1,00	1,800	1,800	17,46	29,59	1,800	1,800
B125	CS6	1	Yes	No	1,800	1,800	1,00	1,00	1,800	1,800	17,46	29,59	1,800	1,800
B126	CS6	1	Yes	No	1,800	1,800	1,00	1,00	1,800	1,800	17,46	29,59	1,800	1,800
B127	CS6	1	Yes	No	1,800	1,800	1,00	1,00	1,800	1,800	17,46	29,59	1,800	1,800
B128	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B128	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B129	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250

Member	CS Name	Part	Sway y	Sway z	Ly [m]	Lz [m]	ky [-]	kz [-]	Iy [m]	Iz [m]	Lam y [-]	Lam z [-]	Iyz [m]	I LTB [m]
B130	CS4	1	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B130	CS4	2	Yes	No	6,200	6,200	1,00	1,00	6,200	6,200	83,29	137,20	6,200	6,200
B131	CS5	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B131	CS5	2	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B131	CS5	3	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	43,66	71,92	3,250	3,250
B140	CS10	1	Yes	No	5,188	5,188	1,00	1,00	5,188	5,188	74,71	257,11	5,188	5,188
B141	CS10	1	Yes	No	1,270	1,270	1,00	1,00	1,270	1,270	18,29	62,94	1,270	1,270
B141	CS10	2	Yes	No	1,270	1,270	1,00	1,00	1,270	1,270	18,29	62,94	1,270	1,270
B142	CS10	1	Yes	No	5,188	5,188	1,00	1,00	5,188	5,188	74,71	257,11	5,188	5,188
B143	CS10	1	Yes	No	2,470	2,470	1,00	1,00	2,470	2,470	35,57	122,41	2,470	2,470
B144	CS10	1	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B144	CS10	2	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B144	CS10	3	Yes	No	3,250	3,250	1,00	1,00	3,250	3,250	46,81	161,07	3,250	3,250
B481	CS10	1	No	No	2,470	2,470	1,00	1,00	2,470	2,470	35,57	122,41	2,470	2,470
B481	CS10	2	Yes	Yes	0,783	0,783	2,00	2,00	1,565	1,565	22,54	77,57	0,783	0,783
B483	CS10	1	Yes	No	0,425	0,425	2,00	2,00	0,850	0,850	12,24	42,13	0,425	0,425
B483	CS10	2	Yes	No	4,440	4,440	1,00	1,00	4,440	4,440	63,94	220,03	4,440	4,440
B483	CS10	3	Yes	No	4,440	4,440	1,00	1,00	4,440	4,440	63,94	220,03	4,440	4,440
B483	CS10	4	Yes	No	4,440	4,440	1,00	1,00	4,440	4,440	63,94	220,03	4,440	4,440
B483	CS10	5	Yes	No	4,440	4,440	1,00	1,00	4,440	4,440	63,94	220,03	4,440	4,440
B483	CS10	6	Yes	No	4,440	4,440	1,00	1,00	4,440	4,440	63,94	220,03	4,440	4,440
B484	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B484	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B485	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B485	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B486	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B486	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B487	CS9	1	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070
B487	CS9	2	Yes	No	5,070	5,070	1,00	1,00	5,070	5,070	73,02	251,28	5,070	5,070

6.2. EC-EN 1993 Steel check ULS

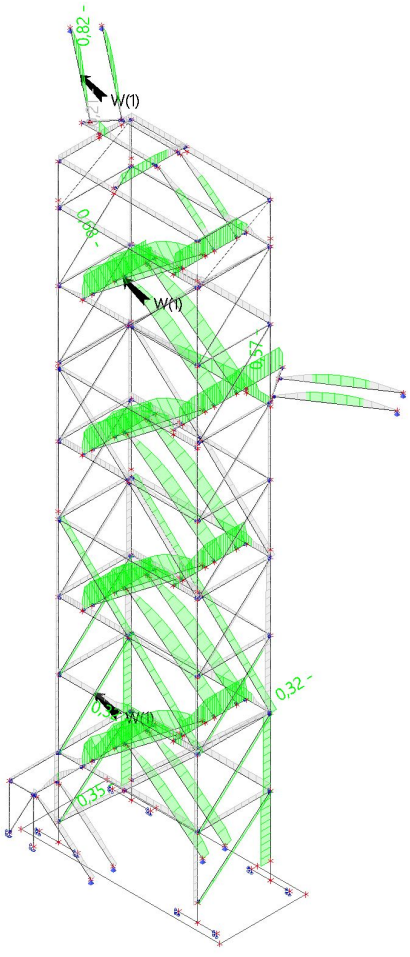
Linear calculation
Class: All ULS
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All
Filter: Layer = Layer1
There are 1 warnings on selected members. 1 of them are shown.
Overall Unity Check

