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2. Materiali

Steel EC3


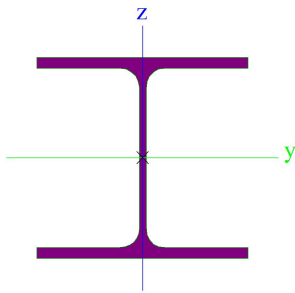

Name	ρ [kg/m ³]	E_{mod} [MPa]	μ	Lower limit [mm]	Upper limit [mm]	F_y [MPa]	F_u [MPa]	Colour
		G_{mod} [MPa]	α [m/mK]					
S 235	7850,00	2,1000e+05	0.3	0	40	235,0	360,0	
		8,0769e+04	0,01e-003	40	80	215,0	360,0	
S 355	7850,00	2,1000e+05	0.3	0	40	355,0	490,0	
		8,0769e+04	0,01e-003	40	80	335,0	470,0	

Name	Type	ρ [kg/m ³]	Density in fresh state [kg/m ³]	E_{mod} [MPa]	μ	α [m/mK]	$f_{c,k.28}$ [MPa]	Colour
C25/30	Concrete	2500,00	2600,00	3,1500e+04	0.2	0,01e-003	25,00	

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.
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3. Prerezi

Steber 2 notranji1		
Type	HEA200	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [m²]	5,3800e-03	
A _y [m²], A _z [m²]	3,8781e-03	1,3287e-03
A _L [m²/m], A _D [m²/m]	1,1400e+00	1,1360e+00
C _{y,UCS} [mm], C _{z,UCS} [mm]	100	95
α [deg]	0,00	
I _y [m⁴], I _z [m⁴]	3,6900e-05	1,3400e-05
i _y [mm], i _z [mm]	83	50
W _{el,y} [m³], W _{el,z} [m³]	3,8900e-04	1,3400e-04
W _{pl,y} [m³], W _{pl,z} [m³]	4,2917e-04	2,0375e-04
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	152610,80	152610,80
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	72373,26	72373,26
d _y [mm], d _z [mm]	0	0
I _t [m⁴], I _w [m⁶]	2,1000e-07	1,0800e-07
β _y [mm], β _z [mm]	0	0
Picture		
primarc 2 notranji		
Type	HEA180	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y,	b	c


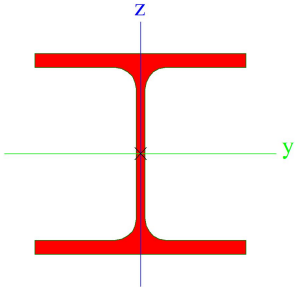


Flexural buckling z-z		
A [m ²]	4,5300e-03	
A _y [m ²], A _z [m ²]	3,2772e-03	1,0992e-03
A _L [m ² /m], A _D [m ² /m]	1,0200e+00	1,0241e+00
C _{y,UCS} [mm], C _{z,UCS} [mm]	90	86
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	2,5100e-05	9,2500e-06
i _y [mm], i _z [mm]	74	45
W _{el,y} [m ³], W _{el,z} [m ³]	2,9400e-04	1,0300e-04
W _{pl,y} [m ³], W _{pl,z} [m ³]	3,2500e-04	1,5667e-04
M _{pl,y.+} [Nm], M _{pl,y.-} [Nm]	115412,42	115412,42
M _{pl,z.+} [Nm], M _{pl,z.-} [Nm]	55566,33	55566,33
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	1,4800e-07	6,0211e-08
β _y [mm], β _z [mm]	0	0
Picture		


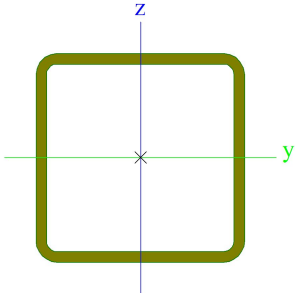
Zatega1		
Type	RND12	
Formcode	11 - Full circular section	
Shape type	Thick-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y,	c	c
Flexural buckling z-z		
A [m ²]	1,1300e-04	
A _y [m ²], A _z [m ²]	9,6865e-05	9,6865e-05
A _L [m ² /m], A _D [m ² /m]	3,7000e-02	3,7697e-02
C _{y,UCS} [mm], C _{z,UCS} [mm]	6	6
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	1,0200e-09	1,0200e-09
i _y [mm], i _z [mm]	3	3
W _{el,y} [m ³], W _{el,z} [m ³]	1,7000e-07	1,7000e-07
W _{pl,y} [m ³], W _{pl,z} [m ³]	2,8800e-07	2,8800e-07
M _{pl,y.+} [Nm], M _{pl,y.-} [Nm]	102,21	102,21
M _{pl,z.+} [Nm], M _{pl,z.-} [Nm]	102,21	102,21
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	2,0344e-09	0,0000e+00
β _y [mm], β _z [mm]	0	0
Picture		

Sekundarec		
Type	HEA120	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	



Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [m ²]	2,5300e-03	
A _y [m ²], A _z [m ²]	1,8775e-03	6,1698e-04
A _L [m ² /m], A _D [m ² /m]	6,7700e-01	6,7730e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	60	57
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	6,0600e-06	2,3100e-06
i _y [mm], i _z [mm]	49	30
W _{el,y} [m ³], W _{el,z} [m ³]	1,0600e-04	3,8500e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	1,1958e-04	5,8750e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	42455,50	42455,50
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	20898,35	20898,35
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	5,9900e-08	6,4719e-09
β _y [mm], β _z [mm]	0	0
Picture		


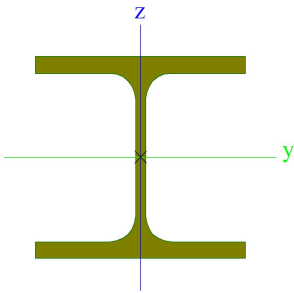
Faslane prečke 2

Type	QRO80X4K	
Formcode	2 - Rectangular hollow section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	cold formed	
Colour		
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m ²]	1,1748e-03	
A _y [m ²], A _z [m ²]	5,8702e-04	5,8702e-04
A _L [m ² /m], A _D [m ² /m]	3,0627e-01	5,8730e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	40	40
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	1,1104e-06	1,1104e-06
i _y [mm], i _z [mm]	31	31
W _{el,y} [m ³], W _{el,z} [m ³]	2,7761e-05	2,7761e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	3,3070e-05	3,3070e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	11729,85	11729,85
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	11729,85	11729,85
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	1,8000e-06	1,0923e-09
β _y [mm], β _z [mm]	0	0
Picture		


Sekundarec podesta

Type	HEA100	
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Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [m ²]	2,1200e-03	
A _y [m ²], A _z [m ²]	1,6076e-03	5,3156e-04
A _L [m ² /m], A _D [m ² /m]	5,6100e-01	5,6130e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	50	48
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	3,4900e-06	1,3400e-06
i _y [mm], i _z [mm]	41	25
W _{el,y} [m ³], W _{el,z} [m ³]	7,2800e-05	2,6800e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	8,2917e-05	4,1125e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	29498,66	29498,66
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	14610,42	14610,42
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	5,2400e-08	2,5813e-09
β _y [mm], β _z [mm]	0	0
Picture		

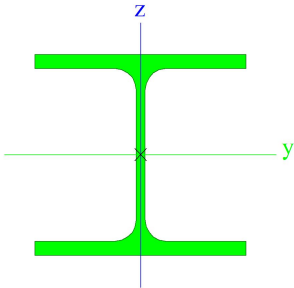
Stebri podesta


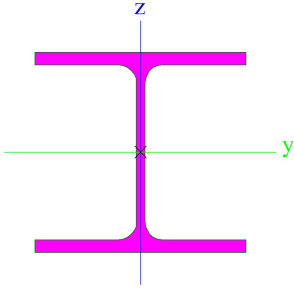
Type	HEA140	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [m ²]	3,1400e-03	
A _y [m ²], A _z [m ²]	2,2882e-03	7,8192e-04
A _L [m ² /m], A _D [m ² /m]	7,9400e-01	7,9430e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	70	66
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	1,0300e-05	3,8900e-06
i _y [mm], i _z [mm]	57	35
W _{el,y} [m ³], W _{el,z} [m ³]	1,5500e-04	5,5600e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	1,7333e-04	8,5000e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	61634,42	61634,42
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	30127,02	30127,02
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	8,1300e-08	1,5064e-08
β _y [mm], β _z [mm]	0	0




Picture		
Steber 1 zunanji		
Type	HEA120	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [m ²]	2,5300e-03	
A _y [m ²], A _z [m ²]	1,8775e-03	6,1698e-04
A _L [m ² /m], A _D [m ² /m]	6,7700e-01	6,7730e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	60	57
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	6,0600e-06	2,3100e-06
i _y [mm], i _z [mm]	49	30
W _{el,y} [m ³], W _{el,z} [m ³]	1,0600e-04	3,8500e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	1,1958e-04	5,8750e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	42455,50	42455,50
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	20898,35	20898,35
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	5,9900e-08	6,4719e-09
β _y [mm], β _z [mm]	0	0
Picture		
Primarec zunanji		
Type	HEA120	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [m ²]	2,5300e-03	
A _y [m ²], A _z [m ²]	1,8775e-03	6,1698e-04
A _L [m ² /m], A _D [m ² /m]	6,7700e-01	6,7730e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	60	57
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	6,0600e-06	2,3100e-06
i _y [mm], i _z [mm]	49	30
W _{el,y} [m ³], W _{el,z} [m ³]	1,0600e-04	3,8500e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	1,1958e-04	5,8750e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	42455,50	42455,50
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	20898,35	20898,35



d_y [mm], d_z [mm]	0	0
I_t [m ⁴], I_w [m ⁶]	5,9900e-08	6,4719e-09
β_y [mm], β_z [mm]	0	0
Picture		

Primarec podesta		
Type	HEA140	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y,	b	c
Flexural buckling z-z		
A [m ²]	3,1400e-03	
A_y [m ²], A_z [m ²]	2,2882e-03	7,8192e-04
A_L [m ² /m], A_D [m ² /m]	7,9400e-01	7,9430e-01
$C_{y,UCS}$ [mm], $C_{z,UCS}$ [mm]	70	66
α [deg]	0,00	
I_y [m ⁴], I_z [m ⁴]	1,0300e-05	3,8900e-06
i_y [mm], i_z [mm]	57	35
$W_{el,y}$ [m ³], $W_{el,z}$ [m ³]	1,5500e-04	5,5600e-05
$W_{pl,y}$ [m ³], $W_{pl,z}$ [m ³]	1,7333e-04	8,5000e-05
$M_{pl,y,+}$ [Nm], $M_{pl,y,-}$ [Nm]	61634,42	61634,42
$M_{pl,z,+}$ [Nm], $M_{pl,z,-}$ [Nm]	30127,02	30127,02
d_y [mm], d_z [mm]	0	0
I_t [m ⁴], I_w [m ⁶]	8,1300e-08	1,5064e-08
β_y [mm], β_z [mm]	0	0
Picture		

Fasadne prečke		
Type	UPN200	
Formcode	5 - Channel section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y,	c	c
Flexural buckling z-z		
A [m ²]	3,2200e-03	
A_y [m ²], A_z [m ²]	1,6758e-03	1,6900e-03
A_L [m ² /m], A_D [m ² /m]	6,6027e-01	6,6027e-01
$C_{y,UCS}$ [mm], $C_{z,UCS}$ [mm]	20	100
α [deg]	0,00	
I_y [m ⁴], I_z [m ⁴]	1,9100e-05	1,4800e-06
i_y [mm], i_z [mm]	77	21
$W_{el,y}$ [m ³], $W_{el,z}$ [m ³]	1,9100e-04	2,7000e-05



$W_{pl.y}$ [m ³], $W_{pl.z}$ [m ³]	2,2800e-04	5,1800e-05
$M_{pl.y,+}$ [Nm], $M_{pl.y,-}$ [Nm]	80875,53	80875,53
$M_{pl.z,+}$ [Nm], $M_{pl.z,-}$ [Nm]	18415,40	18415,40
d_y [mm], d_z [mm]	-44	0
I_t [m ⁴], I_w [m ⁶]	1,1900e-07	1,0499e-08
β_y [mm], β_z [mm]	0	217
Picture		

Menjalnik 1

Type	HEA120	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y,	b	c
Flexural buckling z-z		
A [m ²]	2,5300e-03	
A_y [m ²], A_z [m ²]	1,8775e-03	6,1698e-04
A_L [m ² /m], A_D [m ² /m]	6,7700e-01	6,7730e-01
$C_{Y,UCS}$ [mm], $C_{Z,UCS}$ [mm]	60	57
α [deg]	0,00	
I_y [m ⁴], I_z [m ⁴]	6,0600e-06	2,3100e-06
i_y [mm], i_z [mm]	49	30
$W_{el,y}$ [m ³], $W_{el,z}$ [m ³]	1,0600e-04	3,8500e-05
$W_{pl,y}$ [m ³], $W_{pl,z}$ [m ³]	1,1958e-04	5,8750e-05
$M_{pl,y,+}$ [Nm], $M_{pl,y,-}$ [Nm]	42455,50	42455,50
$M_{pl,z,+}$ [Nm], $M_{pl,z,-}$ [Nm]	20898,35	20898,35
d_y [mm], d_z [mm]	0	0
I_t [m ⁴], I_w [m ⁶]	5,9900e-08	6,4719e-09
β_y [mm], β_z [mm]	0	0
Picture		

Menjalnik 2

Type	HEA140	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	



Colour		
Flexural buckling y-y,	b	c
Flexural buckling z-z		
A [m ²]	3,1400e-03	
A _y [m ²], A _z [m ²]	2,2882e-03	7,8192e-04
A _L [m ² /m], A _D [m ² /m]	7,9400e-01	7,9430e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	70	66
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	1,0300e-05	3,8900e-06
i _y [mm], i _z [mm]	57	35
W _{el.y} [m ³], W _{el.z} [m ³]	1,5500e-04	5,5600e-05
W _{pl.y} [m ³], W _{pl.z} [m ³]	1,7333e-04	8,5000e-05
M _{pl.y.+} [Nm], M _{pl.y.-} [Nm]	61634,42	61634,42
M _{pl.z.+} [Nm], M _{pl.z.-} [Nm]	30127,02	30127,02
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	8,1300e-08	1,5064e-08
β _y [mm], β _z [mm]	0	0
Picture		

Steber podesta HEA120		
Type	HEA120	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y,	b	c
Flexural buckling z-z		
A [m ²]	2,5300e-03	
A _y [m ²], A _z [m ²]	1,8775e-03	6,1698e-04
A _L [m ² /m], A _D [m ² /m]	6,7700e-01	6,7730e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	60	57
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	6,0600e-06	2,3100e-06
i _y [mm], i _z [mm]	49	30
W _{el.y} [m ³], W _{el.z} [m ³]	1,0600e-04	3,8500e-05
W _{pl.y} [m ³], W _{pl.z} [m ³]	1,1958e-04	5,8750e-05
M _{pl.y.+} [Nm], M _{pl.y.-} [Nm]	42455,50	42455,50
M _{pl.z.+} [Nm], M _{pl.z.-} [Nm]	20898,35	20898,35
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	5,9900e-08	6,4719e-09
β _y [mm], β _z [mm]	0	0
Picture		

Explanations of symbols	
Formcode	h - Height b - Flange width

Explanations of symbols	
	t - Flange thickness s - Web thickness



Explanations of symbols	
	r - Radius at flange root r1 - Radius at flange toe a - Flange slope W - Internal bolt distance wm - Unit warping at flange toe
A	Area
A _y	Shear Area in principal y-direction
A _z	Shear Area in principal z-direction
A _L	Circumference per unit length
A _D	Drying surface per unit length
C _{y,UCS}	Centroid coordinate in Y-direction of Input axis system
C _{z,UCS}	Centroid coordinate in Z-direction of Input axis system
I _{y,LCS}	Second moment of area about the YLCS axis
I _{z,LCS}	Second moment of area about the ZLCS axis
I _{yz,LCS}	Product moment of area in the LCS system
α	Rotation angle of the principal axis system
I _y	Second moment of area about the principal y-axis
I _z	Second moment of area about the principal z-axis
i _y	Radius of gyration about the principal y-axis

Explanations of symbols	
i _z	Radius of gyration about the principal z-axis
W _{el,y}	Elastic section modulus about the principal y-axis
W _{el,z}	Elastic section modulus about the principal z-axis
W _{pl,y}	Plastic section modulus about the principal y-axis
W _{pl,z}	Plastic section modulus about the principal z-axis
M _{pl,y,+}	Plastic moment about the principal y-axis for a positive M _y moment
M _{pl,y,-}	Plastic moment about the principal y-axis for a negative M _y moment
M _{pl,z,+}	Plastic moment about the principal z-axis for a positive M _z moment
M _{pl,z,-}	Plastic moment about the principal z-axis for a negative M _z moment
d _y	Shear center coordinate in principal y-direction measured from the centroid
d _z	Shear center coordinate in principal z-direction measured from the centroid
I _t	Torsional constant
I _w	Warping constant
β _y	Mono-symmetry constant about the principal y-axis
β _z	Mono-symmetry constant about the principal z-axis

4. Elementi

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B1	Steber 1 zunanji - HEA120	S 355	3,250	N54	N53	column (100)
B2	Steber 2 notranji1 - HEA200	S 355	3,250	N3	N102	column (100)
B3	Steber 2 notranji1 - HEA200	S 355	3,250	N5	N6	column (100)
B4	Steber 1 zunanji - HEA120	S 355	3,250	N7	N8	column (100)
B9	Steber 1 zunanji - HEA120	S 355	3,250	N51	N52	column (100)
B10	Steber 2 notranji1 - HEA200	S 355	3,250	N19	N20	column (100)
B11	Steber 2 notranji1 - HEA200	S 355	3,250	N21	N22	column (100)
B12	Steber 1 zunanji - HEA120	S 355	3,250	N23	N24	column (100)
B13	Primarec zunanji - HEA120	S 355	8,160	N52	N53	beam (80)
B16	Primarec zunanji - HEA120	S 355	8,160	N24	N8	beam (80)
B17	Sekundarec - HEA120	S 355	13,000	N52	N24	beam (80)
B21	Sekundarec - HEA120	S 355	13,000	N53	N8	beam (80)
B24	Zatega1 - RND12	S 355	4,628	N19	N42	wall bracing (0)
B25	Zatega1 - RND12	S 355	4,628	N41	N21	wall bracing (0)
B27	Zatega1 - RND12	S 355	5,116	N22	N30	roof bracing (0)
B28	Zatega1 - RND12	S 355	5,116	N20	N31	roof bracing (0)
B33	Zatega1 - RND12	S 355	5,116	N99	N6	roof bracing (0)
B34	Zatega1 - RND12	S 355	5,116	N12	N102	roof bracing (0)
B36	primarc 2 notranji - HEA180	S 355	8,160	N22	N6	beam (80)
B38	primarc 2 notranji - HEA180	S 355	8,160	N20	N102	beam (80)
B40	Fasdane prečke 2 - QRO80X4K	S 355	4,333	N37	N44	beam (80)
B41	Fasadne prečke - UPN200	S 355	3,218	N5	N106	beam (80)
B42	Fasadne prečke - UPN200	S 355	3,218	N21	N105	beam (80)
B43	Fasdane prečke 2 - QRO80X4K	S 355	4,333	N39	N41	beam (80)
B46	Zatega1 - RND12	S 355	4,628	N41	N22	wall bracing (0)
B47	Zatega1 - RND12	S 355	4,628	N20	N42	wall bracing (0)
B48	Zatega1 - RND12	S 355	4,628	N3	N43	wall bracing (0)
B49	Zatega1 - RND12	S 355	4,628	N44	N5	wall bracing (0)
B50	Zatega1 - RND12	S 355	4,628	N44	N6	wall bracing (0)
B51	Zatega1 - RND12	S 355	4,628	N102	N43	wall bracing (0)
B52	Fasdane prečke 2 - QRO80X4K	S 355	4,333	N41	N42	beam (80)



Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B53	Faslane prečke 2 - QRO80X4K	S 355	4,333	N42	N40	beam (80)
B54	Fasadne prečke - UPN200	S 355	4,333	N51	N19	beam (80)
B55	Fasadne prečke - UPN200	S 355	4,333	N19	N21	beam (80)
B58	Faslane prečke 2 - QRO80X4K	S 355	4,333	N44	N43	beam (80)
B59	Faslane prečke 2 - QRO80X4K	S 355	4,333	N43	N38	beam (80)
B60	Fasadne prečke - UPN200	S 355	4,333	N54	N3	beam (80)
B61	Fasadne prečke - UPN200	S 355	4,333	N3	N5	beam (80)
B62	Steber 1 zunanji - HEA120	S 355	0,600	N23	N59	column (100)
B63	Steber 1 zunanji - HEA120	S 355	0,600	N119	N60	column (100)
B64	Steber 1 zunanji - HEA120	S 355	0,600	N7	N61	column (100)
B65	Steber 2 notranji1 - HEA200	S 355	0,600	N21	N1	column (100)
B66	Steber 2 notranji1 - HEA200	S 355	0,600	N5	N62	column (100)
B67	Steber 2 notranji1 - HEA200	S 355	0,600	N19	N63	column (100)
B68	Steber 2 notranji1 - HEA200	S 355	0,600	N3	N64	column (100)
B69	Steber 1 zunanji - HEA120	S 355	0,600	N51	N65	column (100)
B70	Steber 1 zunanji - HEA120	S 355	0,600	N54	N66	column (100)
B71	Steber 1 zunanji - HEA120	S 355	0,600	N15	N68	column (100)
B73	Stebri podesta - HEA140	S 355	0,600	N71	N72	column (100)
B74	Primarec zunanji - HEA120	S 355	4,080	N7	N119	beam (80)
B75	Primarec zunanji - HEA120	S 355	4,080	N119	N23	beam (80)
B76	Primarec podesta - HEA140	S 355	3,780	N5	N139	beam (80)
B78	Primarec podesta - HEA140	S 355	8,160	N3	N19	beam (80)
B80	Primarec zunanji - HEA120	S 355	2,680	N183	N15	beam (80)
B81	Primarec zunanji - HEA120	S 355	4,080	N15	N51	beam (80)
B91	Sekundarec - HEA120	S 355	13,000	N93	N94	beam (80)
B92	Zatega1 - RND12	S 355	5,116	N30	N12	roof bracing (0)
B93	Zatega1 - RND12	S 355	5,116	N31	N99	roof bracing (0)
B94	Sekundarec - HEA120	S 355	13,000	N91	N92	beam (80)
B95	Steber 1 zunanji - HEA120	S 355	3,250	N119	N27	beam (80)
B96	Steber 1 zunanji - HEA120	S 355	3,250	N15	N16	beam (80)
B97	Menjalnik 1 - HEA120	S 355	4,985	N103	N104	beam (80)
B98	Menjalnik 2 - HEA140	S 355	8,160	N105	N106	beam (80)
B99	Menjalnik 1 - HEA120	S 355	0,825	N115	N116	beam (80)
B100	Menjalnik 1 - HEA120	S 355	0,825	N104	N117	beam (80)
B101	Menjalnik 1 - HEA120	S 355	0,290	N104	N129	beam (80)
B102	Sekundarec podesta - HEA100	S 355	0,290	N119	N120	beam (80)
B103	Sekundarec podesta - HEA100	S 355	0,825	N120	N110	beam (80)
B104	Sekundarec podesta - HEA100	S 355	0,290	N121	N122	beam (80)
B105	Sekundarec podesta - HEA100	S 355	0,825	N122	N123	beam (80)
B106	Sekundarec podesta - HEA100	S 355	0,290	N149	N125	beam (80)
B107	Sekundarec podesta - HEA100	S 355	0,825	N125	N126	beam (80)
B108	Sekundarec podesta - HEA100	S 355	1,115	N127	N128	beam (80)
B109	Sekundarec podesta - HEA100	S 355	3,218	N130	N131	beam (80)
B110	Menjalnik 1 - HEA120	S 355	3,218	N132	N133	beam (80)
B111	Menjalnik 1 - HEA120	S 355	3,218	N134	N135	beam (80)
B112	Menjalnik 1 - HEA120	S 355	0,870	N136	N137	beam (80)
B113	Sekundarec podesta - HEA100	S 355	3,218	N138	N139	beam (80)
B114	Sekundarec podesta - HEA100	S 355	3,218	N140	N141	beam (80)
B115	Sekundarec podesta - HEA100	S 355	3,218	N142	N143	beam (80)
B116	Sekundarec podesta - HEA100	S 355	3,218	N144	N145	beam (80)
B117	Sekundarec podesta - HEA100	S 355	1,820	N136	N146	beam (80)
B118	Stebri podesta - HEA140	S 355	0,600	N139	N147	column (100)
B119	Stebri podesta - HEA140	S 355	0,600	N135	N148	column (100)
B120	Primarec podesta - HEA140	S 355	2,560	N135	N21	beam (80)
B121	Menjalnik 1 - HEA120	S 355	4,333	N150	N151	beam (80)
B122	Menjalnik 2 - HEA140	S 355	4,650	N152	N153	beam (80)
B123	Menjalnik 1 - HEA120	S 355	4,333	N154	N155	beam (80)
B124	Menjalnik 1 - HEA120	S 355	4,333	N151	N156	beam (80)
B125	Menjalnik 1 - HEA120	S 355	4,333	N155	N157	beam (80)
B126	Menjalnik 1 - HEA120	S 355	1,915	N158	N159	beam (80)
B127	Menjalnik 1 - HEA120	S 355	0,965	N160	N161	beam (80)
B128	Menjalnik 1 - HEA120	S 355	1,215	N161	N162	beam (80)
B129	Sekundarec podesta - HEA100	S 355	1,915	N163	N164	beam (80)
B130	Menjalnik 1 - HEA120	S 355	4,333	N165	N166	beam (80)
B131	Menjalnik 1 - HEA120	S 355	2,120	N167	N168	beam (80)
B132	Menjalnik 1 - HEA120	S 355	2,418	N169	N170	beam (80)



Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B133	Sekundarec podesta - HEA100	S 355	2,418	N171	N172	beam (80)
B134	Sekundarec podesta - HEA100	S 355	2,418	N173	N174	beam (80)
B135	Sekundarec podesta - HEA100	S 355	4,333	N174	N175	beam (80)
B136	Sekundarec podesta - HEA100	S 355	4,333	N172	N176	beam (80)
B137	Menjalnik 1 - HEA120	S 355	4,333	N170	N177	beam (80)
B138	Menjalnik 1 - HEA120	S 355	1,720	N178	N179	beam (80)
B139	Menjalnik 1 - HEA120	S 355	1,435	N166	N181	beam (80)
B140	Sekundarec podesta - HEA100	S 355	2,898	N182	N183	beam (80)
B141	Menjalnik 1 - HEA120	S 355	2,360	N184	N185	beam (80)
B142	Sekundarec podesta - HEA100	S 355	1,400	N186	N187	beam (80)
B143	Sekundarec podesta - HEA100	S 355	1,400	N188	N189	beam (80)
B144	Steber 1 zunanji - HEA120	S 355	0,600	N183	N190	column (100)
B145	Stebri podesta - HEA140	S 355	0,600	N105	N195	column (100)
B146	Stebri podesta - HEA140	S 355	0,600	N106	N196	column (100)
B147	Fasadne prečke - UPN200	S 355	1,115	N105	N23	beam (80)
B148	Fasadne prečke - UPN200	S 355	1,115	N106	N7	beam (80)
B149	Stebri podesta - HEA140	S 355	0,600	N110	N197	column (100)
B150	Steber podesta HEA120 - HEA120	S 355	0,600	N161	N200	column (100)
B151	Stebri podesta - HEA140	S 355	0,600	N153	N201	column (100)
B152	Stebri podesta - HEA140	S 355	0,600	N152	N202	column (100)

5. Vozlišča

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N3	8,667	8,160	8,600
N5	4,333	8,160	8,600
N6	4,333	8,160	11,850
N7	0,000	8,160	8,600
N8	0,000	8,160	11,850
N12	4,333	5,440	11,850
N15	13,000	4,080	8,600
N16	13,000	4,080	11,850
N19	8,667	0,000	8,600
N20	8,667	0,000	11,850
N21	4,333	0,000	8,600
N22	4,333	0,000	11,850
N23	0,000	0,000	8,600
N24	0,000	0,000	11,850
N25	13,000	2,040	11,850
N26	0,000	2,040	11,850
N27	0,000	4,080	11,850
N28	13,000	6,120	11,850
N29	0,000	6,120	11,850
N30	8,667	2,720	11,850
N31	4,333	2,720	11,850
N34	13,000	4,070	11,850
N36	0,000	3,540	11,850
N37	13,000	8,160	10,225
N38	0,000	8,160	10,225
N39	13,000	0,000	10,225
N40	0,000	0,000	10,225
N41	8,667	0,000	10,225
N42	4,333	0,000	10,225
N43	4,333	8,160	10,225
N44	8,667	8,160	10,225
N51	13,000	0,000	8,600
N52	13,000	0,000	11,850
N53	13,000	8,160	11,850
N54	13,000	8,160	8,600
N59	0,000	0,000	8,000
N60	0,000	4,080	8,000
N61	0,000	8,160	8,000
N1	4,333	0,000	8,000
N62	4,333	8,160	8,000

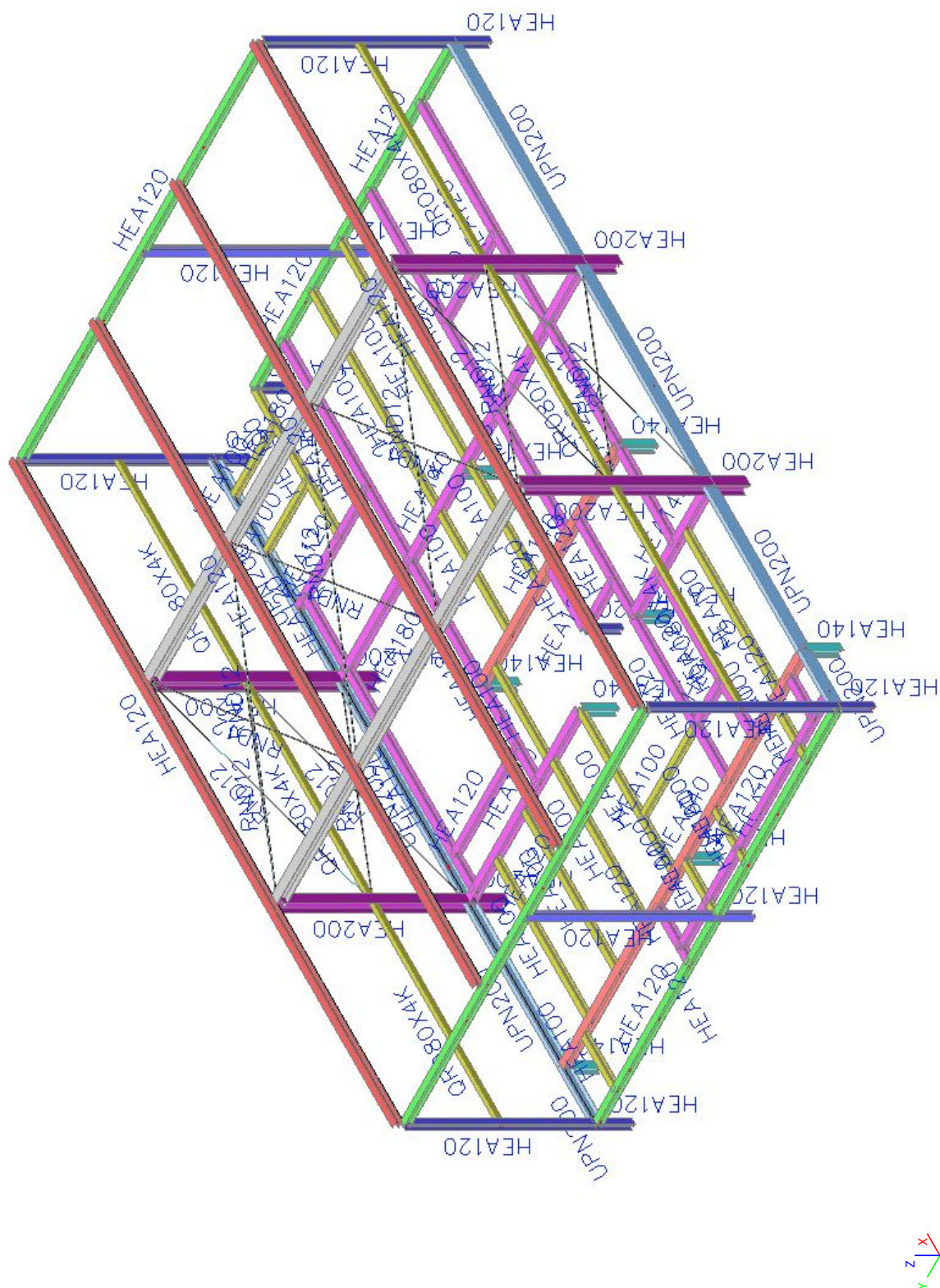
Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N63	8,667	0,000	8,000
N64	8,667	8,160	8,000
N65	13,000	0,000	8,000
N66	13,000	8,160	8,000
N68	13,000	4,080	8,000
N71	8,667	4,080	8,600
N72	8,667	4,080	8,000
N73	0,000	8,080	8,600
N75	0,000	7,080	8,600
N77	0,000	6,080	8,600
N78	13,000	6,080	8,600
N79	0,000	5,080	8,600
N80	13,000	5,080	8,600
N83	0,000	3,080	8,600
N84	13,000	3,080	8,600
N85	0,000	2,080	8,600
N86	13,000	2,080	8,600
N87	0,000	1,080	8,600
N88	13,000	1,080	8,600
N89	0,000	0,080	8,600
N90	13,000	0,080	8,600
N91	13,000	5,440	11,850
N92	0,000	5,440	11,850
N93	13,000	2,720	11,850
N94	0,000	2,720	11,850
N99	8,667	5,440	11,850
N102	8,667	8,160	11,850
N103	0,290	0,000	8,600
N104	0,290	4,985	8,600
N105	1,115	0,000	8,600
N106	1,115	8,160	8,600
N110	1,115	4,080	8,600
N115	0,290	0,500	8,600
N116	1,115	0,500	8,600
N117	1,115	4,985	8,600
N119	0,000	4,080	8,600
N120	0,290	4,080	8,600
N121	0,000	3,060	8,600
N122	0,290	3,060	8,600
N123	1,115	3,060	8,600



Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N125	0,290	1,020	8,600
N126	1,115	1,020	8,600
N127	0,000	7,485	8,600
N128	1,115	7,485	8,600
N129	0,000	4,985	8,600
N130	1,115	0,835	8,600
N131	4,333	0,835	8,600
N132	1,115	1,690	8,600
N133	4,333	1,690	8,600
N134	1,115	2,560	8,600
N135	4,333	2,560	8,600
N136	2,220	2,560	8,600
N137	2,220	1,690	8,600
N138	1,115	4,380	8,600
N139	4,333	4,380	8,600
N140	1,115	5,340	8,600
N141	4,333	5,340	8,600
N142	1,115	6,300	8,600
N143	4,333	6,300	8,600
N144	1,115	7,255	8,600
N145	4,333	7,255	8,600
N146	2,220	4,380	8,600
N147	4,333	4,380	8,000
N148	4,333	2,560	8,000
N149	0,000	1,020	8,600
N150	4,333	1,150	8,600
N151	8,667	1,150	8,600
N152	6,248	1,150	8,600
N153	6,248	5,800	8,600
N154	4,333	5,800	8,600
N155	8,667	5,800	8,600
N156	13,000	1,150	8,600
N157	13,000	5,800	8,600
N158	4,333	2,540	8,600
N159	6,248	2,540	8,600
N160	5,033	2,540	8,600
N161	5,033	3,505	8,600

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N162	6,248	3,505	8,600
N163	4,333	5,395	8,600
N164	6,248	5,395	8,600
N165	4,333	7,920	8,600
N166	8,667	7,920	8,600
N167	5,033	5,800	8,600
N168	5,033	7,920	8,600
N169	6,248	2,870	8,600
N170	8,667	2,870	8,600
N171	6,248	3,845	8,600
N172	8,667	3,845	8,600
N173	6,248	4,820	8,600
N174	8,667	4,820	8,600
N175	13,000	4,820	8,600
N176	13,000	3,845	8,600
N177	13,000	2,870	8,600
N178	10,417	1,150	8,600
N179	10,417	2,870	8,600
N181	10,102	7,920	8,600
N182	10,102	6,760	8,600
N183	13,000	6,760	8,600
N184	10,102	5,800	8,600
N185	10,102	8,160	8,600
N186	11,197	6,760	8,600
N187	11,197	8,160	8,600
N188	12,287	6,760	8,600
N189	12,287	8,160	8,600
N190	13,000	6,760	8,000
N193	6,248	0,000	8,600
N194	5,033	8,160	8,600
N195	1,115	0,000	8,000
N196	1,115	8,160	8,000
N197	1,115	4,080	8,000
N200	5,033	3,505	8,000
N201	6,248	5,800	8,000
N202	6,248	1,150	8,000

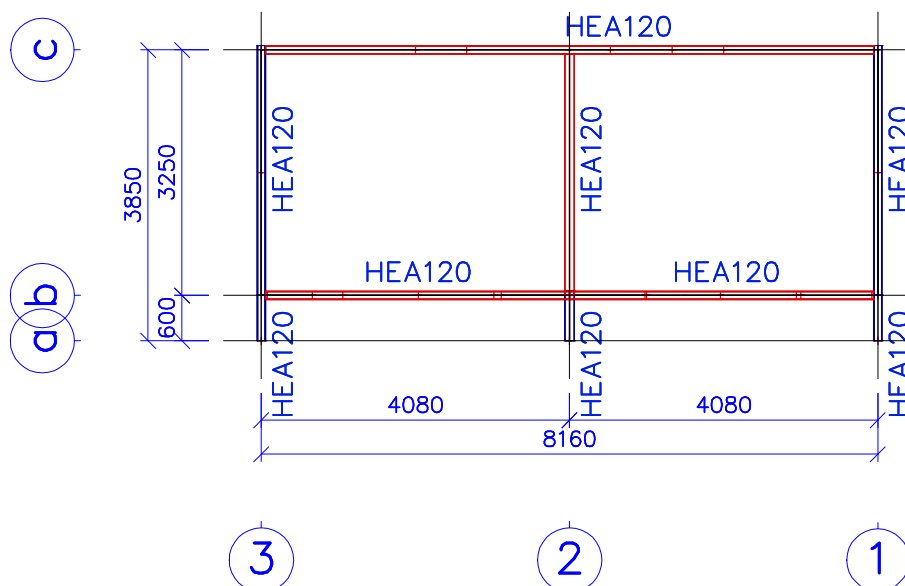
6. 3D model





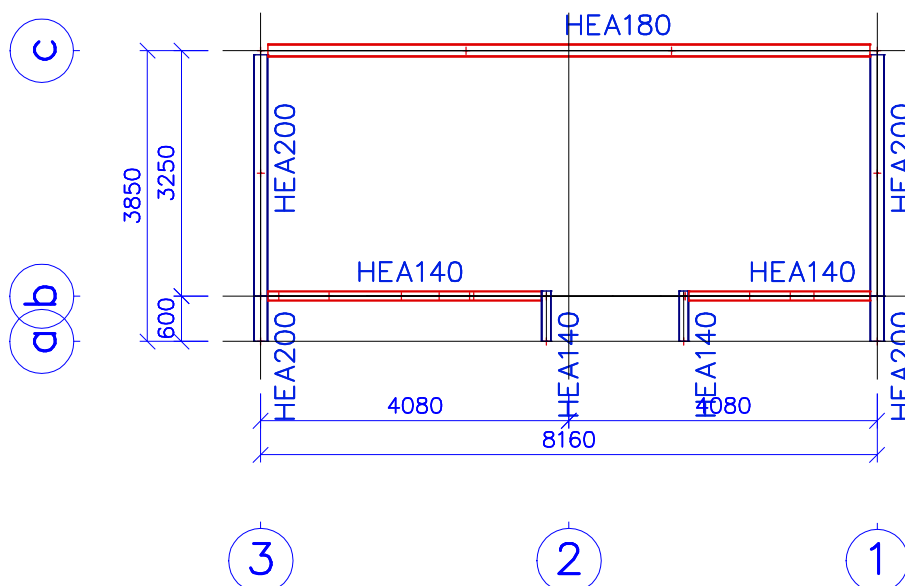
Section – A

A



Section – B

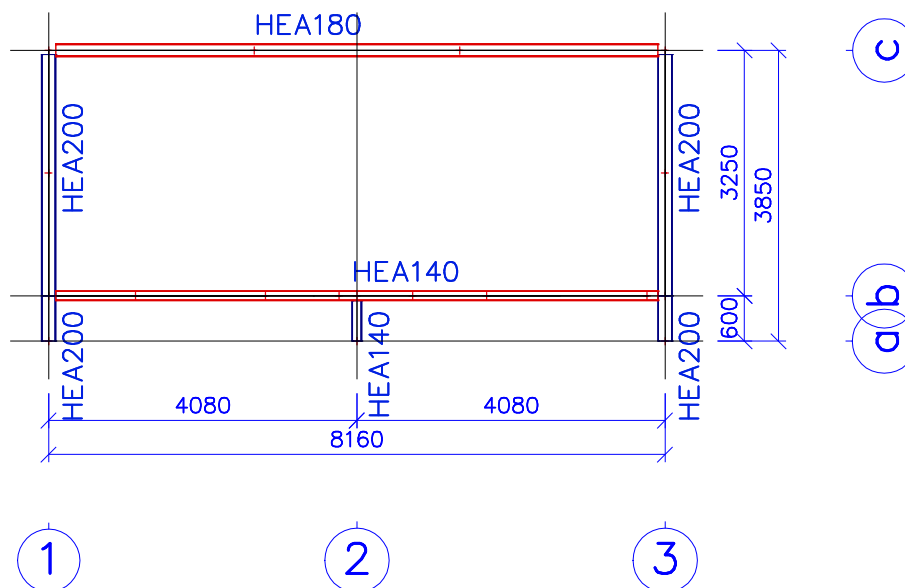
B





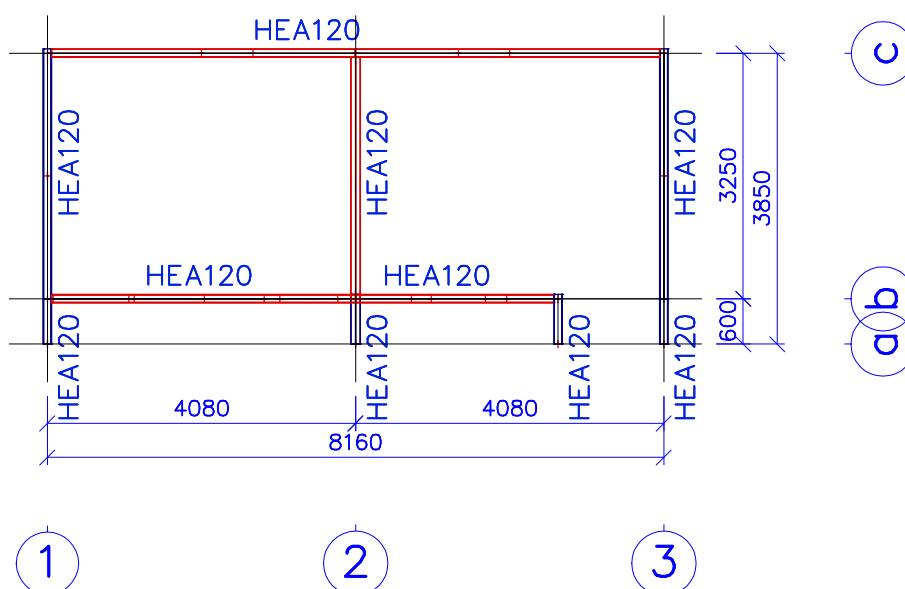
Section – C

C



Section – D

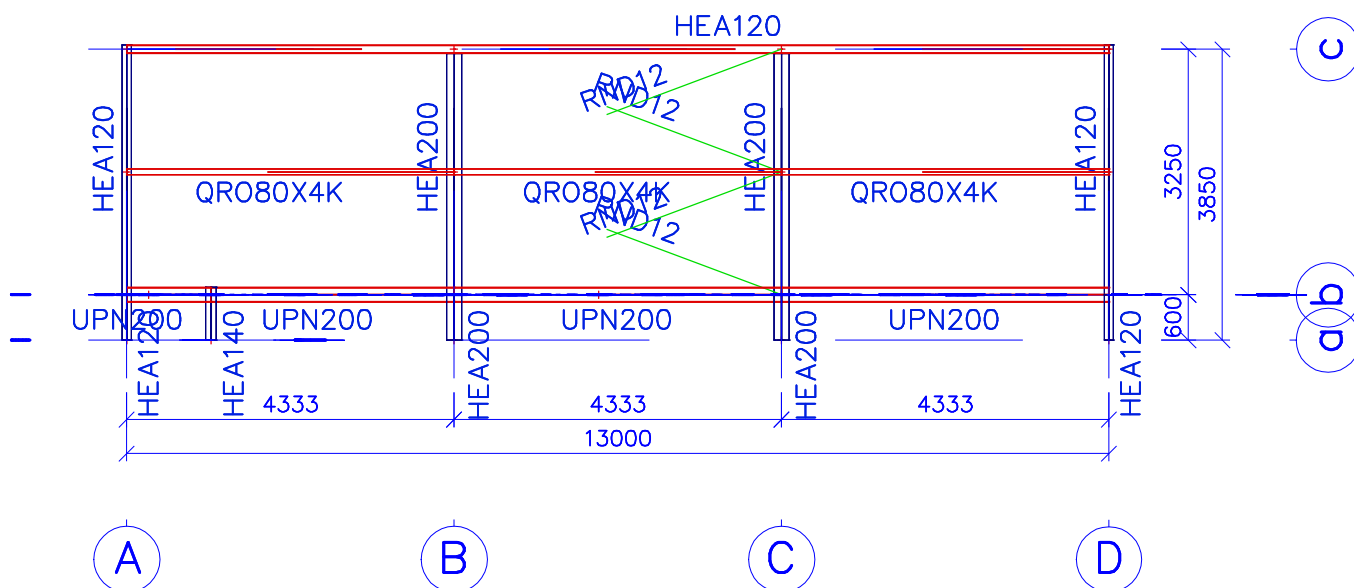
D





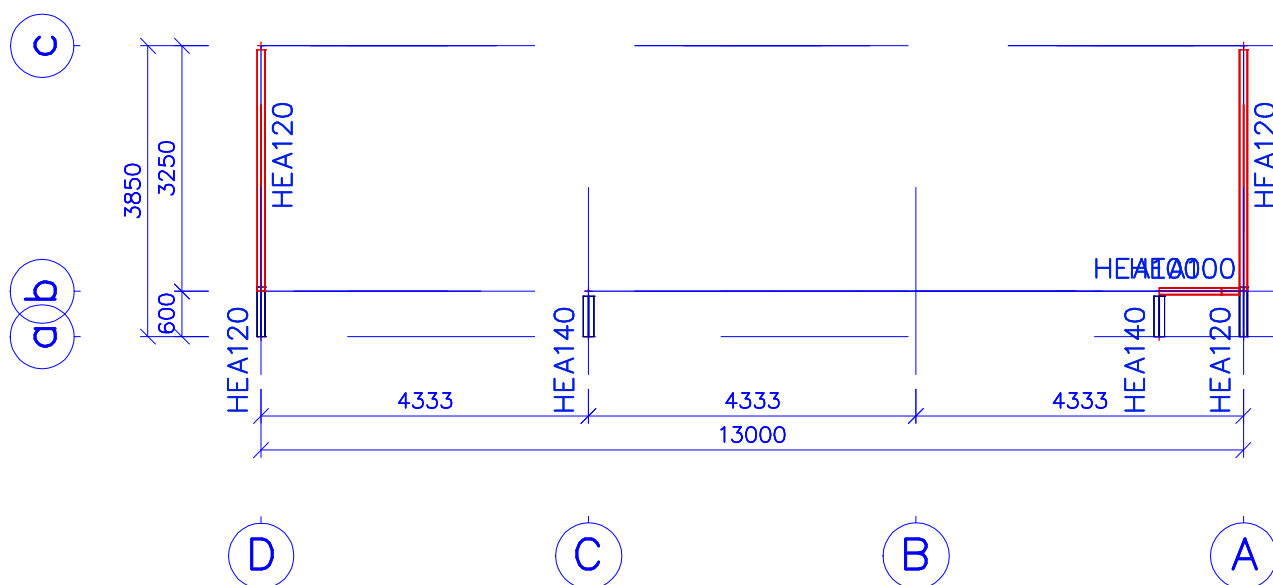
Section – 1

1



Section – 2

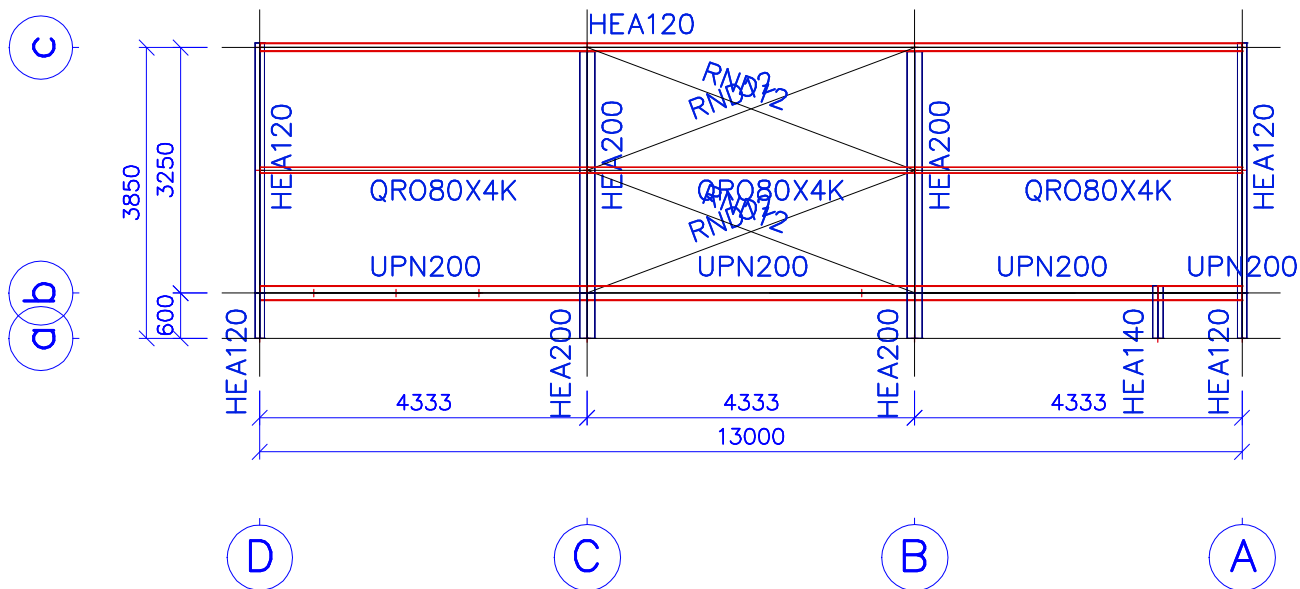
2



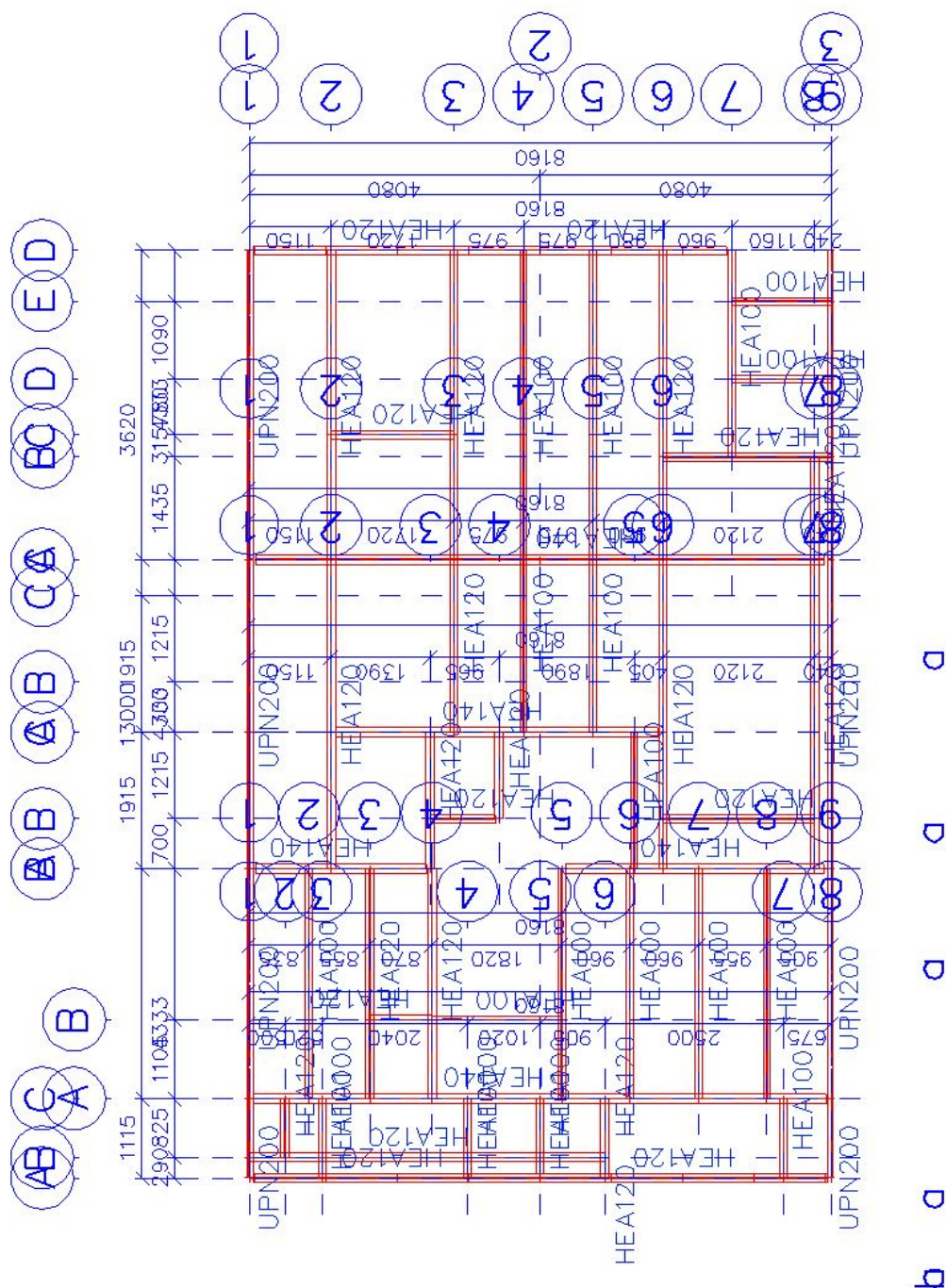


Section – 3

3



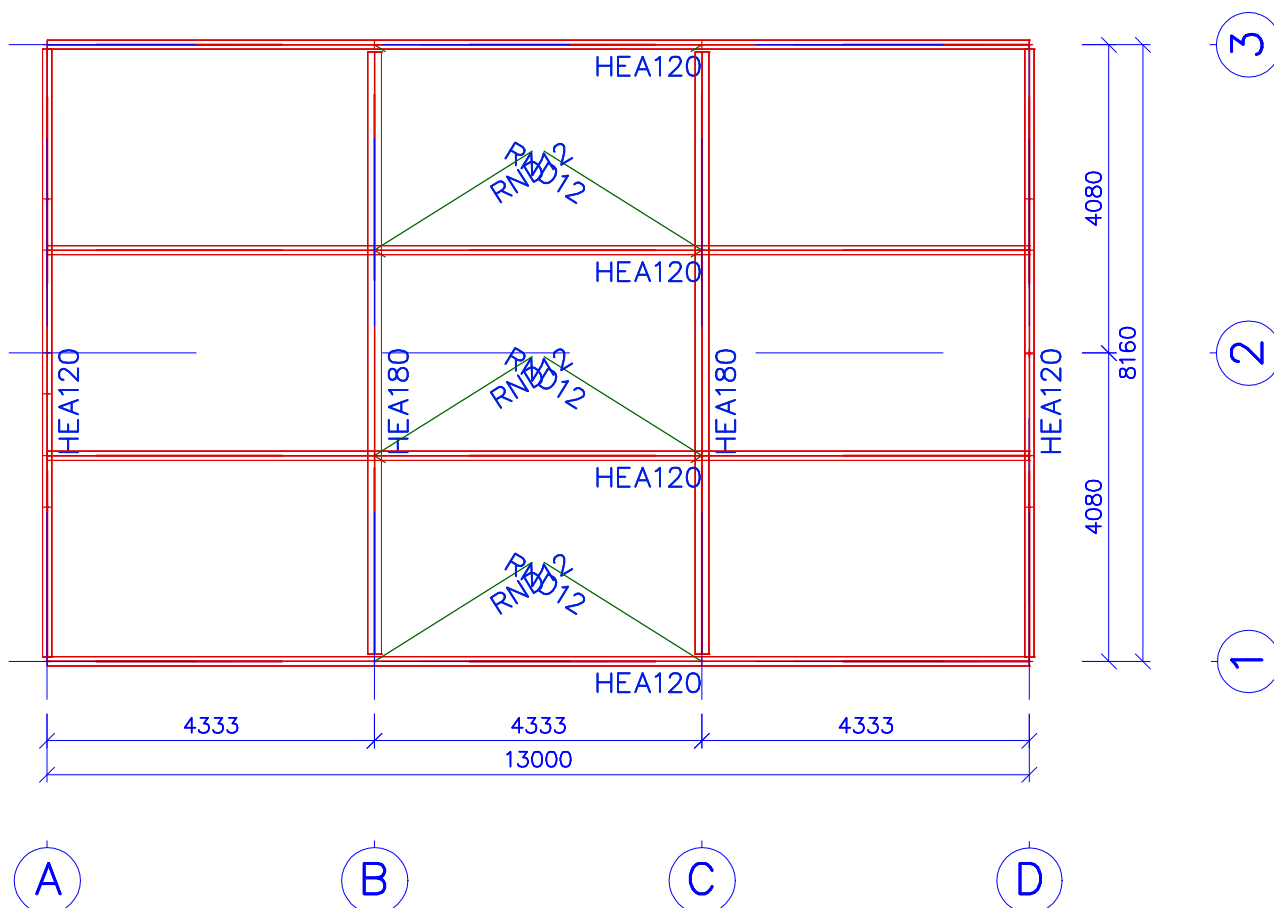
Section - b





Section – c

C



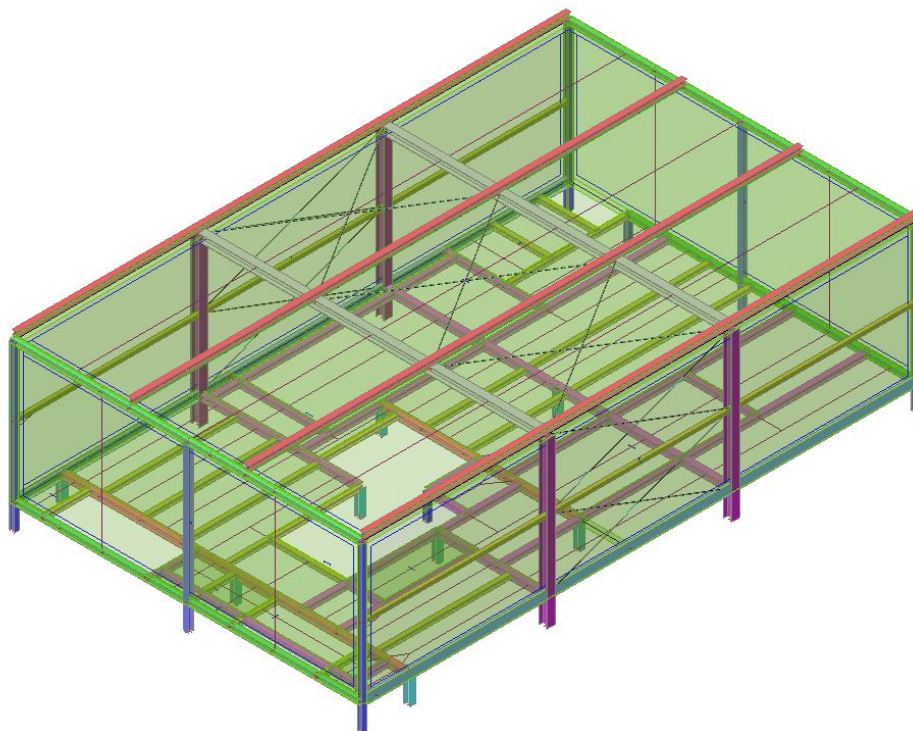
7. Obtežni primeri

7.1. Obtežni primeri - Lastna

Name	Description Spec	Action type Load type	Load group	Direction	Modification group
Lastna		Permanent	Lastna in stalna	-Z	None
		Self weight			