Name	dx [m]	Case	Cross-section	Material	$UC_{Overall}$ [-]	UC_{Sec} [-]	UC_{Stab} [-]	Errors, warnings, notes
B014	0,000	ULS/1	CS6 - HEB240	S 355	**0,35**	0,23	0,35	
B089	1,075-	ULS/2	CS4 - HEA180	S 355	**0,57**	0,38	0,57	
B131	1,425+	ULS/2	CS5 - HEA180	S 355	**0,21**	0,21	0,19	
B142	2,594-	ULS/3	CS10 - UNP180	S 355	**0,82**	0,35	0,82	W30
B112	0,492-	ULS/1	CS9 - UNP180	S 235	**0,68**	0,19	0,68	W30
B026	2,211-	ULS/1	CS7 - HFLeq100x100x10	S 355	**0,32**	0,32	0,00	W30
B044	0,000	ULS/4	CS3 - HEA140	S 355	**0,32**	0,09	0,32	

Name	Combination key
ULS/1	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 0.75*LL + 1.50*WL_y
ULS/2	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 1.50*LL
ULS/3	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 1.50*LL1
ULS/4	1.20*DL1 + 1.20*DL2 + 1.20*DL3 + 0.75*LL + 1.50*WL_x

E/W/N	Description
W30	Not all conditions of the Dutch NEN-EN NA (Art. NB.NB.1) are fulfilled, therefore the standard EC-EN approach is used.

Values: **$UC_{Overall}$**
Linear calculation
Class: All ULS
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All
Filter: Layer = Layer1
There are 1 warnings on selected members. 1 of them are shown.



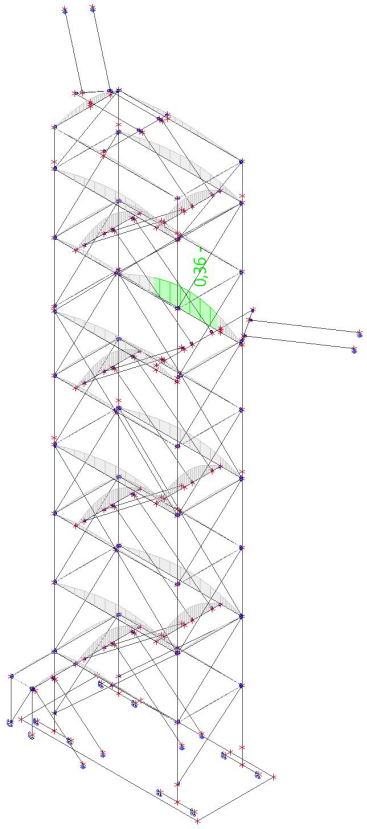
6.3. EC-EN 1993 Steel Check SLS - umax

Linear calculation
Combination: Quasi-Permanent
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All
Filter: Type of beam = Beam
Deformation u_z

Name	dx [m]	Case	Cross-section	$u_{z,max}$ [mm]	$u_{z,var}$ [mm]	Lim. $u_{z,max}$ [mm]	Lim. $u_{z,var}$ [mm]	Check $u_{z,max}$ [-]	Check $u_{z,var}$ [-]	Camber dx u_z [mm]	Camber [mm]	Check u_z [-]
B089	2,612-	Quasi-Permanent/1	CS4 - HEA180	-8,9	-3,7	24,8	18,6	**0,36**	0,20	-	-	**0,36**
B131	1,425-	Quasi-Permanent/1	CS5 - HEA180	-1,5	-0,7	13,0	9,8	**0,12**	0,07	-	-	**0,12**
B068	1,625-	Quasi-Permanent/1	CS10 - UNP180	-2,9	-1,5	13,0	9,8	**0,23**	0,15	-	-	**0,23**