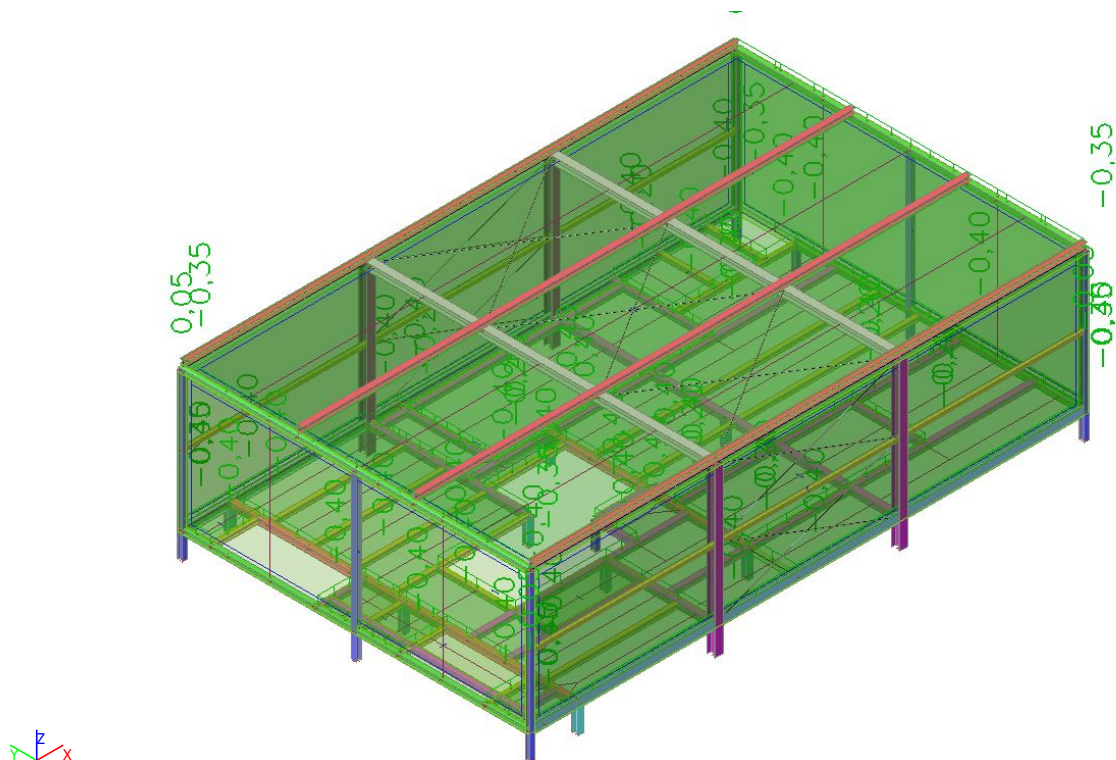
7.1.1. Model za obtežbe



7.2. Obtežni primeri - Stalna

Name	Description Spec	Action type Load type	Load group	Modification group
Stalna		Permanent	Lastna in stalna	None
		Standard		

7.2.1. Model za obtežbe

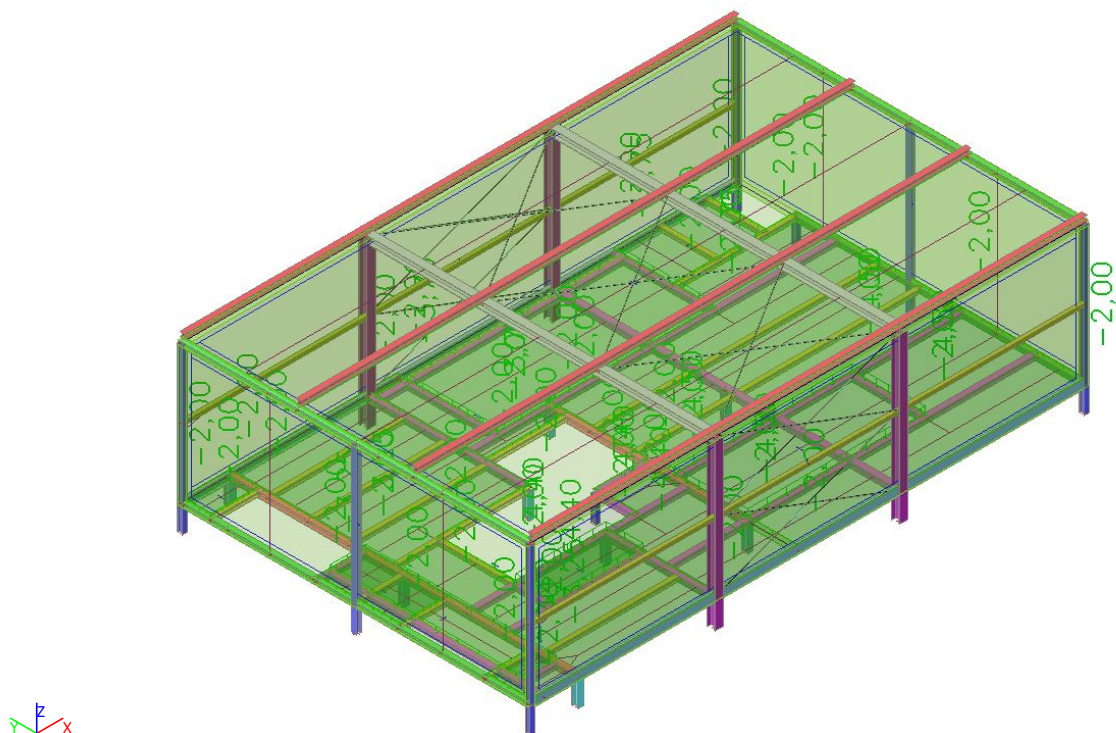


7.3. Obtežni primeri - Koristna

Name	Description	Action type	Load group	Duration	Master load case	Modification group
	Spec	Load type				
Koristna	Standard	Variable Static	Koristna	Medium	None	None



7.3.1. Model za obtežbe

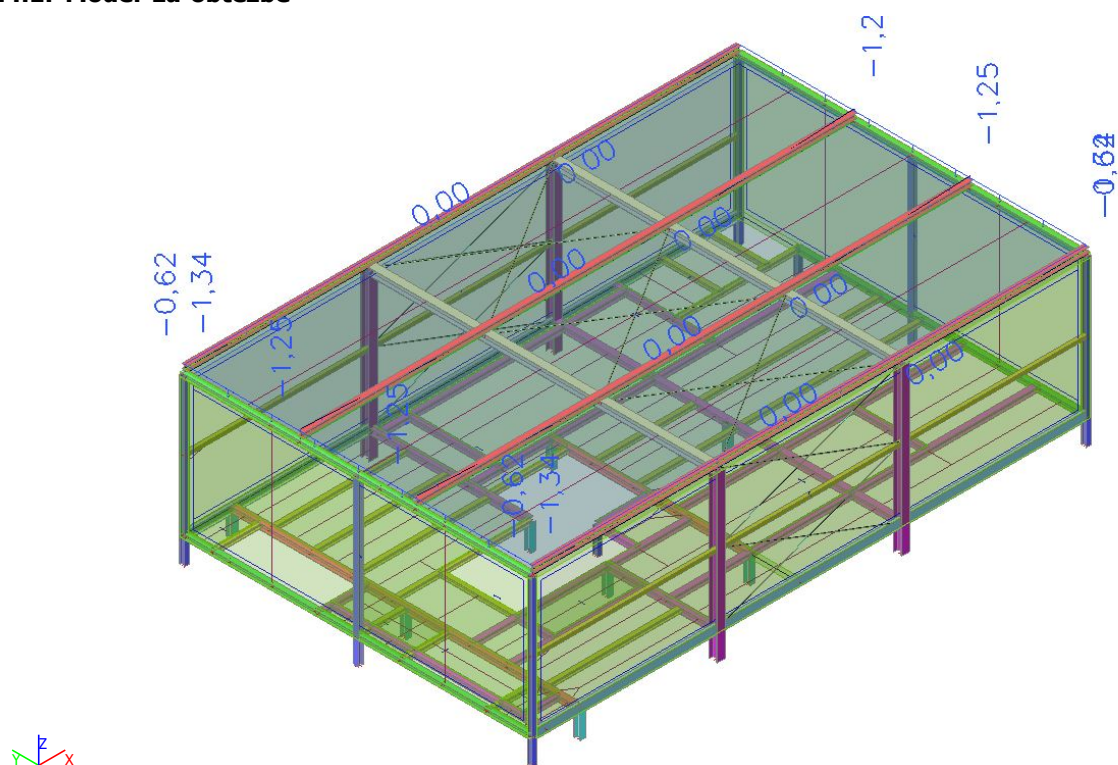


7.4. Obtežni primeri - Sneg

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Sneg		Variable	Sneg	None	None
	Snow	Static			



7.4.1. Model za obtežbe

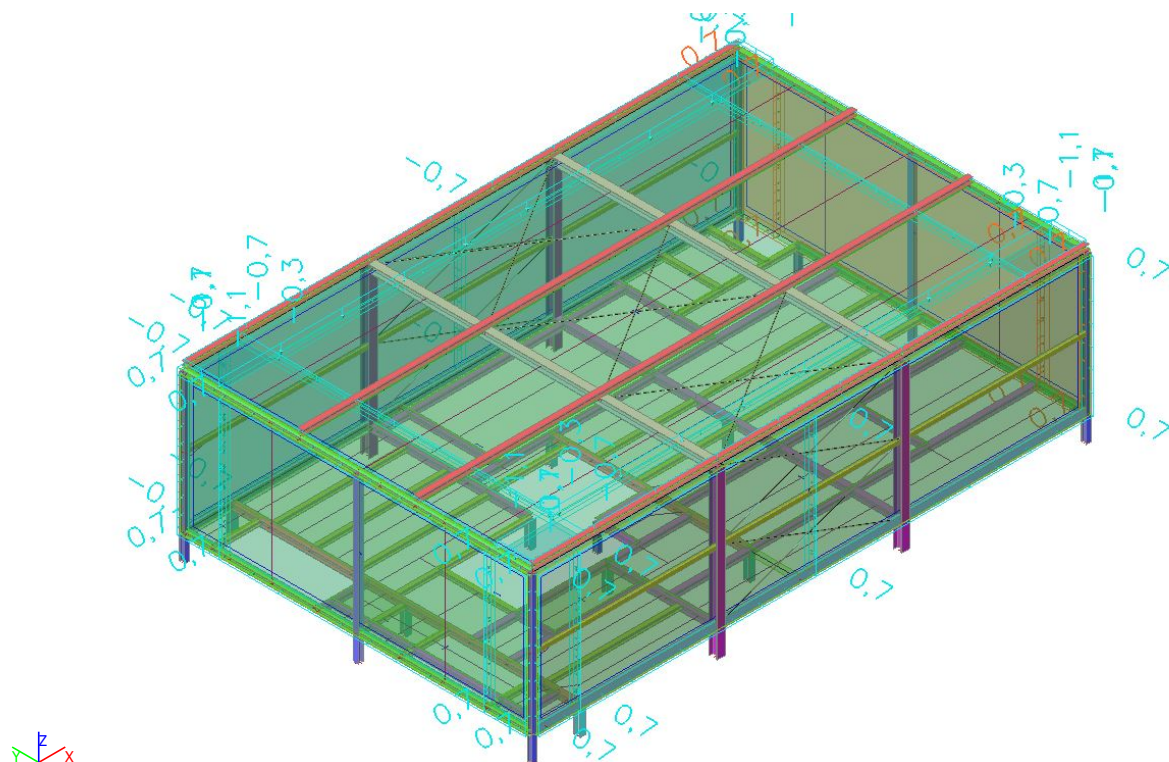


7.5. Obtežni primeri - Veter 1

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Veter 1	+ CPE	Variable	Veter	None	None
	Static wind	Static			



7.5.1. Model za obtežbe

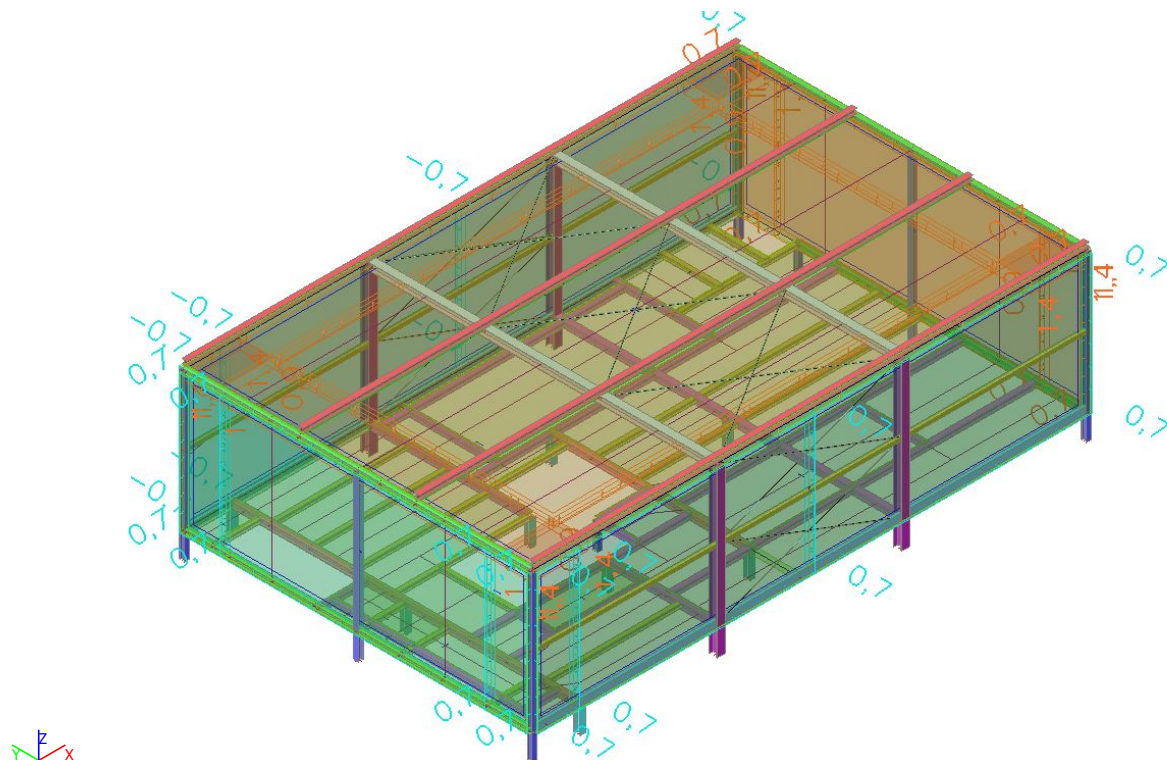


7.6. Obtežni primeri - Veter 1 Vzgon

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Veter 1 Vzgon	- CPE	Variable	Veter	None	None
	Static wind	Static			



7.6.1. Model za obtežbe

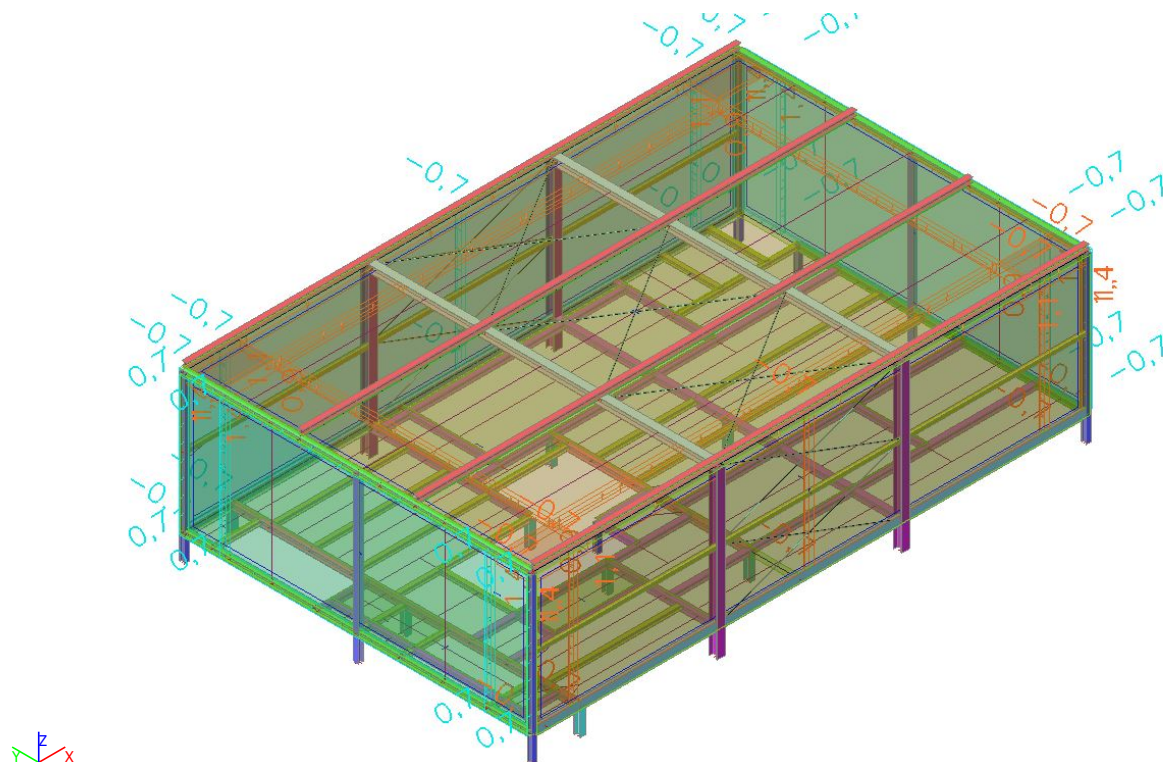


7.7. Obtežni primeri - Veter 2

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Veter 2	+ CPE	Variable	Veter	None	None
	Static wind	Static			



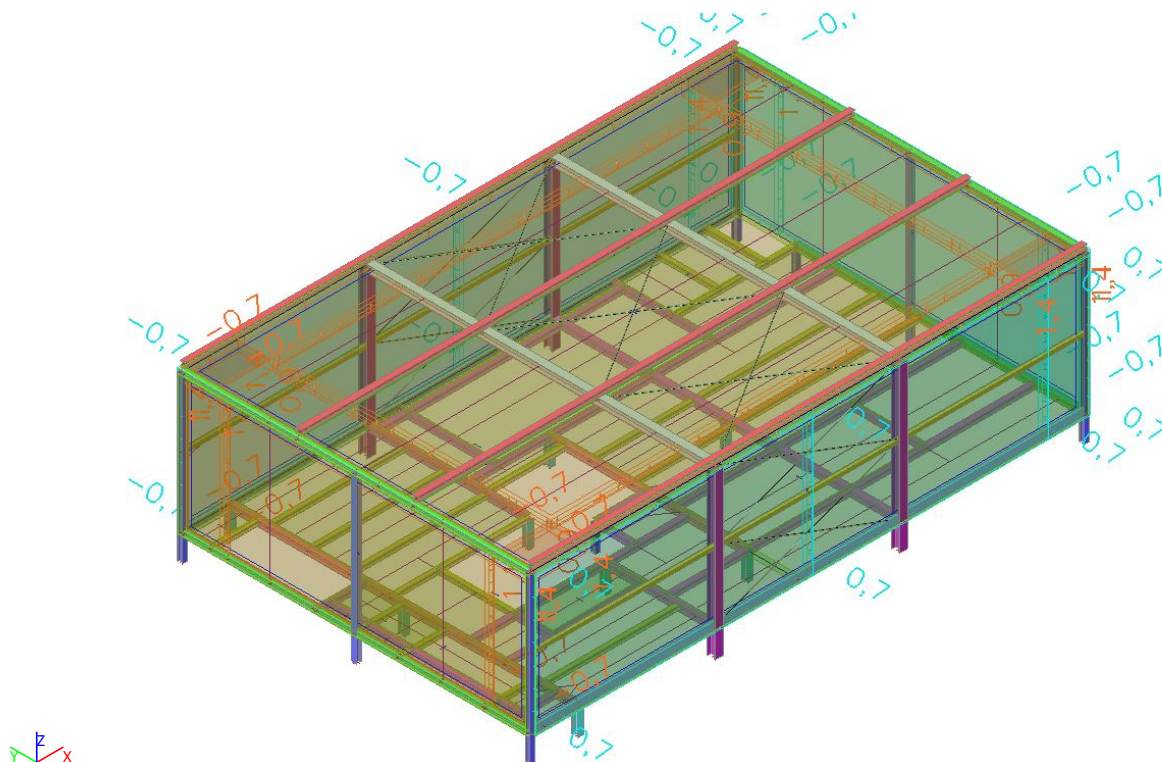
7.8.1. Model za obtežbe



7.9. Obtežni primeri - Veter 3

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Veter 3	+ CPE	Variable	Veter	None	None
	Static wind	Static			

7.10.1. Model za obtežbe



8. NSK in Pomiki po obtežnih primerih

8.1. NSK in Pomiki po obtežnih primerih - Lastna

Name	Description Spec	Action type Load type	Load group	Direction	Modification group
Lastna		Permanent	Lastna in stalna	-Z	None
		Self weight			

8.1.1. 1D internal forces

Linear calculation
Load case: Lastna
Coordinate system: Principal
Extreme 1D: Global
Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B68	0,600	Lastna	-8,33	-0,02	0,48	0,00	0,00	0,00
B78	0,000	Lastna	1,84	0,00	1,48	0,00	-0,95	0,00
B40	4,333	Lastna	0,00	-0,20	0,00	0,00	0,00	0,00
B40	0,000	Lastna	0,00	0,20	0,00	0,00	0,00	0,00
B38	0,000	Lastna	-1,37	0,01	2,37	0,00	-3,16	-0,02
B102	0,000	Lastna	0,00	0,00	0,02	-0,01	0,00	0,00
B106	0,000	Lastna	0,00	0,00	0,02	0,01	0,00	0,00
B38	8,160	Lastna	-1,36	0,00	-2,38	0,00	-3,19	0,02
B2	3,250	Lastna	-3,32	-0,01	1,36	0,00	3,19	0,00
B95	0,000	Lastna	-2,10	0,02	0,00	0,00	0,00	-0,07
B40	2,167	Lastna	0,00	0,00	0,00	0,00	0,00	0,21



Values: **N**

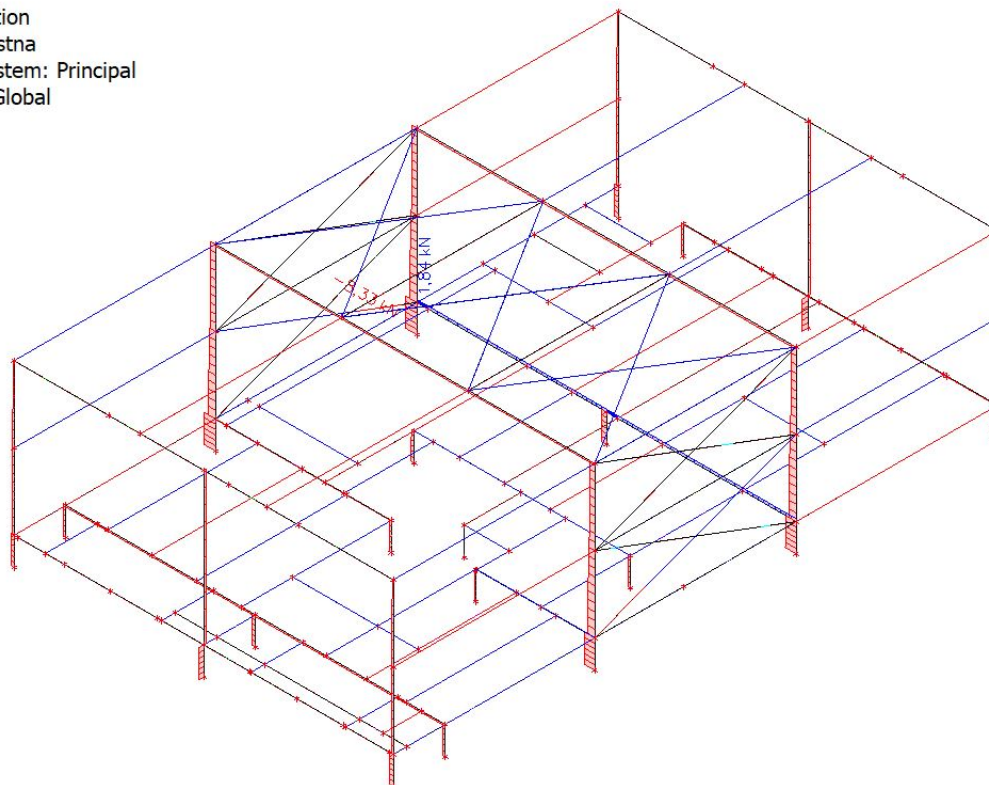
Linear calculation

Load case: Lastna

Coordinate system: Principal

Extreme 1D: Global

Selection: All



Values: **V_z**

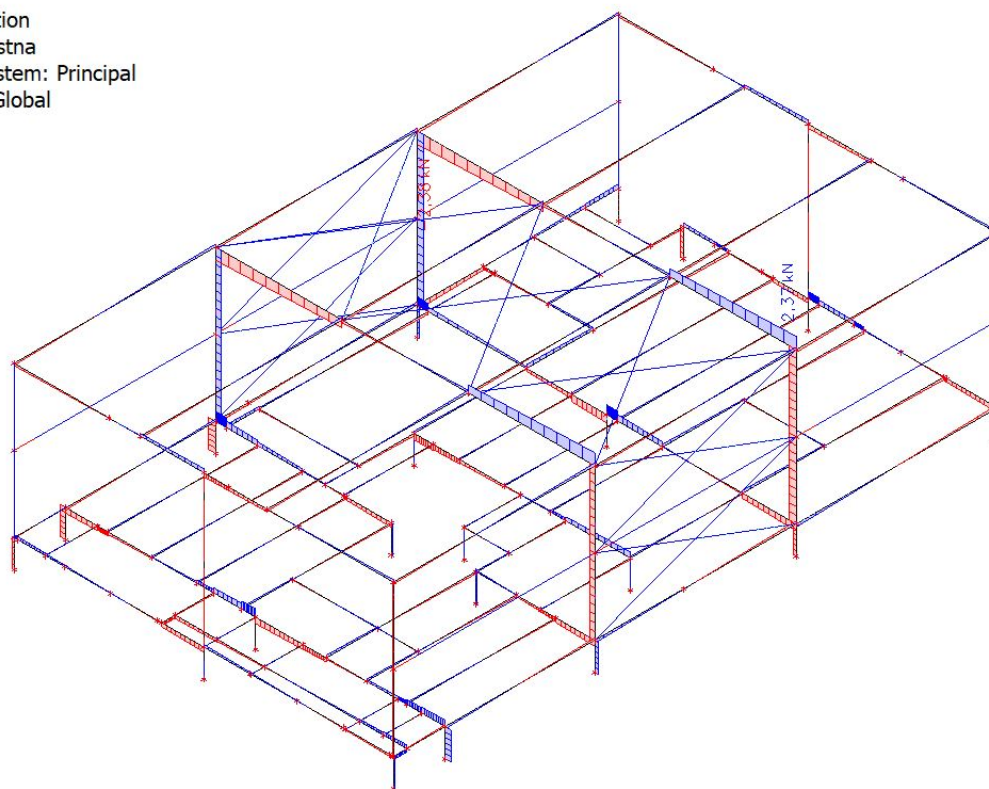
Linear calculation

Load case: Lastna

Coordinate system: Principal

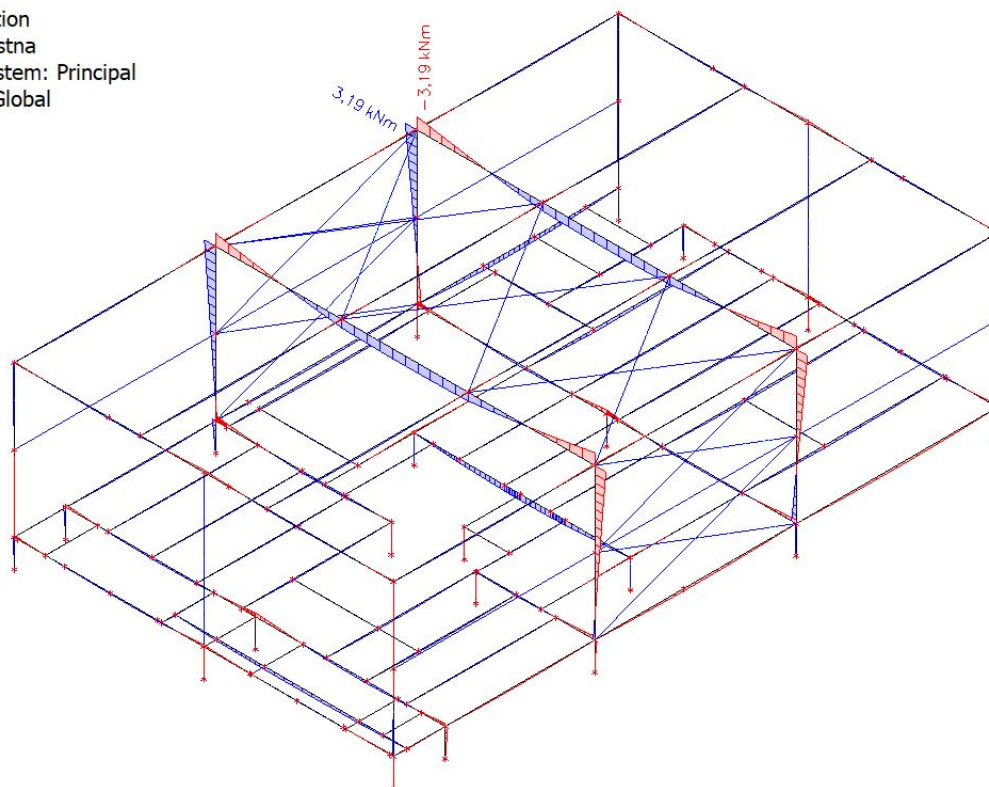
Extreme 1D: Global

Selection: All

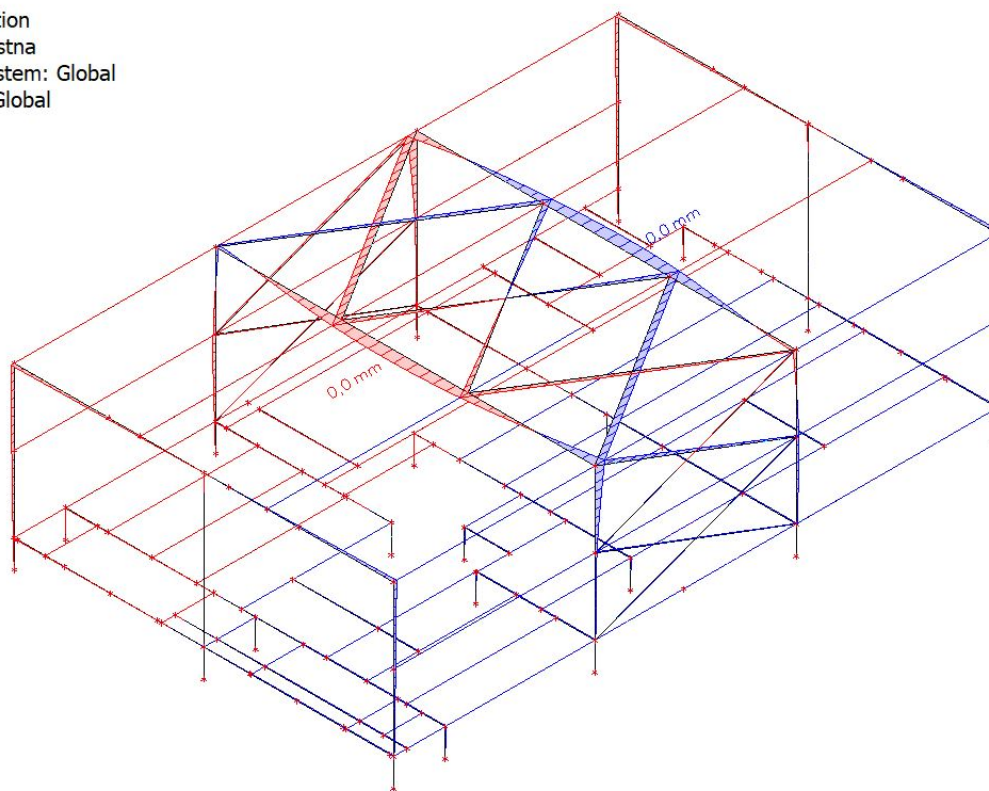




Values: M_y
Linear calculation
Load case: Lastna
Coordinate system: Principal
Extreme 1D: Global
Selection: All



Values: u_x
Linear calculation
Load case: Lastna
Coordinate system: Global
Extreme 1D: Global
Selection: All





Values: u_y

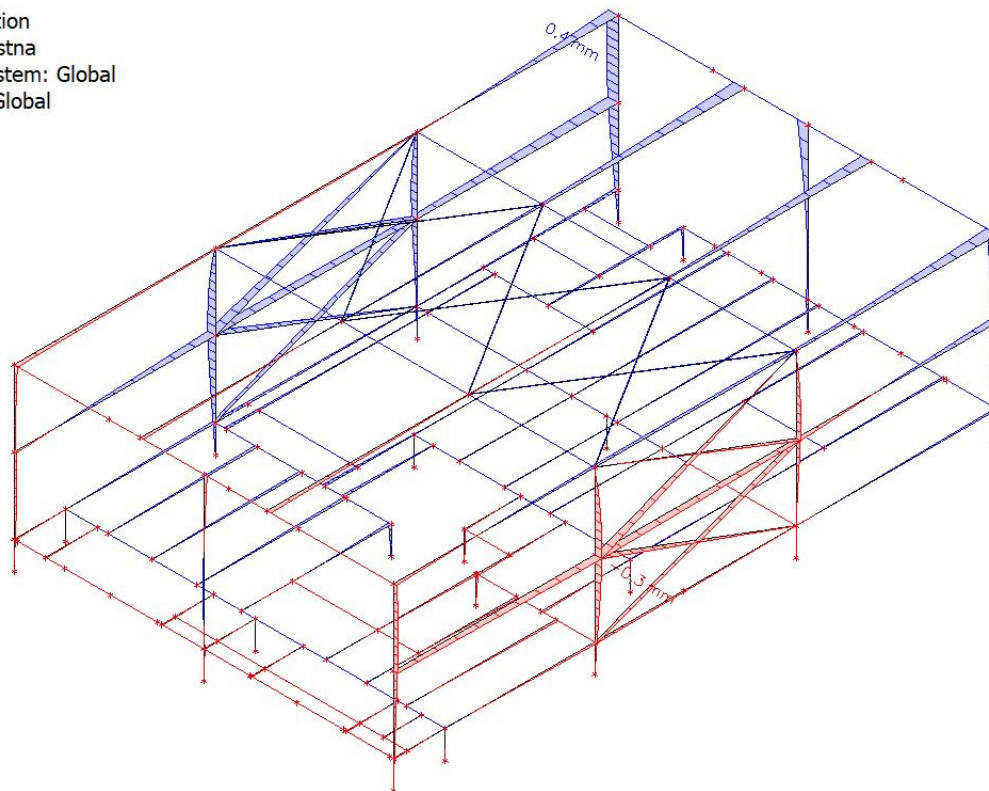
Linear calculation

Load case: Lastna

Coordinate system: Global

Extreme 1D: Global

Selection: All



Values: u_z

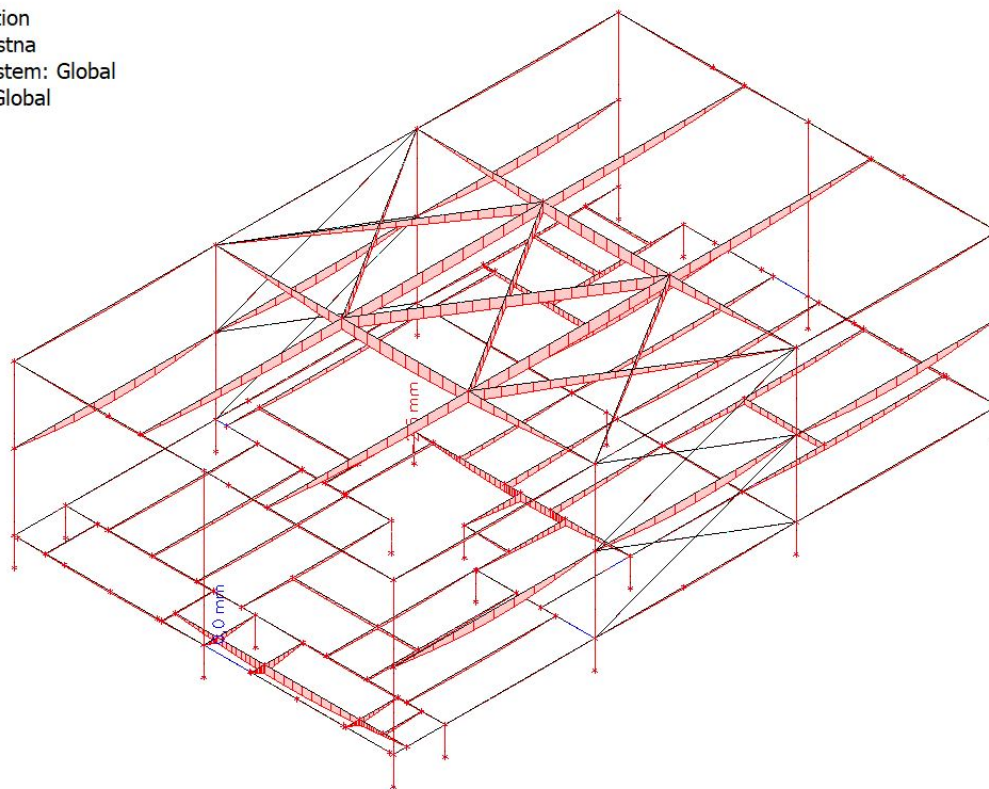
Linear calculation

Load case: Lastna

Coordinate system: Global

Extreme 1D: Global

Selection: All





8.2. NSK in Pomiki po obtežnih primerih - Stalna

Name	Description Spec	Action type Load type	Load group	Modification group
Stalna		Permanent	Lastna in stalna	None
		Standard		

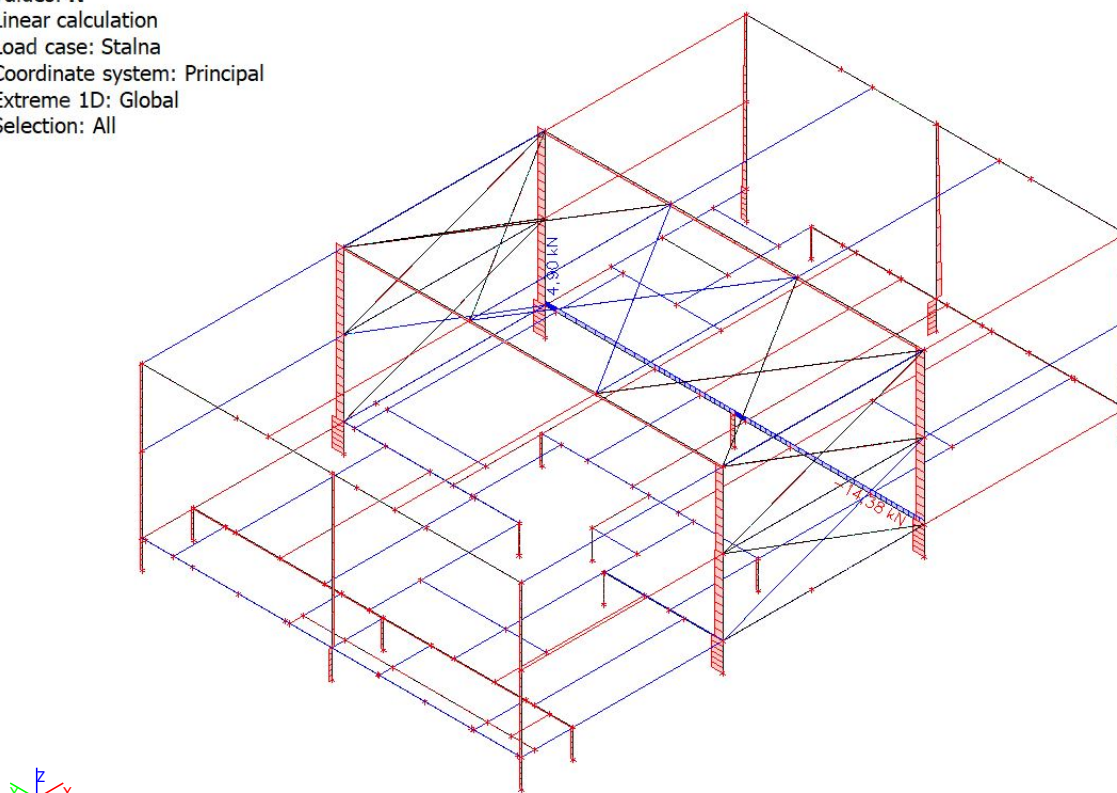
8.2.1. 1D internal forces

Linear calculation
Load case: Stalna
Coordinate system: Principal
Extreme 1D: Global
Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B67	0,000	Stalna	-14,38	-0,06	-1,95	0,00	1,17	0,03
B78	0,000	Stalna	4,90	0,01	1,40	0,00	-1,17	0,00
B11	0,000	Stalna	-9,40	-0,10	-2,26	0,00	0,80	0,04
B2	0,000	Stalna	-9,47	0,10	2,86	0,00	-2,40	-0,05
B38	0,000	Stalna	-2,74	0,02	4,48	0,00	-7,02	-0,03
B21	8,667+	Stalna	0,00	0,00	2,73	-0,11	-2,01	0,01
B17	8,667+	Stalna	0,00	0,00	2,73	0,11	-2,01	0,01
B38	8,160	Stalna	-2,74	0,00	-4,50	0,00	-7,11	0,02
B2	3,250	Stalna	-9,37	-0,07	2,86	0,00	6,90	0,00
B3	1,625-	Stalna	-9,44	-0,09	2,27	0,00	2,94	-0,12
B96	0,000	Stalna	-7,32	-0,05	0,00	0,00	0,00	0,16

Values: **N**

Linear calculation
Load case: Stalna
Coordinate system: Principal
Extreme 1D: Global
Selection: All





Values: V_z

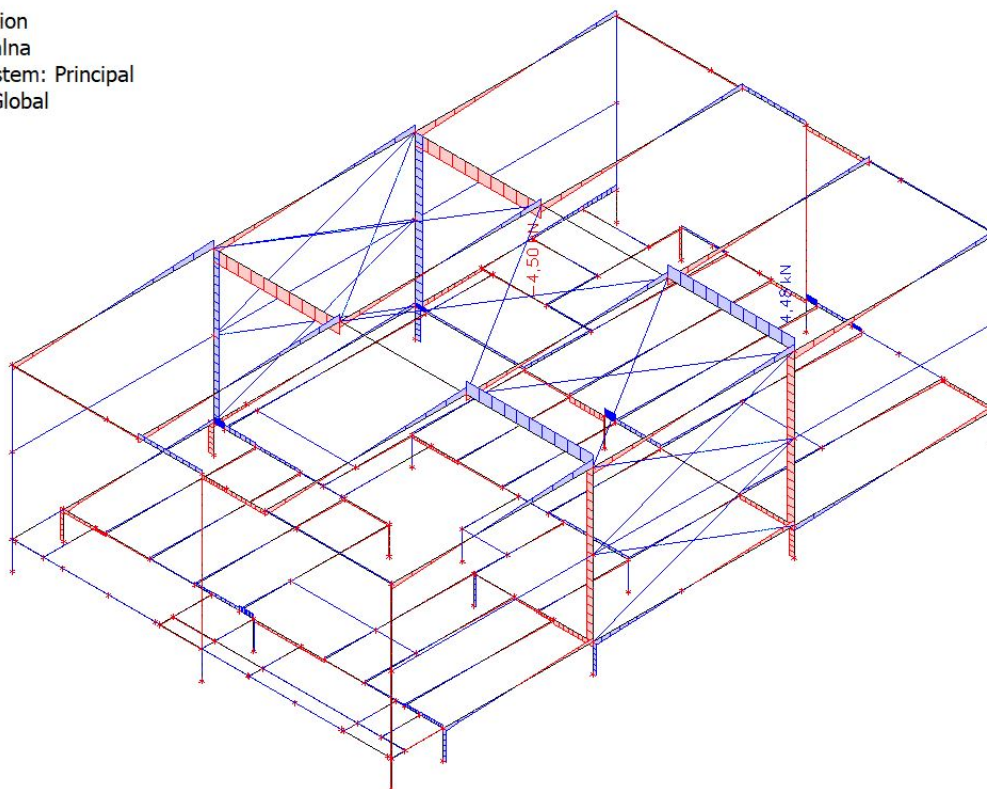
Linear calculation

Load case: Stalna

Coordinate system: Principal

Extreme 1D: Global

Selection: All



Values: M_y

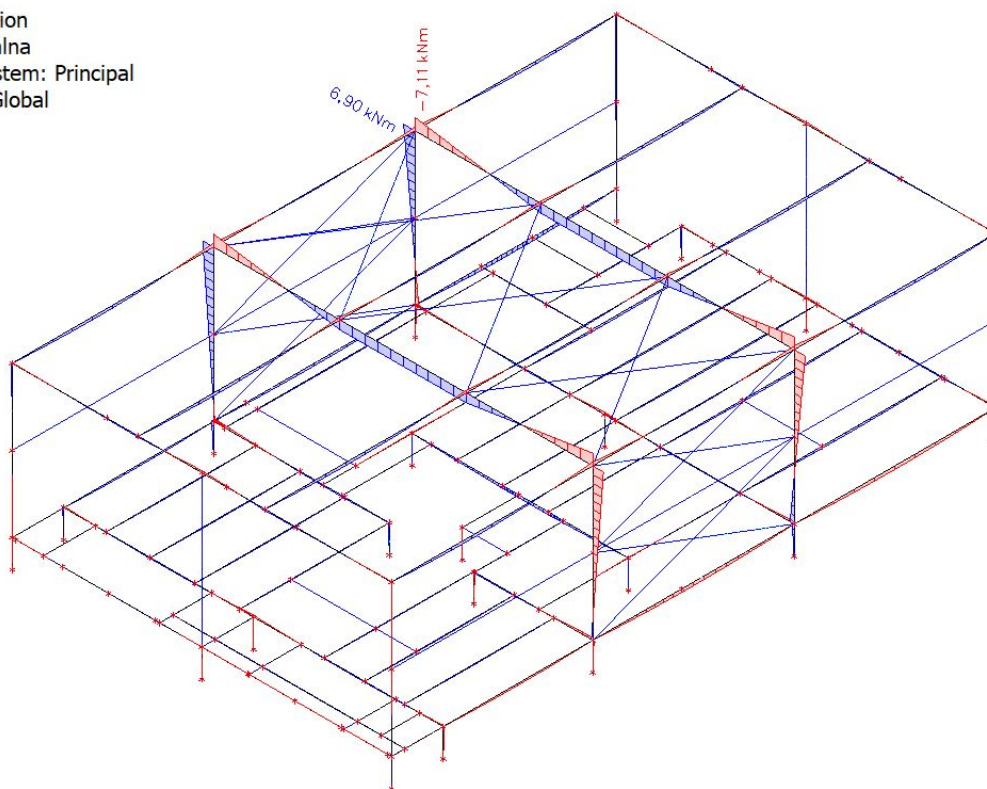
Linear calculation

Load case: Stalna

Coordinate system: Principal

Extreme 1D: Global

Selection: All





Values: u_x

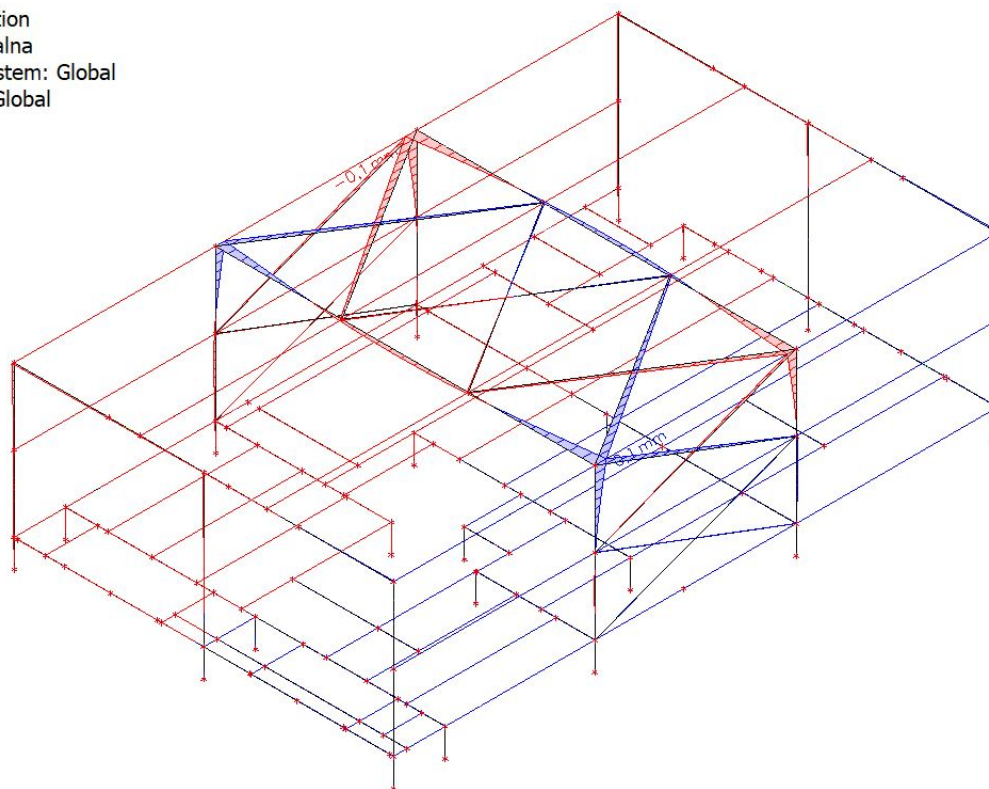
Linear calculation

Load case: Stalna

Coordinate system: Global

Extreme 1D: Global

Selection: All



Values: u_y

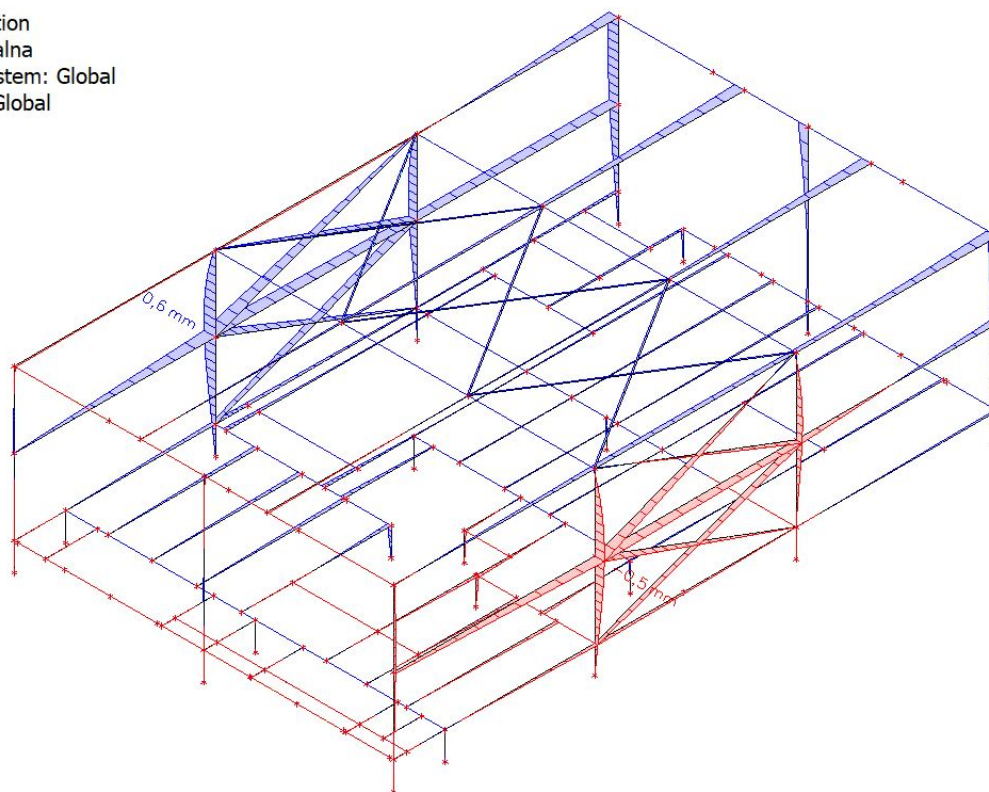
Linear calculation

Load case: Stalna

Coordinate system: Global

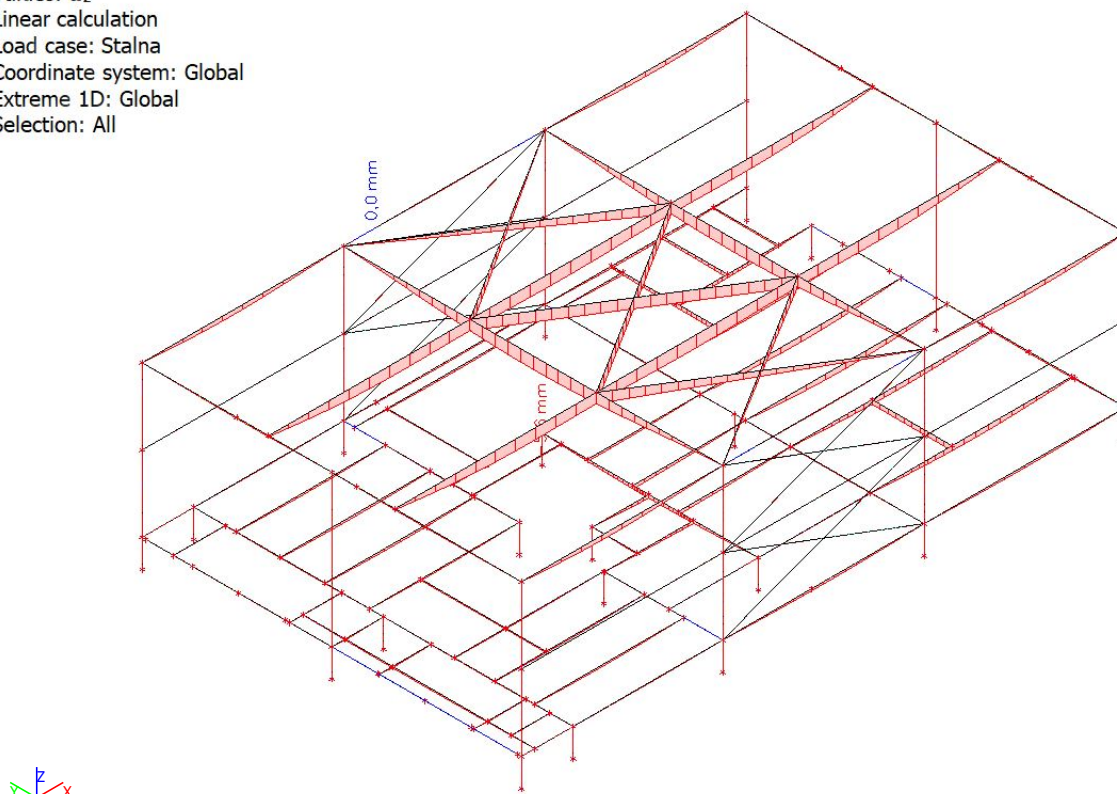
Extreme 1D: Global

Selection: All





Values: u_z
Linear calculation
Load case: Stalna
Coordinate system: Global
Extreme 1D: Global
Selection: All



8.3. NSK in Pomiki po obtežnih primerih - Koristna

Name	Description	Action type	Load group	Duration	Master load case	Modification group
	Spec	Load type				
Koristna	Standard	Variable Static	Koristna	Medium	None	None

8.3.1. 1D internal forces

Linear calculation
Load case: Koristna
Coordinate system: Principal
Extreme 1D: Global
Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B73	0,000	Koristna	-35,79	0,00	-2,96	0,00	1,78	0,00
B11	0,000	Koristna	0,24	-0,05	-0,13	0,00	0,47	0,08
B96	0,000	Koristna	0,16	-0,28	0,00	0,00	0,01	0,90
B78	3,340+	Koristna	-8,70	-0,01	-14,78	0,00	-0,82	0,00
B102	0,000	Koristna	0,01	0,00	0,28	-0,09	0,00	0,00
B106	0,000	Koristna	0,00	0,00	0,09	0,09	0,00	0,00
B78	4,080+	Koristna	-11,66	-0,01	21,01	0,00	-13,53	0,00
B122	1,720-	Koristna	-0,01	0,01	5,01	0,00	11,36	0,00
B95	0,000	Koristna	0,01	0,14	0,00	0,00	0,01	-0,45



Values: **N**

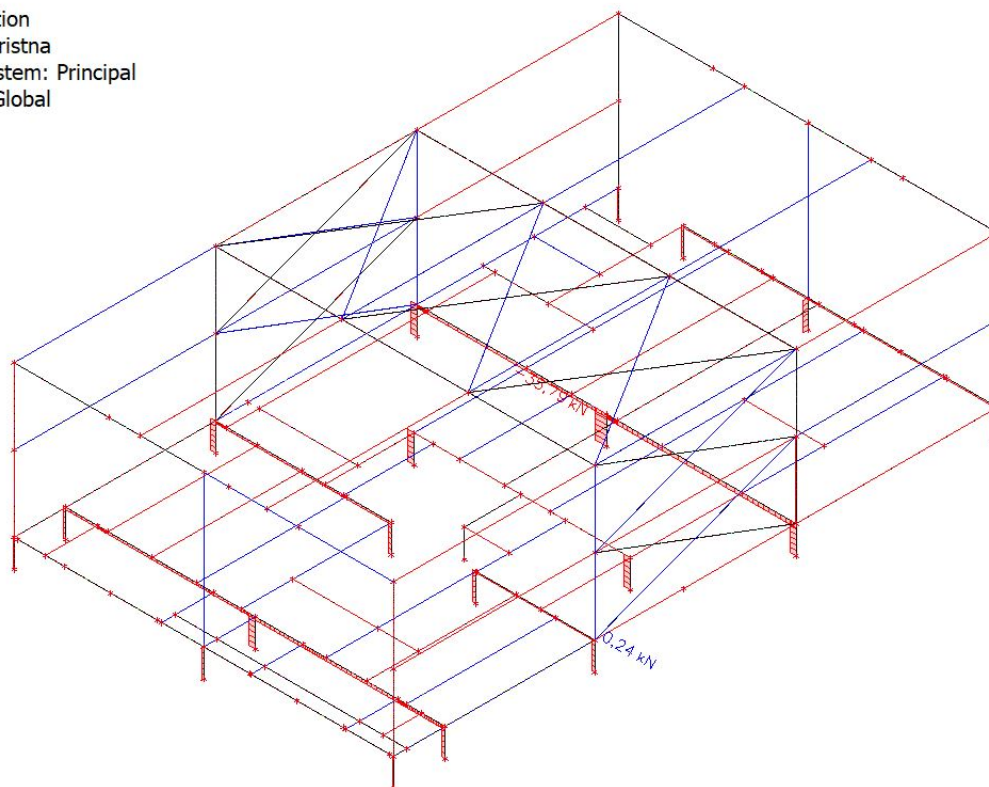
Linear calculation

Load case: Koristna

Coordinate system: Principal

Extreme 1D: Global

Selection: All



Values: **V_z**

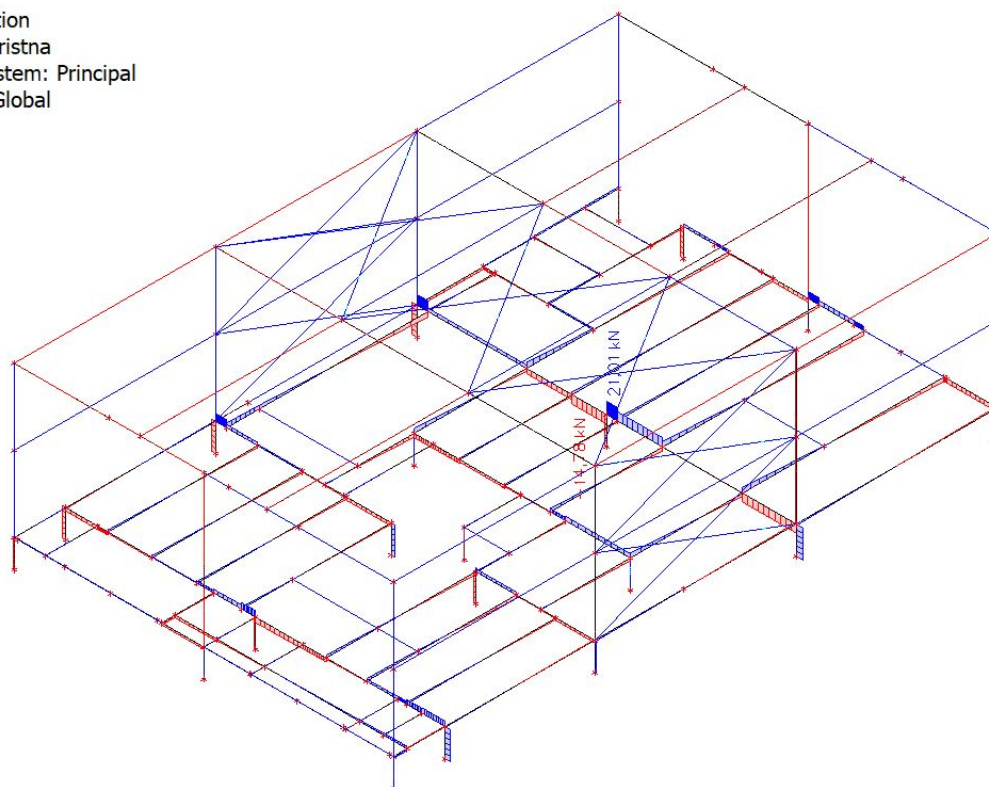
Linear calculation

Load case: Koristna

Coordinate system: Principal

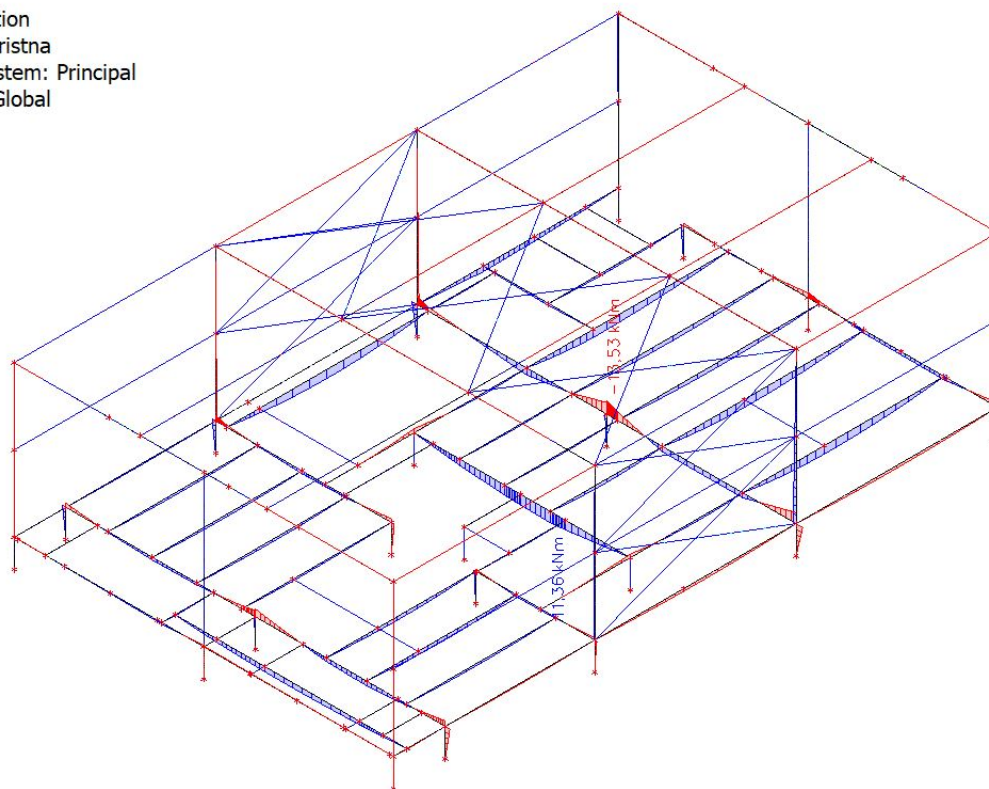
Extreme 1D: Global

Selection: All

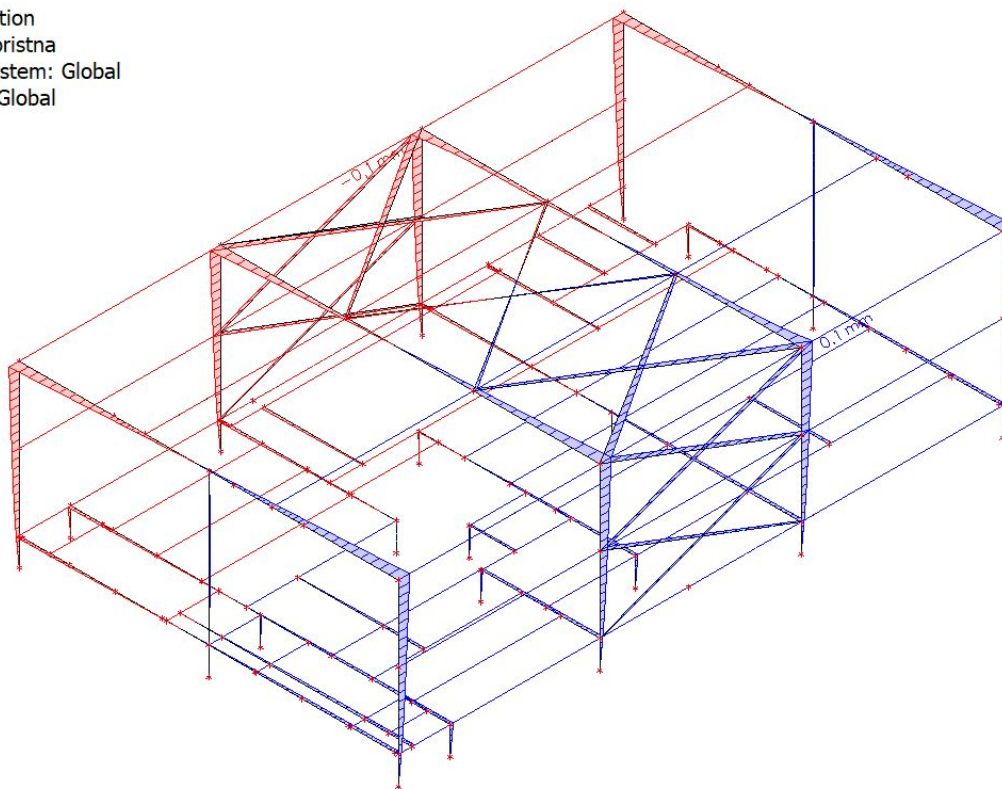




Values: M_y
Linear calculation
Load case: Koristna
Coordinate system: Principal
Extreme 1D: Global
Selection: All

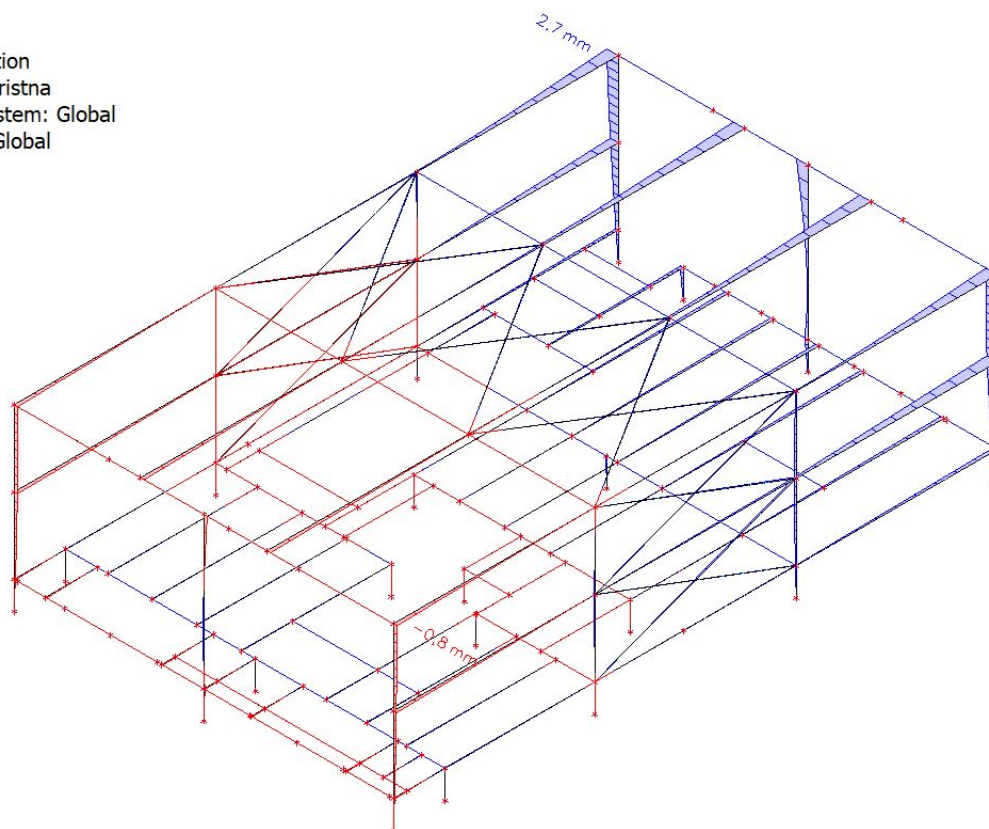


Values: u_x
Linear calculation
Load case: Koristna
Coordinate system: Global
Extreme 1D: Global
Selection: All

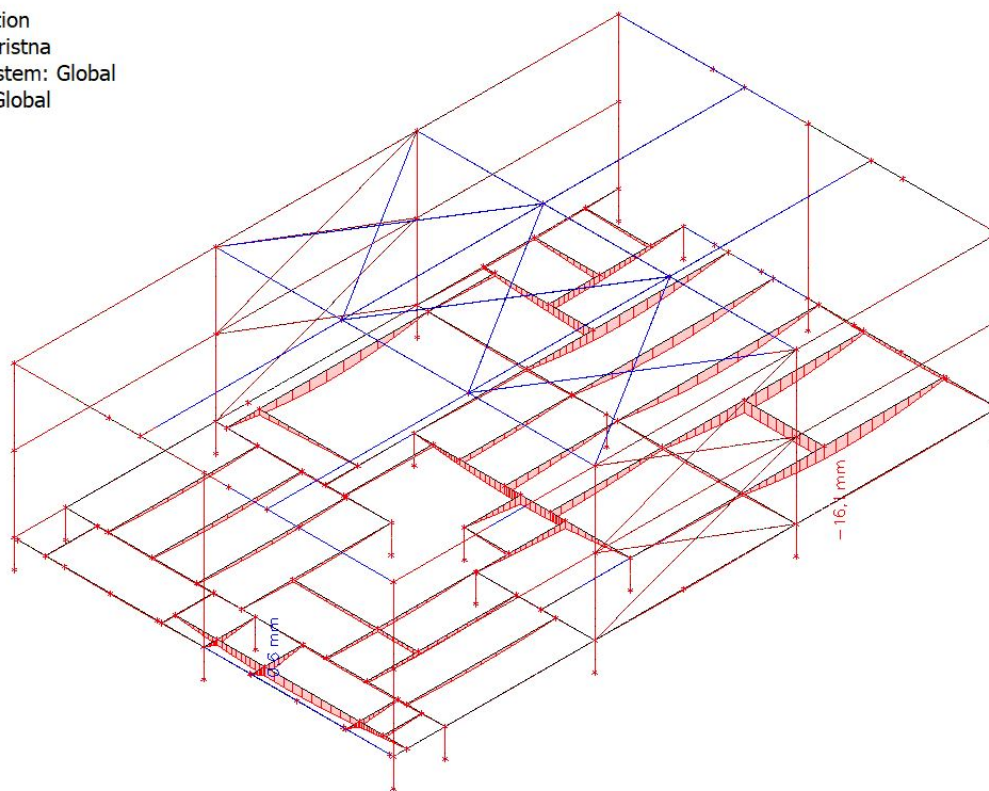




Values: u_y
Linear calculation
Load case: Koristna
Coordinate system: Global
Extreme 1D: Global
Selection: All



Values: u_z
Linear calculation
Load case: Koristna
Coordinate system: Global
Extreme 1D: Global
Selection: All





8.4. NSK in Pomiki po obtežnih primerih - Sneg

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Sneg		Variable	Sneg	None	None
	Snow	Static			

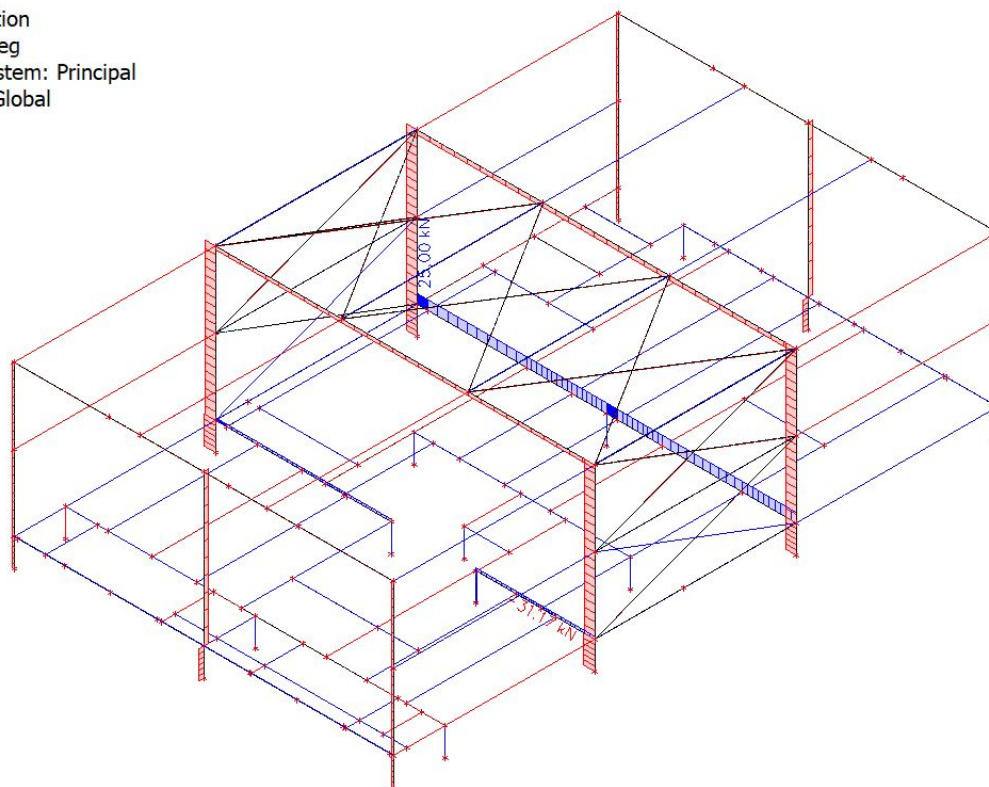
8.4.1. 1D internal forces

Linear calculation
Load case: Sneg
Coordinate system: Principal
Extreme 1D: Global
Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B65	0,000	Sneg	-31,17	0,14	2,83	0,00	-1,70	-0,08
B78	0,000	Sneg	25,00	0,03	0,50	0,00	-1,33	0,00
B10	0,000	Sneg	-27,82	0,26	-11,63	0,00	8,96	-0,12
B38	0,000	Sneg	-11,13	0,02	18,49	0,00	-28,80	-0,01
B40	0,000	Sneg	0,00	0,00	0,00	-0,01	0,00	0,00
B43	0,000	Sneg	0,00	0,00	0,00	0,02	0,00	0,00
B38	8,160	Sneg	-11,25	0,00	-18,57	0,00	-29,14	0,03
B2	3,250	Sneg	-27,67	-0,19	11,82	0,00	29,14	0,00
B3	1,625-	Sneg	-27,67	-0,26	9,31	0,00	12,90	-0,31
B2	1,625-	Sneg	-28,00	0,24	11,82	0,00	9,95	0,31

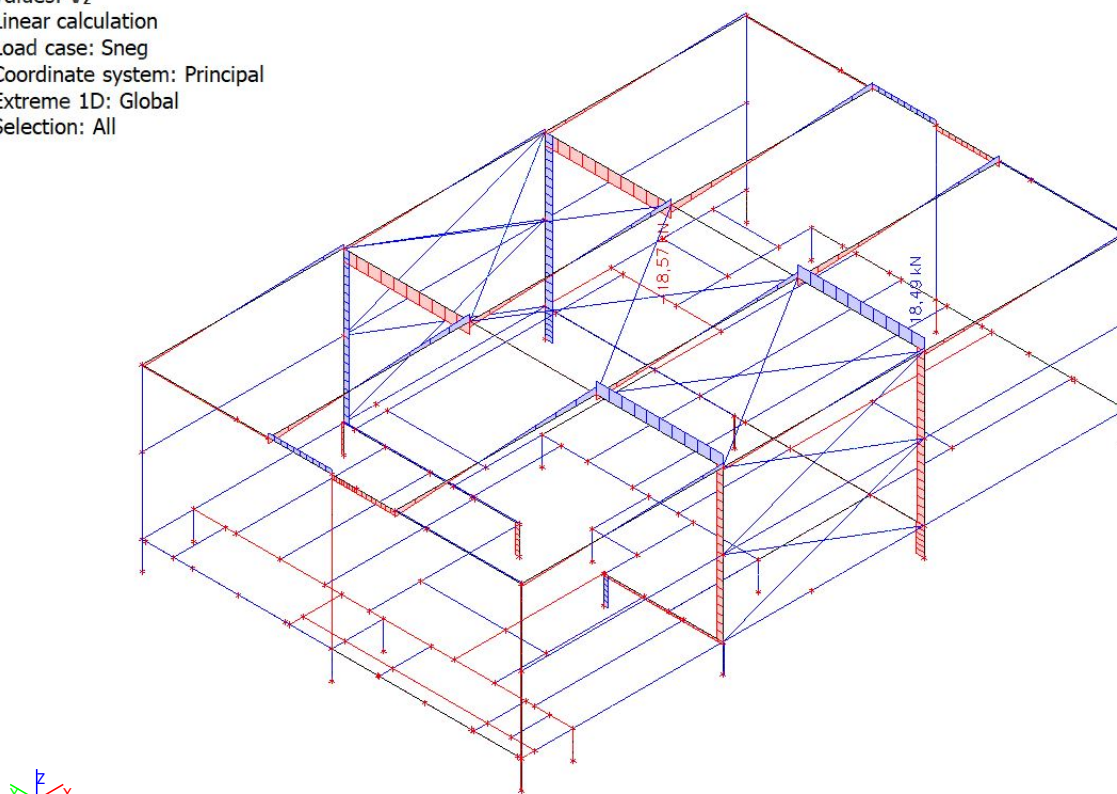
Values: **N**

Linear calculation
Load case: Sneg
Coordinate system: Principal
Extreme 1D: Global
Selection: All

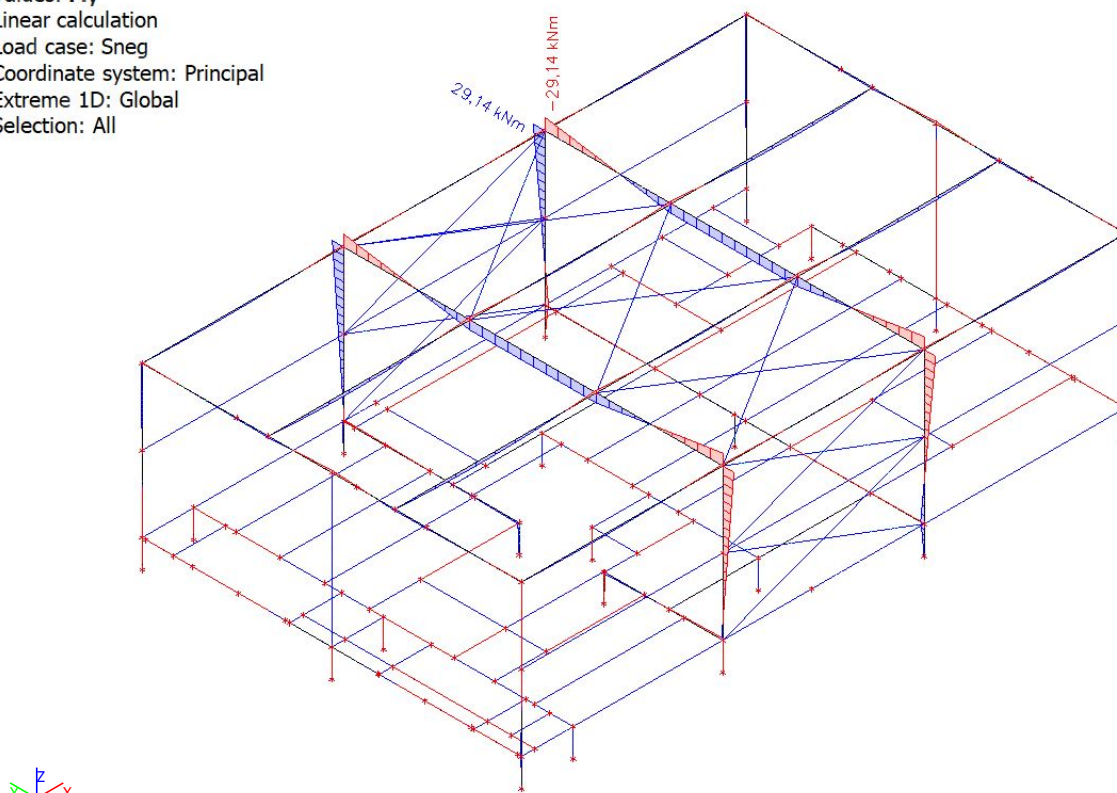




Values: V_z
Linear calculation
Load case: Sneg
Coordinate system: Principal
Extreme 1D: Global
Selection: All



Values: M_y
Linear calculation
Load case: Sneg
Coordinate system: Principal
Extreme 1D: Global
Selection: All





Values: u_x

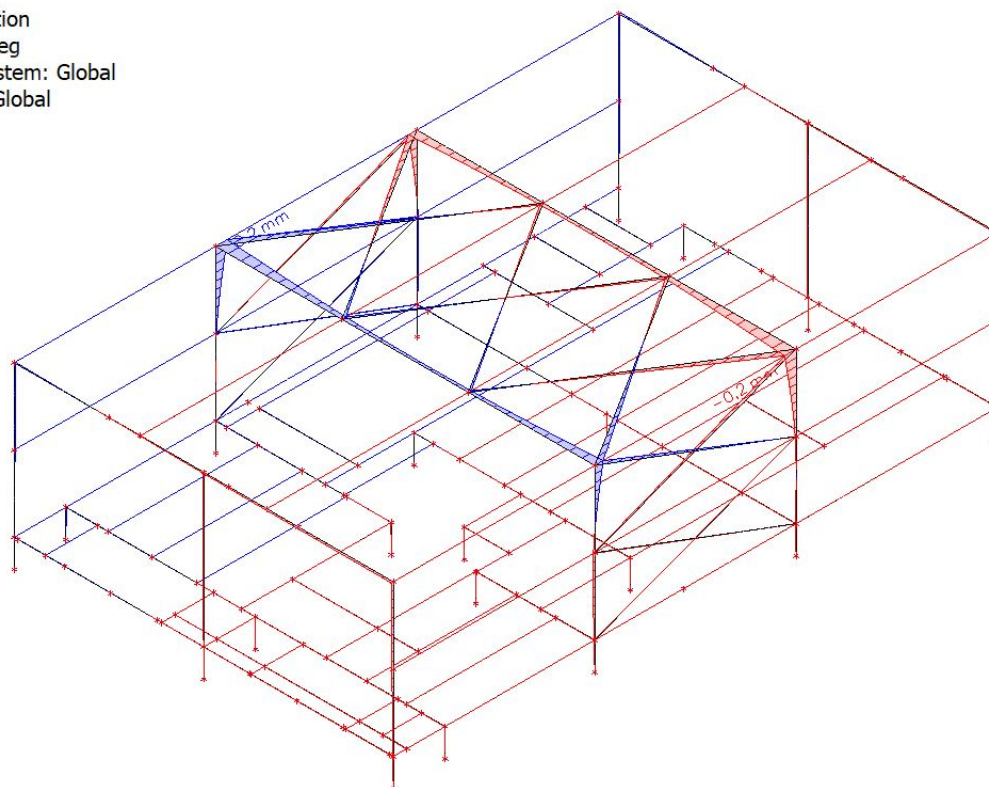
Linear calculation

Load case: Sneg

Coordinate system: Global

Extreme 1D: Global

Selection: All



Values: u_y

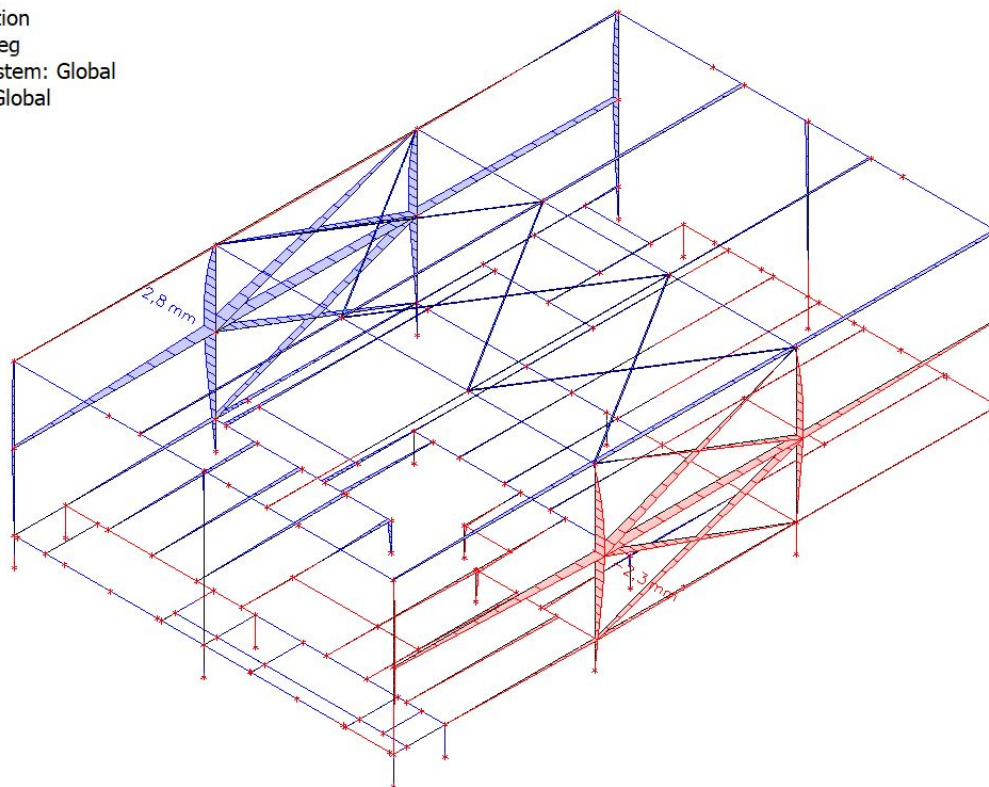
Linear calculation

Load case: Sneg

Coordinate system: Global

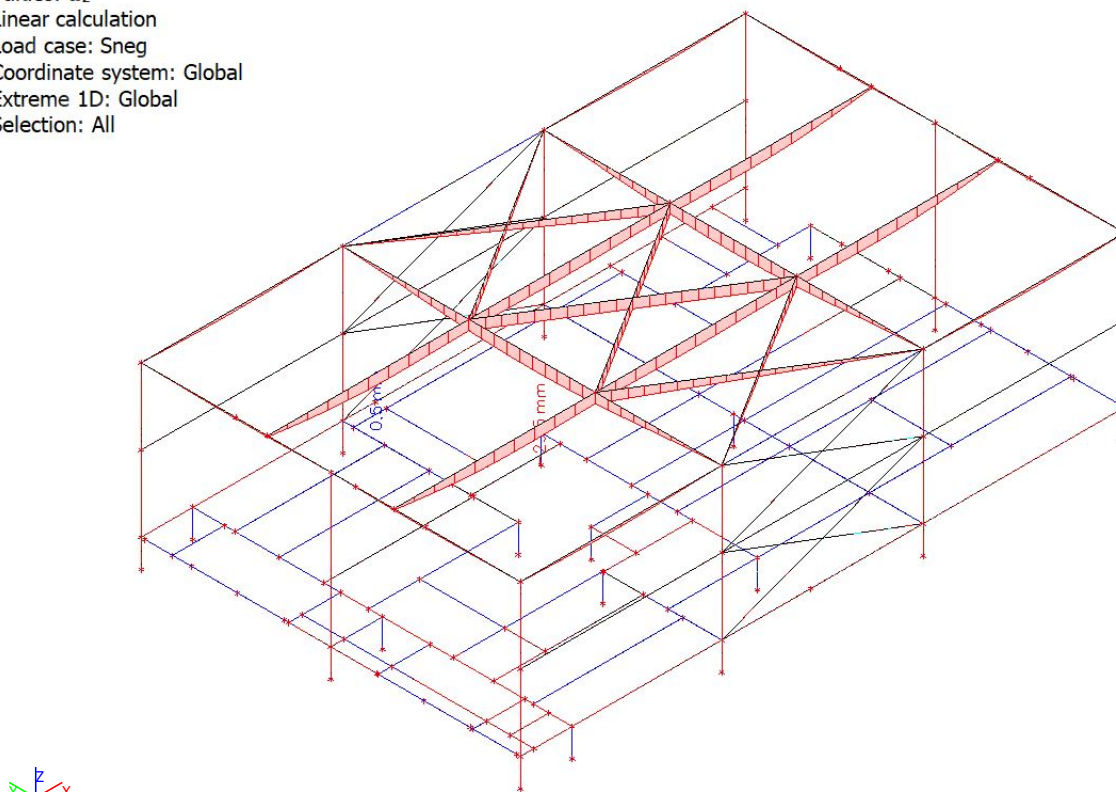
Extreme 1D: Global

Selection: All





Values: u_z
Linear calculation
Load case: Sneg
Coordinate system: Global
Extreme 1D: Global
Selection: All



8.5. NSK in Pomiki po obtežnih primerih - Veter 1

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Veter 1	+ CPE Static wind	Variable Static	Veter	None	None

8.5.1. 1D internal forces

Linear calculation
Load case: Veter 1
Coordinate system: Principal
Extreme 1D: Global
Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B68	0,000	Veter 1	-19,48	7,03	3,83	0,00	-2,30	-4,22
B49	0,000	Veter 1	9,70	0,00	0,00	0,00	0,00	0,00
B17	4,333-	Veter 1	0,77	-3,24	-2,97	0,00	-2,19	-2,78
B95	3,250	Veter 1	-4,14	0,00	-5,39	0,00	0,51	0,00
B96	0,000	Veter 1	-4,19	0,01	4,41	0,00	2,10	-0,02
B16	2,720+	Veter 1	-2,29	2,70	-2,07	-0,25	1,04	-0,26
B16	4,080+	Veter 1	-2,29	-2,70	2,07	0,25	-1,78	3,41
B10	3,250	Veter 1	-10,90	-0,55	-3,03	-0,01	-7,30	0,00
B2	3,250	Veter 1	-10,92	-0,55	3,04	0,01	7,33	0,00
B66	0,000	Veter 1	0,25	7,19	2,39	0,00	-1,44	-4,32
B3	0,000	Veter 1	-2,94	-2,30	2,75	0,01	-1,91	4,33



Values: **N**

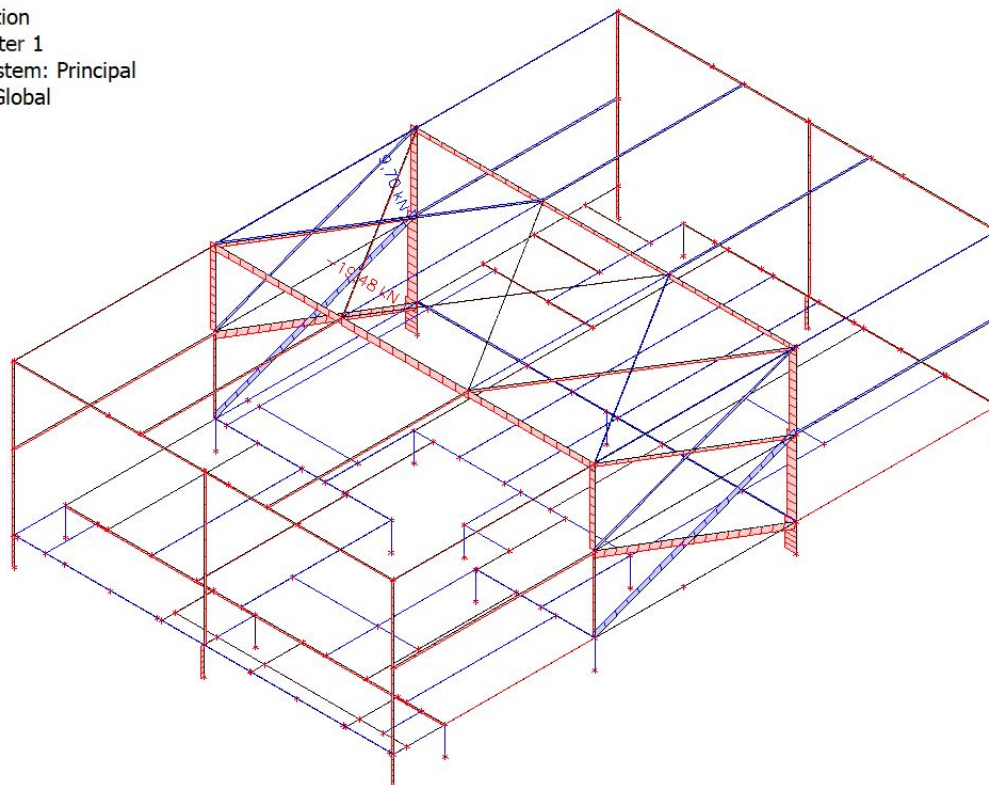
Linear calculation

Load case: Veter 1

Coordinate system: Principal

Extreme 1D: Global

Selection: All



Values: **V_z**

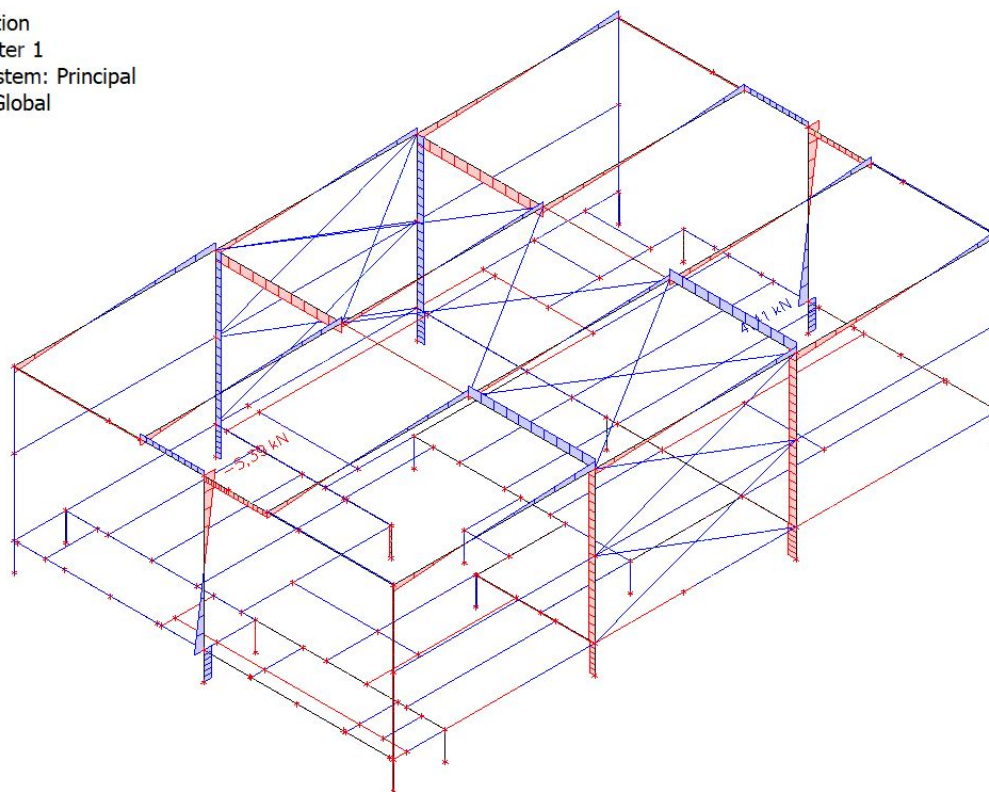
Linear calculation

Load case: Veter 1

Coordinate system: Principal

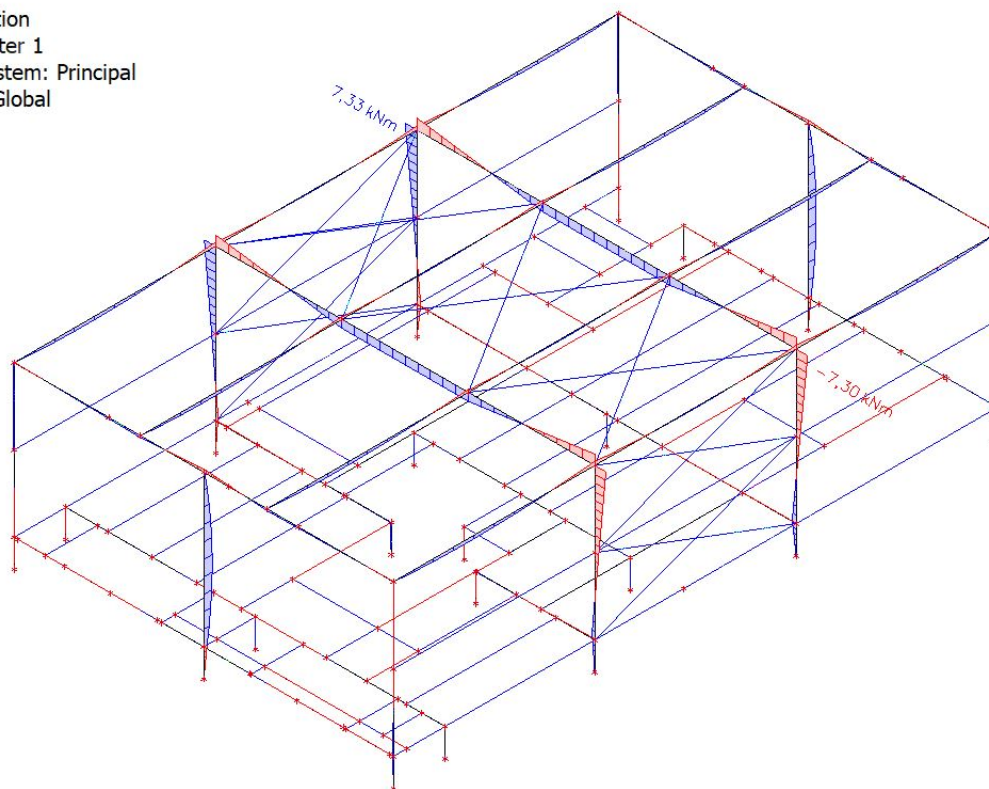
Extreme 1D: Global

Selection: All

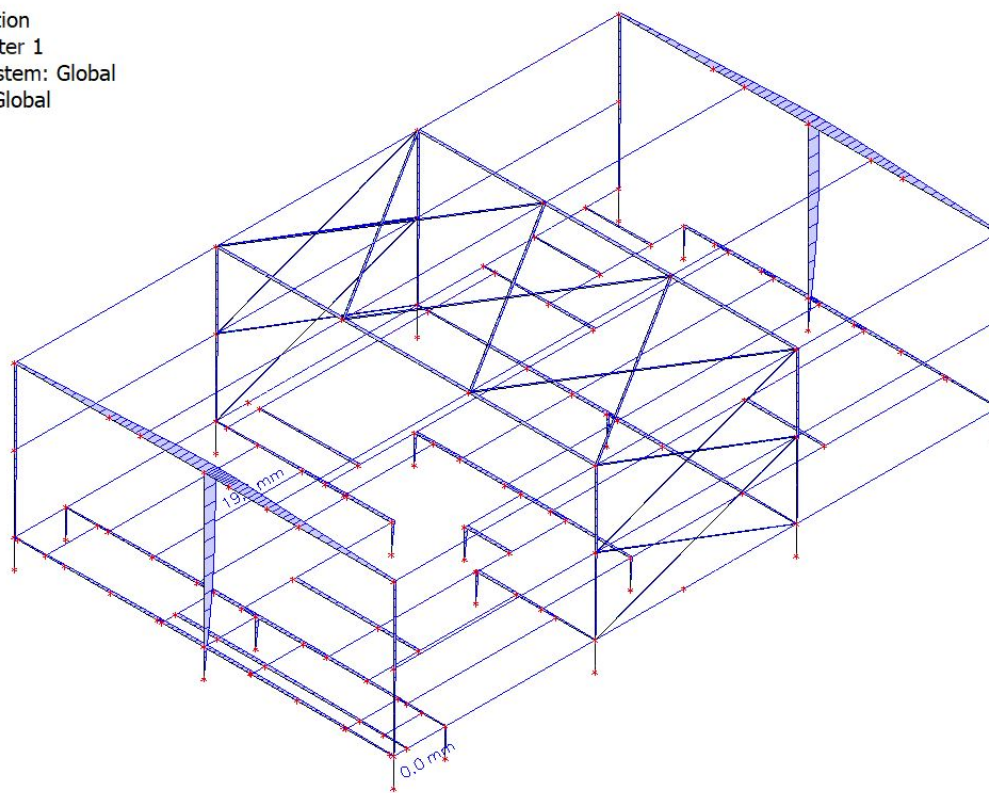




Values: M_y
Linear calculation
Load case: Veter 1
Coordinate system: Principal
Extreme 1D: Global
Selection: All

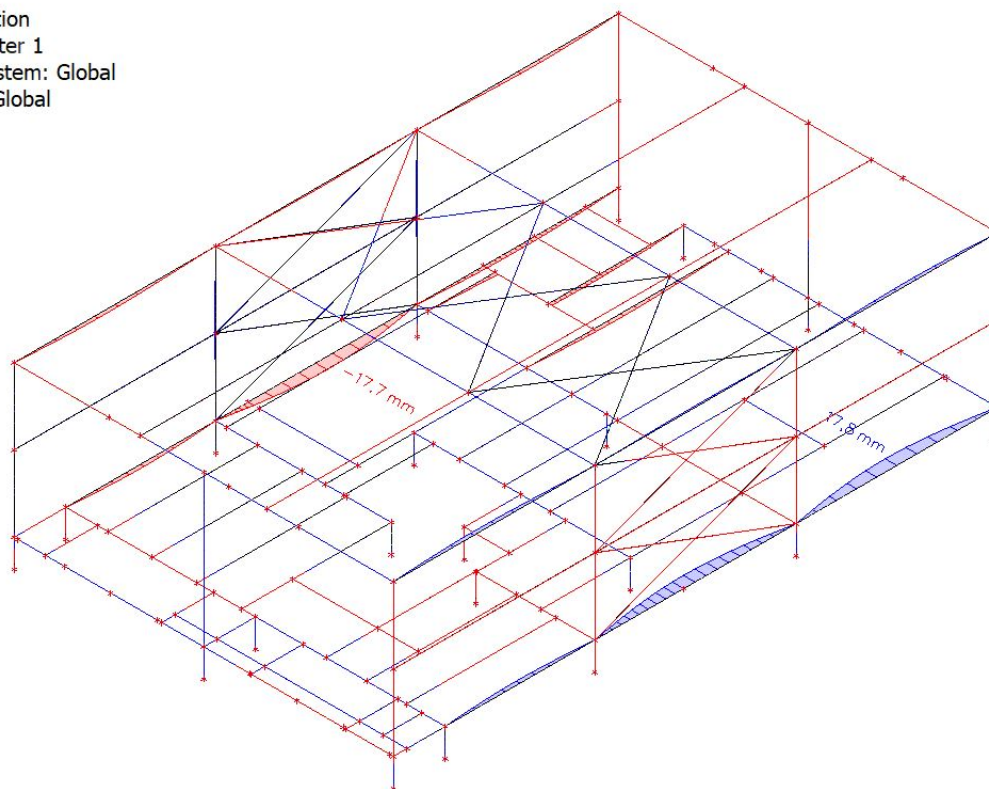


Values: u_x
Linear calculation
Load case: Veter 1
Coordinate system: Global
Extreme 1D: Global
Selection: All

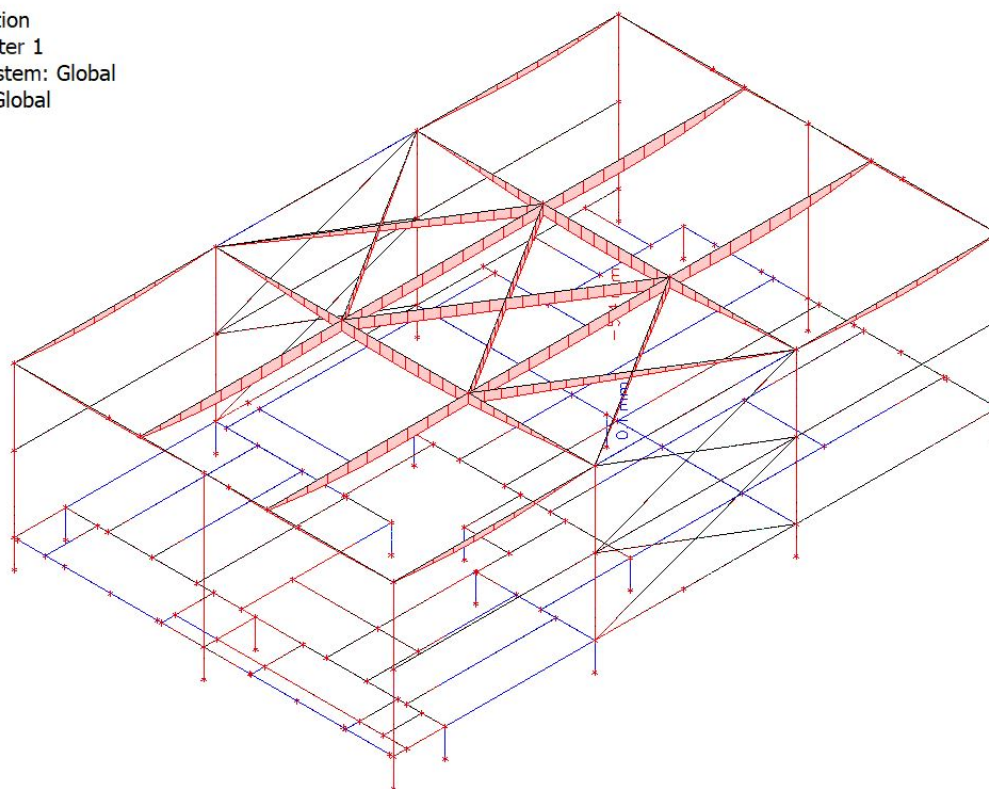




Values: u_y
Linear calculation
Load case: Veter 1
Coordinate system: Global
Extreme 1D: Global
Selection: All



Values: u_z
Linear calculation
Load case: Veter 1
Coordinate system: Global
Extreme 1D: Global
Selection: All





8.6. NSK in Pomiki po obtežnih primerih - Veter 2

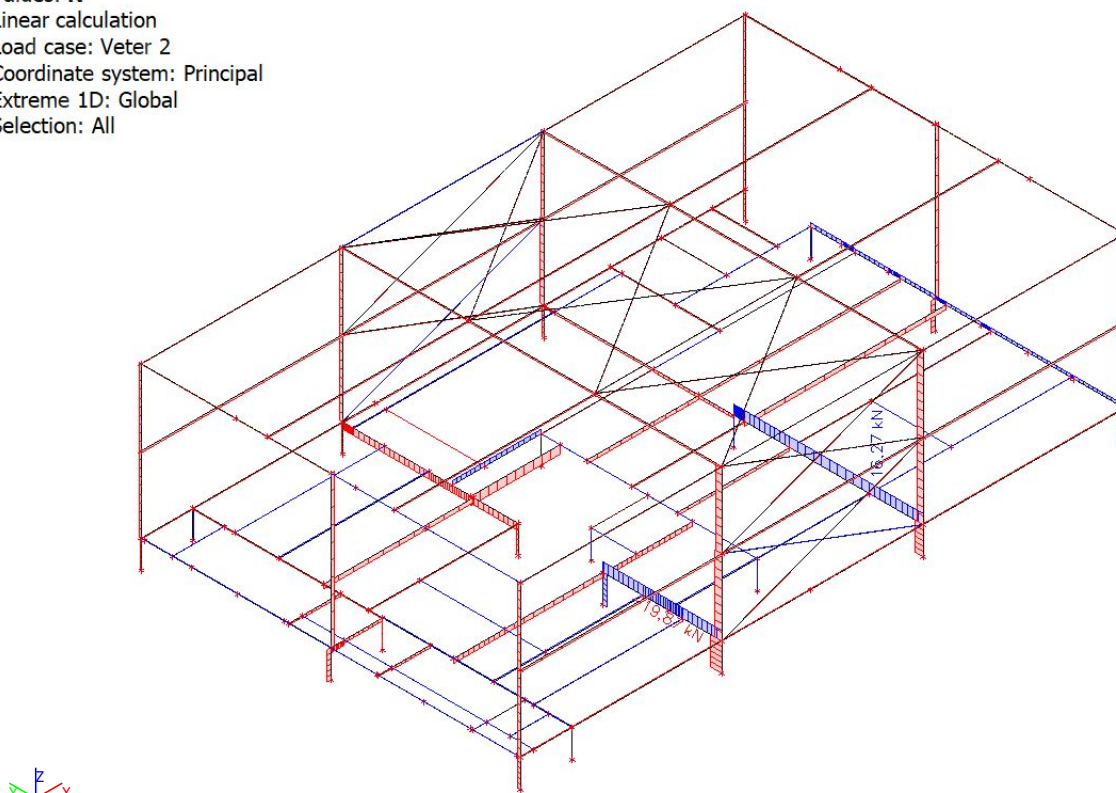
Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Veter 2	+ CPE	Variable	Veter	None	None
	Static wind	Static			