Name	Combination key
Quasi-Permanent/1	DL1 + DL2 + DL3 + 0.30*LL

Values: **Check $u_{z,max}$**
Linear calculation
Combination: Quasi-Permanent
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Type of beam = Beam



6.4. EC-EN 1993 Steel Check SLS - uvar

Linear calculation
Combination: Frequent
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All
Filter: Type of beam = Beam
Deformation u_y

Name	dx [m]	Case	Cross-section	$u_{y,max}$ [mm]	$u_{y,var}$ [mm]	Lim. $u_{y,max}$ [mm]	Lim. $u_{y,var}$ [mm]	Check $u_{y,max}$ [-]	Check $u_{y,var}$ [-]	Check u_y [-]
B105	3,303-	Frequent/1	CS4 - HEA180	-2,9	-2,9	24,8	18,6	0,12	**0,15**	**0,15**
B116	1,625-	Frequent/2	CS5 - HEA180	0,2	0,2	13,0	9,8	0,01	**0,02**	**0,02**
B121	1,625-	Frequent/2	CS10 - UNP180	0,6	0,6	13,0	9,8	0,05	**0,06**	**0,06**

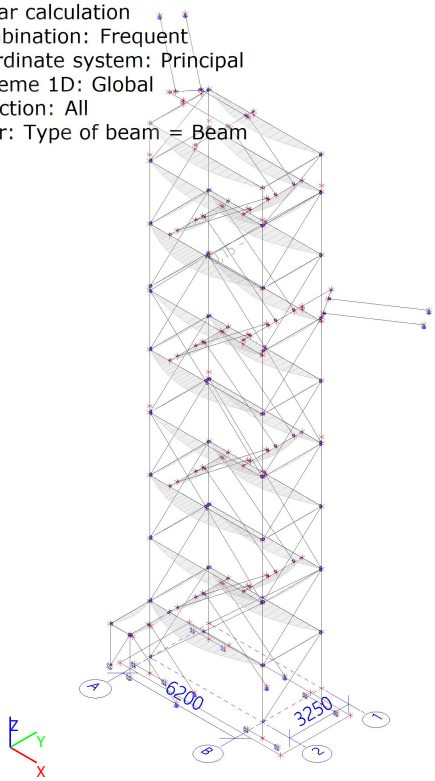
Name	Combination key
Frequent/1	DL1 + DL2 + DL3 + 0.20*WL_y
Frequent/2	DL1 + DL2 + DL3 + 0.30*LL + 0.20*WL_x

Linear calculation
Combination: Frequent
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All
Filter: Type of beam = Beam
Deformation u_z

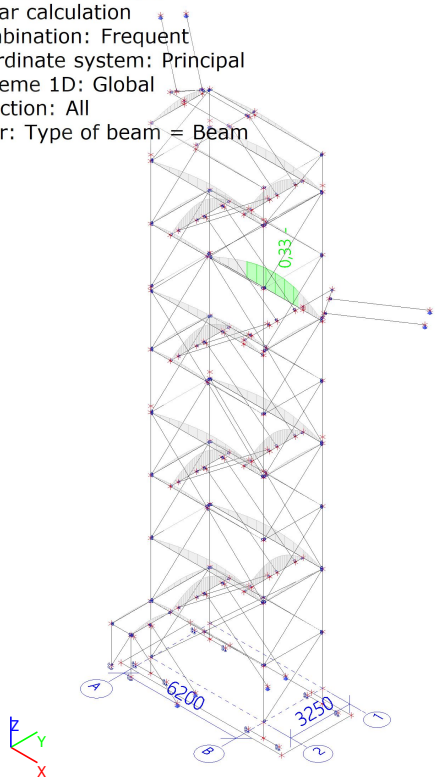
Name	dx [m]	Case	Cross-section	$u_{z,max}$ [mm]	$u_{z,var}$ [mm]	Lim. $u_{z,max}$ [mm]	Lim. $u_{z,var}$ [mm]	Check $u_{z,max}$ [-]	Check $u_{z,var}$ [-]	Camber dx u_z [mm]	Camber [mm]	Check u_z [-]
B089	2,612-	Frequent/1	CS4 - HEA180	-11,4	-6,2	24,8	18,6	0,46	**0,33**	-	-	**0,46**
B131	1,425-	Frequent/1	CS5 - HEA180	-2,0	-1,2	13,0	9,8	0,15	**0,12**	-	-	**0,15**
B068	1,625-	Frequent/1	CS10 - UNP180	-3,9	-2,4	13,0	9,8	0,30	**0,25**	-	-	**0,30**