8.6.1. 1D internal forces

Linear calculation
Load case: Veter 2
Coordinate system: Principal
Extreme 1D: Global
Selection: All

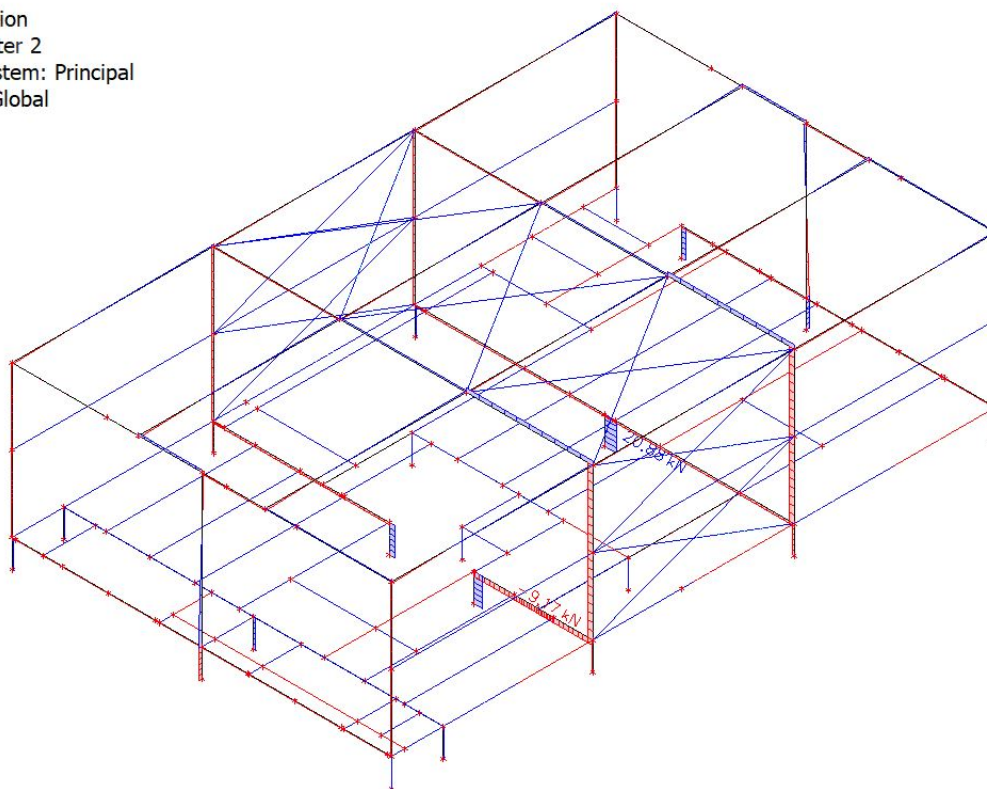
Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B65	0,000	Veter 2	-19,87	-0,25	-1,85	0,00	1,11	0,15
B78	7,010+	Veter 2	16,27	-0,10	-3,87	0,00	-4,02	0,12
B76	2,765+	Veter 2	-10,62	-8,72	-3,63	0,00	-2,69	1,89
B120	0,000	Veter 2	15,57	7,54	-8,03	0,00	9,33	0,00
B11	0,000	Veter 2	-11,21	0,03	-9,17	0,00	12,83	-0,15
B73	0,000	Veter 2	0,17	0,00	20,88	0,00	-12,53	0,00
B16	2,720+	Veter 2	0,07	1,86	-2,30	-0,18	0,56	-0,23
B16	4,080+	Veter 2	-0,62	-1,86	3,75	0,18	-2,56	2,31
B36	0,000	Veter 2	-2,81	0,47	7,12	0,00	-17,82	-0,98
B61	2,180-	Veter 2	-2,03	0,02	0,00	0,00	0,00	-2,82
B17	4,333-	Veter 2	-0,73	3,32	-2,19	0,00	-1,61	3,12

Values: **N**
Linear calculation
Load case: Veter 2
Coordinate system: Principal
Extreme 1D: Global
Selection: All

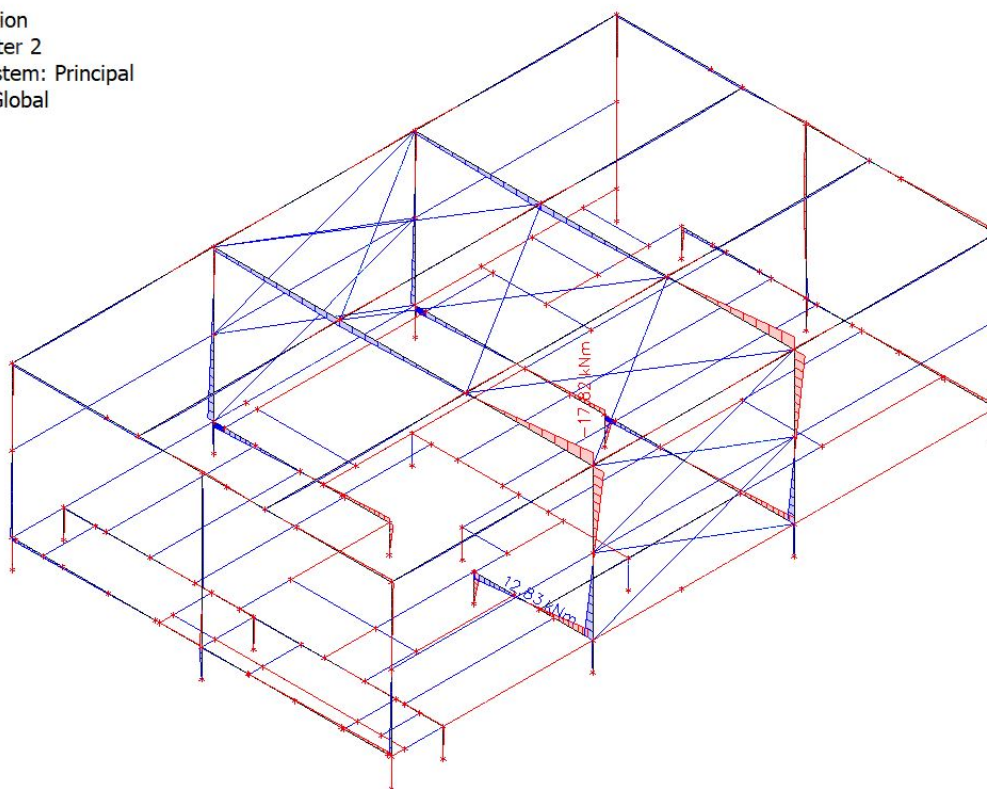




Values: V_z
Linear calculation
Load case: Veter 2
Coordinate system: Principal
Extreme 1D: Global
Selection: All



Values: M_y
Linear calculation
Load case: Veter 2
Coordinate system: Principal
Extreme 1D: Global
Selection: All





Values: u_x

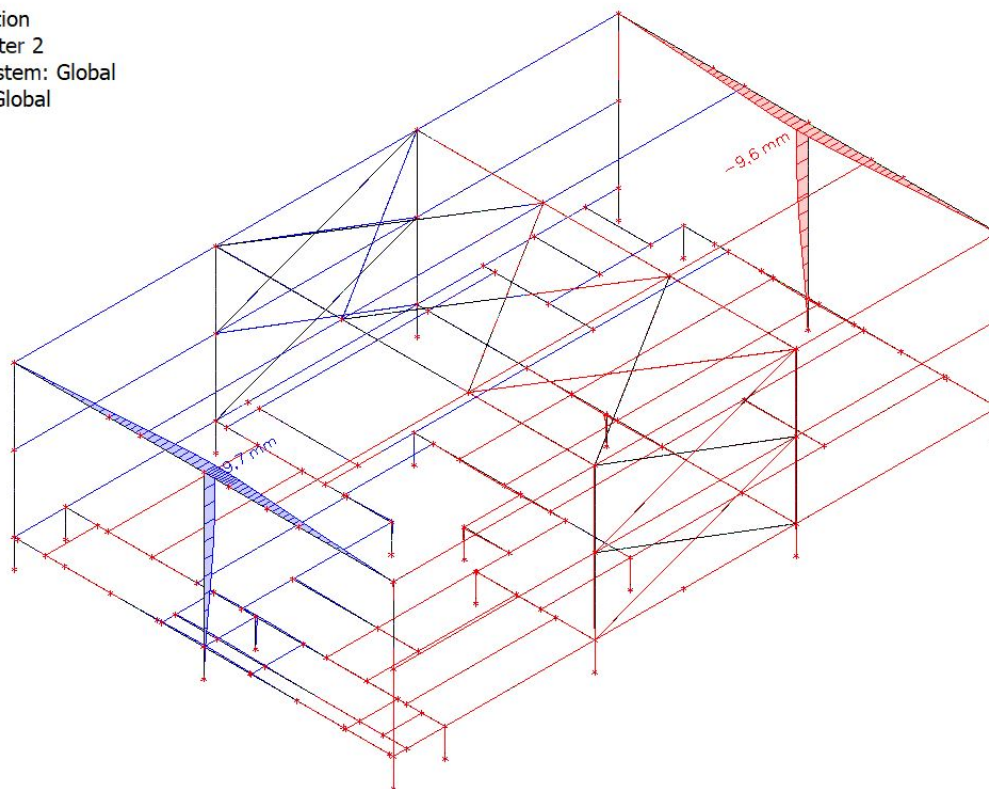
Linear calculation

Load case: Veter 2

Coordinate system: Global

Extreme 1D: Global

Selection: All



Values: u_y

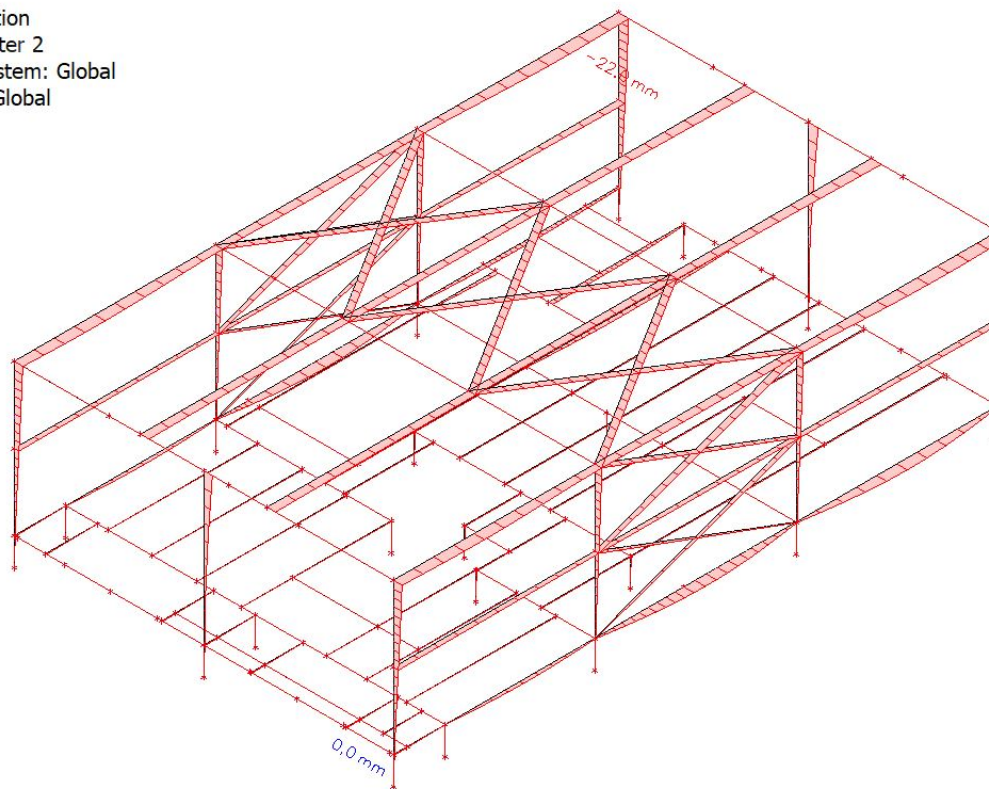
Linear calculation

Load case: Veter 2

Coordinate system: Global

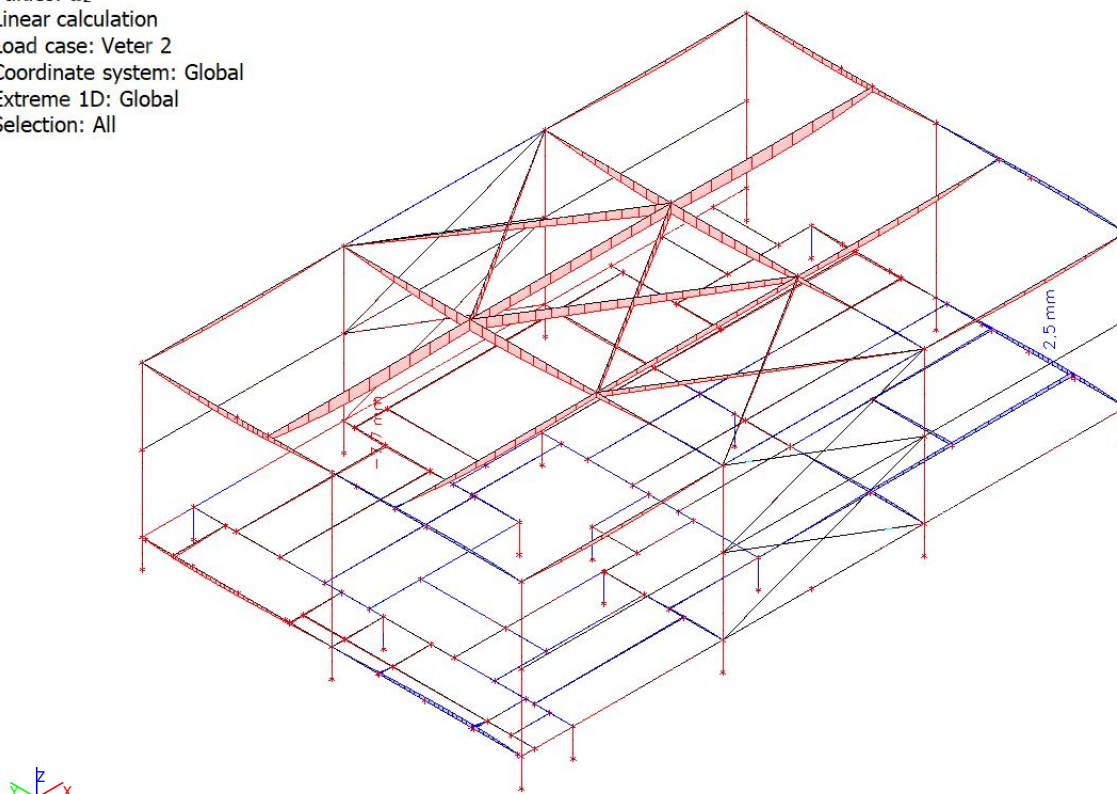
Extreme 1D: Global

Selection: All





Values: u_z
Linear calculation
Load case: Veter 2
Coordinate system: Global
Extreme 1D: Global
Selection: All



8.7. NSK in Pomiki po obtežnih primerih - Veter 3

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Veter 3	+ CPE Static wind	Variable Static	Veter	None	None

8.7.1. 1D internal forces

Linear calculation
Load case: Veter 3
Coordinate system: Principal
Extreme 1D: Global
Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B65	0,000	Veter 3	-19,76	-7,02	-2,39	0,00	1,43	4,21
B24	0,000	Veter 3	9,70	0,00	0,00	0,00	0,00	0,00
B67	0,000	Veter 3	0,37	-7,19	-3,69	0,00	2,21	4,31
B17	8,667+	Veter 3	0,77	3,25	2,97	0,00	-2,19	-2,80
B96	0,000	Veter 3	-4,07	0,01	-4,41	0,00	-2,10	-0,02
B95	3,250	Veter 3	-4,25	0,00	5,39	0,00	-0,51	0,00
B16	4,080+	Veter 3	-2,26	2,70	2,12	-0,25	-1,82	-3,41
B16	2,720+	Veter 3	-2,26	-2,70	-2,12	0,25	1,06	0,26
B11	3,250	Veter 3	-10,90	0,55	-2,84	0,01	-7,23	0,00
B3	3,250	Veter 3	-10,89	0,55	2,82	-0,01	7,24	0,00
B10	0,000	Veter 3	-2,95	2,29	-2,94	0,01	2,44	-4,31



Values: **N**

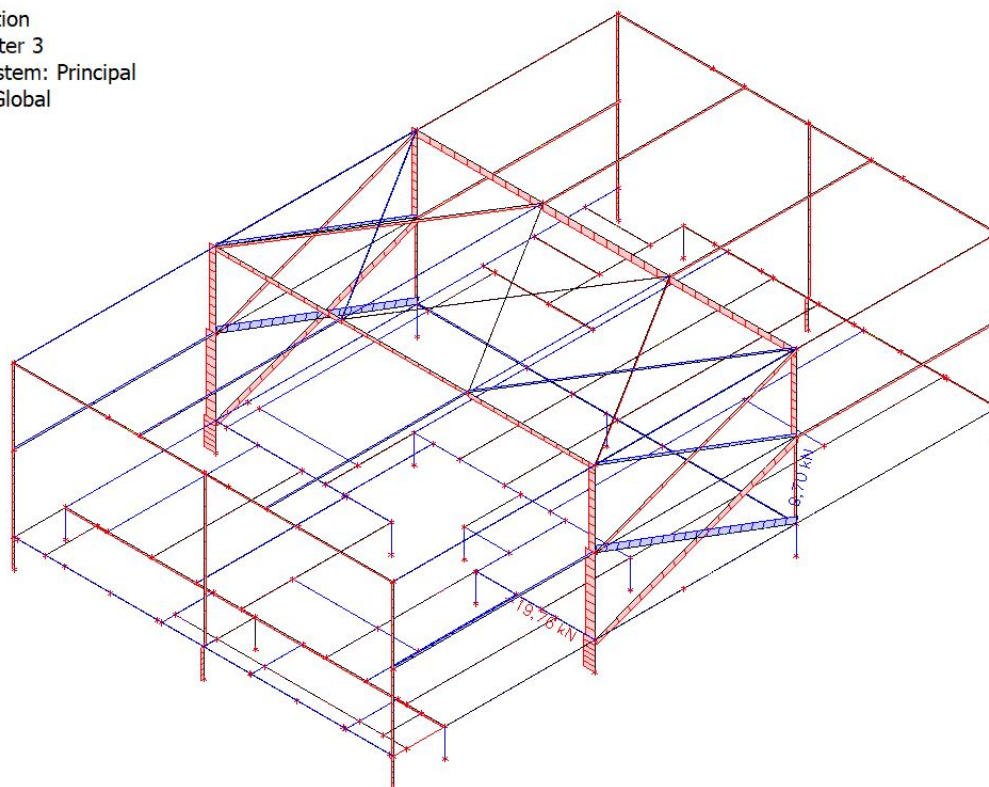
Linear calculation

Load case: Veter 3

Coordinate system: Principal

Extreme 1D: Global

Selection: All



Values: **V_z**

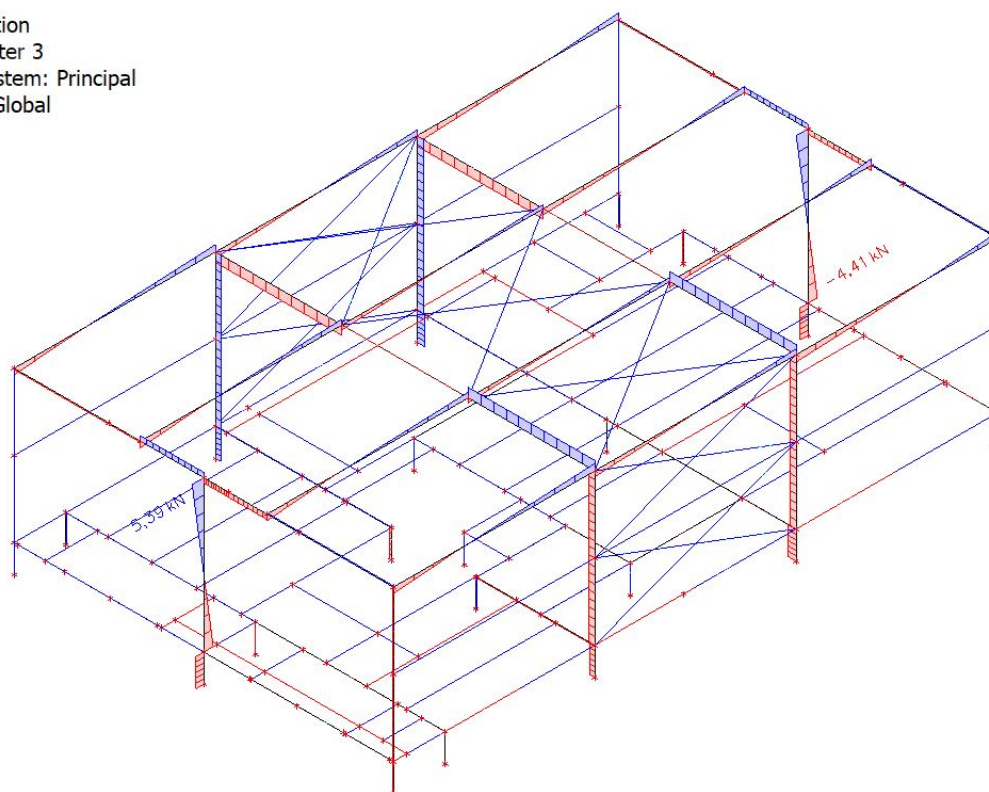
Linear calculation

Load case: Veter 3

Coordinate system: Principal

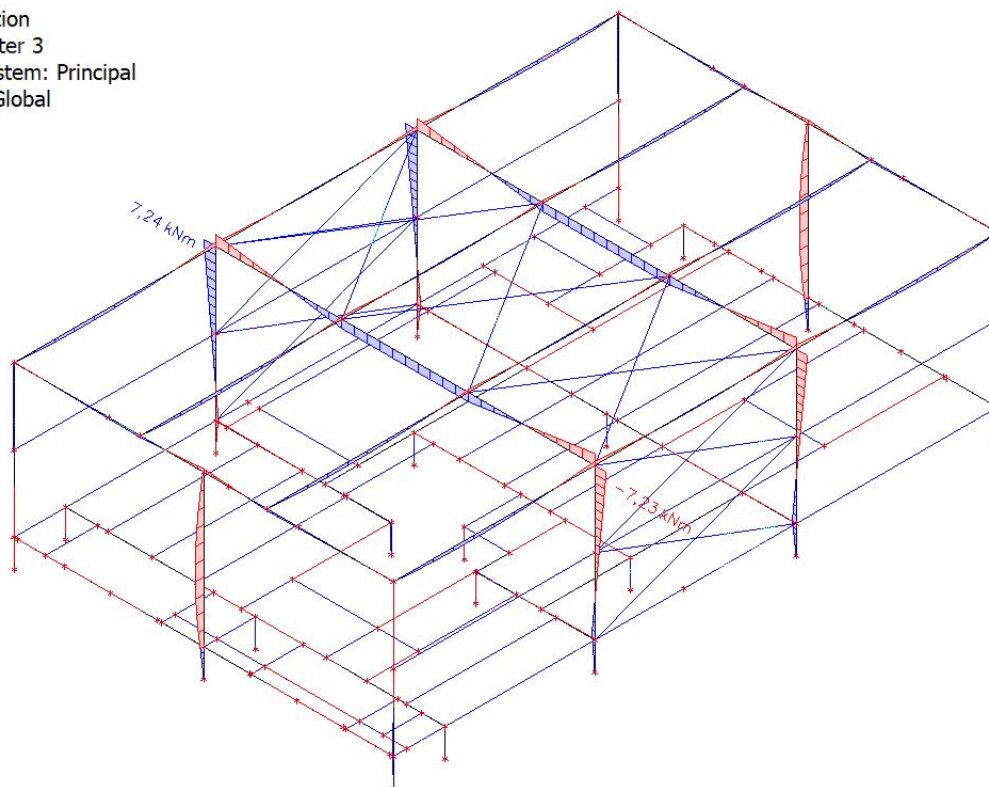
Extreme 1D: Global

Selection: All

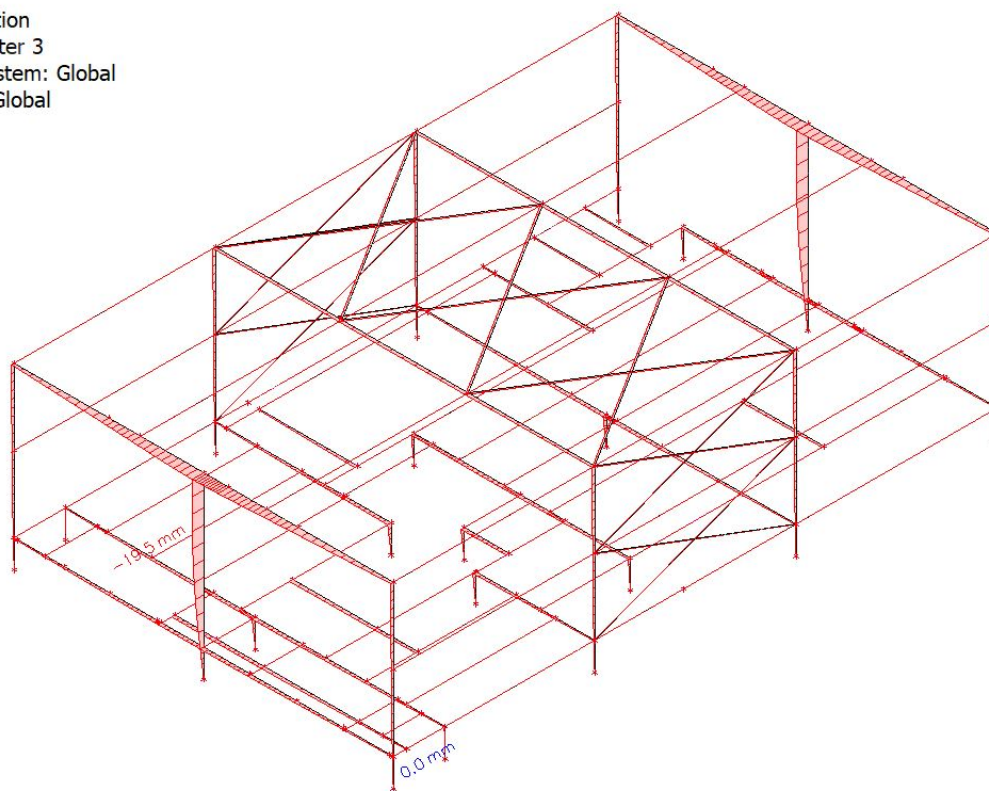




Values: M_y
Linear calculation
Load case: Veter 3
Coordinate system: Principal
Extreme 1D: Global
Selection: All



Values: u_x
Linear calculation
Load case: Veter 3
Coordinate system: Global
Extreme 1D: Global
Selection: All





Values: u_y

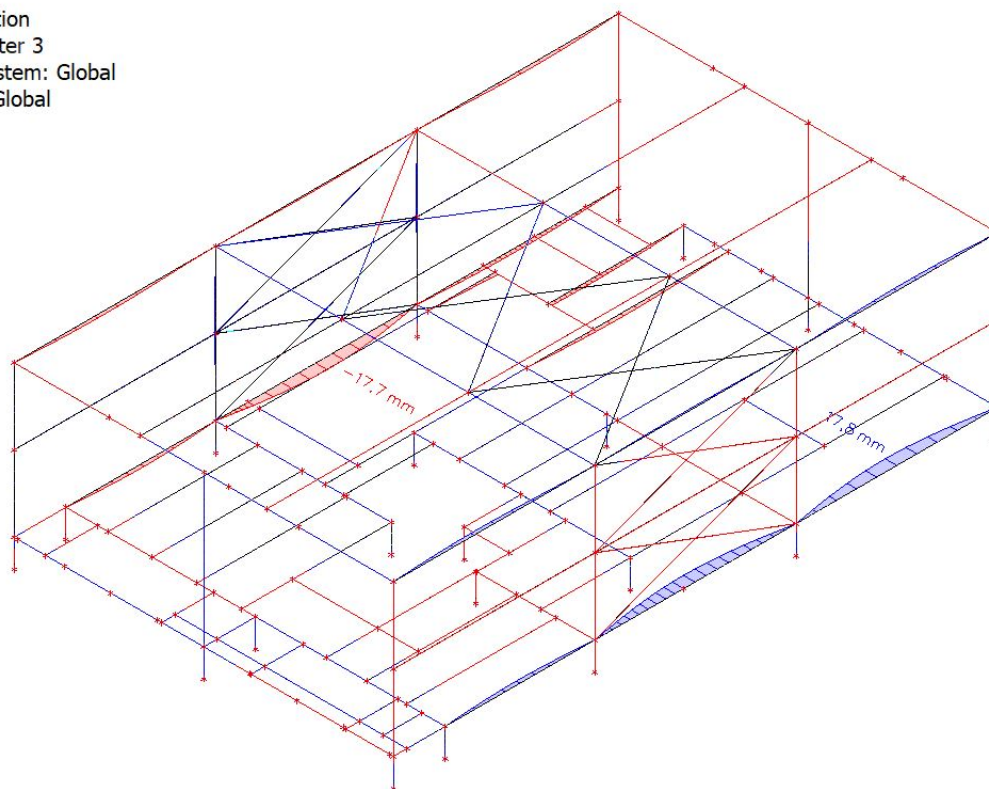
Linear calculation

Load case: Veter 3

Coordinate system: Global

Extreme 1D: Global

Selection: All



Values: u_z

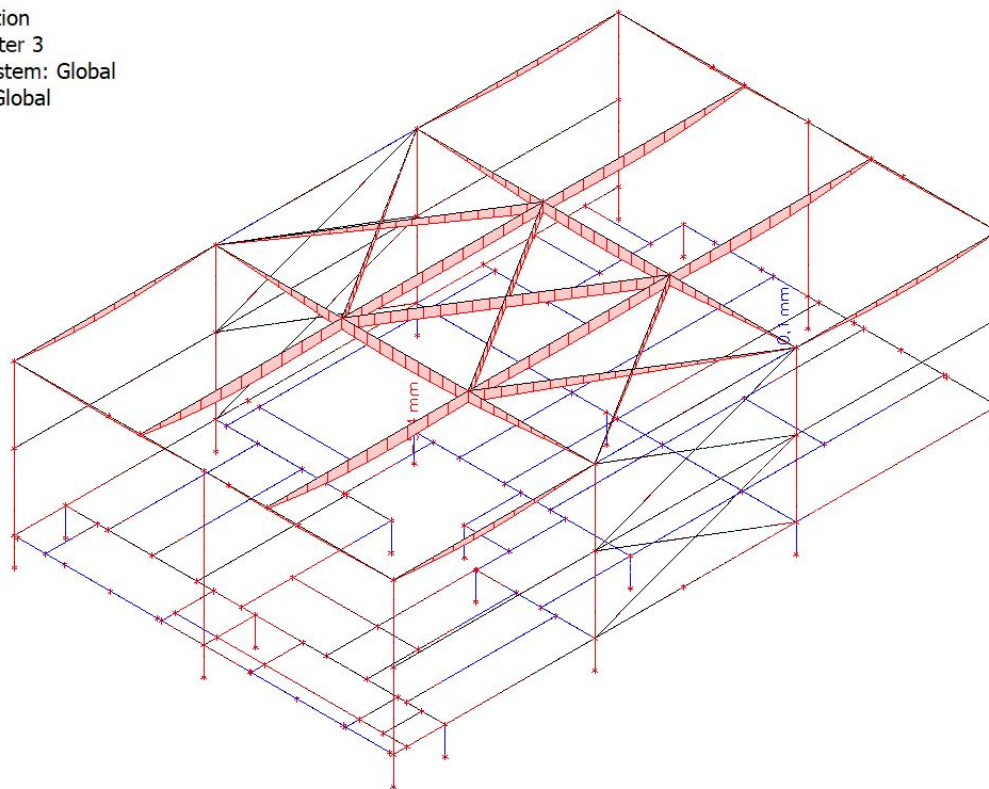
Linear calculation

Load case: Veter 3

Coordinate system: Global

Extreme 1D: Global

Selection: All





9. Obtežne kombinacije z NSK in pomiki

9.1. Obtežne kombinacije z NSK in pomiki - MSN nelinearna

Name	List
MSN nelinearna	Nelinearna analiza
	Nelinearna analiza/1
	Nelinearna analiza/2
	Nelinearna analiza/3
	Nelinearna analiza1
	Nelinearna analiza1/1
	Nelinearna analiza1/2
	Nelinearna analiza1/3
	Nelinearna analiza2
	Nelinearna analiza2/1
	Nelinearna analiza2/2
	Nelinearna analiza2/3
	Nelinearna analiza3
	Nelinearna analiza3/1
	Nelinearna analiza3/2
	Nelinearna analiza3/3
	Nelinearna analiza4
	Nelinearna analiza4/1
	Nelinearna analiza4/2
	Nelinearna analiza4/3
	Nelinearna analiza5
	Nelinearna analiza5/1
	Nelinearna analiza5/2
	Nelinearna analiza5/3
	Nelinearna analiza6
	Nelinearna analiza6/1
	Nelinearna analiza6/2
	Nelinearna analiza6/3
	Nelinearna analiza7
	Nelinearna analiza7/1
	Nelinearna analiza7/2
	Nelinearna analiza7/3
	Nelinearna analiza8
	Nelinearna analiza8/1
	Nelinearna analiza8/2
	Nelinearna analiza8/3
	Nelinearna analiza9
	Nelinearna analiza9/1
	Nelinearna analiza9/2
	Nelinearna analiza9/3
	MSN nelinearna
	MSN nelinearna1
	MSN nelinearna1-2
	MSN nelinearna1-3
	MSN nelinearna1-4
	MSN nelinearna2-1
	MSN nelinearna2-2
	MSN nelinearna2-3
	MSN nelinearna2-4
	MSN nelinearna3- 1
	MSN nelinearna3- 2
	MSN nelinearna3- 3
	MSN nelinearna3- 4
	MSN nelinearna4 - 1
	MSN nelinearna4 - 2
	MSN nelinearna4 - 3
	MSN nelinearna4 - 4
	MSN nelinearna5 - 1
	MSN nelinearna5 - 2
	MSN nelinearna5 - 3
	MSN nelinearna5 - 4
	MSN nelinearna6 - 1
	MSN nelinearna6 - 2



Name	List
	MSN nelinearna6 - 3
	MSN nelinearna6 - 4
	MSN nelinearna7
	MSN nelinearna 7-2
	MSN nelinearna 7-3
	MSN nelinearna 7-4
	MSN nelinearna8 - 1
	MSN nelinearna8 - 2
	MSN nelinearna8 - 3
	MSN nelinearna8 - 4
	MSN nelinearna9 - 1
	MSN nelinearna9 - 2
	MSN nelinearna9 - 3
	MSN nelinearna9 - 4
	MSN nelinearna10 - 1
	MSN nelinearna10 - 2
	MSN nelinearna10 - 3
	MSN nelinearna10 - 4
	MSN nelinearna11 -1
	MSN nelinearna11 -2
	MSN nelinearna11 -3
	MSN nelinearna11 -4
	MSN nelinearna12 -1
	MSN nelinearna12 -2
	MSN nelinearna12 -3
	MSN nelinearna12 -4
	MSN nelinearna13 - 1
	MSN nelinearna13 - 2
	MSN nelinearna13 - 3
	MSN nelinearna13 - 4
	MSN nelinearna14 -1
	MSN nelinearna14 -2
	MSN nelinearna14 -3
	MSN nelinearna14 -4
	MSN nelinearna15 -1
	MSN nelinearna15 -2
	MSN nelinearna15 -3
	MSN nelinearna15 -4

9.1.1. 1D internal forces

Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B68	0,600	MSN nelinearna1	-112,13	8,40	15,04	0,00	0,00	0,00
B78	7,010+	Nelinearna analiza2	62,56	-0,10	-7,66	0,00	-3,99	0,11
B76	2,820-	MSN nelinearna4 - 1	-17,92	-13,90	-6,75	0,00	0,08	2,17
B67	0,600	MSN nelinearna11 -1	-79,42	12,78	2,69	0,00	0,00	0,00
B38	8,160	MSN nelinearna2-1	-35,45	0,61	-41,63	0,04	-65,11	0,01
B13	2,720+	MSN nelinearna	-4,35	5,48	-10,15	-0,44	5,49	-0,93
B13	2,720+	MSN nelinearna3- 1	-4,43	-5,53	-10,07	0,44	5,46	0,89
B38	0,000	MSN nelinearna5 -	-26,90	0,09	43,92	0,04	-74,38	0,69



Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		1						
B2	3,250	MSN nelinearna1	-70,58	-1,90	28,40	-0,05	65,57	0,04
B65	0,000	MSN nelinearna	-58,61	11,81	4,74	0,01	-2,85	-7,10
B11	0,000	MSN nelinearna	-48,65	-3,24	-16,21	-0,06	7,55	7,10

Values: **N**

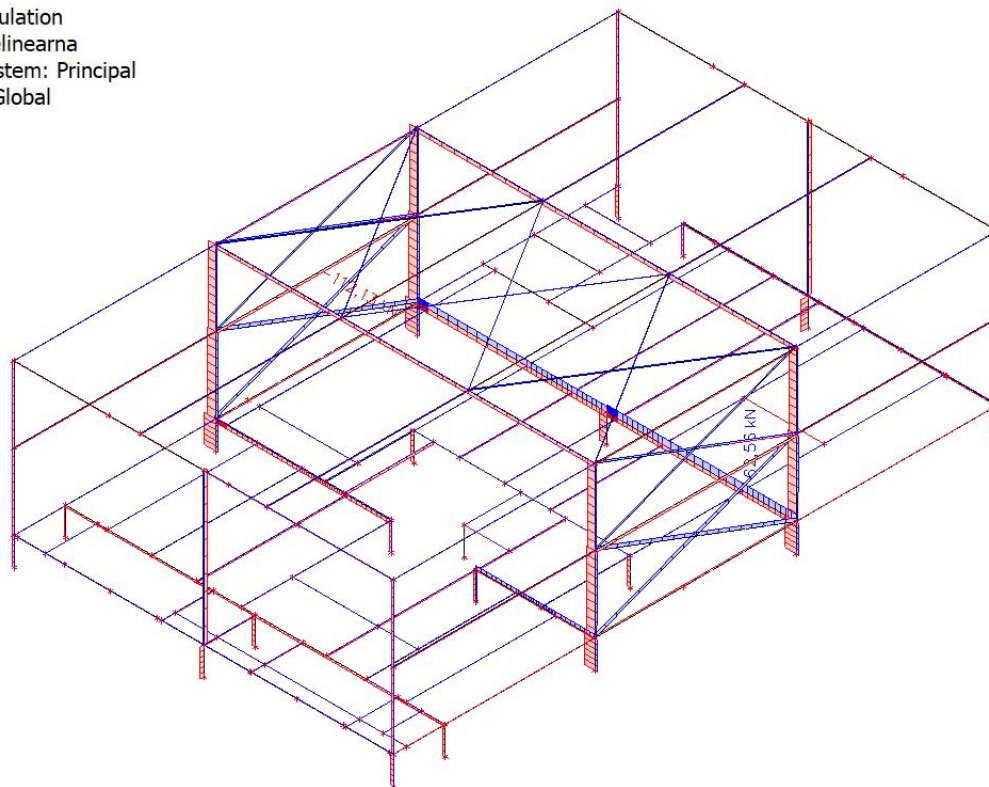
Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Global

Selection: All





Values: V_z

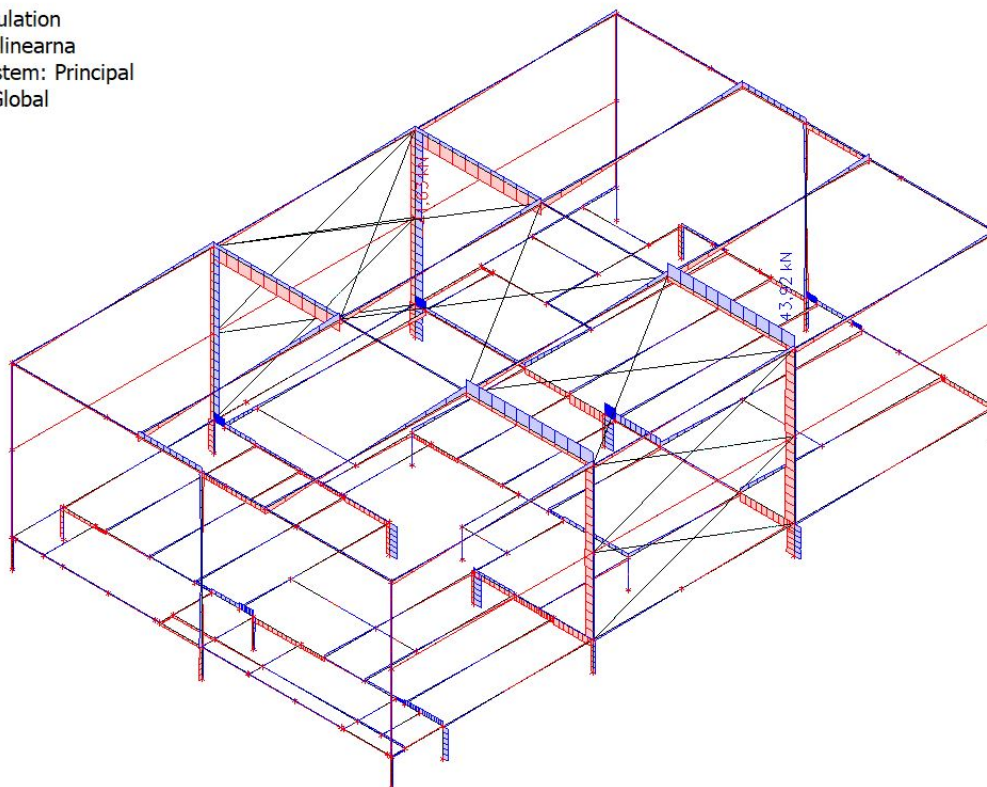
Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Global

Selection: All



Values: M_y

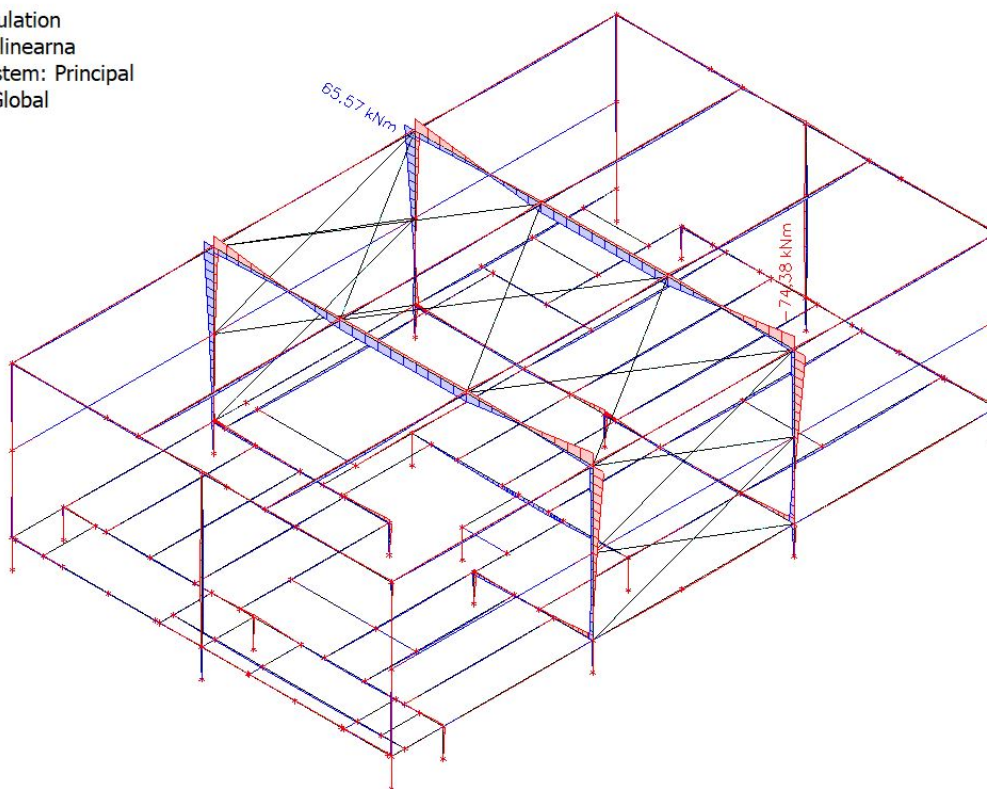
Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Global

Selection: All





10. Dimenzioniranje Jekla

10.1. EC-EN 1993 Steel check ULS

Values: **UC_{Overall}**

Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B10	0,000 / 3,250 m	HEA200	Rolled	S 355	MSN nelinearna	0,52 -
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Combination key

MSN nelinearna / MSN nelinearna5 - 1

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 2

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-71,08	kN	$N_{C,Rd}$	1909,90	kN	0,04
Shear V_y	$V_{y,Ed}$	-0,55	kN	$V_{pl,y,Rd}$	852,48	kN	0,00
Shear V_z	$V_{z,Ed}$	-33,99	kN	$V_{pl,z,Rd}$	369,95	kN	0,09
Bending M_y	$M_{y,Ed}$	32,42	kNm	$M_{pl,y,Rd}$	152,35	kNm	0,21
Bending M_z	$M_{z,Ed}$	-0,19	kNm	$M_{pl,z,Rd}$	72,33	kNm	0,00
Torsion	T_{Ed}	0,5	MPa	T_{Rd}	205,0	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,05

Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 2

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,003	7240668828,78		0,00	1,00
z-z	0,00	0,002	10517611090,05		0,00	1,00
LTB	1,00	1,625		2577,59	0,24	1,00

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	0,99	0,72	0,51	1,02

Maximum moment $M_{y,Ed}$ is derived from beam B10 position 3,250 m.

Maximum moment $M_{z,Ed}$ is derived from beam B10 position 0,813 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-73,37	-0,41	0,52

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B16	5,440 / 8,160 m	HEA120	Rolled	S 355	MSN nelinearna	0,46 -
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Combination key

MSN nelinearna / MSN nelinearna5 - 1



Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-1,73	kN	$N_{c,Rd}$	898,15	kN	0,00
Shear V_y	$V_{y,Ed}$	-2,42	kN	$V_{pl,y,Rd}$	410,94	kN	0,01
Shear V_z	$V_{z,Ed}$	15,84	kN	$V_{pl,z,Rd}$	172,58	kN	0,09
Bending M_y	$M_{y,Ed}$	8,79	kNm	$M_{pl,y,Rd}$	42,45	kNm	0,21
Bending M_z	$M_{z,Ed}$	-0,59	kNm	$M_{pl,z,Rd}$	20,86	kNm	0,03
Torsion	T_{Ed}	24,3	MPa	T_{Rd}	205,0	MPa	0,12

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,07
Shear V_y and Torsion	0,01
Shear V_z and Torsion	0,10

Stability checks

Decisive position for stability classification: 5,440 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,004	754521011,20		0,00	1,00
z-z	0,00	0,003	647132500,94		0,00	1,00
LTB	1,00	2,720		54,27	0,88	0,85

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	$M_{y,Ed}$	8,79	kNm	$M_{b,Rd}$	36,25	kNm	0,24

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,00	0,90	0,56	1,00

Maximum moment $M_{y,Ed}$ is derived from beam B16 position 4,080 m.

Maximum moment $M_{z,Ed}$ is derived from beam B16 position 4,080 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-13,12	2,11	0,46

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B38	5,440 / 8,160 m	HEA180	Rolled	S 355	MSN nelinearna	0,73 -
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Combination key	
MSN nelinearna / MSN nelinearna5	- 1

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 2



Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-27,43	kN	$N_{c,Rd}$	1608,15	kN	0,02
Shear V_y	$V_{y,Ed}$	-0,07	kN	$V_{pl,y,Rd}$	726,79	kN	0,00
Shear V_z	$V_{z,Ed}$	1,24	kN	$V_{pl,z,Rd}$	297,60	kN	0,00
Bending M_y	$M_{y,Ed}$	50,08	kNm	$M_{pl,y,Rd}$	115,38	kNm	0,43
Bending M_z	$M_{z,Ed}$	0,79	kNm	$M_{pl,z,Rd}$	55,62	kNm	0,01
Torsion	T_{Ed}	0,5	MPa	T_{Rd}	205,0	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,20

Stability checks

Decisive position for stability classification: 5,440 m

Section is classified as Class 2

Buckling group : BG8

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,008	781290321,00		0,00	1,00
z-z	0,00	0,003	2591331443,17		0,00	1,00
LTB	1,00	2,720		288,64	0,63	0,91

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	$M_{y,Ed}$	50,08	kNm	$M_{b,Rd}$	105,57	kNm	0,47

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,00	0,97	0,52	1,05

Maximum moment $M_{y,Ed}$ is derived from beam B38 position 0,000 m.

Maximum moment $M_{z,Ed}$ is derived from beam B38 position 5,168 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-74,38	0,80	0,73

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B49	0,000 / 4,628 m	RND12	Rolled	S 355	MSN nelinearna	0,75 -
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Combination key
MSN nelinearna / Nelinearna analiza3

Partial safety factors			
Resistance	of cross-sections	γ_{M0}	1,00
Resistance	to instability	γ_{M1}	1,00
Resistance	of net sections	γ_{M2}	1.25

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Warning: Strength reduction in function of the thickness is not supported for this type of cross-section.

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Tension	N_{Ed}	29,82	kN	$N_{t,Rd}$	39,87	kN	0,75

Combined section checks

Combined section checks	Unity check [-]
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EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B55	2,177 / 4,333 m	UPN200	Rolled	S 355	MSN nelinearna	0,41 -
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Combination key

MSN nelinearna / MSN nelinearna9 - 1

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-14,01	kN	$N_{c,Rd}$	1143,10	kN	0,01
Shear V_y	$V_{y,Ed}$	0,02	kN	$V_{pl,y,Rd}$	353,55	kN	0,00
Shear V_z	$V_{z,Ed}$	0,03	kN	$V_{pl,z,Rd}$	353,55	kN	0,00
Bending M_y	$M_{y,Ed}$	-6,20	kNm	$M_{pl,y,Rd}$	80,94	kNm	0,08
Bending M_z	$M_{z,Ed}$	-4,65	kNm	$M_{pl,z,Rd}$	18,39	kNm	0,25
Torsion	T_{Ed}	0,1	MPa	T_{Rd}	205,0	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,34

Stability checks

Decisive position for stability classification: 2,177 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,004	2108182540,09		0,00	1,00
z-z	0,00	0,004	163356552,84		0,00	1,00
LTB	1,00	4,333		56,36	1,28	0,48

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	$M_{y,Ed}$	-6,20	kNm	$M_{b,Rd}$	38,95	kNm	0,16

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,00	0,95	0,68	1,01

Maximum moment $M_{y,Ed}$ is derived from beam B55 position 2,177 m.

Maximum moment $M_{z,Ed}$ is derived from beam B55 position 2,177 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-6,20	-4,65	0,41

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B58	2,167 / 4,333 m	QRO80X4K	Cold formed	S 355	MSN nelinearna	0,08 -
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Note: EN 1993-1-3 article 1.1(3) specifies that this part does not apply to cold formed CHS and RHS sections. The default EN 1993-1-1 code check is executed instead of the EN 1993-1-3 code check.

Combination key

MSN nelinearna / MSN nelinearna3- 1

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa



Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-21,78	kN	$N_{c,Rd}$	417,05	kN	0,05
Bending M_y	$M_{y,Ed}$	0,00	kNm	$M_{pl,y,Rd}$	11,74	kNm	0,00
Bending M_z	$M_{z,Ed}$	0,35	kNm	$M_{pl,z,Rd}$	11,74	kNm	0,03
Torsion	T_{Ed}	0,4	MPa	T_{Rd}	205,0	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,00

Stability checks

Decisive position for stability classification: 2,167 m

Section is classified as Class 1

Buckling group : BG5

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,004	122564866,91		0,00	1,00
z-z	0,00	0,004	122564866,91		0,00	1,00
LTB	1,00	4,333		153,43	0,28	1,00

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	0,98	0,59	0,59	0,98

Maximum moment $M_{y,Ed}$ is derived from beam B58 position 2,167 m.

Maximum moment $M_{z,Ed}$ is derived from beam B58 position 2,167 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	0,00	0,35	0,08

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B73	0,600 / 0,600 m	HEA140	Rolled	S 355	MSN nelinearna	0,33 -
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Combination key

MSN nelinearna / MSN nelinearna4 - 1

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-47,17	kN	$N_{c,Rd}$	1114,70	kN	0,04
Shear V_y	$V_{y,Ed}$	0,77	kN	$V_{pl,y,Rd}$	507,53	kN	0,00
Shear V_z	$V_{z,Ed}$	29,07	kN	$V_{pl,z,Rd}$	207,16	kN	0,14

Combined section checks

Combined section checks	Unity check [-]
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Stability checks

Decisive position for stability classification: 0,600 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,001	59299873109,88		0,00	1,00
z-z	0,00	0,001	22395777320,14		0,00	1,00
LTB	1,00	0,600		2600,69	0,15	1,00



Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	0,99	0,67	0,51	0,98

Maximum moment $M_{y,Ed}$ is derived from beam B73 position 0,000 m.

Maximum moment $M_{z,Ed}$ is derived from beam B73 position 0,300 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-18,00	-0,12	0,33

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B78	4,080 / 8,160 m	HEA140	Rolled	S 355	MSN nelinearna	0,53 -
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Combination key
MSN nelinearna / MSN nelinearna8 - 1

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-40,71	kN	$N_{c,Rd}$	1114,70	kN	0,04
Shear V_y	$V_{y,Ed}$	2,95	kN	$V_{pl,y,Rd}$	507,53	kN	0,01
Shear V_z	$V_{z,Ed}$	-26,36	kN	$V_{pl,z,Rd}$	207,16	kN	0,13
Bending M_y	$M_{y,Ed}$	-26,11	kNm	$M_{pl,y,Rd}$	61,53	kNm	0,42
Bending M_z	$M_{z,Ed}$	2,32	kNm	$M_{pl,z,Rd}$	30,18	kNm	0,08
Torsion	T_{Ed}	1,9	MPa	T_{Rd}	205,0	MPa	0,01

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,26

Stability checks

Decisive position for stability classification: 4,080 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,004	1282436702,20		0,00	1,00
z-z	0,00	0,001	8481241115,32		0,00	1,00
LTB	1,00	0,975		1086,99	0,24	1,00

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	0,99	0,70	0,53	1,01

Maximum moment $M_{y,Ed}$ is derived from beam B78 position 4,080 m.

Maximum moment $M_{z,Ed}$ is derived from beam B78 position 4,315 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-26,11	2,92	0,53

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B91	10,833 / 13,000 m	HEA120	Rolled	S 355	MSN nelinearna	0,60 -
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Combination key
MSN nelinearna / MSN nelinearna5 - 1



Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-1,79	kN	$N_{c,Rd}$	898,15	kN	0,00
Shear V_y	$V_{y,Ed}$	-0,06	kN	$V_{pl,y,Rd}$	410,94	kN	0,00
Shear V_z	$V_{z,Ed}$	3,57	kN	$V_{pl,z,Rd}$	172,58	kN	0,02
Bending M_y	$M_{y,Ed}$	15,36	kNm	$M_{pl,y,Rd}$	42,45	kNm	0,36
Bending M_z	$M_{z,Ed}$	0,07	kNm	$M_{pl,z,Rd}$	20,86	kNm	0,00
Torsion	T_{Ed}	1,9	MPa	T_{Rd}	205,0	MPa	0,01

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,13

Stability checks

Decisive position for stability classification: 10,833 m

Section is classified as Class 1

Buckling group : BG4

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,004	668878755,36		0,00	1,00
z-z	0,00	0,004	254968634,47		0,00	1,00
LTB	1,00	4,333		34,79	1,10	0,66

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	$M_{y,Ed}$	15,36	kNm	$M_{b,Rd}$	27,91	kNm	0,55

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,00	1,53	0,53	1,01

Maximum moment $M_{y,Ed}$ is derived from beam B91 position 11,267 m.

Maximum moment $M_{z,Ed}$ is derived from beam B91 position 8,667 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	16,07	0,27	0,60

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B96	0,975 / 3,250 m	HEA120	Rolled	S 355	MSN nelinearna	0,35 -
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Combination key

MSN nelinearna / MSN nelinearna

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1



Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-26,90	kN	$N_{c,Rd}$	898,15	kN	0,03
Shear V_y	$V_{y,Ed}$	-0,39	kN	$V_{pl,y,Rd}$	410,94	kN	0,00
Shear V_z	$V_{z,Ed}$	2,08	kN	$V_{pl,z,Rd}$	172,58	kN	0,01
Bending M_y	$M_{y,Ed}$	8,21	kNm	$M_{pl,y,Rd}$	42,45	kNm	0,19
Bending M_z	$M_{z,Ed}$	0,98	kNm	$M_{pl,z,Rd}$	20,86	kNm	0,05
Torsion	T_{Ed}	2,0	MPa	T_{Rd}	205,0	MPa	0,01

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,08

Stability checks

Decisive position for stability classification: 0,975 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,003	1189117970,26		0,00	1,00
z-z	0,00	0,003	453277642,13		0,00	1,00
LTB	1,00	3,250		49,64	0,92	0,76

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	$M_{y,Ed}$	8,21	kNm	$M_{b,Rd}$	32,37	kNm	0,25

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	0,99	0,85	0,54	1,03

Maximum moment $M_{y,Ed}$ is derived from beam B96 position 1,300 m.

Maximum moment $M_{z,Ed}$ is derived from beam B96 position 0,000 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	8,64	1,33	0,35

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B122	2,695 / 4,650 m	HEA140	Rolled	S 355	MSN nelinearna	0,37 -
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Combination key
MSN nelinearna / MSN nelinearna14 -1

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-0,01	kN	$N_{c,Rd}$	1114,70	kN	0,00
Shear V_y	$V_{y,Ed}$	0,59	kN	$V_{pl,y,Rd}$	507,53	kN	0,00
Shear V_z	$V_{z,Ed}$	-7,12	kN	$V_{pl,z,Rd}$	207,16	kN	0,03
Bending M_y	$M_{y,Ed}$	19,25	kNm	$M_{pl,y,Rd}$	61,53	kNm	0,31
Bending M_z	$M_{z,Ed}$	-1,39	kNm	$M_{pl,z,Rd}$	30,18	kNm	0,05
Torsion	T_{Ed}	1,0	MPa	T_{Rd}	205,0	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,14



Stability checks

Decisive position for stability classification: 2,695 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N _{cr} [kN]	M _{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,005	987302778,10		0,00	1,00
z-z	0,00	0,001	8481241115,32		0,00	1,00
LTB	1,00	0,975		705,99	0,30	1,00

Combined stability checks

Interaction factors	k _{yy}	k _{yz}	k _{zy}	k _{zz}
Value	1,00	0,66	0,52	0,91

Maximum moment M_{y,Ed} is derived from beam B122 position 1,720 m.

Maximum moment M_{z,Ed} is derived from beam B122 position 2,695 m.

Combined stability checks	M _{y,Ed} [kNm]	M _{z,Ed} [kNm]	Unity check [-]
Bending and Axial Compression	21,03	-1,39	0,37

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B130	2,153 / 4,333 m	HEA120	Rolled	S 355	MSN nelinearna	0,49 -
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Combination key

MSN nelinearna / MSN nelinearna13 - 1

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f _y	355,0	MPa
Ultimate strength	f _u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N _{Ed}	-0,76	kN	N _{c,Rd}	898,15	kN	0,00
Shear V _y	V _{y,Ed}	-0,03	kN	V _{pl,y,Rd}	410,94	kN	0,00
Shear V _z	V _{z,Ed}	0,17	kN	V _{pl,z,Rd}	172,58	kN	0,00
Bending M _y	M _{y,Ed}	15,13	kNm	M _{pl,y,Rd}	42,45	kNm	0,36
Bending M _z	M _{z,Ed}	0,06	kNm	M _{pl,z,Rd}	20,86	kNm	0,00
Torsion	T _{Ed}	0,5	MPa	T _{Rd}	205,0	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,13

Stability checks

Decisive position for stability classification: 2,153 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N _{cr} [kN]	M _{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,004	668878858,27		0,00	1,00
z-z	0,00	0,004	362677433,34		0,00	1,00
LTB	1,00	3,633		44,44	0,98	0,73

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	M _{y,Ed}	15,13	kNm	M _{b,Rd}	31,03	kNm	0,49

Combined stability checks

Interaction factors	k _{yy}	k _{yz}	k _{zy}	k _{zz}
Value	1,00	1,24	0,52	1,00



Maximum moment $M_{y,Ed}$ is derived from beam B130 position 2,153 m.
Maximum moment $M_{z,Ed}$ is derived from beam B130 position 0,700 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	15,13	0,10	0,49

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B136	2,167 / 4,333 m	HEA100	Rolled	S 355	MSN nelinearna	0,47 -
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Combination key
MSN nelinearna / MSN nelinearna15 -1

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1.25

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-6,64	kN	$N_{c,Rd}$	752,60	kN	0,01
Bending M_y	$M_{y,Ed}$	8,89	kNm	$M_{pl,y,Rd}$	29,44	kNm	0,30
Bending M_z	$M_{z,Ed}$	0,17	kNm	$M_{pl,z,Rd}$	14,60	kNm	0,01
Torsion	T_{Ed}	0,2	MPa	T_{Rd}	205,0	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,10

Stability checks

Decisive position for stability classification: 2,167 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,004	385212233,99		0,00	1,00
z-z	0,00	0,004	147903837,69		0,00	1,00
LTB	1,00	4,333		25,72	1,07	0,67

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	$M_{y,Ed}$	8,89	kNm	$M_{b,Rd}$	19,83	kNm	0,45

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,00	1,36	0,53	1,03

Maximum moment $M_{y,Ed}$ is derived from beam B136 position 2,167 m.
Maximum moment $M_{z,Ed}$ is derived from beam B136 position 2,167 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	8,89	0,17	0,47

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B150	0,600 / 0,600 m	HEA120	Rolled	S 355	MSN nelinearna	0,01 -
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Combination key
MSN nelinearna / MSN nelinearna3- 4



Partial safety factors			
Resistance of cross-sections	γ_{M0}	1,00	
Resistance to instability	γ_{M1}	1,00	
Resistance of net sections	γ_{M2}	1,25	

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-1,22	kN	$N_{c,Rd}$	898,15	kN	0,00
Shear V_y	$V_{y,Ed}$	-0,19	kN	$V_{pl,y,Rd}$	410,94	kN	0,00
Shear V_z	$V_{z,Ed}$	0,03	kN	$V_{pl,z,Rd}$	172,58	kN	0,00

Combined section checks

Combined section checks	Unity check [-]
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Stability checks

Decisive position for stability classification: 0,600 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	0,00	0,001	34889051557,84		0,00	1,00
z-z	0,00	0,001	13299291930,47		0,00	1,00
LTB	1,00	0,600		574,19	0,27	1,00

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,00	0,69	0,52	1,00

Maximum moment $M_{y,Ed}$ is derived from beam B150 position 0,300 m.

Maximum moment $M_{z,Ed}$ is derived from beam B150 position 0,000 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	0,00	0,13	0,01

10.2. NSK - Overall check

Values: **UC**Overall

Nonlinear calculation

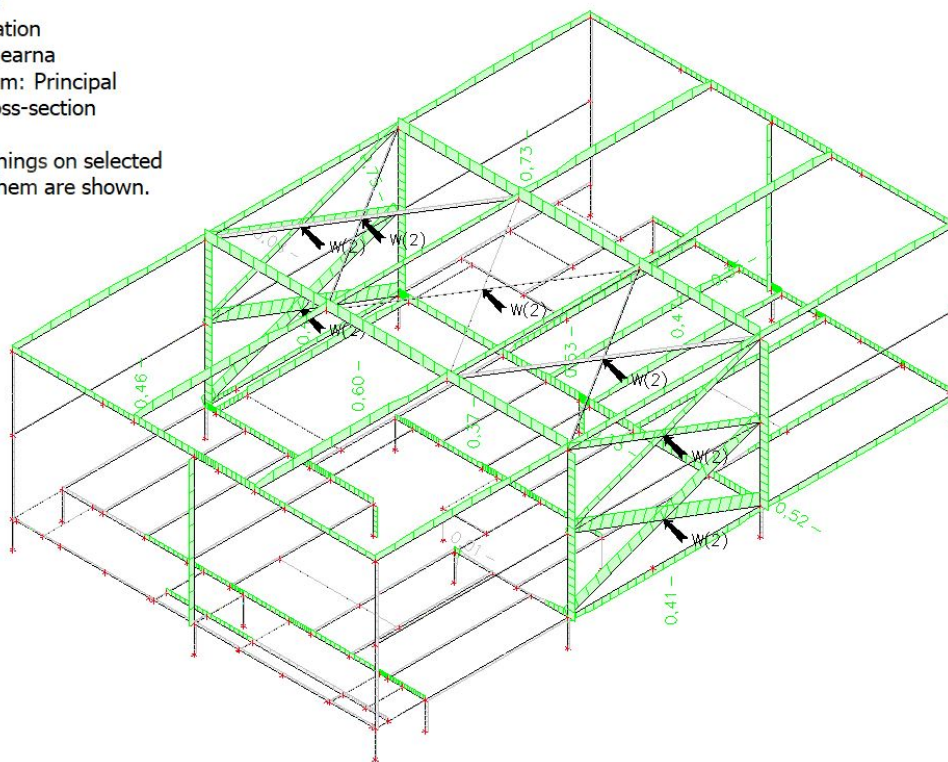
Class: MSN neliearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.



10.3. NSK - Section check

Values: **UC**Sec

Nonlinear calculation

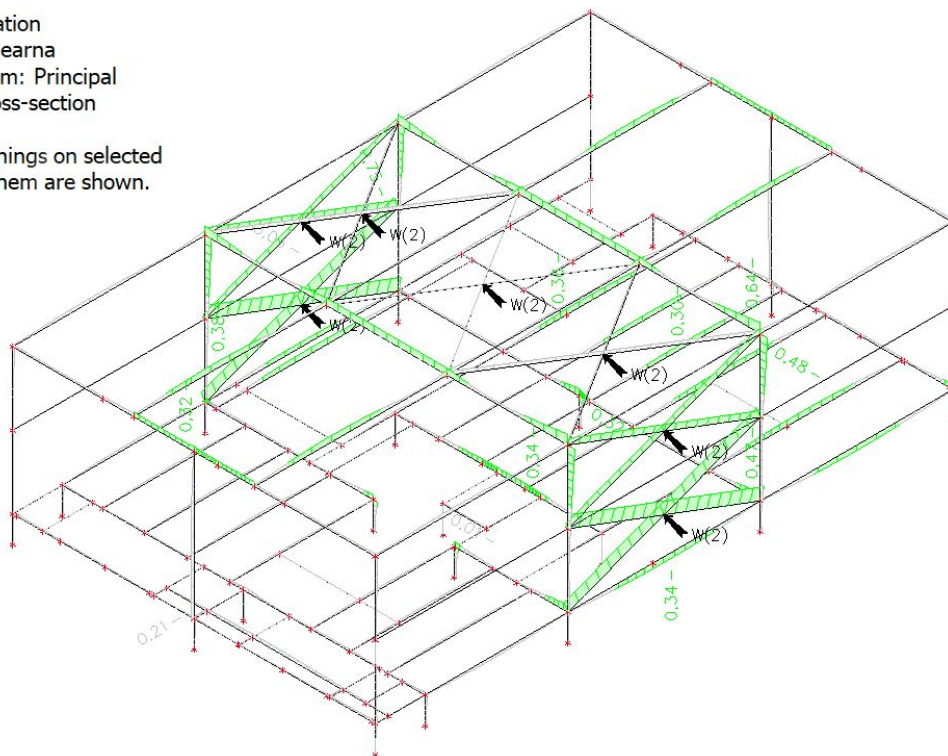
Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.



10.4. NSK - Stability check

Values: **UC**_{stab}

Nonlinear calculation

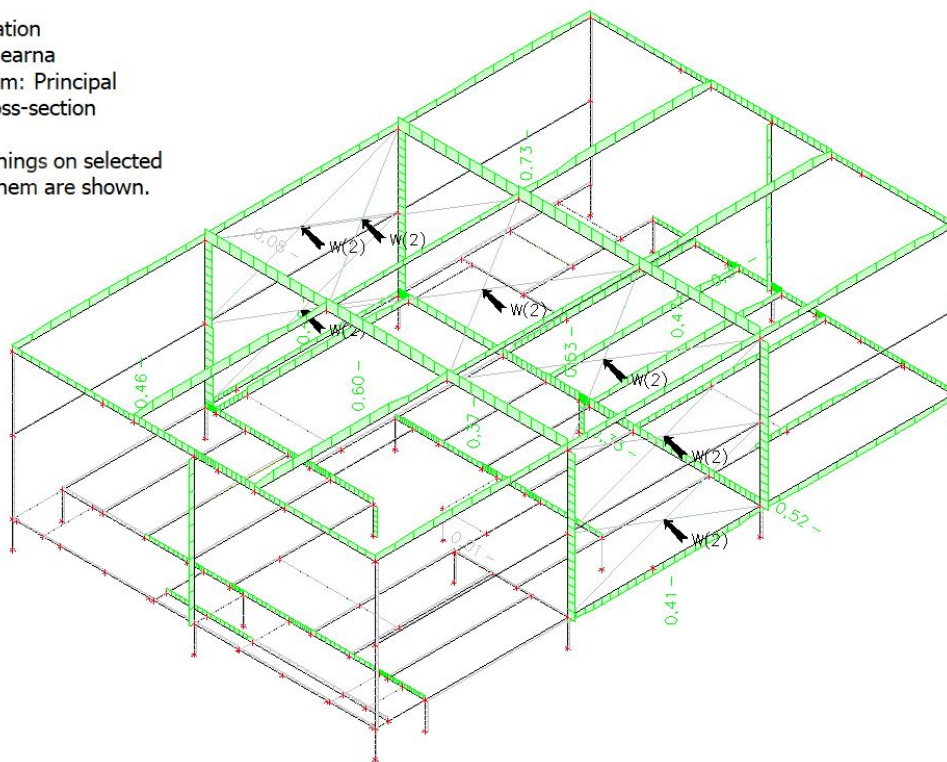
Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.






1. Kazalo

1. Kazalo	555
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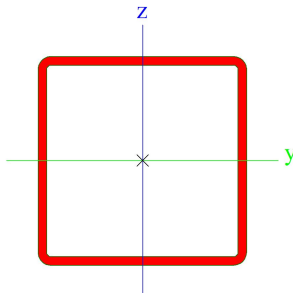



2. Materiali

Steel EC3

Name	ρ [kg/m ³]	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	7850,00	2,1000e+05 8,0769e+04	0,3 0,01e-003	0 40	40 80	235,0 215,0	360,0 360,0	

3. Prerezi

Steber		
Type	QRO120X5	
Formcode	2 - Rectangular hollow section	
Shape type	Thin-walled	
Item material	S 235	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	a	a
A [m²]	2,2600e-03	
A _y [m²], A _z [m²]	1,1303e-03	1,1303e-03
A _L [m²/m], A _D [m²/m]	4,6800e-01	9,0448e-01
C _{y.ucs} [mm], C _{z.ucs} [mm]	60	60
α [deg]	0,00	
I _y [m⁴], I _z [m⁴]	4,9500e-06	4,9500e-06
i _y [mm], i _z [mm]	47	47
W _{el.y} [m³], W _{el.z} [m³]	8,2400e-05	8,2400e-05
W _{pl.y} [m³], W _{pl.z} [m³]	9,7000e-05	9,7000e-05
M _{pl.y.+} [Nm], M _{pl.y.-} [Nm]	22780,43	22780,43
M _{pl.z.+} [Nm], M _{pl.z.-} [Nm]	22780,43	22780,43
d _y [mm], d _z [mm]	0	0
I _t [m⁴], I _w [m⁶]	7,7100e-06	1,0368e-08
β _y [mm], β _z [mm]	0	0
Picture		
Primarec		
Type	QRO120X5	
Formcode	2 - Rectangular hollow section	
Shape type	Thin-walled	
Item material	S 235	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	a	a
A [m²]	2,2600e-03	
A _y [m²], A _z [m²]	1,1303e-03	1,1303e-03
A _L [m²/m], A _D [m²/m]	4,6800e-01	9,0448e-01
C _{y.ucs} [mm], C _{z.ucs} [mm]	60	60
α [deg]	0,00	
I _y [m⁴], I _z [m⁴]	4,9500e-06	4,9500e-06
i _y [mm], i _z [mm]	47	47
W _{el.y} [m³], W _{el.z} [m³]	8,2400e-05	8,2400e-05
W _{pl.y} [m³], W _{pl.z} [m³]	9,7000e-05	9,7000e-05
M _{pl.y.+} [Nm], M _{pl.y.-} [Nm]	22780,43	22780,43
M _{pl.z.+} [Nm], M _{pl.z.-} [Nm]	22780,43	22780,43



d_y [mm], d_z [mm]	0	0
I_t [m ⁴], I_w [m ⁶]	7,7100e-06	1,0368e-08
β_y [mm], β_z [mm]	0	0
Picture		

Zatega		
Type	RND12	
Formcode	11 - Full circular section	
Shape type	Thick-walled	
Item material	S 235	
Fabrication	rolled	
Colour		
Flexural buckling y-y,	c	c
Flexural buckling z-z		
A [m ²]	1,1300e-04	
A_y [m ²], A_z [m ²]	9,6875e-05	9,6875e-05
A_L [m ² /m], A_D [m ² /m]	3,7000e-02	3,7697e-02
$C_{Y,UCS}$ [mm], $C_{Z,UCS}$ [mm]	6	6
α [deg]	0,00	
I_y [m ⁴], I_z [m ⁴]	1,0200e-09	1,0200e-09
i_y [mm], i_z [mm]	3	3
$W_{el,y}$ [m ³], $W_{el,z}$ [m ³]	1,7000e-07	1,7000e-07
$W_{pl,y}$ [m ³], $W_{pl,z}$ [m ³]	2,8800e-07	2,8800e-07
$M_{pl,y,+}$ [Nm], $M_{pl,y,-}$ [Nm]	67,66	67,66
$M_{pl,z,+}$ [Nm], $M_{pl,z,-}$ [Nm]	67,66	67,66
d_y [mm], d_z [mm]	0	0
I_t [m ⁴], I_w [m ⁶]	2,0339e-09	0,0000e+00
β_y [mm], β_z [mm]	0	0
Picture		

Explanations of symbols	
Formcode	h - Height b - Width s - Thickness r - Outer radius r1 - Inner radius
A	Area
A_y	Shear Area in principal y-direction
A_z	Shear Area in principal z-direction
A_L	Circumference per unit length
A_D	Drying surface per unit length
$C_{Y,UCS}$	Centroid coordinate in Y-direction of Input axis system
$C_{Z,UCS}$	Centroid coordinate in Z-direction of Input axis system
$I_{Y,LCS}$	Second moment of area about the

Explanations of symbols	
	YLCS axis
$I_{Z,LCS}$	Second moment of area about the ZLCS axis
$I_{YZ,LCS}$	Product moment of area in the LCS system
α	Rotation angle of the principal axis system
I_y	Second moment of area about the principal y-axis
I_z	Second moment of area about the principal z-axis
i_y	Radius of gyration about the principal y-axis
i_z	Radius of gyration about the principal z-axis



Explanations of symbols	
$W_{el.y}$	Elastic section modulus about the principal y-axis
$W_{el.z}$	Elastic section modulus about the principal z-axis
$W_{pl.y}$	Plastic section modulus about the principal y-axis
$W_{pl.z}$	Plastic section modulus about the principal z-axis
$M_{pl.y,+}$	Plastic moment about the principal y-axis for a positive M_y moment
$M_{pl.y,-}$	Plastic moment about the principal y-axis for a negative M_y moment
$M_{pl.z,+}$	Plastic moment about the principal z-axis for a positive M_z moment

Explanations of symbols	
$M_{pl.z,-}$	Plastic moment about the principal z-axis for a negative M_z moment
d_y	Shear center coordinate in principal y-direction measured from the centroid
d_z	Shear center coordinate in principal z-direction measured from the centroid
I_t	Torsional constant
I_w	Warping constant
β_y	Mono-symmetry constant about the principal y-axis
β_z	Mono-symmetry constant about the principal z-axis

4. Elementi

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B1	Steber - QRO120X5	S 235	3,970	N125	N126	column (100)
B2	Steber - QRO120X5	S 235	2,600	N127	N128	column (100)
B3	Primarec - QRO120X5	S 235	1,860	N129	N130	beam (80)
B4	Primarec - QRO120X5	S 235	2,330	N130	N131	beam (80)
B5	Primarec - QRO120X5	S 235	2,330	N126	N132	beam (80)
B6	Steber - QRO120X5	S 235	4,260	N126	N133	column (100)
B7	Steber - QRO120X5	S 235	2,600	N134	N135	column (100)
B8	Primarec - QRO120X5	S 235	2,330	N137	N136	beam (80)
B9	Primarec - QRO120X5	S 235	1,860	N1	N137	beam (80)
B10	Primarec - QRO120X5	S 235	2,330	N133	N138	beam (80)
B11	Primarec - QRO120X5	S 235	1,860	N139	N133	beam (80)
B12	Primarec - QRO120X5	S 235	1,860	N140	N126	beam (80)
B13	Steber - QRO120X5	S 235	4,120	N133	N141	column (100)
B15	Steber - QRO120X5	S 235	4,120	N139	N143	column (100)
B16	Steber - QRO120X5	S 235	4,120	N144	N145	column (100)
B17	Primarec - QRO120X5	S 235	1,860	N146	N147	beam (80)
B18	Primarec - QRO120X5	S 235	2,330	N147	N148	beam (80)
B19	Primarec - QRO120X5	S 235	2,330	N146	N149	beam (80)
B20	Primarec - QRO120X5	S 235	1,860	N149	N148	beam (80)
B21	Steber - QRO120X5	S 235	2,750	N150	N151	column (100)
B22	Primarec - QRO120X5	S 235	1,860	N145	N152	beam (80)
B23	Primarec - QRO120X5	S 235	2,330	N141	N152	beam (80)
B24	Primarec - QRO120X5	S 235	2,330	N143	N145	beam (80)
B25	Primarec - QRO120X5	S 235	1,860	N143	N141	beam (80)
B27	Primarec - QRO120X5	S 235	2,330	N155	N156	beam (80)
B28	Zatega - RND12	S 235	2,509	N145	N155	roof bracing (0)
B29	Zatega - RND12	S 235	2,509	N143	N156	roof bracing (0)
B30	Zatega - RND12	S 235	2,509	N156	N141	roof bracing (0)
B31	Zatega - RND12	S 235	2,509	N155	N152	roof bracing (0)
B32	Primarec - QRO120X5	S 235	2,330	N159	N160	beam (80)
B33	Primarec - QRO120X5	S 235	0,475	N158	N161	beam (80)

5. Vozlišča

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N125	2,330	0,000	0,000
N126	2,330	0,000	3,970
N127	2,330	1,385	0,000
N128	2,330	1,385	2,600
N129	2,330	1,860	2,600
N130	2,330	0,000	2,600
N131	0,000	0,000	2,600
N132	0,000	0,000	3,970
N133	2,330	0,000	8,230
N134	2,330	1,385	3,970
N135	2,330	1,385	6,570

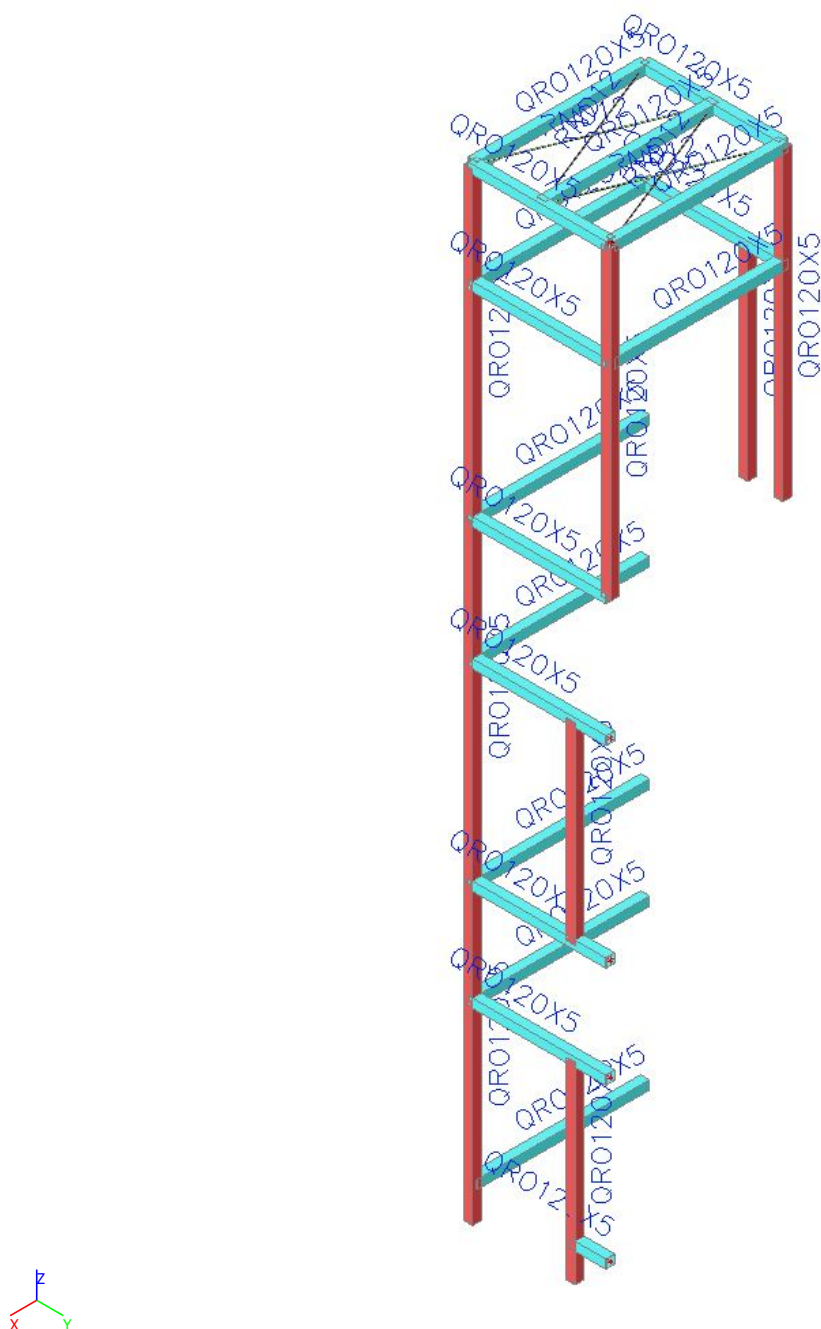
Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N136	0,000	0,000	6,570
N137	2,330	0,000	6,570
N1	2,330	1,860	6,570
N138	0,000	0,000	8,230
N139	2,330	1,860	8,230
N140	2,330	1,860	3,970
N141	2,330	0,000	12,350
N143	2,330	1,860	12,350
N144	0,000	1,860	8,230
N145	0,000	1,860	12,350
N146	2,330	1,860	10,980



Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N147	2,330	0,000	10,980
N148	0,000	0,000	10,980
N149	0,000	1,860	10,980
N150	0,000	1,385	8,230
N151	0,000	1,385	10,980
N152	0,000	0,000	12,350
N155	2,330	0,930	12,350

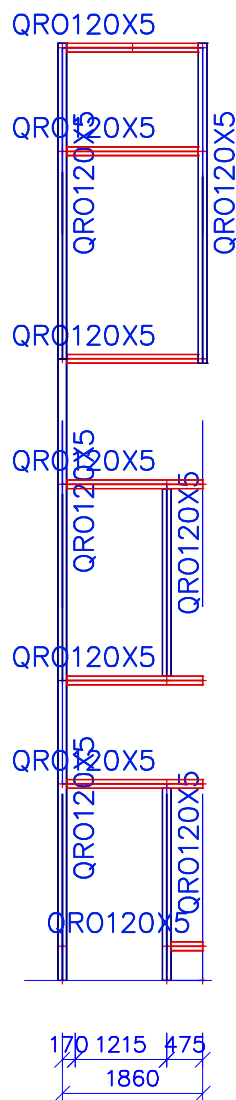
Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N156	0,000	0,930	12,350
N157	0,000	0,000	0,000
N158	2,330	1,860	0,450
N159	2,330	0,000	0,450
N160	0,000	0,000	0,450
N161	2,330	1,385	0,450
N162	2,330	1,860	0,000

6. 3D model



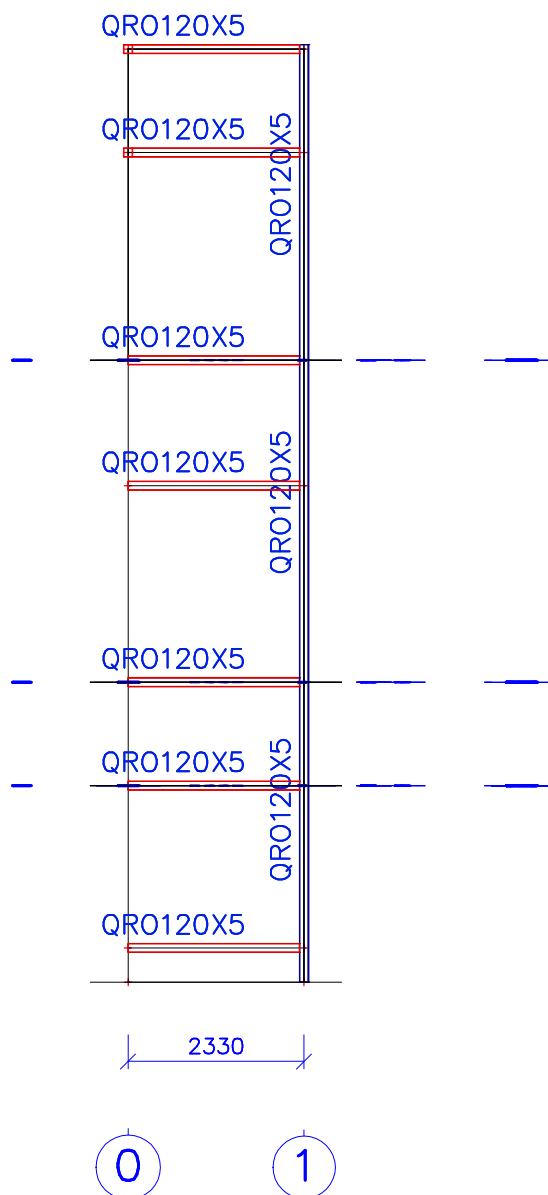


Section – 1



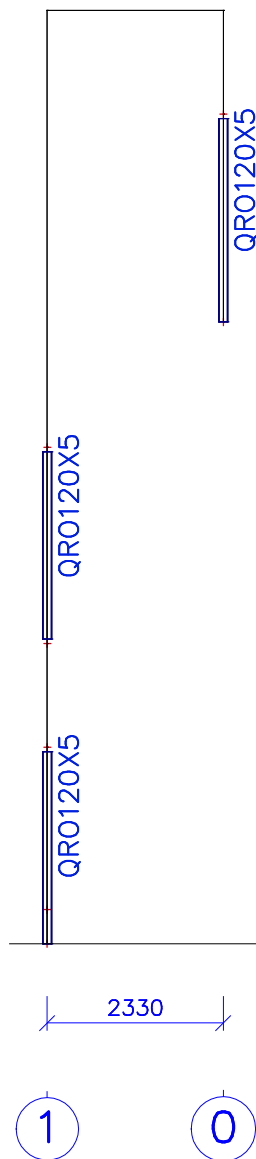


Section – 0



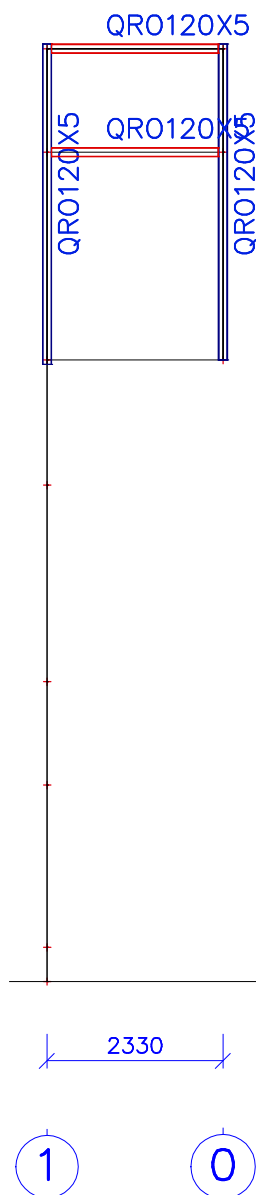


Section – 2





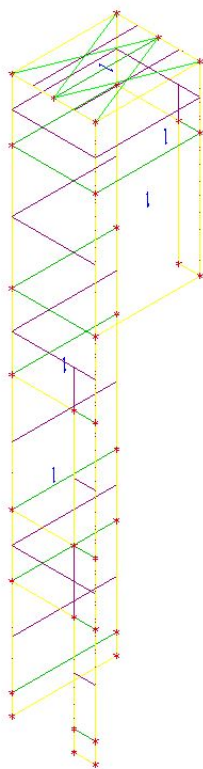
Section – 3



7. Obtežni primeri

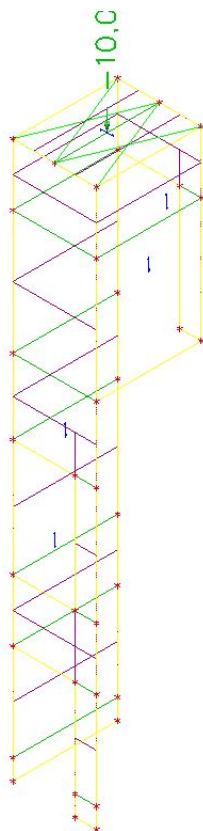
7.1. Obtežni primeri - Lastna

Name	Description Spec	Action type Load type	Load group	Direction
Lastna		Permanent	Lastna in stalna	-Z
		Self weight		



7.2. Obtežni primeri - Stalna

Name	Description Spec	Action type Load type	Load group
Stalna		Permanent	Lastna in stalna
		Standard	



8. Obtežne kombinacije z NSK in pomiki

8.1. Obtežne kombinacije z NSK in pomiki - MSN nelinearna

Name	List
MSN nelinearna	MSN nelinearna
	MSN nelinearna1
	MSN nelinearna2
	Nelinearna MSN
	Nelinearna MSN1

8.1.1. 1D internal forces

Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Global

Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B15	0,000	MSN nelinearna2	-17,77	-0,09	0,00	0,03	-0,03	0,22
B1	3,970	MSN nelinearna	2,23	-0,01	0,00	0,00	0,00	-0,01
B13	0,000	MSN nelinearna2	-16,32	0,10	-0,01	0,03	0,01	-0,18
B27	2,330	MSN nelinearna2	0,00	0,00	-18,78	-0,02	0,00	0,00
B27	0,000	MSN nelinearna2	0,00	0,00	18,78	-0,02	0,00	0,00
B25	0,000	MSN nelinearna2	0,08	0,01	10,15	-0,06	0,00	-0,01
B20	0,475-	MSN	0,05	-0,01	-1,54	0,21	-0,39	0,00



Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		nelinearna2						
B27	1,165-	MSN nelinearna2	0,00	0,00	17,63	-0,02	21,20	0,00
B6	4,260	MSN nelinearna2	2,22	-0,13	-0,01	0,01	-0,01	-0,18
B15	0,000	MSN nelinearna	-14,02	-0,09	0,00	0,03	-0,03	0,22

Values: **N**

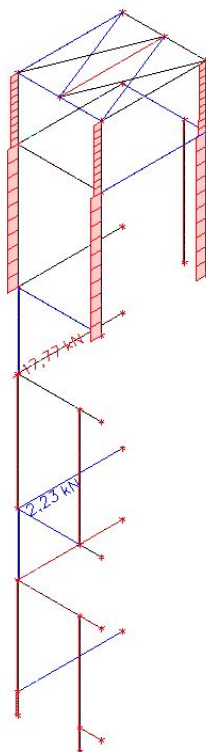
Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Principal

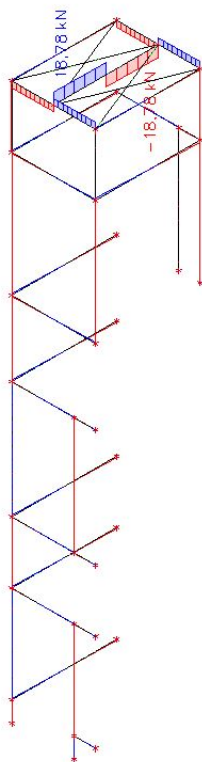
Extreme 1D: Global

Selection: All

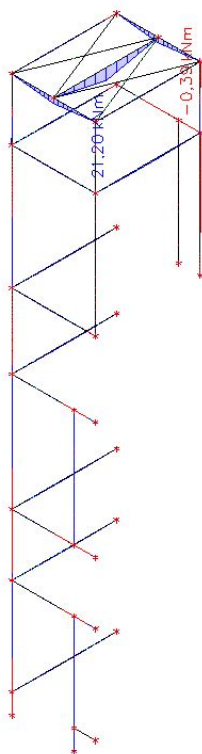




Values: V_z
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All



Values: M_y
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All





Values: u_x

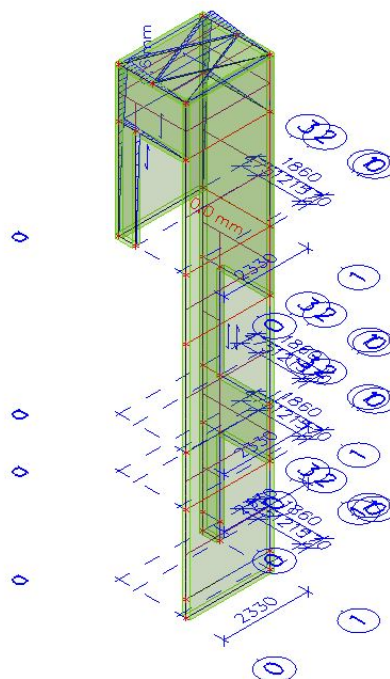
Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Global

Extreme 1D: Global

Selection: All



Values: u_y

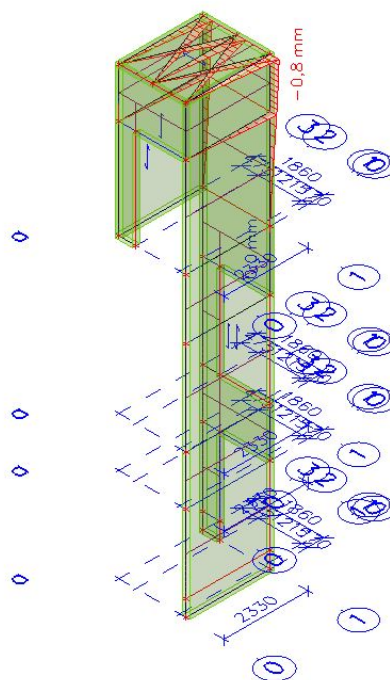
Nonlinear calculation

Class: MSN nelinearna

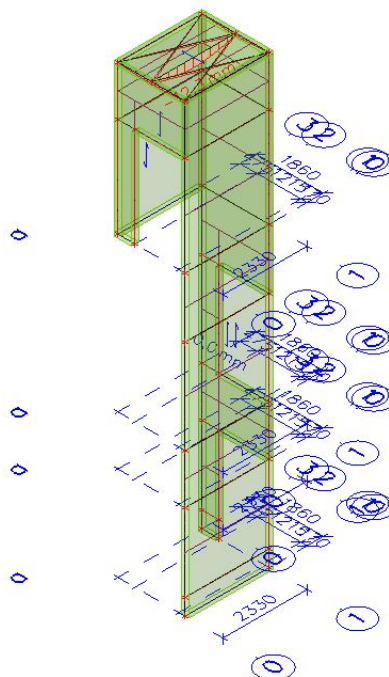
Coordinate system: Global

Extreme 1D: Global

Selection: All



Values: u_z
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Global
Extreme 1D: Global
Selection: All



9. Dimenzioniranje Jekla

9.1. EC-EN 1993 Steel check ULS

Values: **UCOverall**
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B16	0,000 / 4,120 m	QRO120X5	Rolled	S 235	MSN nelinearna	0,08 -
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Combination key

MSN nelinearna / MSN nelinearna2

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	235,0	MPa
Ultimate strength	f_u	360,0	MPa

Section checks

Section is classified as Class 1



Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-15,87	kN	$N_{c,Rd}$	531,10	kN	0,03
Shear V_y	$V_{y,Ed}$	0,00	kN	$V_{pl,y,Rd}$	153,32	kN	0,00
Shear V_z	$V_{z,Ed}$	-0,04	kN	$V_{pl,z,Rd}$	153,32	kN	0,00

Combined section checks

Combined section checks	Unity check [-]
-------------------------	-----------------

Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	2,33	6,407	249,96		1,46	0,39
z-z	0,79	2,164	2191,54		0,49	0,93
LTB	1,00	2,750		1630,58	0,12	1,00

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Flexural buckling	N_{Ed}	-15,87	kN	$N_{b,Rd}$	207,60	kN	0,08

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	0,81	0,47	0,52	0,80

Maximum moment $M_{y,Ed}$ is derived from beam B16 position 2,750 m.

Maximum moment $M_{z,Ed}$ is derived from beam B16 position 2,750 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-0,11	-0,01	0,08

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B27	1,165 / 2,330 m	QRO120X5	Rolled	S 235	MSN nelinearna	0,93 -
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Combination key

MSN nelinearna / MSN nelinearna2

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	235,0	MPa
Ultimate strength	f_u	360,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	0,00	kN	$N_{c,Rd}$	531,10	kN	0,00
Shear V_y	$V_{y,Ed}$	0,00	kN	$V_{pl,y,Rd}$	153,32	kN	0,00
Shear V_z	$V_{z,Ed}$	17,63	kN	$V_{pl,z,Rd}$	153,32	kN	0,11
Bending M_y	$M_{y,Ed}$	21,20	kNm	$M_{pl,y,Rd}$	22,80	kNm	0,93
Bending M_z	$M_{z,Ed}$	0,00	kNm	$M_{pl,z,Rd}$	22,80	kNm	0,00
Torsion	T_{Ed}	0,1	MPa	T_{Rd}	135,7	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,89

Stability checks

Decisive position for stability classification: 1,165 m

Section is classified as Class 1

Buckling group : Default



Buckling axis	k	L [m]	N _{cr} [kN]	M _{cr} [kNm]	λ_{rel}	χ
y-y	1,00	2,330	1889,78		0,53	1,00
z-z	0,99	2,296	1945,83		0,52	1,00
LTB	1,00	2,330		1373,84	0,13	1,00

Combined stability checks

Interaction factors	k _{yy}	k _{yz}	k _{zy}	k _{zz}
Value	1,00	0,37	0,60	0,62

Maximum moment M_{y,Ed} is derived from beam B27 position 1,165 m.

Maximum moment M_{z,Ed} is derived from beam B27 position 0,000 m.

Combined stability checks	M _{y,Ed} [kNm]	M _{z,Ed} [kNm]	Unity check [-]
Bending and Axial Compression	21,20	0,00	0,93

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B31	0,000 / 2,509 m	RND12	Rolled	S 235	MSN nelinearna	0,00 -
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Combination key
MSN nelinearna / MSN nelinearna2

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f _y	235,0	MPa
Ultimate strength	f _u	360,0	MPa

Warning: Strength reduction in function of the thickness is not supported for this type of cross-section.

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Tension	N _{Ed}	0,02	kN	N _{t,Rd}	26,55	kN	0,00

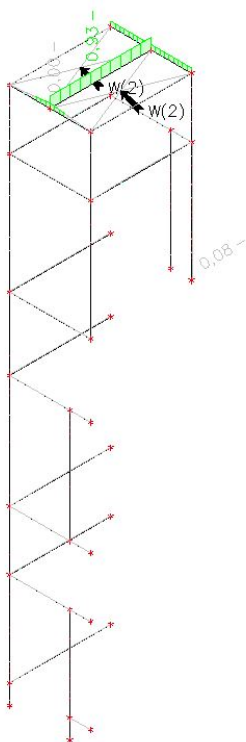
Combined section checks

Combined section checks	Unity check [-]
-------------------------	-----------------



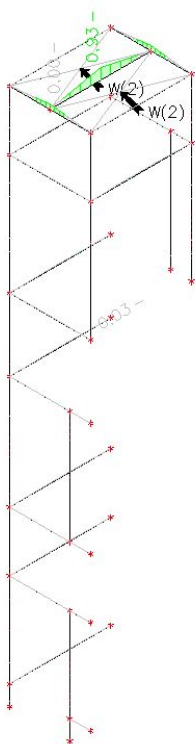
9.2. NSK - Overall check

Values: **UC_{Overall}**
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All
There are 2 warnings on selected members. 2 of them are shown.



9.3. NSK - Section check

Values: **UC_{sec}**
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All
There are 2 warnings on selected members. 2 of them are shown.





9.4. NSK - Stability check

Values: UC_{stab}

Nonlinear calculation

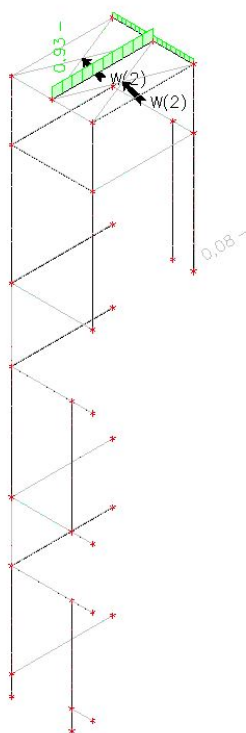
Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.



10. Komentar

Ostali profili takšnega prereza so izbrani zaradi vizualnega izgleda konstrukcije



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2. Materiali

Steel EC3

Name	ρ [kg/m ³]	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	7850,00	2,1000e+05 8,0769e+04	0.3 0,01e-003	0 40	40 80	235,0 215,0	360,0 360,0	
S 355	7850,00	2,1000e+05 8,0769e+04	0.3 0,01e-003	0 40	40 80	355,0 335,0	490,0 470,0	

Name	Type	ρ [kg/m ³]	Density in fresh state [kg/m ³]	E_{mod} [MPa]	μ	α [m/mK]	$f_{c,k.28}$ [MPa]	Colour
C25/30	Concrete	2500,00	2600,00	3,1500e+04	0.2	0,01e-003	25,00	


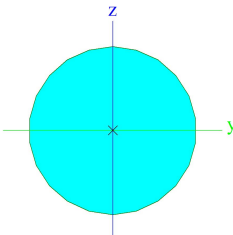
Explanations of symbols

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.
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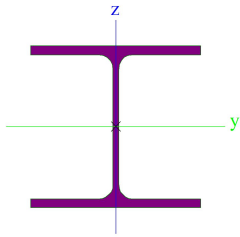
Reinforcement EC2

Name	Type	ρ [kg/m ³]	E_{mod} [MPa]	G_{mod} [MPa]	α [m/mK]	$f_{y,k}$ [MPa]
B 500B	Reinforcement steel	7850,00	2,0000e+05	8,3333e+04	0,01e-003	500,0


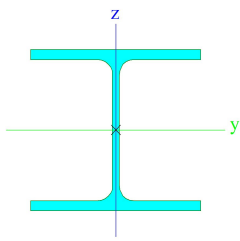
3. Prerezi

Zatega		
Type	RND18	
Formcode	11 - Full circular section	
Shape type	Thick-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m²]	2,5500e-04	
A _y [m²], A _z [m²]	2,1858e-04	2,1858e-04
A _L [m²/m], A _D [m²/m]	5,6500e-02	5,6546e-02
C _{y,UCS} [mm], C _{z,UCS} [mm]	9	9
α [deg]	0,00	
I _y [m⁴], I _z [m⁴]	5,1500e-09	5,1500e-09
i _y [mm], i _z [mm]	4	4
W _{el,y} [m³], W _{el,z} [m³]	5,7300e-07	5,7300e-07
W _{pl,y} [m³], W _{pl,z} [m³]	9,7200e-07	9,7200e-07
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	344,95	344,95
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	344,95	344,95
d _y [mm], d _z [mm]	0	0
I _t [m⁴], I _w [m⁶]	1,0299e-08	0,0000e+00
β _y [mm], β _z [mm]	0	0
Picture		
Steber 2		
Type	HEA180	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	




Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [m ²]	4,5300e-03	
A _y [m ²], A _z [m ²]	3,2772e-03	1,0992e-03
A _L [m ² /m], A _D [m ² /m]	1,0200e+00	1,0241e+00
C _{y,UCS} [mm], C _{z,UCS} [mm]	90	86
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	2,5100e-05	9,2500e-06
i _y [mm], i _z [mm]	74	45
W _{el,y} [m ³], W _{el,z} [m ³]	2,9400e-04	1,0300e-04
W _{pl,y} [m ³], W _{pl,z} [m ³]	3,2500e-04	1,5667e-04
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	115412,42	115412,42
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	55566,33	55566,33
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	1,4800e-07	6,0211e-08
β _y [mm], β _z [mm]	0	0
Picture		

primarc 2

Type	HEA140	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [m ²]	3,1400e-03	
A _y [m ²], A _z [m ²]	2,2882e-03	7,8192e-04
A _L [m ² /m], A _D [m ² /m]	7,9400e-01	7,9430e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	70	66
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	1,0300e-05	3,8900e-06
i _y [mm], i _z [mm]	57	35
W _{el,y} [m ³], W _{el,z} [m ³]	1,5500e-04	5,5600e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	1,7333e-04	8,5000e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	61634,42	61634,42
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	30127,02	30127,02
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	8,1300e-08	1,5064e-08
β _y [mm], β _z [mm]	0	0
Picture		

primarc 3

Type	IPE240	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		



Flexural buckling y-y, Flexural buckling z-z	a	b
A [m ²]	3,9100e-03	
A _y [m ²], A _z [m ²]	2,4315e-03	1,5295e-03
A _L [m ² /m], A _D [m ² /m]	9,2173e-01	9,2173e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	60	120
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	3,8920e-05	2,8400e-06
i _y [mm], i _z [mm]	100	27
W _{el,y} [m ³], W _{el,z} [m ³]	3,2400e-04	4,7300e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	3,6700e-04	7,3900e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	130292,33	130292,33
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	26253,88	26253,88
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	1,2900e-07	3,7400e-08
β _y [mm], β _z [mm]	0	0
Picture		


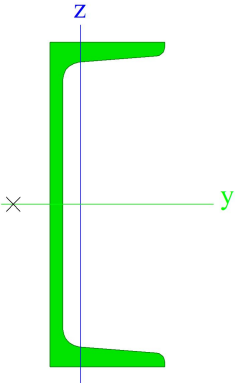
Sekundarc 2


Type	HEA100	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [m ²]	2,1200e-03	
A _y [m ²], A _z [m ²]	1,6076e-03	5,3156e-04
A _L [m ² /m], A _D [m ² /m]	5,6100e-01	5,6130e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	50	48
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	3,4900e-06	1,3400e-06
i _y [mm], i _z [mm]	41	25
W _{el,y} [m ³], W _{el,z} [m ³]	7,2800e-05	2,6800e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	8,2917e-05	4,1125e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	29498,66	29498,66
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	14610,42	14610,42
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	5,2400e-08	2,5813e-09
β _y [mm], β _z [mm]	0	0
Picture		

Menjalnik 2

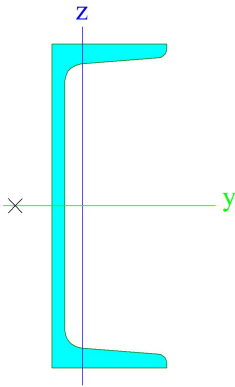

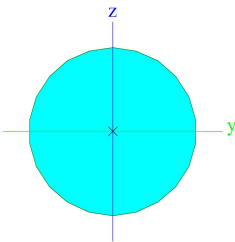

Type	UPN240	
Formcode	5 - Channel section	
Shape type	Thin-walled	
Item material	S 355	



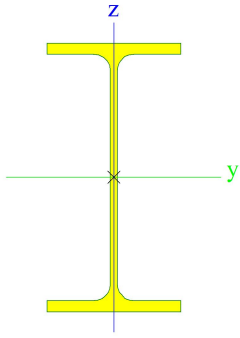
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m ²]	4,2300e-03	
A _y [m ²], A _z [m ²]	2,1541e-03	2,2612e-03
A _L [m ² /m], A _D [m ² /m]	7,7546e-01	7,7546e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	22	120
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	3,6000e-05	2,4800e-06
i _y [mm], i _z [mm]	92	24
W _{el,y} [m ³], W _{el,z} [m ³]	3,0000e-04	3,9600e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	3,5800e-04	7,5700e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	127008,90	127008,90
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	26959,07	26959,07
d _y [mm], d _z [mm]	-50	0
I _t [m ⁴], I _w [m ⁶]	1,9700e-07	2,5514e-08
β _y [mm], β _z [mm]	0	261
Picture		

Primarec 4		
Type	UPN240	
Formcode	5 - Channel section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m ²]	4,2300e-03	
A _y [m ²], A _z [m ²]	2,1541e-03	2,2612e-03
A _L [m ² /m], A _D [m ² /m]	7,7546e-01	7,7546e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	22	120
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	3,6000e-05	2,4800e-06
i _y [mm], i _z [mm]	92	24
W _{el,y} [m ³], W _{el,z} [m ³]	3,0000e-04	3,9600e-05
W _{pl,y} [m ³], W _{pl,z} [m ³]	3,5800e-04	7,5700e-05
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	127008,90	127008,90
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	26959,07	26959,07
d _y [mm], d _z [mm]	-50	0
I _t [m ⁴], I _w [m ⁶]	1,9700e-07	2,5514e-08
β _y [mm], β _z [mm]	0	261



Picture		
Zatega1		
Type	RND18	
Formcode	11 - Full circular section	
Shape type	Thick-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m²]	2,5500e-04	
A _y [m²], A _z [m²]	2,1858e-04	2,1858e-04
A _L [m²/m], A _D [m²/m]	5,6500e-02	5,6546e-02
C _{y,UCS} [mm], C _{z,UCS} [mm]	9	9
α [deg]	0,00	
I _y [m⁴], I _z [m⁴]	5,1500e-09	5,1500e-09
i _y [mm], i _z [mm]	4	4
W _{el,y} [m³], W _{el,z} [m³]	5,7300e-07	5,7300e-07
W _{pl,y} [m³], W _{pl,z} [m³]	9,7200e-07	9,7200e-07
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	344,95	344,95
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	344,95	344,95
d _y [mm], d _z [mm]	0	0
I _t [m⁴], I _w [m⁶]	1,0299e-08	0,0000e+00
β _y [mm], β _z [mm]	0	0
Picture		
Menjalnik 3		
Type	IPE240	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	a	b
A [m²]	3,9100e-03	
A _y [m²], A _z [m²]	2,4315e-03	1,5295e-03
A _L [m²/m], A _D [m²/m]	9,2173e-01	9,2173e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	60	120
α [deg]	0,00	
I _y [m⁴], I _z [m⁴]	3,8920e-05	2,8400e-06
i _y [mm], i _z [mm]	100	27
W _{el,y} [m³], W _{el,z} [m³]	3,2400e-04	4,7300e-05
W _{pl,y} [m³], W _{pl,z} [m³]	3,6700e-04	7,3900e-05



$M_{pl,y,+}$ [Nm], $M_{pl,y,-}$ [Nm]	130292,33	130292,33
$M_{pl,z,+}$ [Nm], $M_{pl,z,-}$ [Nm]	26253,88	26253,88
d_y [mm], d_z [mm]	0	0
I_t [m ⁴], I_w [m ⁶]	1,2900e-07	3,7400e-08
β_y [mm], β_z [mm]	0	0
Picture		

Explanations of symbols	
Formcode	d - Diameter
A	Area
A_y	Shear Area in principal y-direction - Calculated by 2D FEM analysis
A_z	Shear Area in principal z-direction - Calculated by 2D FEM analysis
A_L	Circumference per unit length
A_D	Drying surface per unit length
$C_{Y,UCS}$	Centroid coordinate in Y-direction of Input axis system
$C_{Z,UCS}$	Centroid coordinate in Z-direction of Input axis system
$I_{Y,LCS}$	Second moment of area about the YLCS axis
$I_{Z,LCS}$	Second moment of area about the ZLCS axis
$I_{YZ,LCS}$	Product moment of area in the LCS system
α	Rotation angle of the principal axis system
I_y	Second moment of area about the principal y-axis
I_z	Second moment of area about the principal z-axis
i_y	Radius of gyration about the principal y-axis