Name	Combination key
Frequent/1	DL1 + DL2 + DL3 + 0.50*LL

Values: **Check $u_{y,var}$**
Linear calculation
Combination: Frequent
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Type of beam = Beam



Values: **Check $u_{z,var}$**
Linear calculation
Combination: Frequent
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Type of beam = Beam

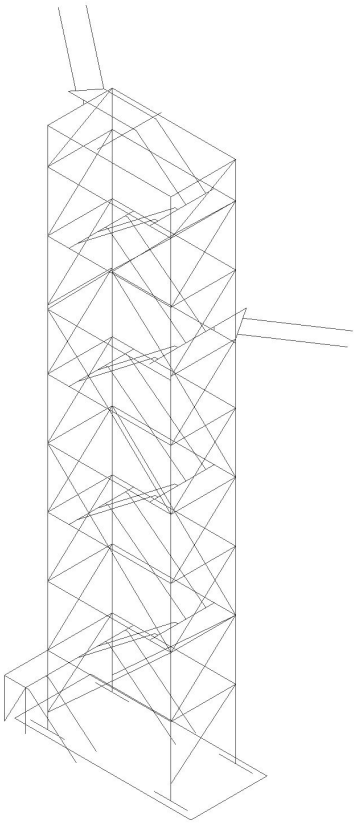


7. Chapter

7.1. Mass groups

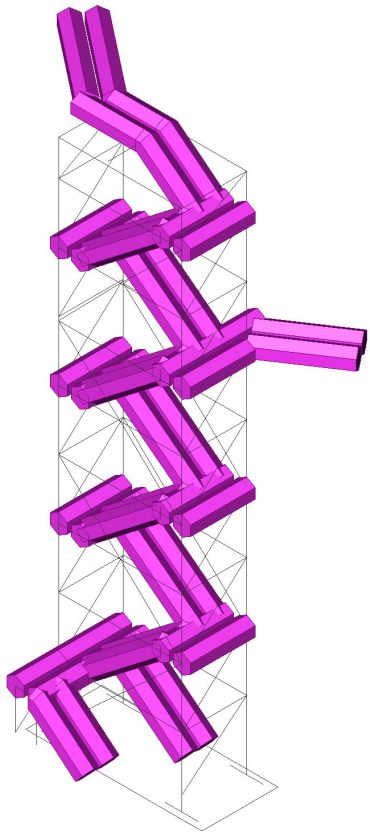
7.1.1. Mass groups - MG1

Name	Load case
MG1	DL1 - Dead load - Self weight



7.1.2. Mass groups - MG2

Name	Load case
MG2	DL2 - Dead load - grating

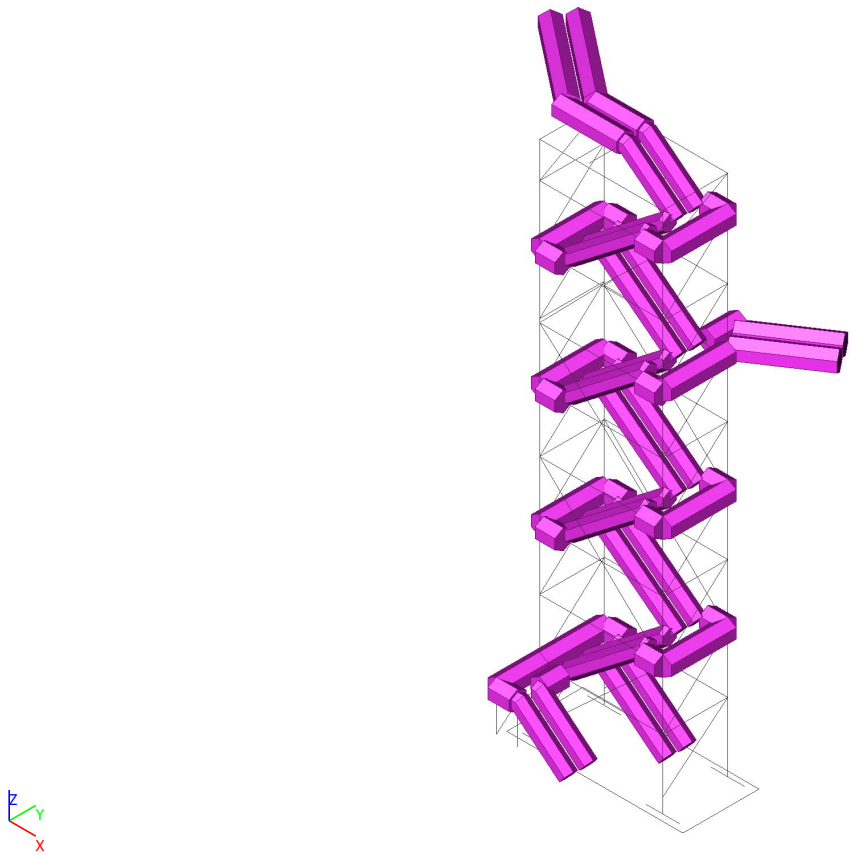


Name	Member	Distribution	Beg M [kg/m]	mx	my	mz	Coor	Extent	Orig	Pos x_1	Pos x_2
LMB117	B116	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB118	B107	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB119	B094	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB120	B077	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB121	B061	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB122	B054	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB123	B043	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB124	B030	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB125	B121	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB127	B068	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB128	B046	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB129	B111	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB130	B081	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB131	B055	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB132	B031	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB133	B112	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB134	B113	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB145	B017	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB146	B018	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB167	B122	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB168	B123	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB170	B143	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB1	B057	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB233	B056	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB234	B034	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB235	B033	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB238	B069	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB239	B070	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB240	B047	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB241	B048	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000

Name	Member	Distribution	Beg M [kg/m]	mx	my	mz	Coor	Extent	Orig	Pos x_1	Pos x_2
LMB254	B101	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB255	B103	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB256	B140	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB257	B142	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB258	B032	Uniform	25,5	1	1	1	Abso	full	From start	0.000	2.175
LMB259	B027	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB260	B022	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB261	B023	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB272	B484	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB273	B485	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB274	B486	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB275	B487	Uniform	25,5	1	1	1	Rela	full	From start	0.000	1.000
LMB276	B481	Uniform	25,5	1	1	1	Rela	full	From end	0.000	1.000
LMB277	B483	Uniform	25,5	1	1	1	Rela	full	From end	0.000	1.000

7.1.3. Mass groups - MG3

Name	Load case
MG3	DL3 - Dead load - railing



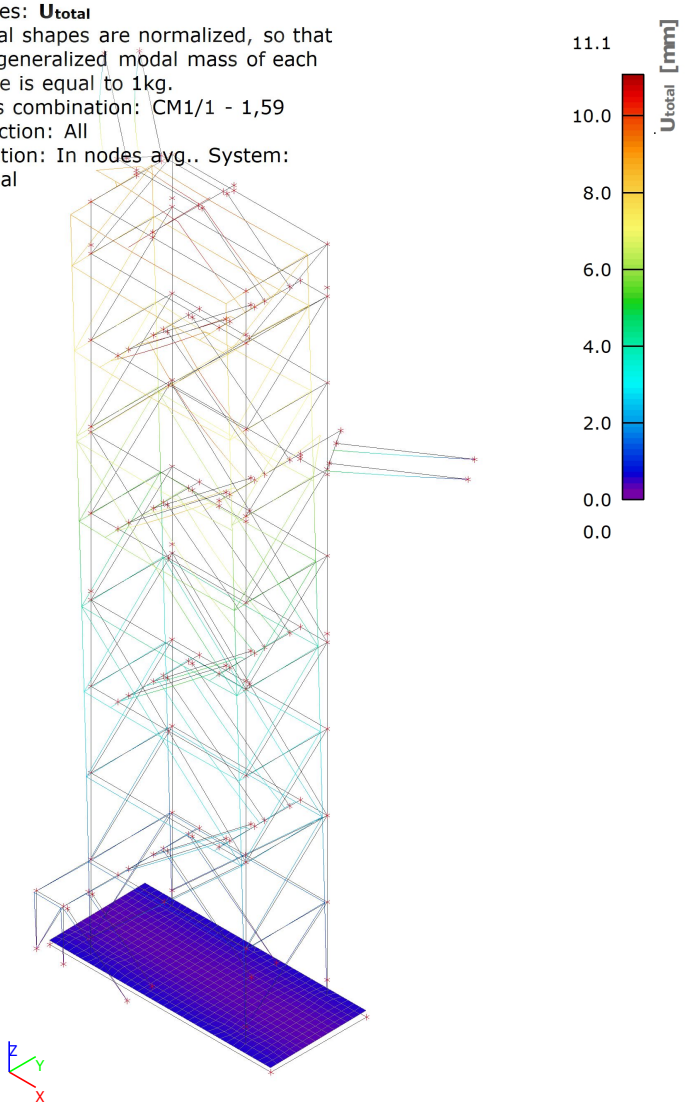
Name	Member	Distribution	Beg M [kg/m]	mx	my	mz	Coor	Extent	Orig	Pos x_1 [m]	Pos x_2 [m]
LMB171	B060	Uniform	30,6	1	1	1	Abso	full	From start	0,000	1,000
LMB172	B063	Uniform	30,6	1	1	1	Abso	full	From start	0,000	1,000
LMB173	B117	Uniform	30,6	1	1	1	Abso	full	From start	0,000	1,000
LMB174	B115	Uniform	30,6	1	1	1	Abso	full	From start	0,000	1,000
LMB175	B105	Uniform	30,6	1	1	1	Abso	full	From start	5,000	6,000
LMB176	B108	Uniform	30,6	1	1	1	Abso	full	From start	5,000	6,000
LMB177	B049	Uniform	30,6	1	1	1	Abso	full	From start	5,000	6,000
LMB178	B052	Uniform	30,6	1	1	1	Abso	full	From start	5,000	6,000
LMB180	B087	Uniform	30,6	1	1	1	Abso	full	From start	0,000	1,000
LMB181	B038	Uniform	30,6	1	1	1	Abso	full	From start	0,000	1,000
LMB182	B042	Uniform	30,6	1	1	1	Abso	full	From start	0,000	1,000
LMB183	B075	Uniform	30,6	1	1	1	Abso	full	From start	5,000	6,000
LMB184	B078	Uniform	30,6	1	1	1	Abso	full	From start	5,000	6,000
LMB186	B028	Uniform	30,6	1	1	1	Abso	full	From start	5,000	6,000
LMB187	B116	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB188	B107	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB189	B094	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB190	B077	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB191	B061	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB192	B054	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB193	B043	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB194	B030	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB195	B112	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB196	B113	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB207	B017	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB208	B018	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB229	B122	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB230	B123	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB232	B143	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB242	B057	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000

Name	Member	Distribution	Beg M [kg/m]	mx	my	mz	Coor	Extent	Orig	Pos x_1 [m]	Pos x_2 [m]
LMB243	B056	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB244	B034	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB245	B033	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB248	B069	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB249	B070	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB250	B047	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB251	B048	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB262	B101	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB263	B103	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB265	B140	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB266	B142	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB267	B022	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB268	B023	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB269	B037	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB270	B027	Uniform	30,6	1	1	1	Rela	full	From start	0.000	1.000
LMB271	B032	Uniform	30,6	1	1	1	Rela	full	From start	0.000	0.500
LMB278	B484	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB279	B485	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB280	B486	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB281	B487	Uniform	23,4	1	1	1	Rela	full	From start	0.000	1.000
LMB282	B481	Uniform	30,6	1	1	1	Rela	full	From end	0.000	1.000
LMB283	B483	Uniform	30,6	1	1	1	Abso	full	From start	3,250	4,865

7.2. Combination of mass groups

Name	Mass group	Coeff. [-]
CM1	MG1 MG2 MG3	1,00 1,00 1,00
CM1/1 - 1,59		
CM1/2 - 2,64		
CM1/3 - 2,88		
CM1/4 - 3,18		
CM1/5 - 3,23		
CM1/6 - 3,25		
CM1/7 - 3,28		
CM1/8 - 3,32		
CM1/9 - 3,38		
CM1/10 - 3,45		

Values: **U_{total}**
Modal shapes are normalized, so that the generalized modal mass of each mode is equal to 1kg.
Mass combination: CM1/1 - 1,59
Selection: All
Location: In nodes avg.. System: Global



Values: **U_{total}**
Modal shapes are normalized, so that the generalized modal mass of each mode is equal to 1kg.
Mass combination: CM1/2 - 2,64
Selection: All
Location: In nodes avg.. System: Global