Explanations of symbols	
i_z	Radius of gyration about the principal z-axis
$W_{el,y}$	Elastic section modulus about the principal y-axis
$W_{el,z}$	Elastic section modulus about the principal z-axis
$W_{pl,y}$	Plastic section modulus about the principal y-axis
$W_{pl,z}$	Plastic section modulus about the principal z-axis
$M_{pl,y,+}$	Plastic moment about the principal y-axis for a positive M_y moment
$M_{pl,y,-}$	Plastic moment about the principal y-axis for a negative M_y moment
$M_{pl,z,+}$	Plastic moment about the principal z-axis for a positive M_z moment
$M_{pl,z,-}$	Plastic moment about the principal z-axis for a negative M_z moment
d_y	Shear center coordinate in principal y-direction measured from the centroid - Calculated by 2D FEM analysis
d_z	Shear center coordinate in principal z-direction measured from the centroid - Calculated by 2D FEM analysis
I_t	Torsional constant - Calculated by 2D FEM analysis
I_w	Warping constant - Calculated by 2D FEM analysis
β_y	Mono-symmetry constant about the principal y-axis
β_z	Mono-symmetry constant about the principal z-axis

4. Elementi

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B1	Primarec 4 - UPN240	S 355	4,010	N153	N155	general (0)
B7	Primarec 4 - UPN240	S 355	4,010	N14	N16	general (0)
B8	Primarec 4 - UPN240	S 355	5,379	N161	N163	general (0)
B9	Primarec 4 - UPN240	S 355	5,379	N20	N22	general (0)
B10	Menjalnik 3 - IPE240	S 355	0,379	N15	N21	general (0)
B12	Primarec 4 - UPN240	S 355	3,420	N17	N63	general (0)
B13	Primarec 4 - UPN240	S 355	1,370	N20	N26	general (0)
B15	Menjalnik 3 - IPE240	S 355	0,379	N20	N30	general (0)



Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B17	Menjalnik 3 - IPE240	S 355	1,330	N15	N154	general (0)
B19	Menjalnik 3 - IPE240	S 355	1,330	N162	N21	general (0)
B20	Menjalnik 3 - IPE240	S 355	1,430	N20	N17	general (0)
B22	Menjalnik 3 - IPE240	S 355	1,330	N30	N157	beam (80)
B24	Primarec 4 - UPN240	S 355	6,490	N156	N160	general (0)
B25	Primarec 4 - UPN240	S 355	6,490	N28	N39	general (0)
B27	Menjalnik 3 - IPE240	S 355	1,330	N165	N43	general (0)
B28	Primarec 4 - UPN240	S 355	5,379	N164	N166	general (0)
B29	Primarec 4 - UPN240	S 355	5,379	N45	N40	general (0)
B31	Primarec 4 - UPN240	S 355	1,370	N45	N47	general (0)
B33	Menjalnik 3 - IPE240	S 355	1,430	N45	N44	general (0)
B35	Menjalnik 3 - IPE240	S 355	0,379	N45	N49	general (0)
B36	Menjalnik 2 - UPN240	S 355	1,430	N135	N134	general (0)
B39	Menjalnik 3 - IPE240	S 355	0,379	N38	N43	general (0)
B40	Menjalnik 3 - IPE240	S 355	1,330	N38	N159	general (0)
B42	Steber 2 - HEA180	S 355	3,660	N177	N53	column (100)
B43	Steber 2 - HEA180	S 355	4,342	N54	N178	column (100)
B44	Steber 2 - HEA180	S 355	4,342	N11	N179	column (100)
B45	Steber 2 - HEA180	S 355	4,342	N57	N175	column (100)
B47	Zatega - RND18	S 355	1,980	N13	N15	roof bracing (0)
B48	Zatega - RND18	S 355	1,909	N16	N154	roof bracing (0)
B49	Zatega - RND18	S 355	1,980	N19	N21	roof bracing (0)
B50	Zatega - RND18	S 355	1,909	N162	N22	roof bracing (0)
B51	Zatega - RND18	S 355	1,980	N26	N17	roof bracing (0)
B52	Zatega - RND18	S 355	1,980	N20	N81	roof bracing (0)
B53	Zatega - RND18	S 355	1,909	N28	N157	roof bracing (0)
B54	Zatega - RND18	S 355	1,980	N30	N34	roof bracing (0)
B55	Zatega - RND18	S 355	1,909	N159	N39	roof bracing (0)
B56	Zatega - RND18	S 355	1,980	N37	N38	roof bracing (0)
B57	Zatega - RND18	S 355	1,909	N40	N165	roof bracing (0)
B58	Zatega - RND18	S 355	1,980	N41	N43	roof bracing (0)
B59	Zatega - RND18	S 355	1,980	N47	N44	roof bracing (0)
B60	Zatega - RND18	S 355	1,980	N45	N85	roof bracing (0)
B63	Steber 2 - HEA180	S 355	3,660	N180	N62	column (100)
B65	Primarec 4 - UPN240	S 355	3,420	N44	N64	beam (80)
B66	primarc 2 - HEA140	S 355	1,210	N63	N65	beam (80)
B67	primarc 2 - HEA140	S 355	1,210	N64	N66	beam (80)
B73	primarc 2 - HEA140	S 355	3,420	N62	N58	beam (80)
B74	primarc 2 - HEA140	S 355	4,740	N58	N55	beam (80)
B75	primarc 2 - HEA140	S 355	3,540	N56	N53	beam (80)
B76	primarc 3 - IPE240	S 355	3,040	N53	N55	beam (80)
B80	primarc 3 - IPE240	S 355	3,040	N123	N184	beam (80)
B81	primarc 2 - HEA140	S 355	1,210	N94	N95	beam (80)
B82	primarc 2 - HEA140	S 355	1,210	N96	N97	beam (80)
B83	primarc 2 - HEA140	S 355	1,210	N127	N99	beam (80)
B84	primarc 2 - HEA140	S 355	1,210	N100	N101	beam (80)
B85	primarc 2 - HEA140	S 355	1,210	N62	N76	beam (80)
B86	Primarec 4 - UPN240	S 355	2,570	N134	N115	general (0)
B88	Zatega - RND18	S 355	2,941	N48	N134	roof bracing (0)
B89	Zatega - RND18	S 355	2,941	N135	N115	roof bracing (0)
B92	primarc 2 - HEA140	S 355	3,540	N91	N120	roof bracing (0)
B93	primarc 2 - HEA140	S 355	3,540	N184	N185	roof bracing (0)
B94	primarc 2 - HEA140	S 355	4,740	N122	N123	beam (80)
B95	primarc 2 - HEA140	S 355	3,420	N124	N122	beam (80)
B96	primarc 2 - HEA140	S 355	4,740	N125	N126	beam (80)
B97	primarc 2 - HEA140	S 355	3,420	N127	N125	beam (80)
B98	primarc 2 - HEA140	S 355	4,740	N128	N129	beam (80)
B99	primarc 2 - HEA140	S 355	3,420	N130	N128	beam (80)
B100	primarc 2 - HEA140	S 355	4,740	N131	N132	beam (80)
B101	primarc 2 - HEA140	S 355	3,420	N133	N131	beam (80)
B102	Primarec 4 - UPN240	S 355	2,570	N135	N48	general (0)
B103	primarc 2 - HEA140	S 355	2,570	N56	N136	general (0)
B104	Sekundarc 2 - HEA100	S 355	3,040	N137	N138	beam (80)
B105	Sekundarc 2 - HEA100	S 355	3,040	N139	N140	beam (80)
B106	Sekundarc 2 - HEA100	S 355	3,040	N56	N141	beam (80)
B107	Sekundarc 2 - HEA100	S 355	3,040	N142	N58	beam (80)



Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B109	Sekundarc 2 - HEA100	S 355	1,210	N145	N80	beam (80)
B110	Sekundarc 2 - HEA100	S 355	1,210	N146	N147	beam (80)
B111	Sekundarc 2 - HEA100	S 355	2,000	N147	N148	general (0)
B112	Zatega - RND18	S 355	1,586	N146	N80	roof bracing (0)
B113	Zatega - RND18	S 355	1,586	N147	N145	roof bracing (0)
B114	Zatega - RND18	S 355	3,268	N58	N56	roof bracing (0)
B115	Zatega - RND18	S 355	3,268	N142	N141	roof bracing (0)
B116	Zatega1 - RND18	S 355	3,391	N54	N13	roof bracing (0)
B117	Zatega1 - RND18	S 355	3,552	N19	N52	roof bracing (0)
B118	Zatega1 - RND18	S 355	4,769	N19	N37	roof bracing (0)
B119	Zatega1 - RND18	S 355	5,300	N41	N13	roof bracing (0)
B120	Zatega1 - RND18	S 355	4,839	N41	N184	roof bracing (0)
B121	Zatega1 - RND18	S 355	5,103	N123	N37	roof bracing (0)
B122	Zatega1 - RND18	S 355	3,873	N123	N53	roof bracing (0)
B123	Zatega1 - RND18	S 355	3,873	N55	N184	roof bracing (0)
B124	Steber 2 - HEA180	S 355	4,008	N175	N176	column (100)
B125	Steber 2 - HEA180	S 355	3,660	N176	N58	column (100)
B126	Steber 2 - HEA180	S 355	4,008	N179	N134	column (100)
B127	Steber 2 - HEA180	S 355	3,660	N134	N56	column (100)
B128	Steber 2 - HEA180	S 355	4,342	N52	N181	column (100)
B129	Steber 2 - HEA180	S 355	4,008	N181	N177	column (100)
B130	Steber 2 - HEA180	S 355	4,008	N178	N182	column (100)
B131	Steber 2 - HEA180	S 355	3,660	N182	N55	column (100)
B132	Steber 2 - HEA180	S 355	4,342	N61	N183	column (100)
B133	Steber 2 - HEA180	S 355	4,008	N183	N180	column (100)
B134	primarc 3 - IPE240	S 355	3,239	N37	N41	beam (80)
B135	primarc 3 - IPE240	S 355	3,239	N13	N19	beam (80)
B136	Zatega1 - RND18	S 355	5,317	N57	N132	beam (80)
B137	Zatega1 - RND18	S 355	5,317	N131	N54	beam (80)
B138	Zatega1 - RND18	S 355	5,313	N131	N129	beam (80)
B139	Zatega1 - RND18	S 355	5,313	N129	N125	beam (80)
B140	Zatega1 - RND18	S 355	5,313	N125	N123	beam (80)
B141	Zatega1 - RND18	S 355	5,313	N123	N58	beam (80)
B142	Zatega1 - RND18	S 355	5,313	N55	N122	beam (80)
B143	Zatega1 - RND18	S 355	5,313	N122	N126	beam (80)
B144	Zatega1 - RND18	S 355	5,313	N126	N128	beam (80)
B145	Zatega1 - RND18	S 355	5,313	N128	N132	beam (80)

5. Vozlišča

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N11	0,000	2,570	0,000
N12	0,000	4,740	1,503
N13	0,000	6,110	1,503
N14	1,430	2,570	0,000
N15	1,430	4,740	1,503
N16	1,430	6,110	1,503
N17	3,040	1,370	4,008
N18	3,040	4,740	1,837
N19	3,040	6,110	1,837
N20	1,610	1,370	4,008
N21	1,610	4,740	1,837
N22	1,610	6,110	1,837
N26	1,610	0,000	4,008
N28	1,430	0,000	4,342
N30	1,430	1,370	4,342
N32	0,000	1,370	4,342
N34	0,000	0,000	4,342
N35	0,000	3,130	4,342
N36	0,000	4,740	5,511
N37	0,000	6,110	5,511
N1	1,430	3,130	4,342
N38	1,430	4,740	5,511
N39	1,430	6,110	5,511

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N40	1,610	6,110	5,845
N41	3,040	6,110	5,845
N42	3,040	4,740	5,845
N43	1,610	4,740	5,845
N44	3,040	1,370	8,016
N45	1,610	1,370	8,016
N47	1,610	0,000	8,016
N48	1,430	0,000	8,350
N49	1,430	1,370	8,350
N52	0,000	6,110	0,000
N53	0,000	6,110	12,010
N54	3,040	6,110	0,000
N55	3,040	6,110	12,010
N56	0,000	2,570	12,010
N57	3,040	1,370	0,000
N58	3,040	1,370	12,010
N61	3,040	-2,050	0,000
N62	3,040	-2,050	12,010
N63	3,040	-2,050	4,008
N64	3,040	-2,050	8,016
N65	1,830	-2,050	4,008
N66	1,830	-2,050	8,016
N72	-0,170	-2,050	0,000

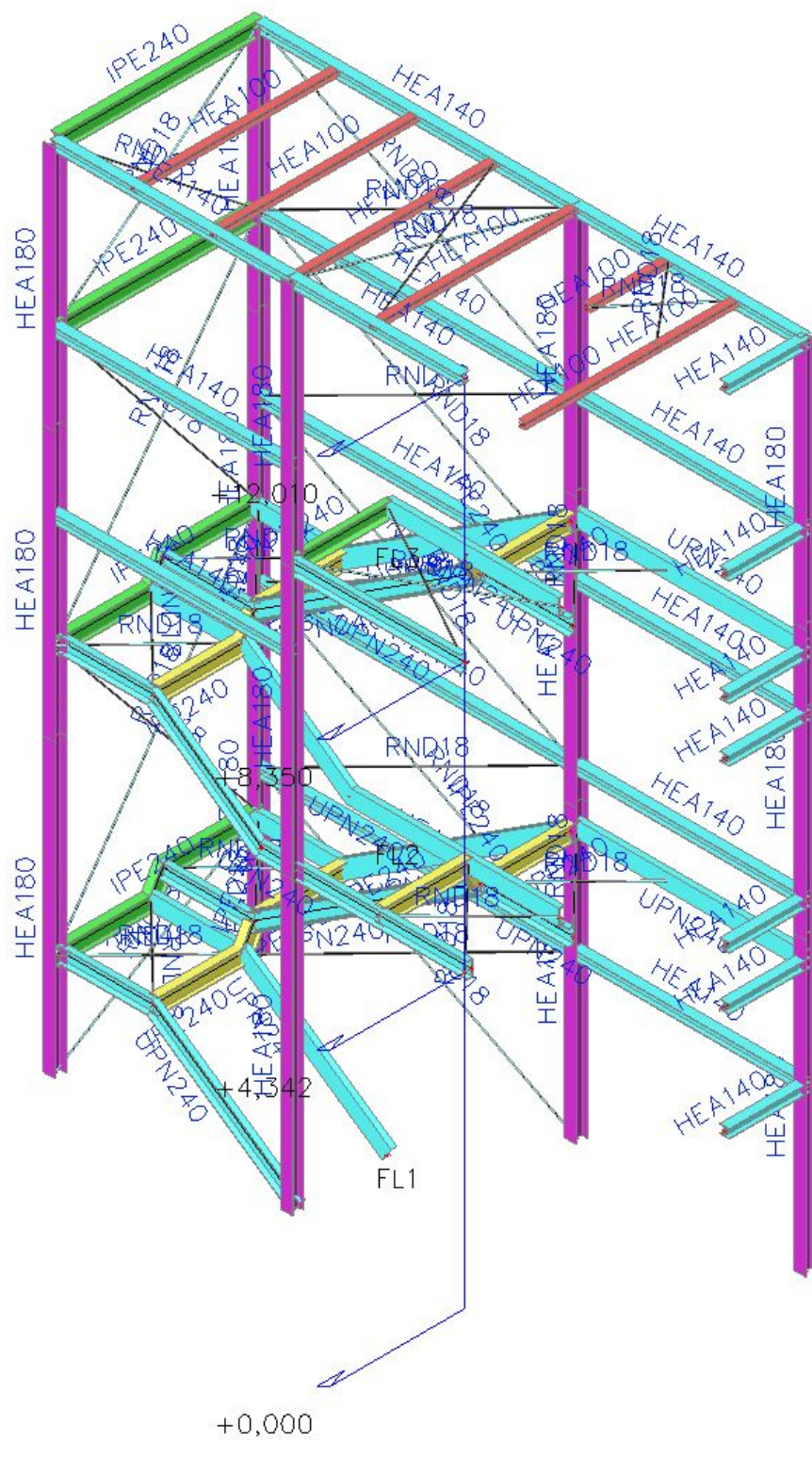


Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N73	-0,170	-2,050	12,010
N75	1,830	-2,050	0,000
N76	1,830	-2,050	12,010
N77	-0,170	0,000	0,000
N78	-0,170	0,000	12,010
N79	1,830	0,000	0,000
N80	1,830	0,000	12,010
N81	3,040	0,000	4,008
N85	3,040	0,000	8,016
N87	0,000	6,110	2,400
N89	0,000	6,110	4,800
N91	0,000	6,110	7,200
N94	3,040	-2,050	2,400
N95	1,830	-2,050	2,400
N96	3,040	-2,050	4,800
N97	1,830	-2,050	4,800
N98	3,040	-2,050	7,200
N99	1,830	-2,050	7,210
N100	3,040	-2,050	9,600
N101	1,830	-2,050	9,600
N102	1,320	0,000	0,000
N103	1,320	0,000	2,250
N104	0,180	0,000	2,250
N105	0,180	0,000	0,000
N106	1,320	0,000	4,342
N107	0,180	0,000	4,342
N108	0,180	0,000	6,592
N109	1,320	0,000	6,592
N110	1,320	0,000	8,350
N111	0,180	0,000	8,350
N112	0,180	0,000	10,600
N113	1,320	0,000	10,600
N114	1,830	0,000	4,008
N115	0,000	0,000	8,350
N116	1,430	4,664	5,511
N117	1,830	0,000	8,016
N118	0,000	2,570	2,400
N119	0,000	2,570	4,800
N120	0,000	2,570	7,200
N121	0,000	2,570	9,600
N122	3,040	1,370	9,610
N123	3,040	6,110	9,610
N124	3,040	-2,050	9,610
N125	3,040	1,370	7,210
N126	3,040	6,110	7,210
N127	3,040	-2,050	7,210
N128	3,040	1,370	4,810
N129	3,040	6,110	4,810
N130	3,040	-2,050	4,810
N131	3,040	1,370	2,410

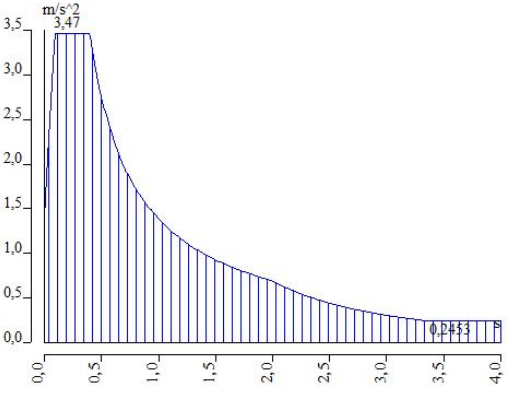
Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N132	3,040	6,110	2,410
N133	3,040	-2,050	2,410
N134	0,000	2,570	8,350
N135	1,430	2,570	8,350
N136	0,000	0,000	12,010
N137	0,000	4,930	12,010
N138	3,040	4,930	12,010
N139	0,000	3,750	12,010
N140	3,040	3,750	12,010
N141	3,040	2,570	12,010
N142	0,000	1,370	12,010
N145	3,040	0,000	12,010
N146	3,040	-1,025	12,010
N147	1,830	-1,025	12,010
N148	-0,170	-1,025	12,010
N150	3,040	-2,050	0,010
N151	1,830	-2,050	0,010
N153	0,100	2,570	0,000
N154	0,100	4,740	1,503
N155	0,100	6,110	1,503
N156	0,100	0,000	4,342
N157	0,100	1,370	4,342
N158	0,100	3,130	4,342
N159	0,100	4,740	5,511
N160	0,100	6,110	5,511
N161	2,940	1,370	4,008
N162	2,940	4,740	1,837
N163	2,940	6,110	1,837
N164	2,940	1,370	8,016
N165	2,940	4,740	5,845
N166	2,940	6,110	5,845
N167	-0,170	0,000	8,350
N168	1,830	0,000	8,350
N169	-0,170	0,000	4,342
N170	1,830	0,000	4,342
N171	-0,170	-2,050	4,342
N172	-0,170	-2,050	8,350
N173	1,830	-2,050	8,350
N174	1,830	-2,050	4,342
N175	3,040	1,370	4,342
N176	3,040	1,370	8,350
N177	0,000	6,110	8,350
N178	3,040	6,110	4,342
N179	0,000	2,570	4,342
N180	3,040	-2,050	8,350
N181	0,000	6,110	4,342
N182	3,040	6,110	8,350
N183	3,040	-2,050	4,342
N184	0,000	6,110	9,610
N185	0,000	2,570	9,610



6. 3d Model



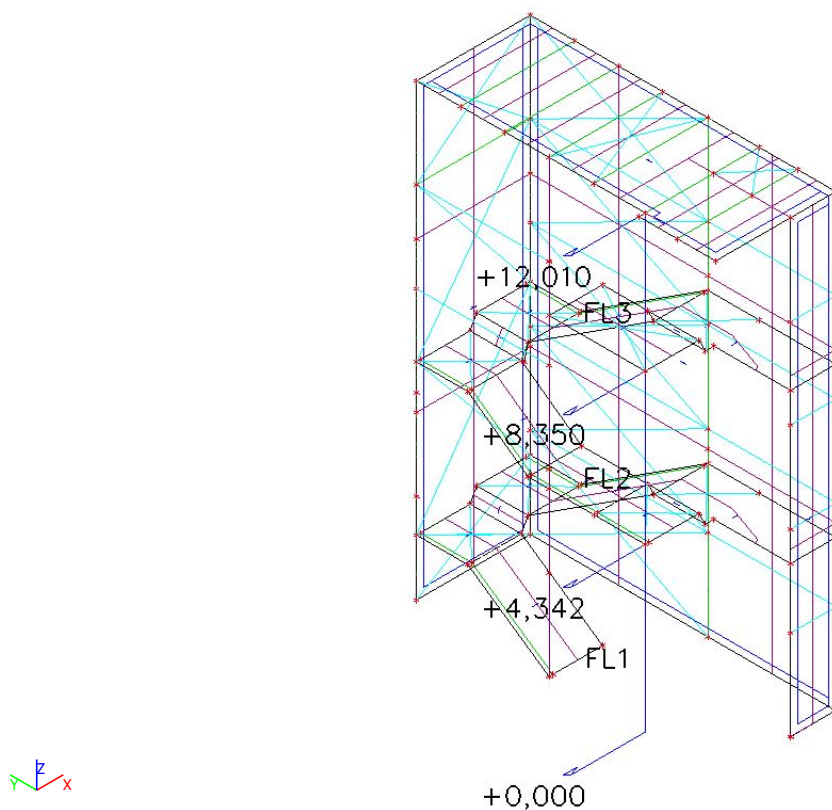
7. Projektni pospešek

Name UniqueID	Type drawing	Info	Drawing
Projektni spekter pospeška tal	Period	Type code - EN 1998-1:2004 - Eurocode Subsoil type - E Direction - Horizontal Spectrum type - type 1 coeff accel. ag - 0,125 ag - design acceleration - 1,22625 beta - 0,2 q - behaviour factor - 1,5	

8. Obtežni primeri

8.1. Obtežni primeri - Lastna

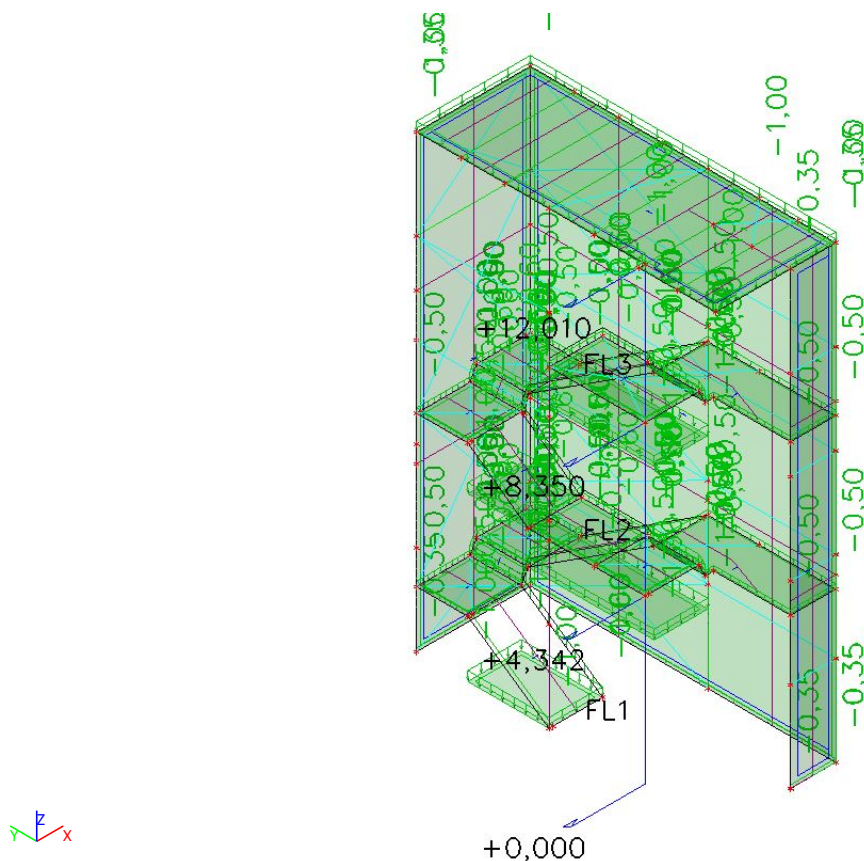
Name	Description Spec	Action type Load type	Load group	Direction	Modification group
Lastna		Permanent	Lastna in stalna	-Z	None
		Self weight			





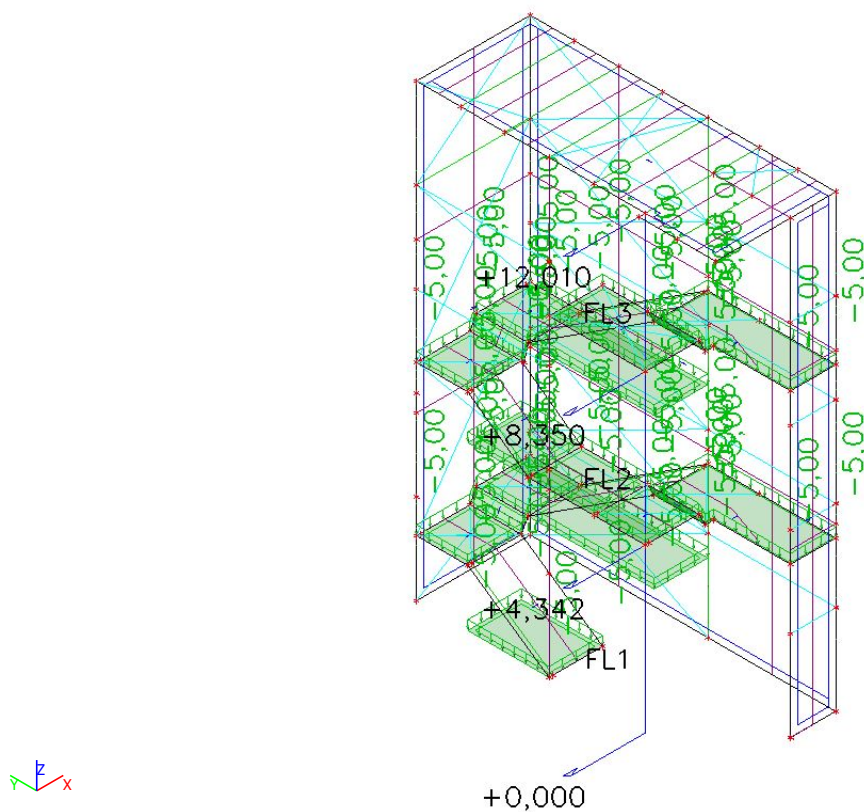
8.2. Obtežni primeri - Stalna

Name	Description Spec	Action type Load type	Load group	Modification group
Stalna		Permanent	Lastna in stalna	None
		Standard		



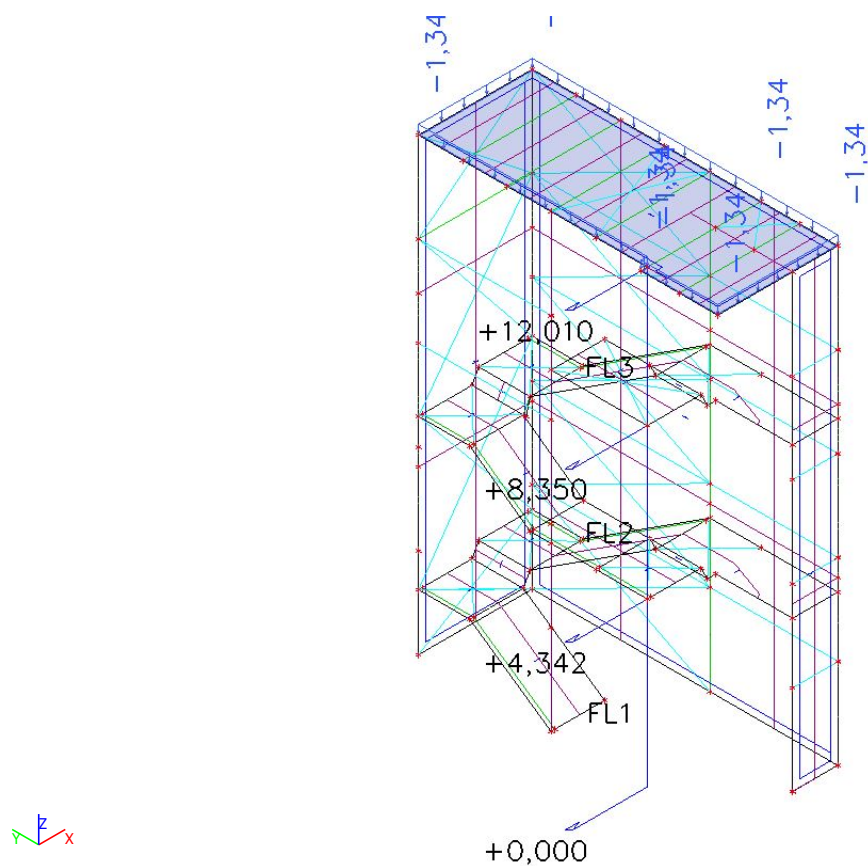
8.3. Obtežni primeri - Koristna 1

Name	Description Spec	Action type Load type	Load group	Duration	Master load case	Modification group
Koristna 1		Variable	Koristna	Medium	None	None
	Standard	Static				



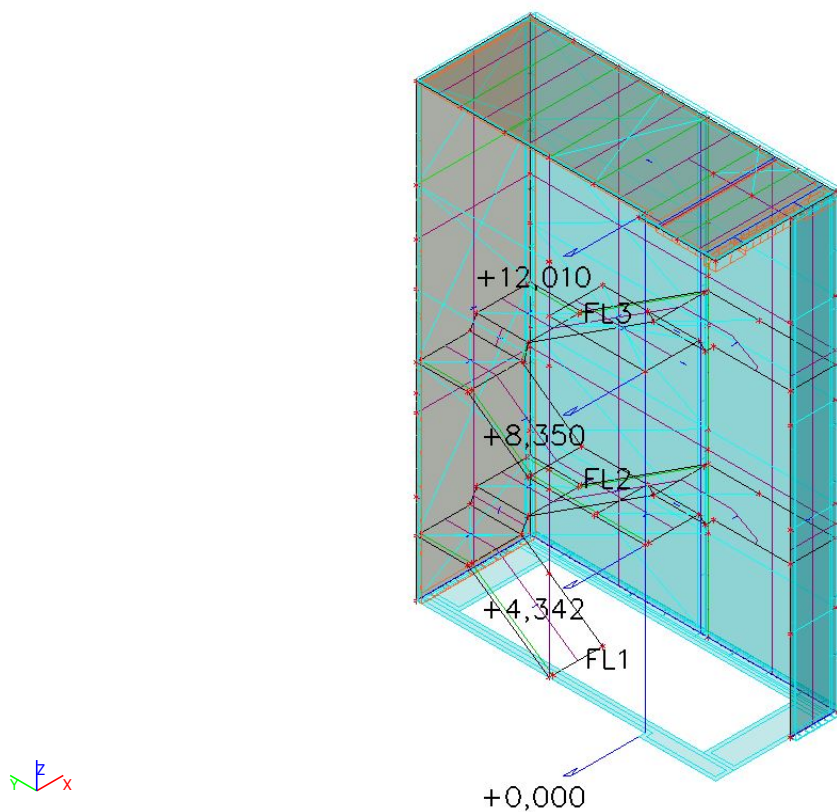
8.4. Obtežni primeri - Sneg

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Sneg	Snow	Variable Static	Sneg	None	None



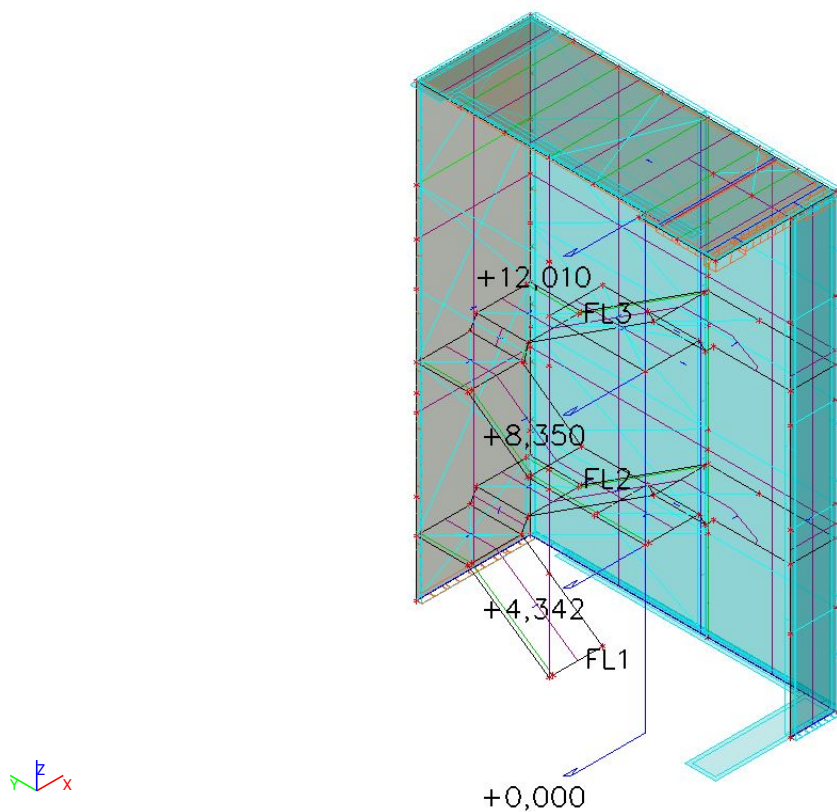
8.5. Obtežni primeri - Veter 1 tlak

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Veter 1 tlak	Static wind	Variable Static	Veter 1	None	None



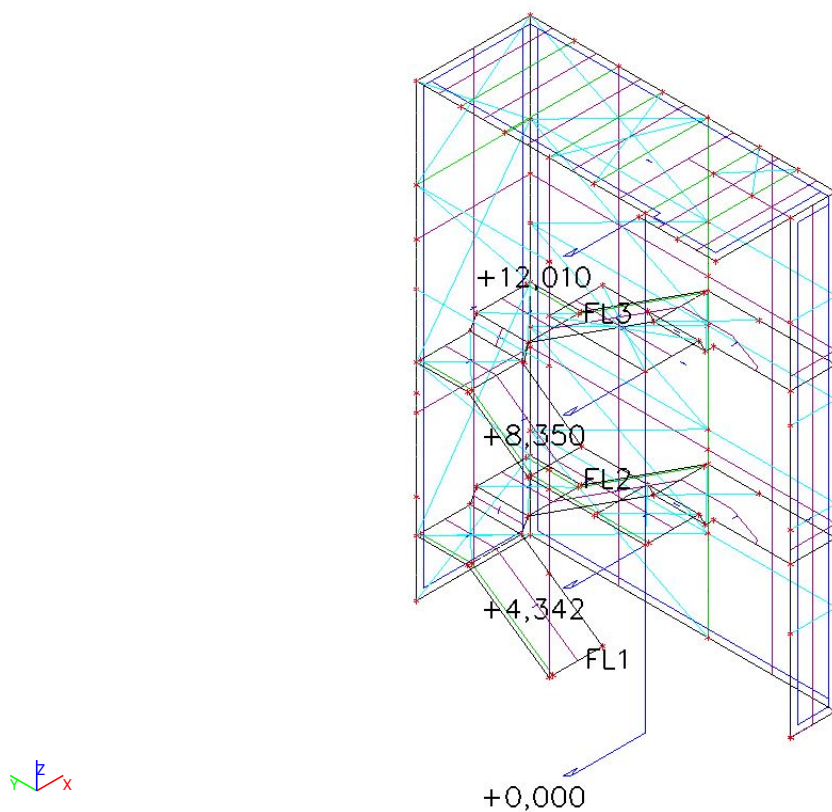
8.6. Obtežni primeri - Veter 2 tlak

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Veter 2 tlak	Static wind	Variable Static	Veter 1	None	None



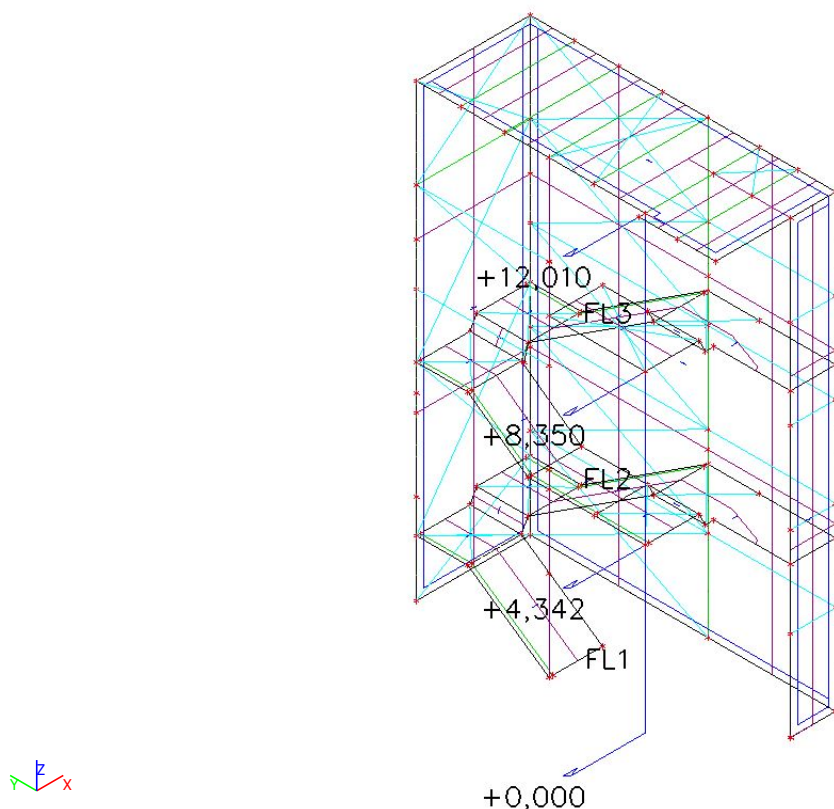
8.7. Obtežni primeri - Potres x

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Potres x	Seismicity	Variable Dynamic	Potres	None	MOG2



8.8. Obtežni primeri - Potres y

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Potres y	Seismicity	Variable Dynamic	Potres	None	MOG2



9. Obtežne kombinacije z NSK in pomiki

9.1. Obtežne kombinacije z NSK in pomiki - MSN nelinearna

Name	List
MSN nelinearna	MSN nelinearna
	MSN nelinearna1
	MSN nelinearna2
	MSN nelinearna3
	MSN nelinearna4
	MSN nelinearna5

9.1.1. 1D internal forces

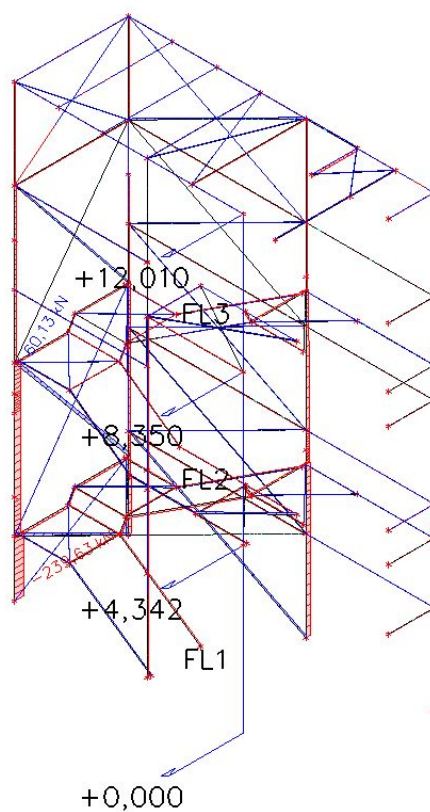
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B128	0,000	MSN nelinearna	-239,63	-3,49	-13,10	0,00	0,00	0,00
B118	4,769	MSN nelinearna	60,13	0,00	0,00	0,00	0,00	0,00
B33	1,330+	MSN nelinearna	-37,25	-11,29	25,82	-0,05	19,97	1,13
B43	2,410-	MSN nelinearna2	-33,13	26,34	-9,81	-0,01	4,84	5,48
B135	1,809-	MSN nelinearna4	-28,39	-0,09	-31,79	-0,04	-1,73	0,00
B135	0,000	MSN nelinearna	-57,13	6,14	59,40	-0,04	-33,86	0,00



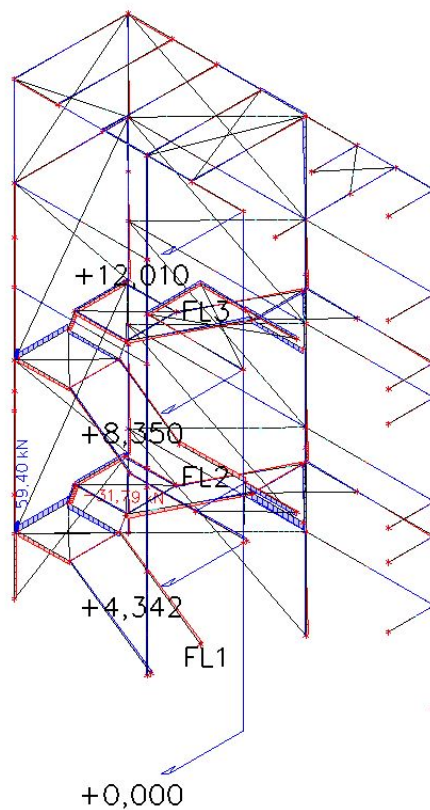
Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B9	4,009-	MSN nelinearna1	-34,47	-0,46	-14,90	-1,50	0,58	-0,84
B7	2,640-	MSN nelinearna1	-26,89	-0,12	-4,79	1,98	-32,26	-0,32
B13	0,000	MSN nelinearna	-25,21	8,10	31,48	0,12	-47,67	-11,10
B9	0,000	MSN nelinearna	-26,02	2,75	-5,12	-0,04	47,48	-6,10
B31	0,000	MSN nelinearna3	-11,88	13,77	18,58	0,10	-28,98	-18,87
B73	2,050+	MSN nelinearna4	25,71	-10,96	-0,90	-0,02	1,47	15,02

Values: **N**
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All

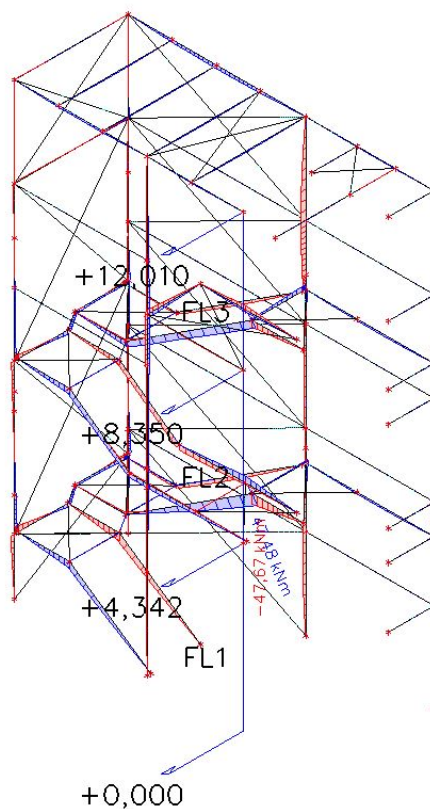




Values: V_z
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All



Values: M_y
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All





Values: u_x

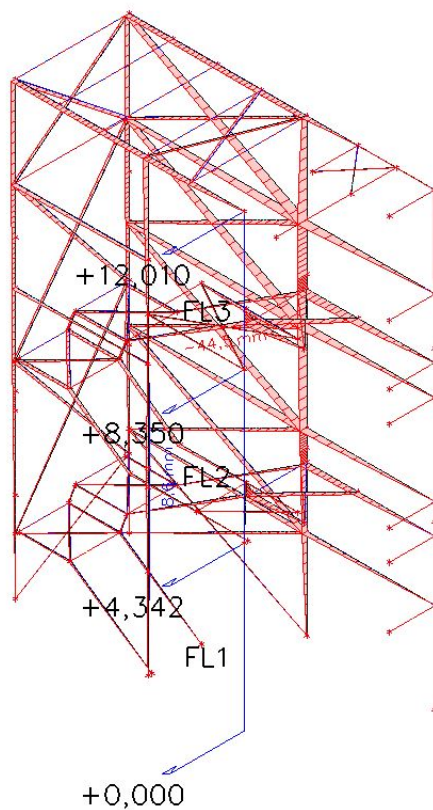
Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Global

Extreme 1D: Global

Selection: All



Values: u_y

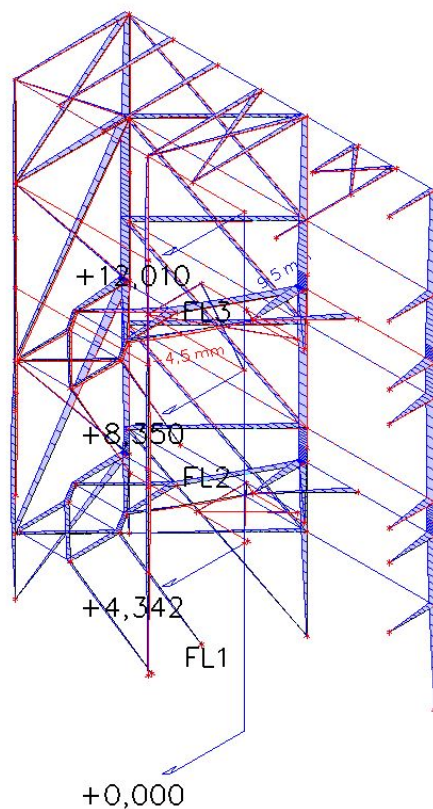
Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Global

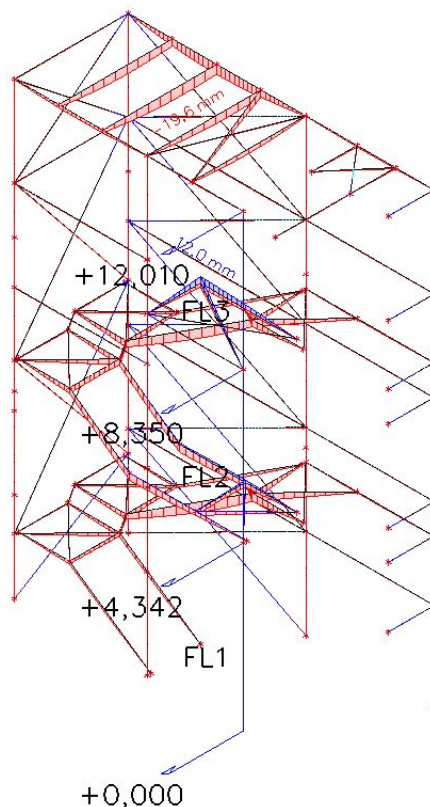
Extreme 1D: Global

Selection: All





Values: u_z
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Global
Extreme 1D: Global
Selection: All



10. Dimenzioniranje Jekla

10.1. EC-EN 1993 Steel check ULS

Values: $U_{C_{Overall}}$
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B31	0,000 / 1,370 m	UPN240	Rolled	S 355	MSN nelinearna	0,94 -
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Combination key

MSN nelinearna / MSN nelinearna

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1



Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-11,12	kN	$N_{c,Rd}$	1501,65	kN	0,01
Shear V_y	$V_{y,Ed}$	13,65	kN	$V_{pl,y,Rd}$	452,96	kN	0,03
Shear V_z	$V_{z,Ed}$	18,78	kN	$V_{pl,z,Rd}$	473,97	kN	0,04
Bending M_y	$M_{y,Ed}$	-30,28	kNm	$M_{pl,y,Rd}$	127,09	kNm	0,24
Bending M_z	$M_{z,Ed}$	-18,71	kNm	$M_{pl,z,Rd}$	26,87	kNm	0,70
Torsion	T_{Ed}	7,0	MPa	T_{Rd}	205,0	MPa	0,03

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,94

Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 1

Buckling group : BG14

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	10,00	13,700	397,54		1,94	1,00
z-z	0,83	1,138	3967,80		0,62	1,00
LTB	1,00	1,370		653,82	0,44	0,82

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	$M_{y,Ed}$	-30,28	kNm	$M_{b,Rd}$	104,36	kNm	0,29

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,24	0,60	0,89	0,80

Maximum moment $M_{y,Ed}$ is derived from beam B31 position 0,000 m.

Maximum moment $M_{z,Ed}$ is derived from beam B31 position 0,000 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-30,28	-18,71	0,82

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B33	1,430 / 1,430 m	IPE240	Rolled	S 355	MSN nelinearna	0,54 -
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Combination key
MSN nelinearna / MSN nelinearna3

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-37,90	kN	$N_{c,Rd}$	1388,05	kN	0,03
Shear V_y	$V_{y,Ed}$	-3,43	kN	$V_{pl,y,Rd}$	509,00	kN	0,01
Shear V_z	$V_{z,Ed}$	12,82	kN	$V_{pl,z,Rd}$	392,04	kN	0,03
Bending M_y	$M_{y,Ed}$	22,85	kNm	$M_{pl,y,Rd}$	130,28	kNm	0,18
Torsion	T_{Ed}	3,9	MPa	T_{Rd}	205,0	MPa	0,02

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,03



Stability checks

Decisive position for stability classification: 1,430 m

Section is classified as Class 1

Buckling group : BG16

Buckling axis	k	L [m]	N _{cr} [kN]	M _{cr} [kNm]	λ_{rel}	χ
y-y	2,20	3,140	8181,49		0,41	1,00
z-z	0,78	1,112	4758,10		0,54	1,00
LTB	1,00	1,430		572,81	0,48	1,00

Combined stability checks

Interaction factors	k _{yy}	k _{yz}	k _{zy}	k _{zz}
Value	1,08	0,72	0,60	1,00

Maximum moment M_{y,Ed} is derived from beam B33 position 1,430 m.

Maximum moment M_{z,Ed} is derived from beam B33 position 0,000 m.

Combined stability checks	M _{y,Ed} [kNm]	M _{z,Ed} [kNm]	Unity check [-]
Bending and Axial Compression	22,85	10,68	0,54

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B36	1,430 / 1,430 m	UPN240	Rolled	S 355	MSN nelinearna	0,35 -
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Combination key

MSN nelinearna / MSN nelinearna1

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f _y	355,0	MPa
Ultimate strength	f _u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Tension	N _{Ed}	1,97	kN	N _{t,Rd}	1492,34	kN	0,00
Shear V _z	V _{z,Ed}	-14,56	kN	V _{pl,z,Rd}	473,97	kN	0,03
Bending M _y	M _{y,Ed}	-20,20	kNm	M _{pl,y,Rd}	127,09	kNm	0,16
Torsion	T _{Ed}	72,0	MPa	T _{Rd}	205,0	MPa	0,35

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,16
Shear V _z and Torsion	0,04

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B73	2,050 / 3,420 m	HEA140	Rolled	S 355	MSN nelinearna	0,50 -
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Combination key

MSN nelinearna / MSN nelinearna4

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f _y	355,0	MPa
Ultimate strength	f _u	490,0	MPa

Section checks

Section is classified as Class 1



Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Tension	N_{Ed}	25,71	kN	$N_{t,Rd}$	1107,79	kN	0,02
Shear V_y	$V_{y,Ed}$	-10,96	kN	$V_{pl,y,Rd}$	507,53	kN	0,02
Shear V_z	$V_{z,Ed}$	-0,90	kN	$V_{pl,z,Rd}$	207,16	kN	0,00
Bending M_y	$M_{y,Ed}$	1,47	kNm	$M_{pl,y,Rd}$	61,53	kNm	0,02
Bending M_z	$M_{z,Ed}$	15,02	kNm	$M_{pl,z,Rd}$	30,18	kNm	0,50
Torsion	T_{Ed}	1,9	MPa	T_{Rd}	205,0	MPa	0,01

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,50

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B107	1,520 / 3,040 m	HEA100	Rolled	S 355	MSN nelinearna	0,20 -
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Combination key
MSN nelinearna / MSN nelinearna5

Partial safety factors			
Resistance of cross-sections	γ_{M0}		1,00
Resistance to instability	γ_{M1}		1,00
Resistance of net sections	γ_{M2}		1.25

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490.0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-11,71	kN	$N_{c,Rd}$	752,60	kN	0,02
Shear V_z	$V_{z,Ed}$	-0,01	kN	$V_{pl,z,Rd}$	154,13	kN	0,00
Bending M_y	$M_{y,Ed}$	5,34	kNm	$M_{pl,y,Rd}$	29,44	kNm	0,18
Torsion	T_{Ed}	0,2	MPa	T_{Rd}	205,0	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,03

Stability checks

Decisive position for stability classification: 1,520 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	1,00	3,040	782,70		0,98	1,00
z-z	1,00	3,040	300,54		1,58	1,00
LTB	1,00	3,040		36,25	0,90	1,00

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,03	0,77	0,55	1,05

Maximum moment $M_{y,Ed}$ is derived from beam B107 position 1,520 m.

Maximum moment $M_{z,Ed}$ is derived from beam B107 position 3,040 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	5,34	0,00	0,20

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B113	0,000 / 1,586 m	RND18	Rolled	S 355	MSN nelinearna	0,49 -
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Combination key
MSN nelinearna / MSN nelinearna



Partial safety factors			
Resistance of cross-sections	γ_{M0}	1,00	
Resistance to instability	γ_{M1}	1,00	
Resistance of net sections	γ_{M2}	1,25	

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Warning: Strength reduction in function of the thickness is not supported for this type of cross-section.

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Tension	N_{Ed}	43,86	kN	$N_{t,Rd}$	89,96	kN	0,49

Combined section checks

Combined section checks	Unity check [-]
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EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B118	4,769 / 4,769 m	RND18	Rolled	S 355	MSN nelinearna	0,67 -
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Combination key	
MSN nelinearna / MSN nelinearna	

Partial safety factors			
Resistance of cross-sections	γ_{M0}	1,00	
Resistance to instability	γ_{M1}	1,00	
Resistance of net sections	γ_{M2}	1,25	

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Warning: Strength reduction in function of the thickness is not supported for this type of cross-section.

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Tension	N_{Ed}	60,13	kN	$N_{t,Rd}$	89,96	kN	0,67

Combined section checks

Combined section checks	Unity check [-]
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EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B128	0,000 / 4,342 m	HEA180	Rolled	S 355	MSN nelinearna	0,71 -
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Combination key	
MSN nelinearna / MSN nelinearna	

Partial safety factors			
Resistance of cross-sections	γ_{M0}	1,00	
Resistance to instability	γ_{M1}	1,00	
Resistance of net sections	γ_{M2}	1,25	

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 2



Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-239,63	kN	$N_{c,Rd}$	1608,15	kN	0,15
Shear V_y	$V_{y,Ed}$	-3,49	kN	$V_{pl,y,Rd}$	726,79	kN	0,00
Shear V_z	$V_{z,Ed}$	-13,10	kN	$V_{pl,z,Rd}$	297,60	kN	0,04

Combined section checks

Combined section checks	Unity check [-]
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Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 2

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	3,34	5,018	2066,41		0,88	0,67
z-z	0,76	5,444	646,80		1,58	0,29
LTB	1,00	7,200		77,41	1,22	1,00

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Flexural buckling	N_{Ed}	-239,63	kN	$N_{b,Rd}$	467,80	kN	0,51

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,09	0,91	0,52	0,82

Maximum moment $M_{y,Ed}$ is derived from beam B128 position 1,503 m.

Maximum moment $M_{z,Ed}$ is derived from beam B129 position 1,169 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-19,68	7,52	0,71

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B135	3,139 / 3,239 m	IPE240	Rolled	S 355	MSN nelinearna	0,34 -
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Combination key

MSN nelinearna / MSN nelinearna

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-53,56	kN	$N_{c,Rd}$	1388,05	kN	0,04
Shear V_y	$V_{y,Ed}$	-1,37	kN	$V_{pl,y,Rd}$	509,00	kN	0,00
Shear V_z	$V_{z,Ed}$	3,13	kN	$V_{pl,z,Rd}$	392,04	kN	0,01
Bending M_y	$M_{y,Ed}$	12,57	kNm	$M_{pl,y,Rd}$	130,28	kNm	0,10
Bending M_z	$M_{z,Ed}$	-1,77	kNm	$M_{pl,z,Rd}$	26,23	kNm	0,07
Torsion	T_{Ed}	2,7	MPa	T_{Rd}	205,0	MPa	0,01

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,08

Stability checks

Decisive position for stability classification: 3,139 m

Section is classified as Class 1

Buckling group : Default



Buckling axis	k	L [m]	N _{cr} [kN]	M _{cr} [kNm]	λ_{rel}	χ
y-y	1,39	4,514	3959,17		0,59	1,00
z-z	0,95	1,268	3660,38		0,62	1,00
LTB	1,00	1,330		508,54	0,51	1,00

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,02	0,57	0,54	0,79

Maximum moment $M_{y,Ed}$ is derived from beam B135 position 0,000 m.

Maximum moment $M_{z,Ed}$ is derived from beam B135 position 3,139 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-33,86	-1,77	0,34

Values: **UC**_{overall}

Nonlinear calculation

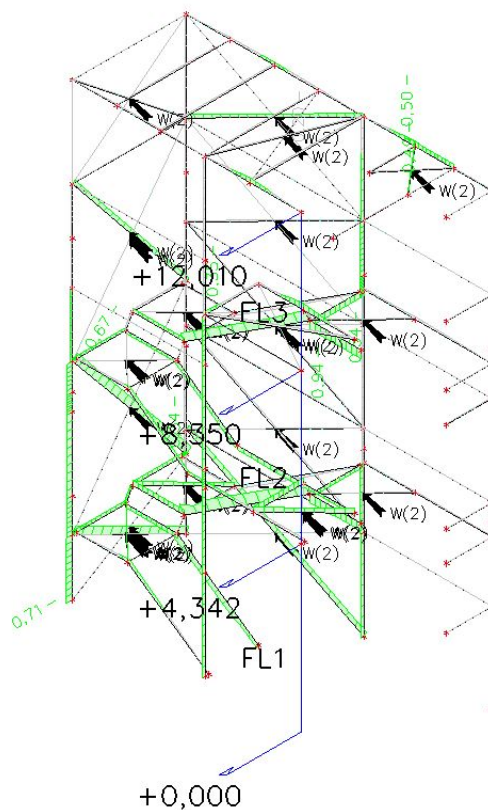
Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.





Values: **UC_{sec}**

Nonlinear calculation

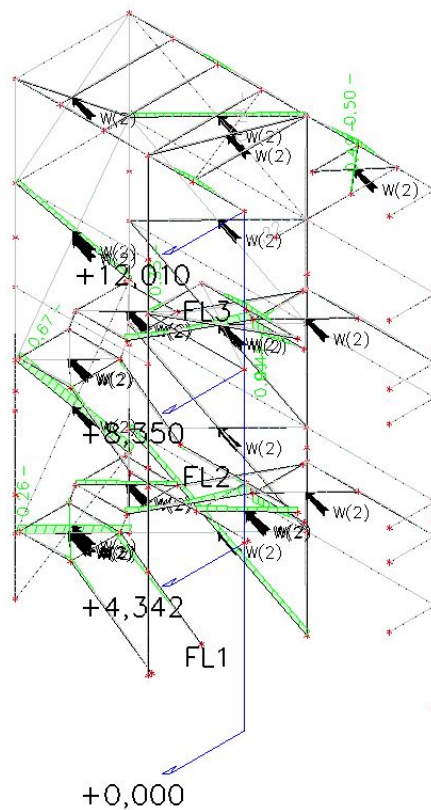
Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.



Values: **UC_{stab}**

Nonlinear calculation

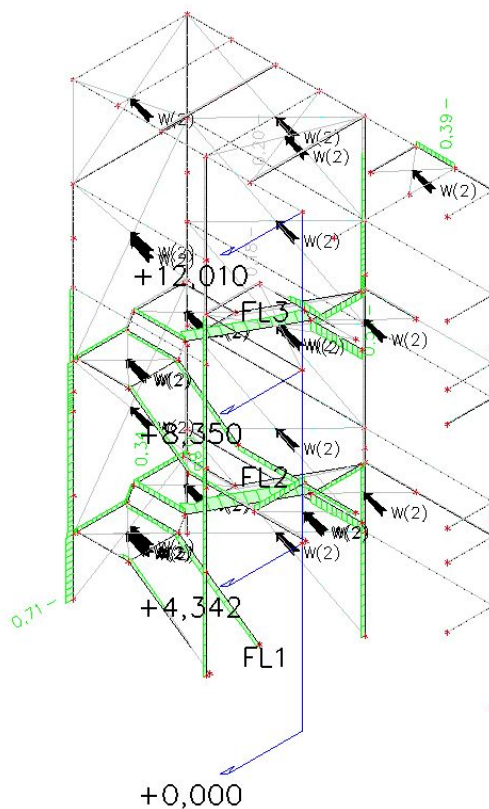
Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.





1. Kazalo

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2. Materiali

Steel EC3


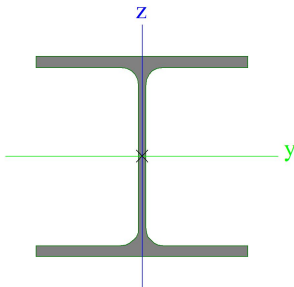
Name	ρ [kg/m ³]	E_{mod} [MPa]	μ	Lower limit [mm]	Upper limit [mm]	F_y [MPa]	F_u [MPa]	Colour
		G_{mod} [MPa]	α [m/mK]					
S 235	7850,00	2,1000e+05	0.3	0,00	40,00	235,0	360,0	
		8,0769e+04	0,01e-003	40,00	80,00	215,0	360,0	
S 355	7850,00	2,1000e+05	0.3	0,00	40,00	355,0	490,0	
		8,0769e+04	0,01e-003	40,00	80,00	335,0	470,0	

Name	Type	ρ [kg/m ³]	Density in fresh state [kg/m ³]	E_{mod} [MPa]	μ	α [m/mK]	$f_{c,k.28}$ [MPa]	Colour
C25/30	Concrete	2500,00	2600,00	3,1500e+04	0.2	0,01e-003	25,00	
C30/37	Concrete	2500,00	2600,00	3,2800e+04	0.2	0,01e-003	30,00	


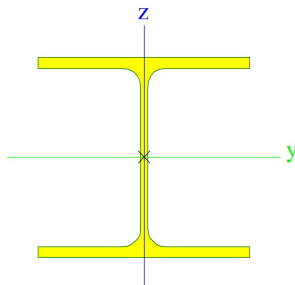
Explanations of symbols


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.
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3. Prerezi

Stebri HEA180		
Type	HEA180	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	4,5300e+03	
A _y [mm ²], A _z [mm ²]	3,2772e+03	1,0992e+03
A _L [m ² /m], A _D [m ² /m]	1,0200e+00	1,0241e+00
C _{y,UCS} [mm], C _{z,UCS} [mm]	90,00	85,50
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	2,5100e+07	9,2500e+06
i _y [mm], i _z [mm]	74,44	45,19
W _{el,y} [mm ³], W _{el,z} [mm ³]	2,9400e+05	1,0300e+05
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	3,2500e+05	1,5667e+05
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	115412417,09	115412417,09
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	55566327,18	55566327,18
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	1,4800e+05	6,0211e+10
β _y [mm], β _z [mm]	0,00	0,00
Picture		
Primarc HEA180		
Type	HEA180	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	



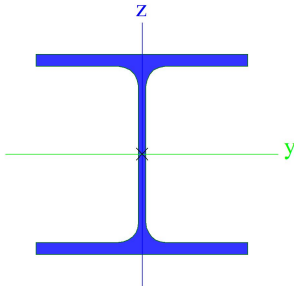
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	4,5300e+03	
A _y [mm ²], A _z [mm ²]	3,2772e+03	1,0992e+03
A _L [m ² /m], A _D [m ² /m]	1,0200e+00	1,0241e+00
C _{y,UCS} [mm], C _{z,UCS} [mm]	90,00	85,50
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	2,5100e+07	9,2500e+06
i _y [mm], i _z [mm]	74,44	45,19
W _{el,y} [mm ³], W _{el,z} [mm ³]	2,9400e+05	1,0300e+05
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	3,2500e+05	1,5667e+05
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	115412417,09	115412417,09
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	55566327,18	55566327,18
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	1,4800e+05	6,0211e+10
β _y [mm], β _z [mm]	0,00	0,00
Picture		

Sekundarc HEA160		
Type	HEA160	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	3,8800e+03	
A _y [mm ²], A _z [mm ²]	2,8071e+03	9,8390e+02
A _L [m ² /m], A _D [m ² /m]	9,0600e-01	9,0613e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	80,00	76,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	1,6700e+07	6,1600e+06
i _y [mm], i _z [mm]	65,61	39,85
W _{el,y} [mm ³], W _{el,z} [mm ³]	2,2000e+05	7,7000e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	2,4500e+05	1,1750e+05
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	87105596,10	87105596,10
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	41770317,18	41770317,18
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	1,2200e+05	3,1410e+10
β _y [mm], β _z [mm]	0,00	0,00


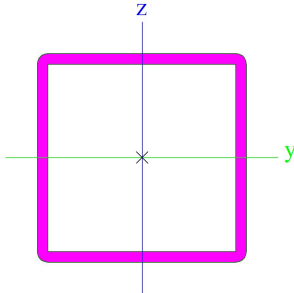


Picture		
Steber HEA 160		
Type	HEA160	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	3,8800e+03	
A _y [mm ²], A _z [mm ²]	2,8071e+03	9,8390e+02
A _L [m ² /m], A _D [m ² /m]	9,0600e-01	9,0613e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	80,00	76,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	1,6700e+07	6,1600e+06
i _y [mm], i _z [mm]	65,61	39,85
W _{el,y} [mm ³], W _{el,z} [mm ³]	2,2000e+05	7,7000e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	2,4500e+05	1,1750e+05
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	87105596,10	87105596,10
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	41770317,18	41770317,18
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	1,2200e+05	3,1410e+10
β _y [mm], β _z [mm]	0,00	0,00
Picture		
Primarc HEA 160		
Type	HEA160	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	3,8800e+03	
A _y [mm ²], A _z [mm ²]	2,8071e+03	9,8390e+02
A _L [m ² /m], A _D [m ² /m]	9,0600e-01	9,0613e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	80,00	76,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	1,6700e+07	6,1600e+06
i _y [mm], i _z [mm]	65,61	39,85
W _{el,y} [mm ³], W _{el,z} [mm ³]	2,2000e+05	7,7000e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	2,4500e+05	1.1750e+05




M _{pl.y.+} [Nmm], M _{pl.y.-} [Nmm]	87105596,10	87105596,10
M _{pl.z.+} [Nmm], M _{pl.z.-} [Nmm]	41770317,18	41770317,18
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	1,2200e+05	3,1410e+10
β _y [mm], β _z [mm]	0,00	0,00
Picture		

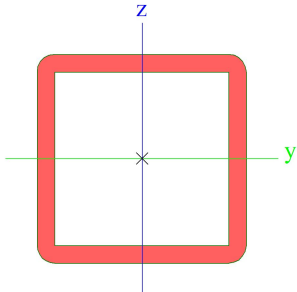
Diagonala 100/100/5

Type	QRO100X5	
Formcode	2 - Rectangular hollow section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y,	a	a
Flexural buckling z-z		
A [mm ²]	1,8800e+03	
A _y [mm ²], A _z [mm ²]	9,3907e+02	9,3907e+02
A _L [m ² /m], A _D [m ² /m]	3,9100e-01	7,5137e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	50,00	50,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	2,8100e+06	2,8100e+06
i _y [mm], i _z [mm]	38,66	38,66
W _{el.y} [mm ³], W _{el.z} [mm ³]	5,6300e+04	5,6300e+04
W _{pl.y} [mm ³], W _{pl.z} [mm ³]	6,6700e+04	6,6700e+04
M _{pl.y.+} [Nmm], M _{pl.y.-} [Nmm]	23672030,60	23672030,60
M _{pl.z.+} [Nmm], M _{pl.z.-} [Nmm]	23672030,60	23672030,60
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	4,3300e+06	4,1667e+09
β _y [mm], β _z [mm]	0,00	0,00
Picture		


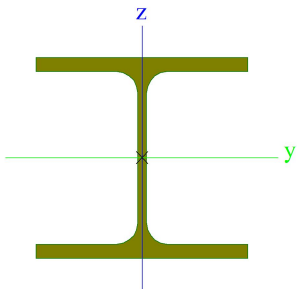
Povezje 60/60/5

Type	QRO60X5	
Formcode	2 - Rectangular hollow section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y,	a	a
Flexural buckling z-z		
A [mm ²]	1,0800e+03	
A _y [mm ²], A _z [mm ²]	5,3907e+02	5,3907e+02



A_L [m ² /m], A_D [m ² /m]	2,3100e-01	4,3137e-01
$C_{Y,UCS}$ [mm], $C_{Z,UCS}$ [mm]	30,00	30,00
α [deg]	0,00	
I_y [mm ⁴], I_z [mm ⁴]	5,4100e+05	5,4100e+05
i_y [mm], i_z [mm]	22,38	22,38
$W_{el,y}$ [mm ³], $W_{el,z}$ [mm ³]	1,8000e+04	1,8000e+04
$W_{pl,y}$ [mm ³], $W_{pl,z}$ [mm ³]	2,2100e+04	2,2100e+04
$M_{pl,y,+}$ [Nmm], $M_{pl,y,-}$ [Nmm]	7852224,66	7852224,66
$M_{pl,z,+}$ [Nmm], $M_{pl,z,-}$ [Nmm]	7852224,66	7852224,66
d_y [mm], d_z [mm]	0,00	0,00
I_t [mm ⁴], I_w [mm ⁶]	8,4500e+05	3,2400e+08
β_y [mm], β_z [mm]	0,00	0,00
Picture		

Nosilec fotovoltaične fasade

Type	HEA120	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	2,5300e+03	
A_y [mm ²], A_z [mm ²]	1,8775e+03	6,1698e+02
A_L [m ² /m], A_D [m ² /m]	6,7700e-01	6,7730e-01
$C_{Y,UCS}$ [mm], $C_{Z,UCS}$ [mm]	60,00	57,00
α [deg]	0,00	
I_y [mm ⁴], I_z [mm ⁴]	6,0600e+06	2,3100e+06
i_y [mm], i_z [mm]	48,94	30,22
$W_{el,y}$ [mm ³], $W_{el,z}$ [mm ³]	1,0600e+05	3,8500e+04
$W_{pl,y}$ [mm ³], $W_{pl,z}$ [mm ³]	1,1958e+05	5,8750e+04
$M_{pl,y,+}$ [Nmm], $M_{pl,y,-}$ [Nmm]	42455496,06	42455496,06
$M_{pl,z,+}$ [Nmm], $M_{pl,z,-}$ [Nmm]	20898354,92	20898354,92
d_y [mm], d_z [mm]	0,00	0,00
I_t [mm ⁴], I_w [mm ⁶]	5,9900e+04	6,4719e+09
β_y [mm], β_z [mm]	0,00	0,00
Picture		

Explanations of symbols

Formcode	h - Height
	b - Flange width

Explanations of symbols

	t - Flange thickness
	s - Web thickness



Explanations of symbols	
	r - Radius at flange root r1 - Radius at flange toe a - Flange slope W - Internal bolt distance wm - Unit warping at flange toe
A	Area
A _y	Shear Area in principal y-direction
A _z	Shear Area in principal z-direction
A _L	Circumference per unit length
A _D	Drying surface per unit length
C _{y,UCS}	Centroid coordinate in Y-direction of Input axis system
C _{z,UCS}	Centroid coordinate in Z-direction of Input axis system
I _{y,LCS}	Second moment of area about the YLCS axis
I _{z,LCS}	Second moment of area about the ZLCS axis
I _{yz,LCS}	Product moment of area in the LCS system
α	Rotation angle of the principal axis system
I _y	Second moment of area about the principal y-axis
I _z	Second moment of area about the principal z-axis
i _y	Radius of gyration about the principal y-axis

Explanations of symbols	
i _z	Radius of gyration about the principal z-axis
W _{el,y}	Elastic section modulus about the principal y-axis
W _{el,z}	Elastic section modulus about the principal z-axis
W _{pl,y}	Plastic section modulus about the principal y-axis
W _{pl,z}	Plastic section modulus about the principal z-axis
M _{pl,y,+}	Plastic moment about the principal y-axis for a positive My moment
M _{pl,y,-}	Plastic moment about the principal y-axis for a negative My moment
M _{pl,z,+}	Plastic moment about the principal z-axis for a positive Mz moment
M _{pl,z,-}	Plastic moment about the principal z-axis for a negative Mz moment
d _y	Shear center coordinate in principal y-direction measured from the centroid
d _z	Shear center coordinate in principal z-direction measured from the centroid
I _t	Torsional constant
I _w	Warping constant
β _y	Mono-symmetry constant about the principal y-axis
β _z	Mono-symmetry constant about the principal z-axis

4. Elementi

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
Beam-341	Sekundarc HEA160 - HEA160	S 355	5,599	N498	N499	beam (80)
Beam-345	Primarc HEA 160 - HEA160	S 355	4,230	N507	N508	beam (80)
Beam-346	Primarc HEA 160 - HEA160	S 355	1,800	N509	N507	beam (80)
Beam-347	Primarc HEA 160 - HEA160	S 355	4,470	N510	N509	beam (80)
Beam-348	Primarc HEA 160 - HEA160	S 355	1,800	N511	N512	beam (80)
Beam-349	Primarc HEA 160 - HEA160	S 355	4,470	N513	N511	beam (80)
Beam-352	Sekundarc HEA160 - HEA160	S 355	5,100	N508	N517	beam (80)
Beam-353	Sekundarc HEA160 - HEA160	S 355	4,950	N518	N508	beam (80)
Beam-354	Sekundarc HEA160 - HEA160	S 355	4,950	N519	N518	beam (80)
Beam-355	Sekundarc HEA160 - HEA160	S 355	5,100	N510	N516	beam (80)
Beam-356	Sekundarc HEA160 - HEA160	S 355	4,950	N513	N510	beam (80)
Beam-357	Sekundarc HEA160 - HEA160	S 355	4,950	N520	N513	beam (80)
Beam-358	Primarc HEA180 - HEA180	S 355	6,310	N521	N522	beam (80)
Beam-359	Primarc HEA180 - HEA180	S 355	6,310	N523	N524	beam (80)
Beam-360	Primarc HEA180 - HEA180	S 355	6,310	N525	N526	beam (80)
Beam-361	Primarc HEA180 - HEA180	S 355	6,310	N527	N528	beam (80)
Beam-362	Primarc HEA180 - HEA180	S 355	6,310	N529	N530	beam (80)
Beam-363	Sekundarc HEA160 - HEA160	S 355	0,379	N522	N531	beam (80)
Beam-364	Sekundarc HEA160 - HEA160	S 355	4,921	N524	N522	beam (80)
Beam-365	Sekundarc HEA160 - HEA160	S 355	5,042	N526	N524	beam (80)
Beam-366	Sekundarc HEA160 - HEA160	S 355	5,122	N528	N526	beam (80)
Beam-367	Sekundarc HEA160 - HEA160	S 355	4,971	N530	N528	beam (80)
Beam-368	Sekundarc HEA160 - HEA160	S 355	5,557	N532	N530	beam (80)
Beam-369	Sekundarc HEA160 - HEA160	S 355	0,964	N521	N533	beam (80)
Beam-370	Sekundarc HEA160 - HEA160	S 355	4,921	N523	N521	beam (80)
Beam-371	Sekundarc HEA160 - HEA160	S 355	5,042	N525	N523	beam (80)
Beam-372	Sekundarc HEA160 - HEA160	S 355	5,122	N527	N525	beam (80)
Beam-373	Sekundarc HEA160 - HEA160	S 355	4,971	N529	N527	beam (80)
Beam-374	Sekundarc HEA160 - HEA160	S 355	4,971	N534	N529	beam (80)
Beam-375	Diagonala 100/100/5 - QRO100X5	S 355	1,384	N521	N535	beam (80)
Beam-376	Diagonala 100/100/5 - QRO100X5	S 355	0,699	N522	N536	beam (80)



Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
Beam-377	Povezje 60/60/5 - QRO60X5	S 355	5,100	N537	N507	beam (80)
Beam-378	Povezje 60/60/5 - QRO60X5	S 355	4,950	N512	N507	beam (80)
Beam-379	Povezje 60/60/5 - QRO60X5	S 355	4,950	N538	N512	beam (80)
Beam-389	Nosilec fotovoltaične fasade - HEA120	S 355	0,872	N553	N554	beam (80)
Beam-390	Primarc HEA 160 - HEA160	S 355	4,230	N512	N518	beam (80)
Beam-391	Diagonala 100/100/5 - QRO100X5	S 355	1,263	N555	N521	beam (80)
Beam-392	Diagonala 100/100/5 - QRO100X5	S 355	6,739	N524	N555	beam (80)
Beam-393	Diagonala 100/100/5 - QRO100X5	S 355	6,802	N556	N524	beam (80)
Beam-394	Diagonala 100/100/5 - QRO100X5	S 355	1,275	N525	N556	beam (80)
Beam-395	Diagonala 100/100/5 - QRO100X5	S 355	1,282	N557	N525	beam (80)
Beam-396	Diagonala 100/100/5 - QRO100X5	S 355	6,845	N528	N557	beam (80)
Beam-397	Diagonala 100/100/5 - QRO100X5	S 355	6,765	N558	N528	beam (80)
Beam-398	Diagonala 100/100/5 - QRO100X5	S 355	1,268	N529	N558	beam (80)
Beam-399	Diagonala 100/100/5 - QRO100X5	S 355	1,327	N559	N529	beam (80)
Beam-400	Diagonala 100/100/5 - QRO100X5	S 355	7,081	N532	N559	beam (80)
Beam-401	Nosilec fotovoltaične fasade - HEA120	S 355	4,921	N560	N553	beam (80)
Beam-402	Nosilec fotovoltaične fasade - HEA120	S 355	5,042	N561	N560	beam (80)
Beam-403	Nosilec fotovoltaične fasade - HEA120	S 355	5,122	N562	N561	beam (80)
Beam-404	Nosilec fotovoltaične fasade - HEA120	S 355	4,971	N563	N562	beam (80)
Beam-405	Nosilec fotovoltaične fasade - HEA120	S 355	5,064	N564	N563	beam (80)
Beam-406	Diagonala 100/100/5 - QRO100X5	S 355	5,060	N565	N537	beam (80)
Beam-407	Diagonala 100/100/5 - QRO100X5	S 355	1,566	N508	N565	beam (80)
Beam-408	Diagonala 100/100/5 - QRO100X5	S 355	1,539	N566	N508	beam (80)
Beam-409	Diagonala 100/100/5 - QRO100X5	S 355	4,972	N512	N566	beam (80)
Beam-410	Diagonala 100/100/5 - QRO100X5	S 355	4,972	N567	N512	beam (80)
Beam-411	Diagonala 100/100/5 - QRO100X5	S 355	1,539	N519	N567	beam (80)
Beam-412	Nosilec fotovoltaične fasade - HEA120	S 355	5,100	N568	N569	beam (80)
Beam-413	Nosilec fotovoltaične fasade - HEA120	S 355	4,950	N570	N568	beam (80)
Beam-414	Nosilec fotovoltaične fasade - HEA120	S 355	4,950	N571	N570	beam (80)
Column-139	Steber HEA 160 - HEA160	S 355	3,900	N585	N508	column (100)
Column-140	Steber HEA 160 - HEA160	S 355	3,900	N586	N518	column (100)
Column-141	Steber HEA 160 - HEA160	S 355	3,900	N587	N507	column (100)
Column-142	Steber HEA 160 - HEA160	S 355	3,900	N588	N509	column (100)
Column-143	Steber HEA 160 - HEA160	S 355	3,900	N589	N510	column (100)
Column-144	Steber HEA 160 - HEA160	S 355	3,900	N590	N512	column (100)
Column-145	Steber HEA 160 - HEA160	S 355	3,900	N591	N511	column (100)
Column-146	Steber HEA 160 - HEA160	S 355	3,900	N592	N513	column (100)
Column-147	Stebri HEA180 - HEA180	S 355	3,900	N593	N521	column (100)
Column-148	Stebri HEA180 - HEA180	S 355	3,900	N594	N522	column (100)
Column-149	Stebri HEA180 - HEA180	S 355	3,900	N595	N524	column (100)
Column-150	Stebri HEA180 - HEA180	S 355	3,900	N596	N523	column (100)
Column-151	Stebri HEA180 - HEA180	S 355	3,900	N597	N526	column (100)
Column-152	Stebri HEA180 - HEA180	S 355	3,900	N598	N525	column (100)
Column-153	Stebri HEA180 - HEA180	S 355	3,900	N599	N528	column (100)
Column-154	Stebri HEA180 - HEA180	S 355	3,900	N600	N527	column (100)
Column-155	Stebri HEA180 - HEA180	S 355	3,900	N601	N529	column (100)
Column-156	Stebri HEA180 - HEA180	S 355	3,900	N602	N530	column (100)
Column-157	Sekundarc HEA160 - HEA160	S 355	6,337	N534	N532	beam (80)
Column-158	Sekundarc HEA160 - HEA160	S 355	5,442	N532	N520	beam (80)
Column-159	Sekundarc HEA160 - HEA160	S 355	6,270	N520	N538	beam (80)
Column-160	Sekundarc HEA160 - HEA160	S 355	3,230	N538	N571	beam (80)
Column-161	Sekundarc HEA160 - HEA160	S 355	1,000	N571	N519	beam (80)
Column-162	Diagonala 100/100/5 - QRO100X5	S 355	6,337	N533	N531	beam (80)

5. Vozlišča

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N498	122,363	15,331	12,050
N499	122,363	20,930	12,050
N507	114,163	27,200	12,050
N508	114,163	31,430	12,050
N509	114,163	25,400	12,050
N510	114,163	20,930	12,050
N511	119,113	25,400	12,050

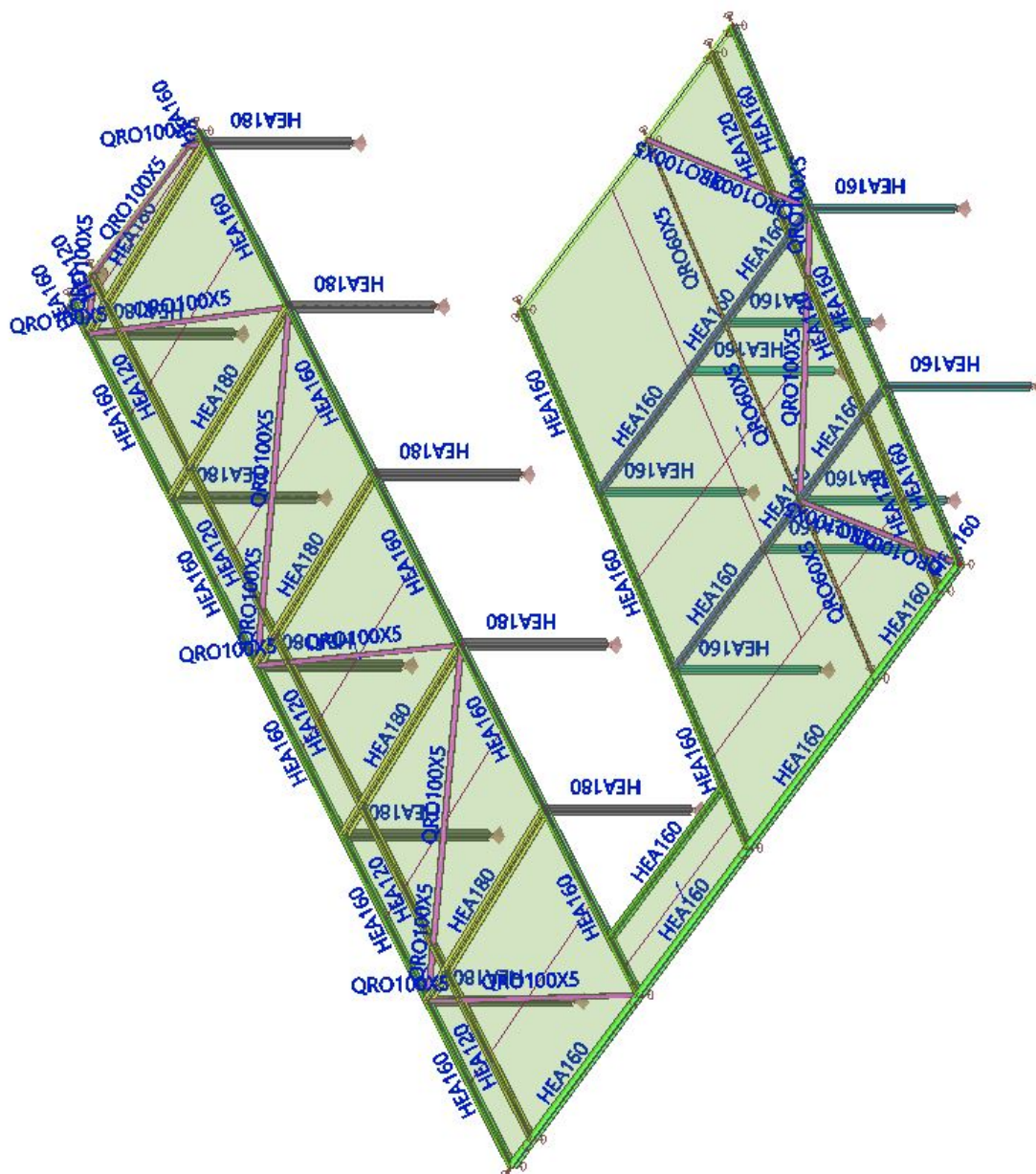
Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N512	119,113	27,200	12,050
N513	119,113	20,930	12,050
N516	109,063	20,930	12,050
N517	109,063	31,430	12,050
N518	119,113	31,430	12,050
N519	124,063	31,430	12,050
N520	124,063	20,930	12,050



Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N521	99,143	6,840	12,050
N522	98,560	13,123	12,050
N523	104,043	7,294	12,050
N524	103,460	13,577	12,050
N525	109,063	7,760	12,050
N526	108,480	14,043	12,050
N527	114,163	8,233	12,050
N528	113,580	14,516	12,050
N529	119,113	8,692	12,050
N530	118,530	14,975	12,050
N531	98,183	13,088	12,050
N532	124,063	15,488	12,050
N533	98,183	6,751	12,050
N534	124,063	9,151	12,050
N535	98,183	7,836	12,050
N536	98,183	12,534	12,050
N537	109,063	27,200	12,050
N538	124,063	27,200	12,050
N553	99,051	7,831	12,050
N554	98,183	7,751	12,050
N555	99,824	7,903	12,050
N556	108,179	8,678	12,050
N557	109,776	8,826	12,050
N558	118,240	9,611	12,050
N559	119,894	9,765	12,050
N560	103,951	8,286	12,050
N561	108,971	8,751	12,050
N562	114,071	9,224	12,050
N563	119,021	9,684	12,050
N564	124,063	10,151	12,050

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N565	112,957	30,430	12,050
N566	115,333	30,430	12,050
N567	122,893	30,430	12,050
N568	114,163	30,430	12,050
N569	109,063	30,430	12,050
N570	119,113	30,430	12,050
N571	124,063	30,430	12,050
N585	114,163	31,430	8,150
N586	119,113	31,430	8,150
N587	114,163	27,200	8,150
N588	114,163	25,400	8,150
N589	114,163	20,930	8,150
N590	119,113	27,200	8,150
N591	119,113	25,400	8,150
N592	119,113	20,930	8,150
N593	99,143	6,840	8,150
N594	98,560	13,123	8,150
N595	103,460	13,577	8,150
N596	104,043	7,294	8,150
N597	108,480	14,043	8,150
N598	109,063	7,760	8,150
N599	113,580	14,516	8,150
N600	114,163	8,233	8,150
N601	119,113	8,692	8,150
N602	118,530	14,975	8,150
N603	119,113	31,430	9,600
N604	114,163	31,430	9,600
N605	119,113	31,430	9,450
N606	114,163	31,430	9,450

6. 3D model





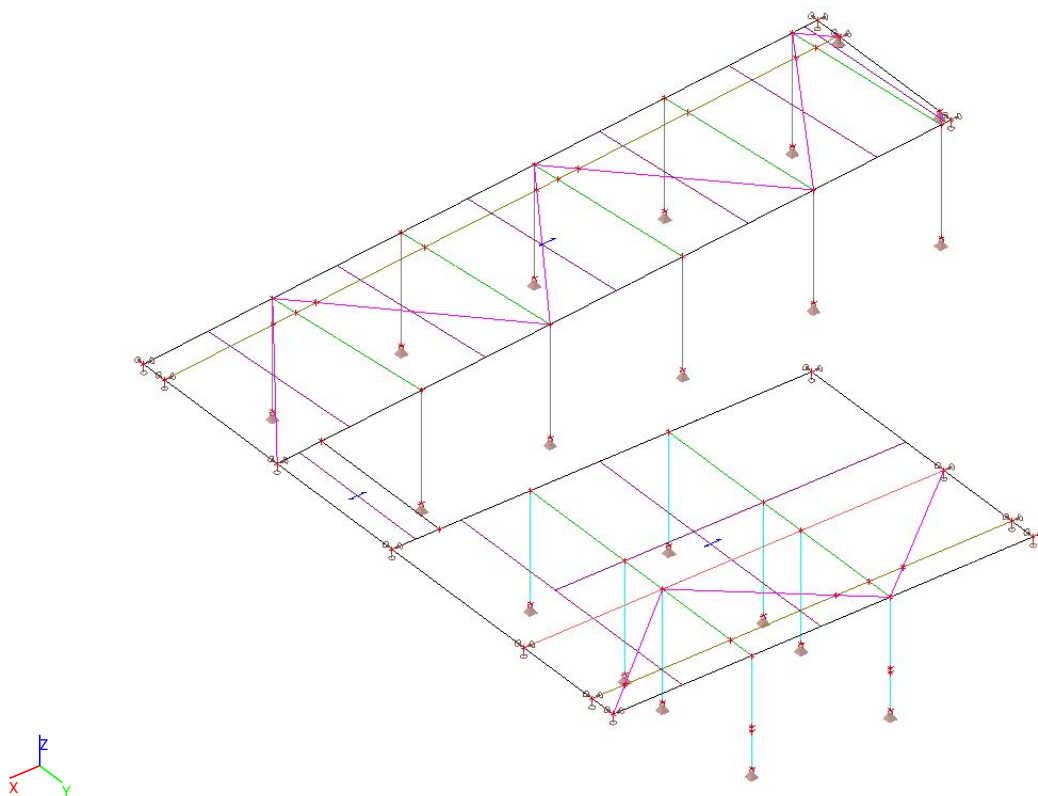
7. Projektni pospešek

Name	Type drawing	Info	Drawing
UniqueID			
Projektni pospešek	Period	Type code - EN 1998-1:2004 - Eurocode Subsoil type - C Direction - Horizontal Spectrum type - type 1 coeff accel. ag - 0.15 ag - design acceleration - 1.47105 beta - 0.2 q - behaviour factor - 1.5	

8. Obtežni primeri

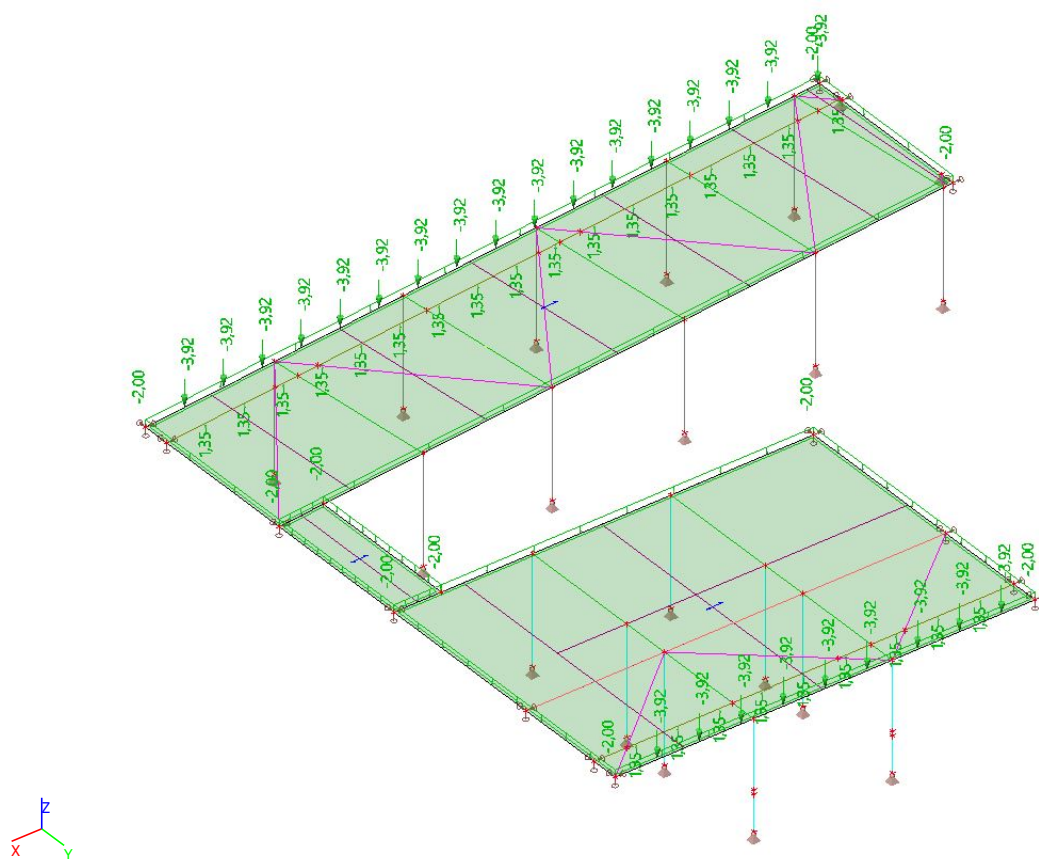
8.1. Obtežni primeri - Lastna

Name	Description	Action type	Load group	Direction	Modification group
	Spec	Load type			
Lastna		Permanent	Lastna in stalna	-Z	None
		Self weight			



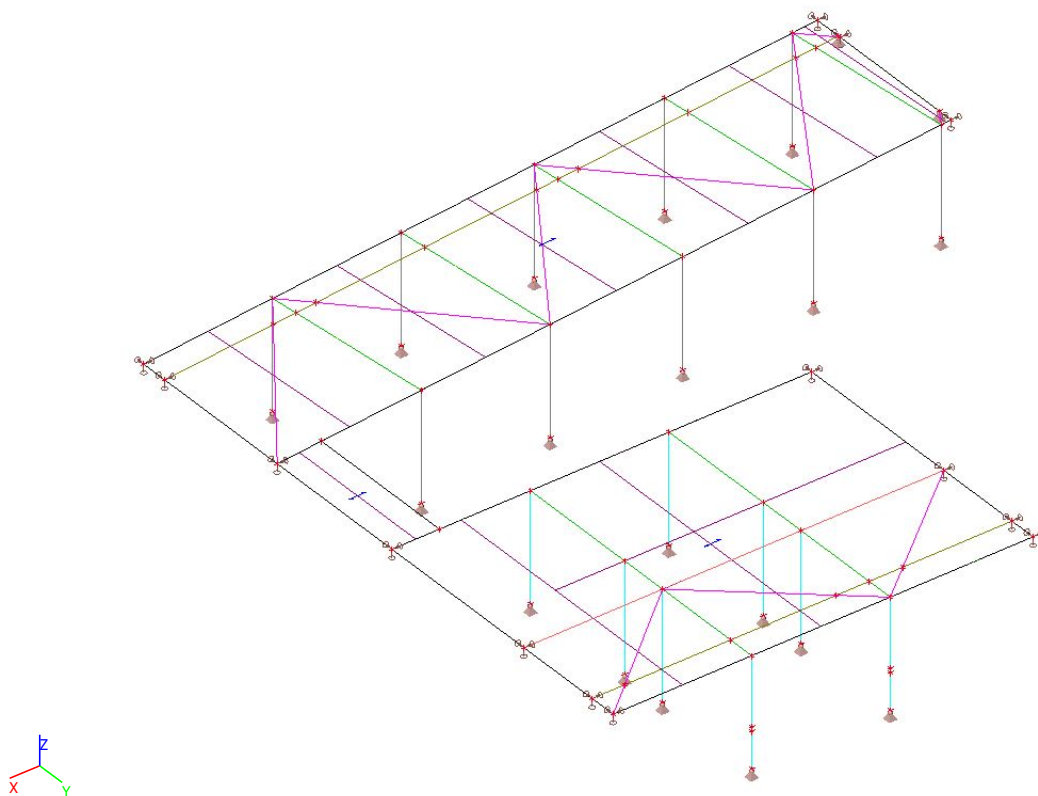
8.2. Obtežni primeri - Stalna

Name	Description Spec	Action type Load type	Load group	Modification group
Stalna		Permanent	Lastna in stalna	None
		Standard		



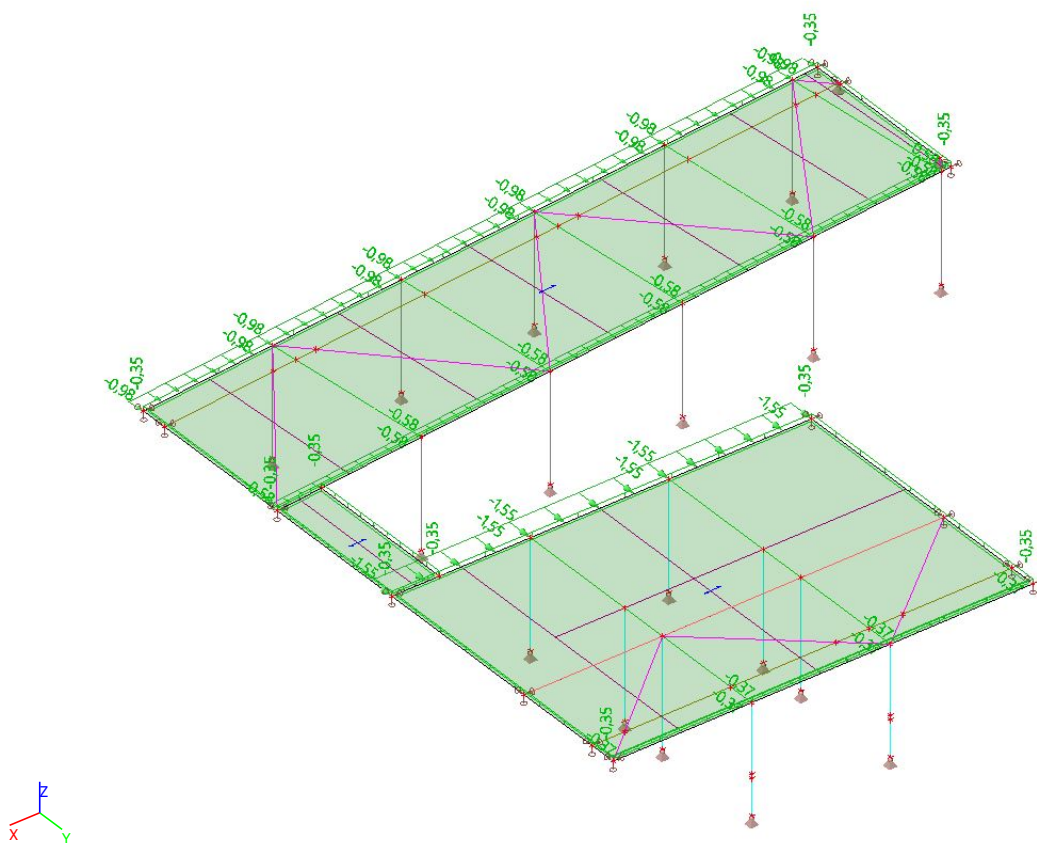
8.3. Obtežni primeri - Sneg

Name	Description	Action type	Load group	Duration	Master load case	Modification group
	Spec	Load type				
Sneg	Standard	Variable	Sneg	Short	None	None
		Static				



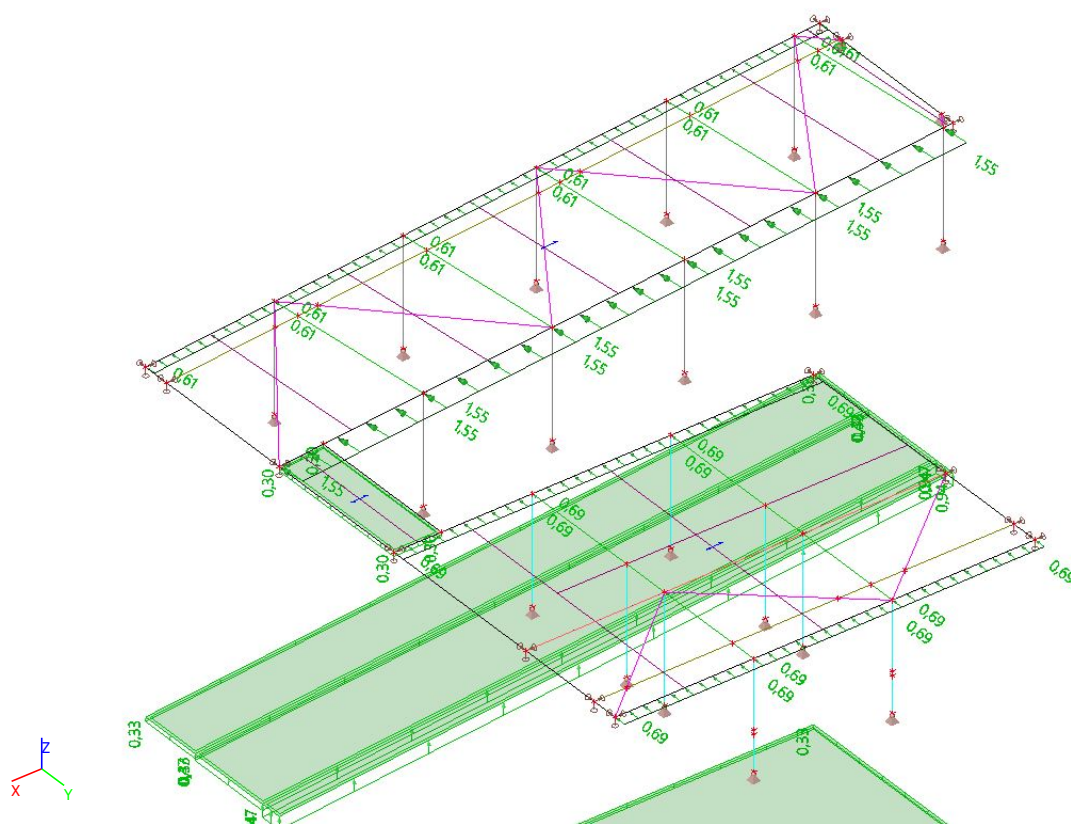
8.4. Obtežni primeri - Veter tlak

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Veter tlak	Static wind	Variable Static	Veter	None	None



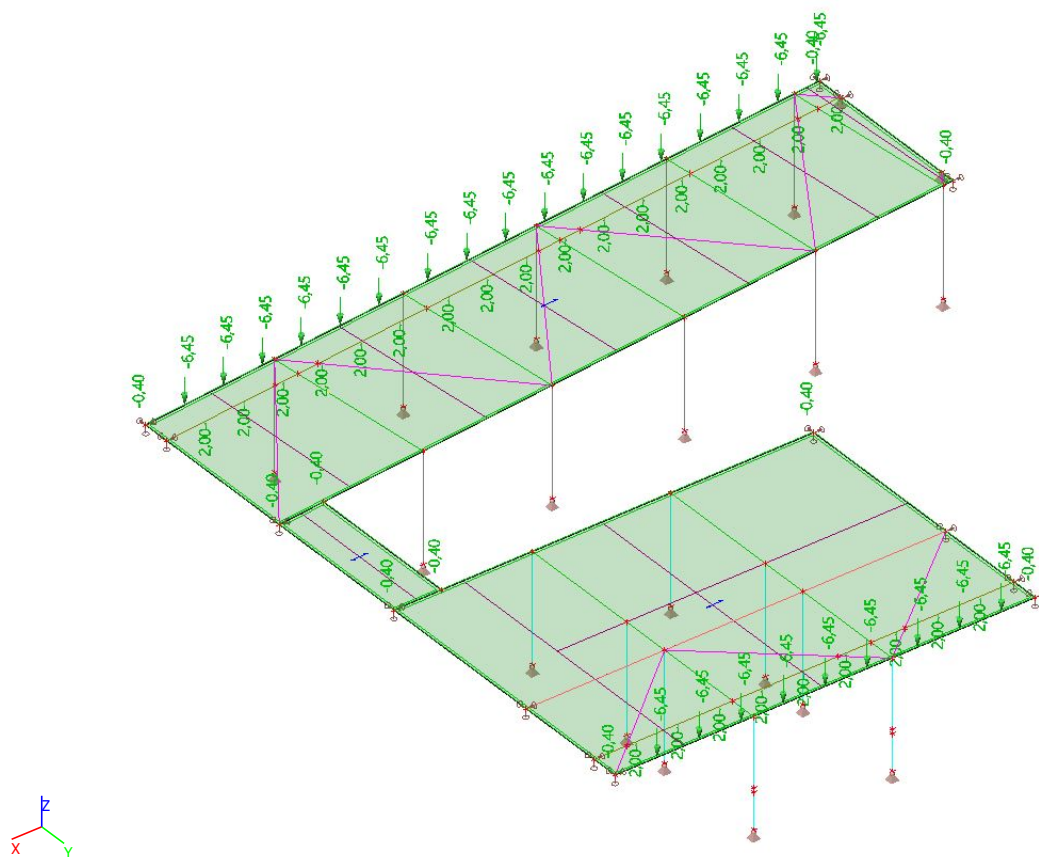
8.5. Obtežni primeri - Veter vzgon

Name	Description	Action type	Load group	Master load case	Modification group
	Spec	Load type			
Veter vzgon	Static wind	Variable Static	Veter	None	None



8.6. Obtežni primeri - Koristna streha

Name	Description	Action type	Load group	Duration	Master load case	Modification group
	Spec	Load type				
Koristna streha		Variable	Koristna streha	Short	None	None
	Standard	Static				



9. Obtežne kombinacije z NSK in pomiki

9.1. Obtežne kombinacije z NSK in pomiki - All ULS+SLS

Name	List
All ULS+SLS	ULS-Set B (auto) - EN-ULS (STR/GEO) Set B
	ULS-Seis (auto) - EN-Seismic
	Potres x - Envelope - ultimate
	Potres y - Envelope - ultimate
	SLS-Char (auto) - EN-SLS Characteristic
	SLS-Quasi (auto) - EN-SLS Quasi-permanent

9.1.1. 1D internal forces

Linear calculation
Class: All ULS+SLS
Coordinate system: Principal
Extreme 1D: Global
Selection: All

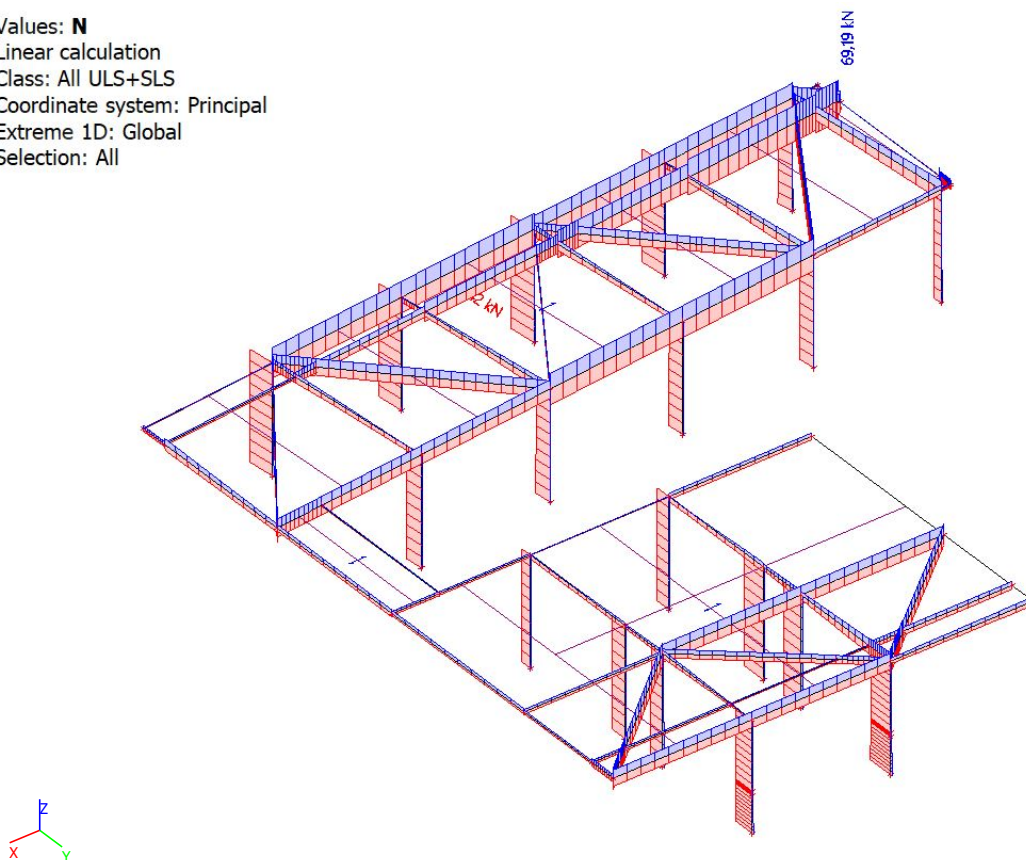
Name	dx [m]	Case	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
Column-152	0,000	ULS-Set B (auto)/1	-97,42	0,00	8,88	0,00	0,00	0,00
Beam-389	0,808+	ULS-Seis (auto)/2	69,19	-0,02	1,18	0,02	-0,08	0,00
Column-162	1,086-	ULS-Seis (auto)/3	26,95	-25,74	-11,31	0,00	-1,27	-2,64
Column-162	1,000+	ULS-Seis (auto)/4	-27,01	23,28	-15,78	-0,01	-0,37	0,30
Beam-347	4,470	ULS-Set B (auto)/5	-16,06	-0,02	-61,33	0,00	-43,14	-0,11
Beam-345	0,000	ULS-Set B (auto)/1	-5,08	0,01	54,20	0,00	-31,87	-0,05



Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
Beam-363	0,000	ULS-Set B (auto)/1	0,13	0,48	-0,98	-0,14	0,41	-0,18
Beam-369	0,864+	ULS-Set B (auto)/5	1,03	-0,17	1,59	0,06	0,18	0,02
Beam-362	6,310	ULS-Set B (auto)/5	-6,46	0,09	-55,52	0,00	-45,20	0,00
Beam-362	3,121-	ULS-Set B (auto)/5	-6,46	0,09	-0,71	0,00	44,04	-0,28
Beam-345	0,000	ULS-Seis (auto)/6	-9,65	10,00	34,17	0,00	-20,63	-13,44
Beam-345	0,000	ULS-Seis (auto)/7	3,11	-9,99	34,22	0,00	-20,87	13,41

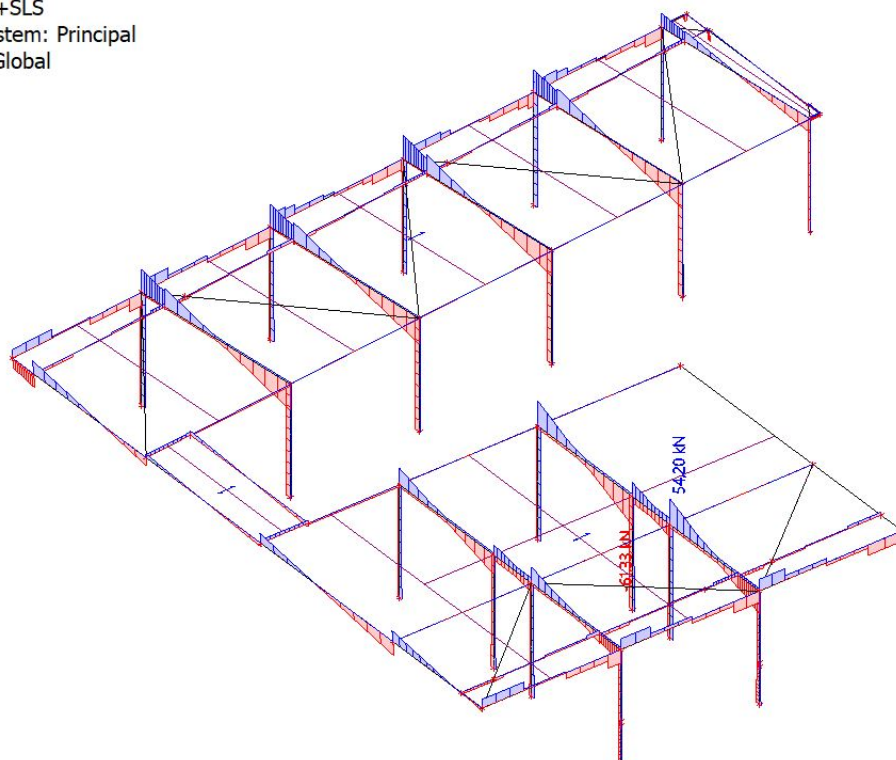
Name	Combination key
ULS-Set B (auto)/1	1.35*Lastna + 1.35*Stalna + 1.50*Koristna streha
ULS-Seis (auto)/2	Lastna + Stalna + Potres x + Potres x_AE + 0.30*Potres y + 0.30*Potres y_AE
ULS-Seis (auto)/3	Lastna + Stalna - 0.30*Potres x - 0.30*Potres x_AE + Potres y - Potres y_AE
ULS-Seis (auto)/4	Lastna + Stalna + 0.30*Potres x + 0.30*Potres x_AE - Potres y + Potres y_AE
ULS-Set B (auto)/5	1.35*Lastna + 1.35*Stalna + 1.50*Veter tlak
ULS-Seis (auto)/6	Lastna + Stalna + Potres x - Potres x_AE + 0.30*Potres y - 0.30*Potres y_AE
ULS-Seis (auto)/7	Lastna + Stalna - Potres x + Potres x_AE - 0.30*Potres y + 0.30*Potres y_AE

Values: **N**
Linear calculation
Class: All ULS+SLS
Coordinate system: Principal
Extreme 1D: Global
Selection: All

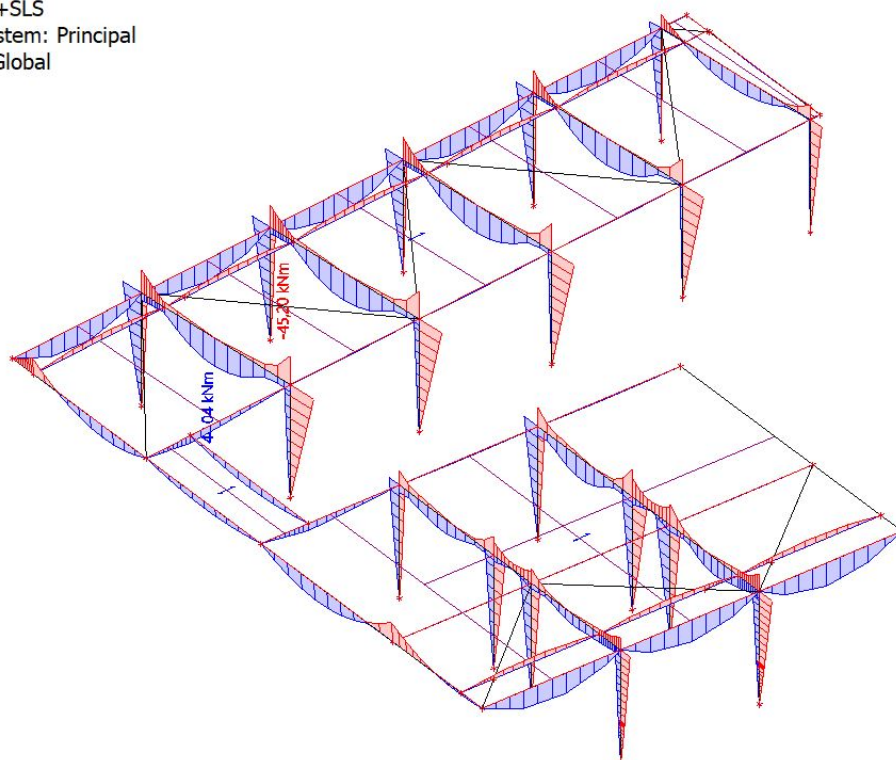




Values: V_z
Linear calculation
Class: All ULS+SLS
Coordinate system: Principal
Extreme 1D: Global
Selection: All



Values: M_y
Linear calculation
Class: All ULS+SLS
Coordinate system: Principal
Extreme 1D: Global
Selection: All





10. Dimenzioniranje Jekla

10.1. EC-EN 1993 Steel check ULS

Values: **UC_{Overall}**

Linear calculation

Class: All ULS

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member Beam-347	1,788 / 4,470 m	HEA160	Rolled	S 355	All ULS	0,87 -
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Combination key

All ULS / Lastna + Stalna + Potres x - Potres x_AE +
0.30*Potres y - 0.30*Potres y_AE

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-5,24	kN	$N_{c,Rd}$	1377,40	kN	0,00
Shear V_y	$V_{y,Ed}$	4,03	kN	$V_{pl,y,Rd}$	616,11	kN	0,01
Shear V_z	$V_{z,Ed}$	4,45	kN	$V_{pl,z,Rd}$	271,37	kN	0,03
Bending M_y	$M_{y,Ed}$	18,95	kNm	$M_{el,y,Rd}$	78,10	kNm	0,24
Bending M_z	$M_{z,Ed}$	11,49	kNm	$M_{el,z,Rd}$	27,34	kNm	0,42
Torsion	T_{Ed}	1,2	MPa	T_{Rd}	205,0	MPa	0,01

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,67

Stability checks

Decisive position for stability classification: 1,788 m

Section is classified as Class 3

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	1,33	5,944	979,81		1,19	1,00
z-z	0,81	5,063	498,16		1,66	1,00
LTB	1,00	6,270		98,43	0,89	0,85

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	$M_{y,Ed}$	18,95	kNm	$M_{b,Rd}$	66,73	kNm	0,28

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,01	1,01	1,01	1,01

Maximum moment $M_{y,Ed}$ is derived from beam Beam-347 position 4,470 m.

Maximum moment $M_{z,Ed}$ is derived from beam Beam-346 position 1,800 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-24,73	-13,44	0,87



EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member Beam-359	3,121 / 6,310 m	HEA180	Rolled	S 355	All ULS	0,57 -
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Combination key			
All ULS / 1.35*Lastna + 1.35*Stalna + 1.50*Veter tlak			

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-16,14	kN	$N_{c,Rd}$	1608,15	kN	0,01
Shear V_y	$V_{y,Ed}$	0,17	kN	$V_{pl,y,Rd}$	726,79	kN	0,00
Shear V_z	$V_{z,Ed}$	0,27	kN	$V_{pl,z,Rd}$	297,60	kN	0,00
Bending M_y	$M_{y,Ed}$	42,69	kNm	$M_{el,y,Rd}$	104,37	kNm	0,41
Bending M_z	$M_{z,Ed}$	-0,54	kNm	$M_{el,z,Rd}$	36,56	kNm	0,01
Torsion	T_{Ed}	0,1	MPa	T_{Rd}	205,0	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,43

Stability checks

Decisive position for stability classification: 3,121 m

Section is classified as Class 3

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	1,48	9,328	597,94		1,64	1,00
z-z	0,85	4,536	931,98		1,31	1,00
LTB	1,00	5,314		125,99	0,91	0,79

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	$M_{y,Ed}$	42,69	kNm	$M_{b,Rd}$	82,11	kNm	0,52

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,03	0,80	1,03	0,80

Maximum moment $M_{y,Ed}$ is derived from beam Beam-359 position 3,121 m.

Maximum moment $M_{z,Ed}$ is derived from beam Beam-359 position 0,996 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	42,69	-0,90	0,57

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member Beam-377	0,510 / 5,100 m	QRO60X5	Rolled	S 355	All ULS	0,83 -
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Combination key			
All ULS / Lastna + Stalna - 0.30*Potres x + 0.30*Potres x_AE + Potres y + Potres y_AE			

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25



Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-30,86	kN	$N_{c,Rd}$	383,40	kN	0,08
Shear V_y	$V_{y,Ed}$	-0,05	kN	$V_{pl,y,Rd}$	110,68	kN	0,00
Shear V_z	$V_{z,Ed}$	0,17	kN	$V_{pl,z,Rd}$	110,68	kN	0,00
Bending M_y	$M_{y,Ed}$	0,10	kNm	$M_{el,y,Rd}$	6,39	kNm	0,02
Bending M_z	$M_{z,Ed}$	-0,03	kNm	$M_{el,z,Rd}$	6,39	kNm	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,10

Stability checks

Decisive position for stability classification: 0,510 m

Section is classified as Class 3

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	1,00	5,100	43,11		2,98	0,10
z-z	1,00	5,100	43,11		2,98	0,10
LTB	1,00	5,100		61,14	0,32	1,00

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Flexural buckling	N_{Ed}	-30,86	kN	$N_{b,Rd}$	40,16	kN	0,77

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,10	1,10	1,10	1,10

Maximum moment $M_{y,Ed}$ is derived from beam Beam-377 position 2,550 m.

Maximum moment $M_{z,Ed}$ is derived from beam Beam-377 position 2,550 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	0,27	-0,07	0,83

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member Beam-392	0,000 / 6,739 m	QRO100X5	Rolled	S 355	All ULS	0,65 -
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Combination key	
All ULS / Lastna + Stalna - 0.30*Potres x + 0.30*Potres x_AE - Potres y + Potres y_AE	

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-54,97	kN	$N_{c,Rd}$	667,40	kN	0,08

Combined section checks

Combined section checks	Unity check [-]
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Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 3

Buckling group : Default

Buckling axis	k	L [m]	N _{cr} [kN]	M _{cr} [kNm]	λ_{rel}	χ
y-y	1,00	8,002	90,95		2,71	0,13
z-z	1,00	6,739	128,24		2,28	0,17
LTB	1,00	6,739		211,83	0,31	1,00

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Flexural buckling	N _{Ed}	-54,97	kN	N _{b,Rd}	84,05	kN	0,65

Combined stability checks

Interaction factors	k _{yy}	k _{yz}	k _{zy}	k _{zz}
Value	1,08	0,83	1,56	1,19

Maximum moment M_{y,Ed} is derived from beam Beam-392 position 0,000 m.

Maximum moment M_{z,Ed} is derived from beam Beam-392 position 0,000 m.

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member Beam-403	2,348 / 5,122 m	HEA120	Rolled	S 355	All ULS	0,34 -
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Combination key
All ULS / 1.35*Lastna + 1.35*Stalna + 1.50*Koristna streha

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f _y	355,0	MPa
Ultimate strength	f _u	490,0	MPa

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Tension	N _{Ed}	0,10	kN	N _{t,Rd}	892,58	kN	0,00
Shear V _y	V _{y,Ed}	0,00	kN	V _{pl,y,Rd}	410,94	kN	0,00
Shear V _z	V _{z,Ed}	-1,47	kN	V _{pl,z,Rd}	172,58	kN	0,01
Bending M _y	M _{y,Ed}	-9,71	kNm	M _{el,y,Rd}	37,63	kNm	0,26
Bending M _z	M _{z,Ed}	0,00	kNm	M _{el,z,Rd}	13,67	kNm	0,00
Torsion	T _{Ed}	0,0	MPa	T _{Rd}	205,0	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,26

Stability checks

Decisive position for stability classification: 2,348 m

Section is classified as Class 3

Buckling group : Default

Buckling axis	k	L [m]	N _{cr} [kN]	M _{cr} [kNm]	λ_{rel}	χ
y-y	1,00	5,122	478,77		1,37	1,00
z-z	0,85	3,667	356,01		1,59	1,00
y-z	1,00	4,314	1680,31		0,73	1,00
LTB	1,00	4,314		41,94	0,95	0,75

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	M _{y,Ed}	-9,71	kNm	M _{b,Rd}	28,22	kNm	0,34



Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,00	0,79	1,00	0,79

Maximum moment $M_{y,Ed}$ is derived from beam Beam-403 position 2,348 m.

Maximum moment $M_{z,Ed}$ is derived from beam Beam-403 position 4,314 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Tension	-9,71	0,00	0,34

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member Column-139	0,000 / 3,900 m	HEA160	Rolled	S 355	All ULS	0,57 -
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Combination key
All ULS / Lastna + Stalna - 0.30*Potres x + 0.30*Potres x_AE + Potres y + Potres y_AE

Partial safety factors			
Resistance of cross-sections	γ_{M0}	1,00	
Resistance to instability	γ_{M1}	1,00	
Resistance of net sections	γ_{M2}	1,25	

Material			
Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490.0	MPa

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-54,21	kN	$N_{c,Rd}$	1377,40	kN	0,04
Shear V_y	$V_{y,Ed}$	0,85	kN	$V_{pl,y,Rd}$	616,11	kN	0,00
Shear V_z	$V_{z,Ed}$	-8,26	kN	$V_{pl,z,Rd}$	271,37	kN	0,05

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,06

Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 3

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	2,54	9,899	353,23		1,97	0,21
z-z	1,00	3,899	840,00		1,28	0,40
LTB	1,00	3,900		184,82	0,65	1,00

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Flexural buckling	N_{Ed}	-54,21	kN	$N_{b,Rd}$	295,11	kN	0,18

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,03	0,90	1,13	0,99

Maximum moment $M_{y,Ed}$ is derived from beam Column-139 position 3,900 m.

Maximum moment $M_{z,Ed}$ is derived from beam Column-139 position 1,450 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-27,38	0,64	0,57

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member Column-150	0,000 / 3,900 m	HEA180	Rolled	S 355	All ULS	0,68 -
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Combination key

All ULS / 1.35*Lastna + 1.35*Stalna + 1.50*Koristna streha

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-94,23	kN	$N_{c,Rd}$	1608,15	kN	0,06
Shear V_z	$V_{z,Ed}$	8,60	kN	$V_{pl,z,Rd}$	297,60	kN	0,05

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,07

Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 3

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	3,41	13,285	294,75		2,34	0,16
z-z	1,00	3,900	1260,75		1,13	0,47
LTB	1,00	3,900		282,14	0,61	1,00

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Flexural buckling	N_{Ed}	-94,23	kN	$N_{b,Rd}$	254,50	kN	0,37

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	0,97	0,60	1,30	0,81

Maximum moment $M_{y,Ed}$ is derived from beam Column-150 position 3,900 m.

Maximum moment $M_{z,Ed}$ is derived from beam Column-150 position 3,900 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	33,53	0,00	0,68

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member Column-159	6,270 / 6,270 m	HEA160	Rolled	S 355	All ULS	0,68 -
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Combination key

All ULS / 1.35*Lastna + 1.35*Stalna + 1.50*Veter tlak

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	355,0	MPa
Ultimate strength	f_u	490,0	MPa

Section checks

Section is classified as Class 3



Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-7,60	kN	$N_{c,Rd}$	1377,40	kN	0,01
Shear V_y	$V_{y,Ed}$	-2,92	kN	$V_{pl,y,Rd}$	616,11	kN	0,01
Shear V_z	$V_{z,Ed}$	-31,12	kN	$V_{pl,z,Rd}$	271,37	kN	0,18
Bending M_y	$M_{y,Ed}$	-31,04	kNm	$M_{el,y,Rd}$	78,10	kNm	0,40
Bending M_z	$M_{z,Ed}$	-3,09	kNm	$M_{el,z,Rd}$	27,34	kNm	0,11

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,52

Stability checks

Decisive position for stability classification: 6,270 m

Section is classified as Class 3

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	2,50	15,706	140,32		3,13	0,09
z-z	0,96	6,018	352,53		1,98	0,20
LTB	1,00	6,270		85,35	0,96	0,78

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Flexural buckling	N_{Ed}	-7,60	kN	$N_{b,Rd}$	126,21	kN	0,06
Lateral Torsional Buckling	$M_{y,Ed}$	-31,04	kNm	$M_{b,Rd}$	61,18	kNm	0,51

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,01	0,96	1,04	1,00

Maximum moment $M_{y,Ed}$ is derived from beam Column-159 position 6,270 m.

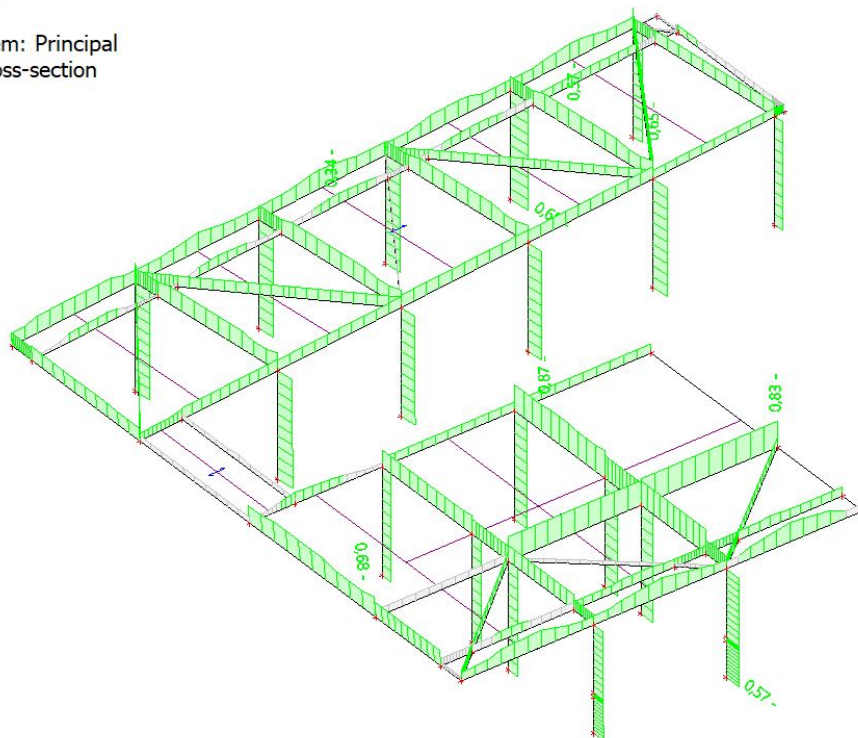
Maximum moment $M_{z,Ed}$ is derived from beam Column-159 position 6,270 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-31,04	-3,09	0,68



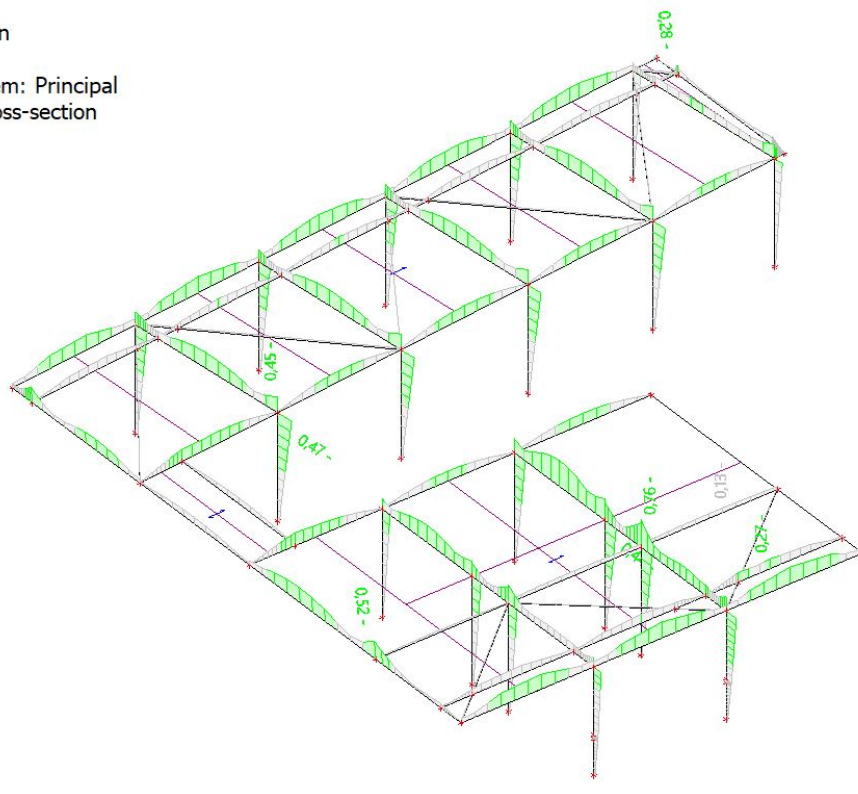
10.2. NSK - Overall check

Values: $UC_{overall}$
Linear calculation
Class: All ULS
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All



10.3. NSK - Section check

Values: UC_{sec}
Linear calculation
Class: All ULS
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All





10.4. NSK - Stability check

Values: UC_{stab}

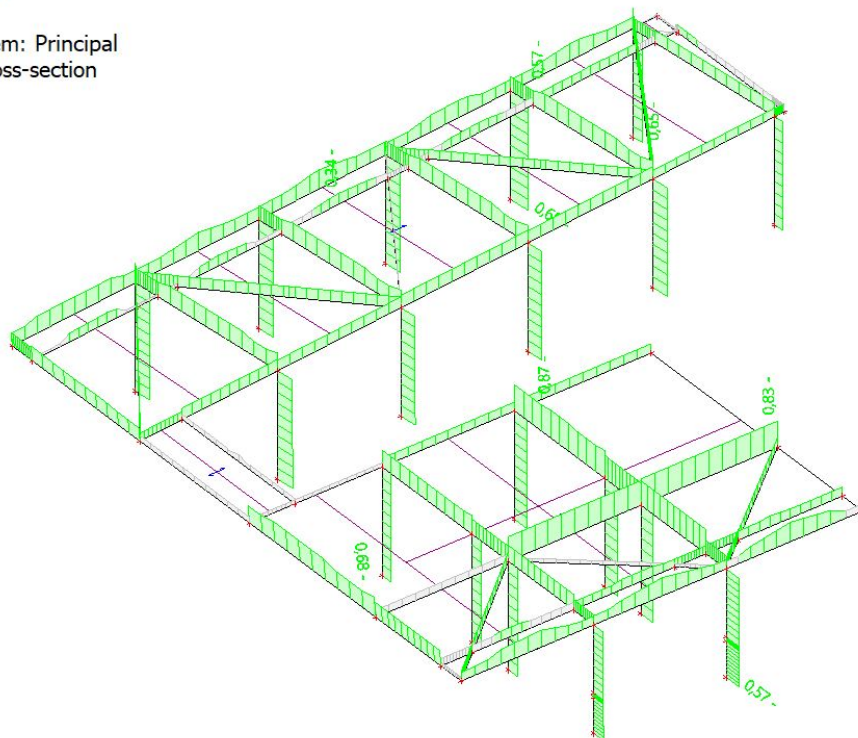
Linear calculation

Class: All ULS

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All






1. Kazalo

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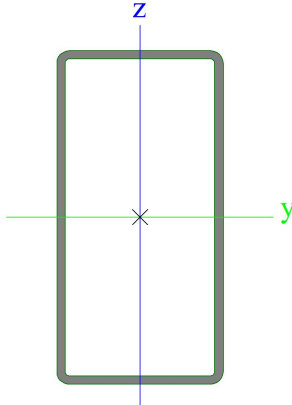



2. Materiali

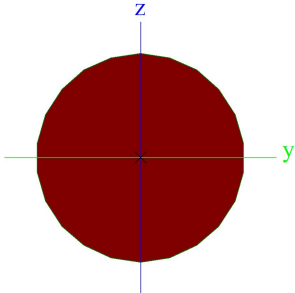
Steel EC3

Name	ρ [kg/m ³]	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	7850,00	2,1000e+05 8,0769e+04	0,3 0,01e-003	0 40	40 80	235,0 215,0	360,0 360,0	


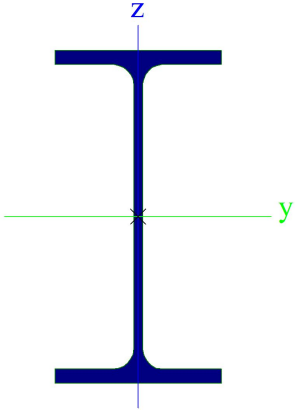
3. Prerezi

Nosilci primarni		
Type	RHS200/100/5.0	
Formcode	2 - Rectangular hollow section	
Shape type	Thin-walled	
Item material	S 235	
Fabrication	cold formed	
Colour		
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m ²]	2,8700e-03	
A _y [m ²], A _z [m ²]	9,5209e-04	1,9042e-03
A _L [m ² /m], A _D [m ² /m]	5,8700e-01	1,1428e+00
C _{y,UCS} [mm], C _{z,UCS} [mm]	50	100
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	1,4950e-05	5,0500e-06
i _y [mm], i _z [mm]	72	42
W _{el,y} [m ³], W _{el,z} [m ³]	1,4900e-04	1,0100e-04
W _{pl,y} [m ³], W _{pl,z} [m ³]	1,8343e-04	1,1312e-04
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	43106,35	43106,35
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	26582,52	26582,52
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	1,2040e-05	2,5000e-08
β _y [mm], β _z [mm]	0	0
Picture		
Zatega		
Type	RD16	
Formcode	11 - Full circular section	
Shape type	Thick-walled	
Item material	S 235	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	c	c
A [m ²]	2,0096e-04	
A _y [m ²], A _z [m ²]	1,7226e-04	1,7226e-04
A _L [m ² /m], A _D [m ² /m]	5,0133e-02	5,0263e-02
C _{y,UCS} [mm], C _{z,UCS} [mm]	8	8
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	3,1496e-09	3,1496e-09



i_y [mm], i_z [mm]	4	4
$W_{el.y}$ [m ³], $W_{el.z}$ [m ³]	3,9370e-07	3,9370e-07
$W_{pl.y}$ [m ³], $W_{pl.z}$ [m ³]	6,7190e-07	6,7190e-07
$M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm]	160,38	160,38
$M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm]	160,38	160,38
d_y [mm], d_z [mm]	0	0
I_t [m ⁴], I_w [m ⁶]	6,4299e-09	0,0000e+00
β_y [mm], β_z [mm]	0	0
Picture		

Menjalnik 2

Type	IPE200	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 235	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	a	b
A [m ²]	2,8500e-03	
A_y [m ²], A_z [m ²]	1,7729e-03	1,1448e-03
A_L [m ² /m], A_D [m ² /m]	7,6810e-01	7,6810e-01
$C_{Y.UCS}$ [mm], $C_{Z.UCS}$ [mm]	50	100
α [deg]	0,00	
I_y [m ⁴], I_z [m ⁴]	1,9430e-05	1,4200e-06
i_y [mm], i_z [mm]	83	22
$W_{el.y}$ [m ³], $W_{el.z}$ [m ³]	1,9400e-04	2,8500e-05
$W_{pl.y}$ [m ³], $W_{pl.z}$ [m ³]	2,2100e-04	4,4600e-05
$M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm]	51897,04	51897,04
$M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm]	10487,72	10487,72
d_y [mm], d_z [mm]	0	0
I_t [m ⁴], I_w [m ⁶]	6,9800e-08	1,3000e-08
β_y [mm], β_z [mm]	0	0
Picture		

Nosilci primarni 2

Type	RHS200/100/5.0	
Formcode	2 - Rectangular hollow section	
Shape type	Thin-walled	
Item material	S 235	
Fabrication	rolled	



Colour		
Flexural buckling y-y,	a	a
Flexural buckling z-z		
A [m ²]	2,8700e-03	
A _y [m ²], A _z [m ²]	9,5209e-04	1,9042e-03
A _L [m ² /m], A _D [m ² /m]	5,8700e-01	1,1428e+00
C _{y,UCS} [mm], C _{z,UCS} [mm]	50	100
α [deg]	0,00	
I _y [m ⁴], I _z [m ⁴]	1,4950e-05	5,0500e-06
i _y [mm], i _z [mm]	72	42
W _{el,y} [m ³], W _{el,z} [m ³]	1,4900e-04	1,0100e-04
W _{pl,y} [m ³], W _{pl,z} [m ³]	1,8343e-04	1,1312e-04
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	43106,35	43106,35
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	26582,52	26582,52
d _y [mm], d _z [mm]	0	0
I _t [m ⁴], I _w [m ⁶]	1,2040e-05	2,5000e-08
β _y [mm], β _z [mm]	0	0
Picture		

Explanations of symbols	
Formcode	h - Height b - Width s - Thickness r - Outer radius r1 - Inner radius
A	Area
A _y	Shear Area in principal y-direction
A _z	Shear Area in principal z-direction
A _L	Circumference per unit length
A _D	Drying surface per unit length
C _{y,UCS}	Centroid coordinate in Y-direction of Input axis system
C _{z,UCS}	Centroid coordinate in Z-direction of Input axis system
I _{y,LCS}	Second moment of area about the YLCS axis
I _{z,LCS}	Second moment of area about the ZLCS axis
I _{YZ,LCS}	Product moment of area in the LCS system
α	Rotation angle of the principal axis system
I _y	Second moment of area about the principal y-axis
I _z	Second moment of area about the principal z-axis
i _y	Radius of gyration about the principal y-axis

Explanations of symbols	
i _z	Radius of gyration about the principal z-axis
W _{el,y}	Elastic section modulus about the principal y-axis
W _{el,z}	Elastic section modulus about the principal z-axis
W _{pl,y}	Plastic section modulus about the principal y-axis
W _{pl,z}	Plastic section modulus about the principal z-axis
M _{pl,y,+}	Plastic moment about the principal y-axis for a positive M _y moment
M _{pl,y,-}	Plastic moment about the principal y-axis for a negative M _y moment
M _{pl,z,+}	Plastic moment about the principal z-axis for a positive M _z moment
M _{pl,z,-}	Plastic moment about the principal z-axis for a negative M _z moment
d _y	Shear center coordinate in principal y-direction measured from the centroid
d _z	Shear center coordinate in principal z-direction measured from the centroid
I _t	Torsional constant
I _w	Warping constant
β _y	Mono-symmetry constant about the principal y-axis
β _z	Mono-symmetry constant about the principal z-axis



4. Elementi

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B12	Menjalnik 2 - IPE200	S 235	0,777	N21	N5	beam (80)
B13	Menjalnik 2 - IPE200	S 235	1,300	N17	N21	beam (80)
B16	Menjalnik 2 - IPE200	S 235	1,300	N23	N24	beam (80)
B29	Nosilci primarni 2 - RHS200/100/5.0	S 235	1,335	N24	N45	beam (80)
B36	Menjalnik 2 - IPE200	S 235	1,250	N45	N56	beam (80)
B48	Menjalnik 2 - IPE200	S 235	1,258	N5	N2	beam (80)
B50	Menjalnik 2 - IPE200	S 235	1,250	N58	N61	beam (80)
B51	Zatega - RD16	S 235	1,806	N23	N57	beam (80)
B52	Zatega - RD16	S 235	1,838	N24	N25	beam (80)
B53	Zatega - RD16	S 235	1,768	N45	N46	beam (80)
B54	Zatega - RD16	S 235	1,768	N56	N44	beam (80)
B55	Zatega - RD16	S 235	1,564	N60	N58	beam (80)
B56	Zatega - RD16	S 235	1,564	N59	N61	beam (80)
B57	Zatega - RD16	S 235	1,835	N16	N21	beam (80)
B58	Zatega - RD16	S 235	1,835	N18	N17	beam (80)
B59	Zatega - RD16	S 235	1,929	N69	N2	beam (80)
B60	Zatega - RD16	S 235	1,691	N3	N5	beam (80)
B61	Nosilci primarni 2 - RHS200/100/5.0	S 235	3,282	N44	N60	beam (80)
B65	Nosilci primarni 2 - RHS200/100/5.0	S 235	3,282	N46	N59	beam (80)
B66	Nosilci primarni 2 - RHS200/100/5.0	S 235	5,291	N16	N25	beam (80)
B67	Nosilci primarni 2 - RHS200/100/5.0	S 235	5,245	N18	N57	beam (80)
B76	Nosilci primarni 2 - RHS200/100/5.0	S 235	3,026	N1	N3	beam (80)
B77	Nosilci primarni 2 - RHS200/100/5.0	S 235	3,162	N4	N69	beam (80)
B82	Menjalnik 2 - IPE200	S 235	1,300	N94	N96	beam (80)
B83	Menjalnik 2 - IPE200	S 235	1,300	N97	N98	beam (80)
B84	Nosilci primarni 2 - RHS200/100/5.0	S 235	1,335	N98	N115	beam (80)
B88	Zatega - RD16	S 235	1,806	N97	N77	beam (80)
B89	Zatega - RD16	S 235	1,838	N98	N70	beam (80)
B94	Zatega - RD16	S 235	1,835	N93	N96	beam (80)
B95	Zatega - RD16	S 235	1,835	N95	N94	beam (80)
B98	Nosilci primarni 2 - RHS200/100/5.0	S 235	5,158	N71	N123	beam (80)
B99	Nosilci primarni 2 - RHS200/100/5.0	S 235	4,991	N72	N122	beam (80)
B100	Nosilci primarni 2 - RHS200/100/5.0	S 235	5,291	N93	N70	beam (80)
B101	Nosilci primarni 2 - RHS200/100/5.0	S 235	5,245	N95	N77	beam (80)
B102	Nosilci primarni 2 - RHS200/100/5.0	S 235	0,755	N96	N131	beam (80)
B103	Nosilci primarni 2 - RHS200/100/5.0	S 235	0,755	N95	N132	beam (80)
B114	Menjalnik 2 - IPE200	S 235	1,250	N153	N154	beam (80)
B115	Menjalnik 2 - IPE200	S 235	1,250	N124	N121	beam (80)
B116	Zatega - RD16	S 235	1,768	N71	N120	beam (80)
B117	Zatega - RD16	S 235	1,768	N72	N153	beam (80)
B118	Zatega - RD16	S 235	1,611	N124	N122	beam (80)
B119	Zatega - RD16	S 235	1,720	N123	N121	beam (80)
B120	Nosilci primarni - RHS200/100/5.0	S 235	4,021	N25	N46	beam (80)
B121	Nosilci primarni - RHS200/100/5.0	S 235	4,021	N70	N72	beam (80)

5. Vozlišča

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N1	1,443	0,165	0,000
N2	1,258	1,537	1,020
N3	1,088	2,832	1,020
N4	0,204	0,000	0,000
N5	0,000	1,537	1,020
N6	1,424	0,302	0,102
N7	0,186	0,139	0,092
N8	1,387	0,577	0,306
N9	0,149	0,416	0,276
N10	1,350	0,851	0,510
N11	0,112	0,694	0,461
N12	1,313	1,126	0,714
N13	0,075	0,971	0,645
N14	1,276	1,400	0,918
N15	0,038	1,249	0,829

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N16	-2,077	2,832	1,020
N17	-2,077	1,537	1,020
N18	-0,777	2,832	1,020
N21	-0,777	1,537	1,020
N23	-2,077	-0,703	2,520
N24	-0,777	-0,703	2,520
N25	-2,077	-2,003	2,520
N27	-0,777	1,397	1,114
N28	-2,077	1,397	1,114
N29	-0,777	1,117	1,301
N30	-2,077	1,117	1,301
N31	-0,777	0,837	1,489
N32	-2,077	0,837	1,489
N33	-0,777	0,557	1,676
N34	-2,077	0,557	1,676

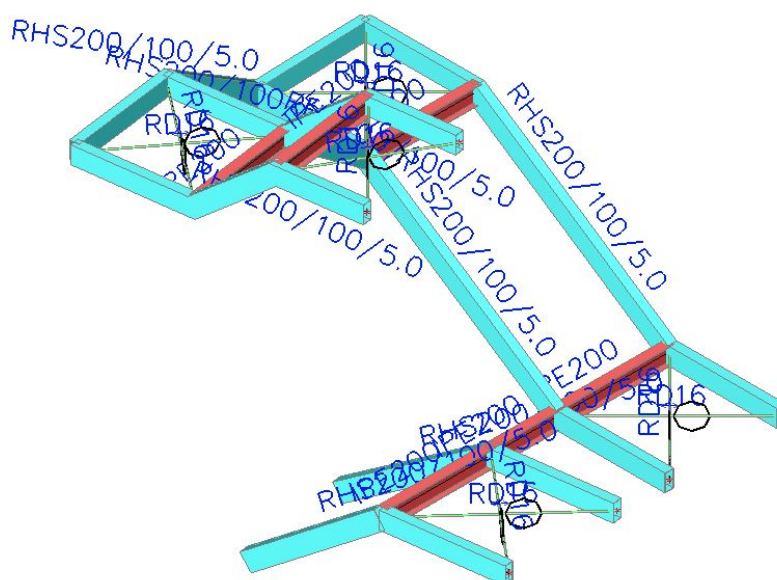


Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N35	-0,777	0,277	1,864
N36	-2,077	0,277	1,864
N37	-0,777	-0,003	2,051
N38	-2,077	-0,003	2,051
N39	-0,777	-0,283	2,239
N40	-2,077	-0,283	2,239
N41	-0,777	-0,563	2,426
N42	-2,077	-0,563	2,426
N44	0,442	-1,795	3,326
N45	0,277	-0,555	3,326
N46	1,681	-1,630	3,326
N48	0,303	-1,813	3,234
N49	0,138	-0,574	3,220
N50	0,026	-1,850	3,051
N51	-0,139	-0,613	3,008
N52	-0,252	-1,887	2,867
N53	-0,416	-0,652	2,796
N54	-0,529	-1,924	2,684
N55	-0,694	-0,691	2,584
N56	1,516	-0,390	3,326
N57	-0,777	-1,957	2,520
N58	1,405	0,443	4,021
N59	1,281	1,375	4,021
N60	0,042	1,210	4,021
N61	0,166	0,278	4,021
N63	1,423	0,304	3,905
N64	0,184	0,139	3,905
N65	1,460	0,027	3,674
N66	0,221	-0,138	3,674
N67	1,497	-0,251	3,442
N68	0,258	-0,416	3,442
N69	-0,172	2,832	1,020
N70	8,922	-2,003	2,520
N71	11,441	-1,795	3,326
N72	12,680	-1,630	3,326
N73	11,302	-1,813	3,234
N74	11,024	-1,850	3,051
N75	10,747	-1,887	2,867
N76	10,469	-1,924	2,684
N77	10,222	-1,957	2,520
N93	8,922	2,832	1,020
N94	8,922	1,537	1,020
N95	10,222	2,832	1,020
N96	10,222	1,537	1,020
N97	8,922	-0,703	2,520
N98	10,222	-0,703	2,520
N99	10,222	1,397	1,114
N100	8,922	1,397	1,114

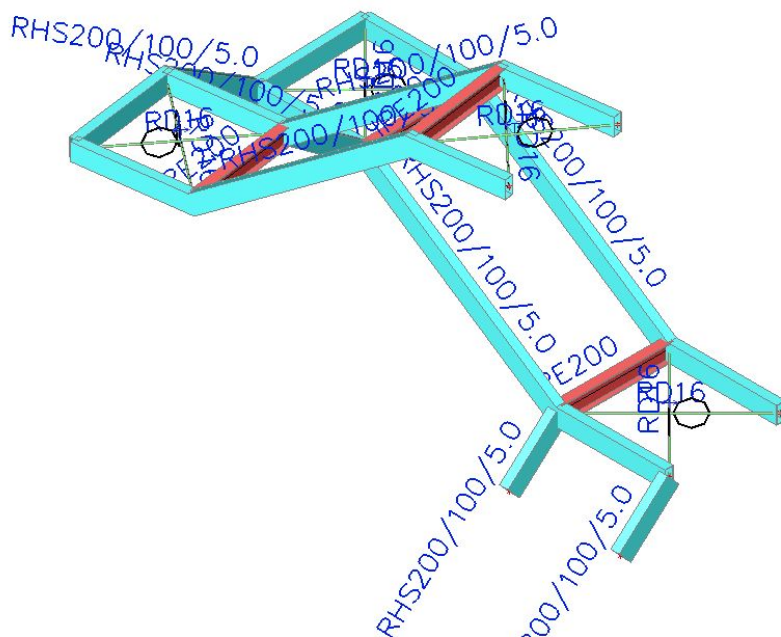
Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N101	10,222	1,117	1,301
N102	8,922	1,117	1,301
N103	10,222	0,837	1,489
N104	8,922	0,837	1,489
N105	10,222	0,557	1,676
N106	8,922	0,557	1,676
N107	10,222	0,277	1,864
N108	8,922	0,277	1,864
N109	10,222	-0,003	2,051
N110	8,922	-0,003	2,051
N111	10,222	-0,283	2,239
N112	8,922	-0,283	2,239
N113	10,222	-0,563	2,426
N114	8,922	-0,563	2,426
N115	11,276	-0,555	3,326
N116	11,137	-0,574	3,220
N117	10,860	-0,613	3,008
N118	10,582	-0,652	2,796
N119	10,305	-0,691	2,584
N120	12,515	-0,390	3,326
N121	12,220	1,830	4,878
N122	12,087	2,837	4,878
N123	10,826	2,837	4,878
N124	10,981	1,665	4,878
N131	10,782	1,537	0,513
N132	10,782	2,832	0,513
N133	10,642	1,537	0,640
N134	10,642	2,832	0,640
N135	10,362	1,537	0,893
N136	10,362	2,832	0,893
N137	12,483	-0,154	3,491
N138	11,245	-0,323	3,488
N139	12,450	0,099	3,668
N140	11,211	-0,071	3,664
N141	12,416	0,352	3,844
N142	11,178	0,180	3,840
N143	12,383	0,604	4,021
N144	11,145	0,432	4,016
N145	12,349	0,857	4,198
N146	11,111	0,684	4,192
N147	12,316	1,110	4,374
N148	11,078	0,936	4,368
N149	12,282	1,362	4,551
N150	11,044	1,188	4,544
N151	12,249	1,615	4,728
N152	11,011	1,440	4,720
N153	11,276	-0,555	3,326
N154	12,515	-0,390	3,326



6. 3D model 1



7. 3D model 2

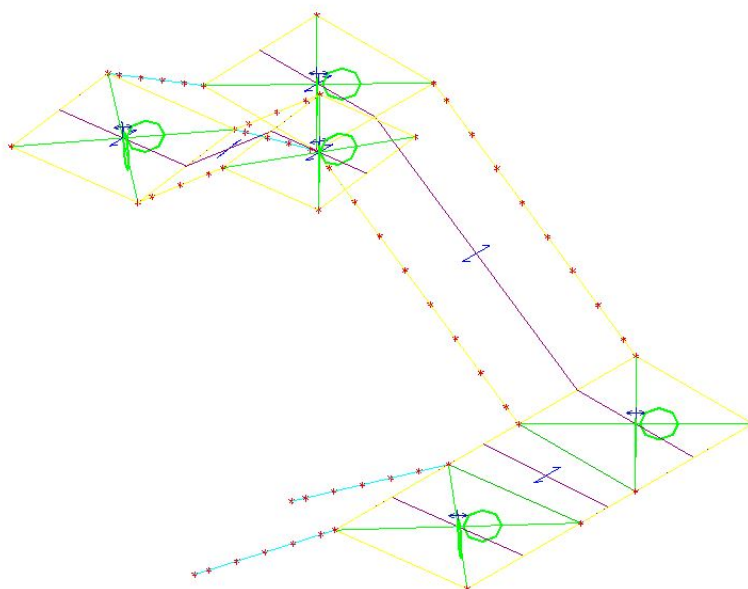


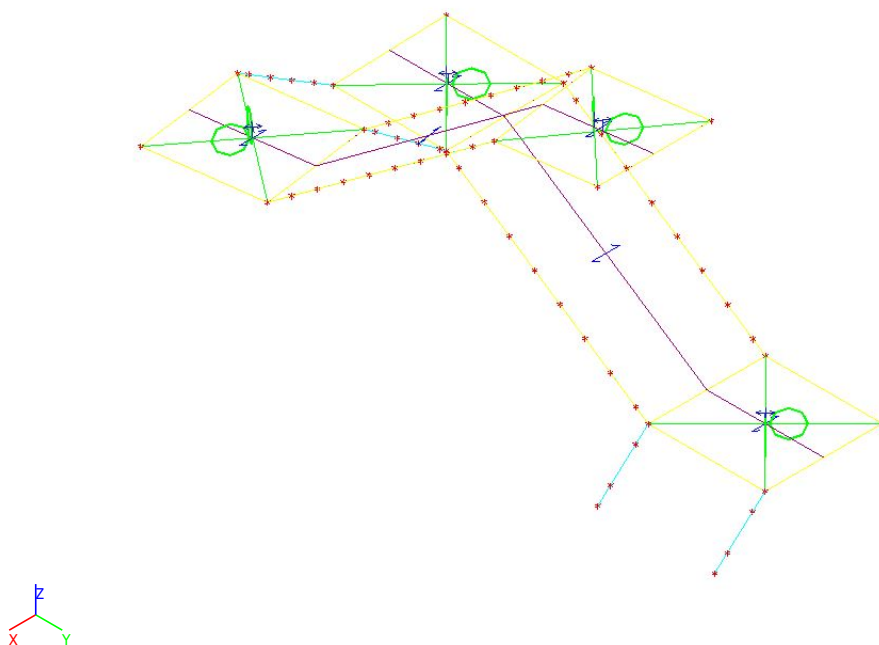


8. Obtežni primeri

8.1. Obtežni primeri - Lastna

Name	Description Spec	Action type Load type	Load group	Direction
Lastna		Permanent	Lastna in stalna	-Z
		Self weight		





8.2. Obtežni primeri - Stalna

Name	Description Spec	Action type Load type	Load group
Stalna		Permanent	Lastna in stalna
		Standard	



Techub

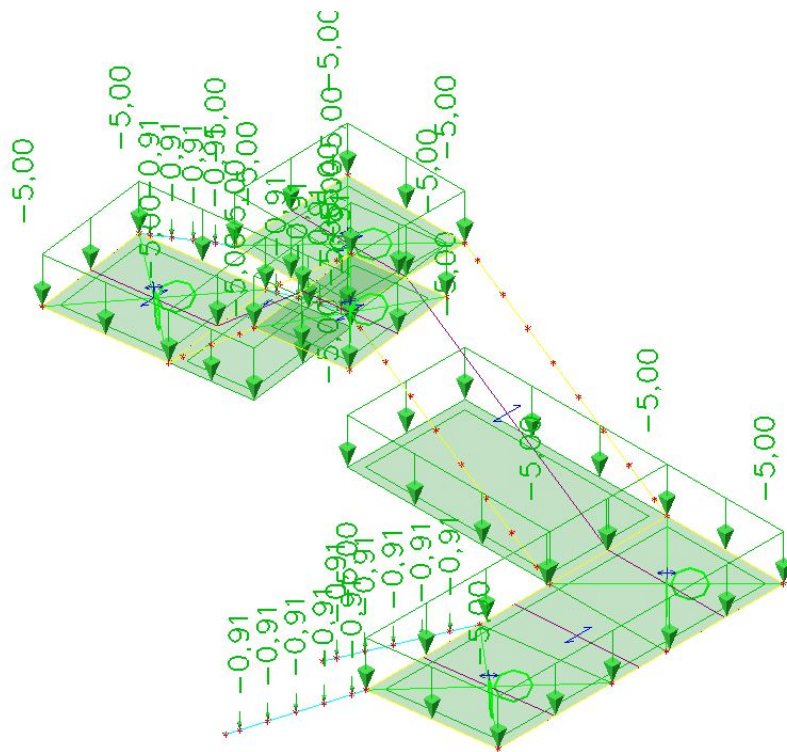
EC - EN
Slovenian SIST-EN NA

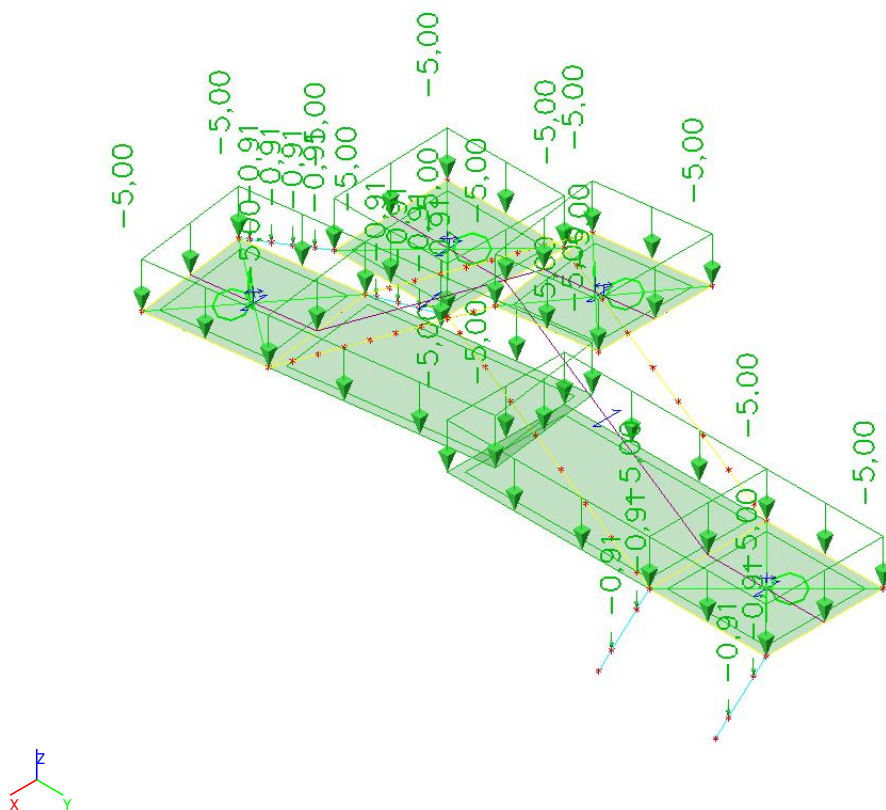




8.3. Obtežni primeri - Koristna 1

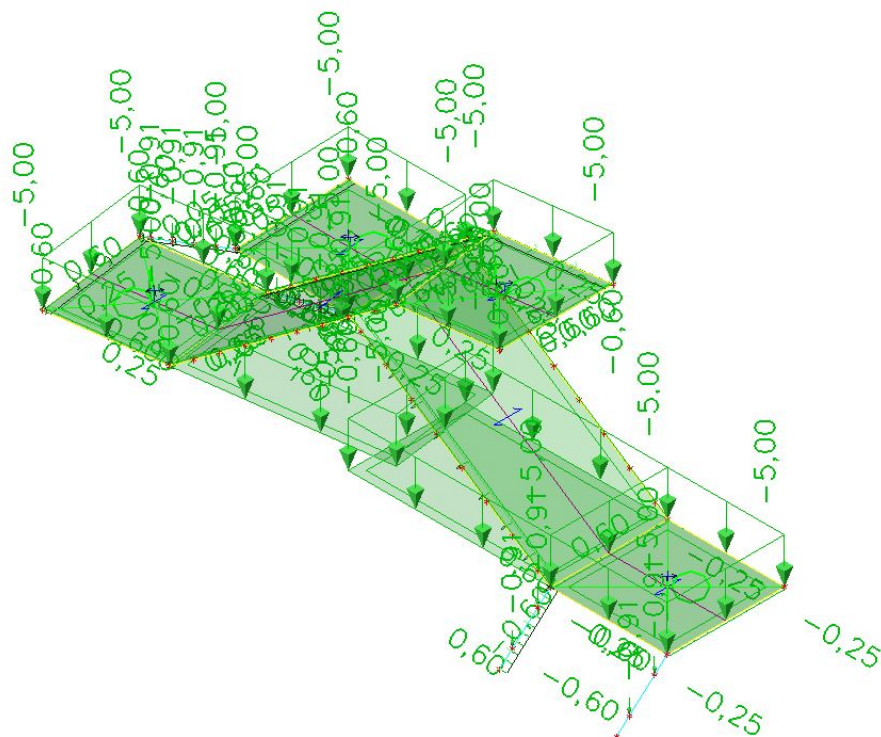
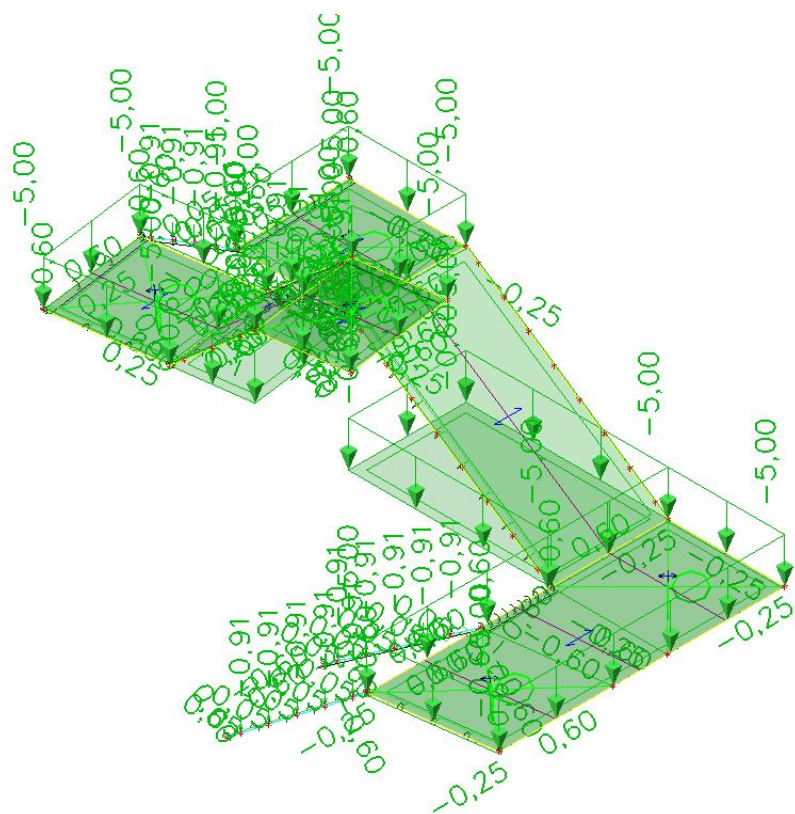
Name	Description	Action type	Load group	Duration	Master load case
	Spec	Load type			
Koristna 1		Variable	Koristna	Medium	None
	Standard	Static			

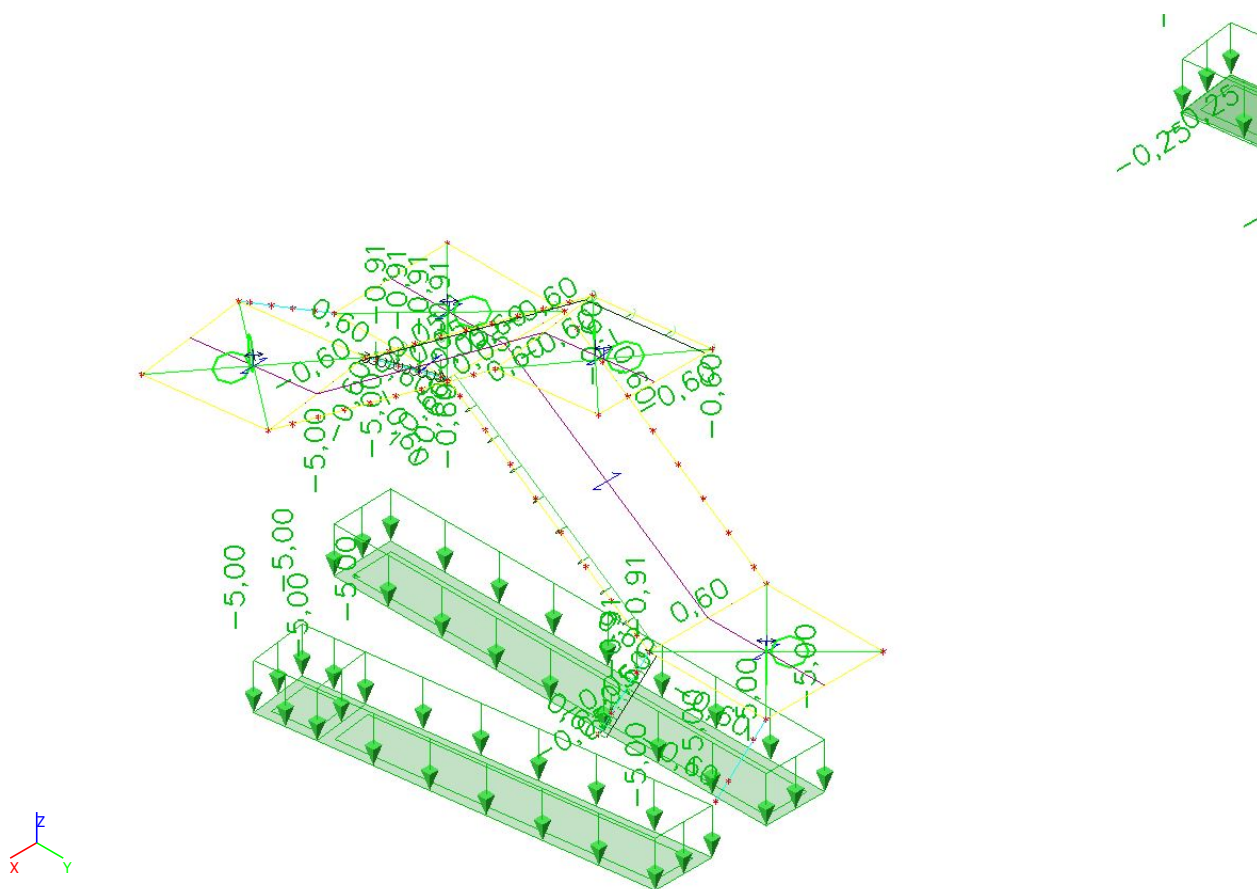




8.4. Obtežni primeri - Koristna 2

Name	Description	Action type	Load group	Duration	Master load case
	Spec	Load type			
Koristna 2		Variable	Koristna	Medium	None
	Standard	Static			



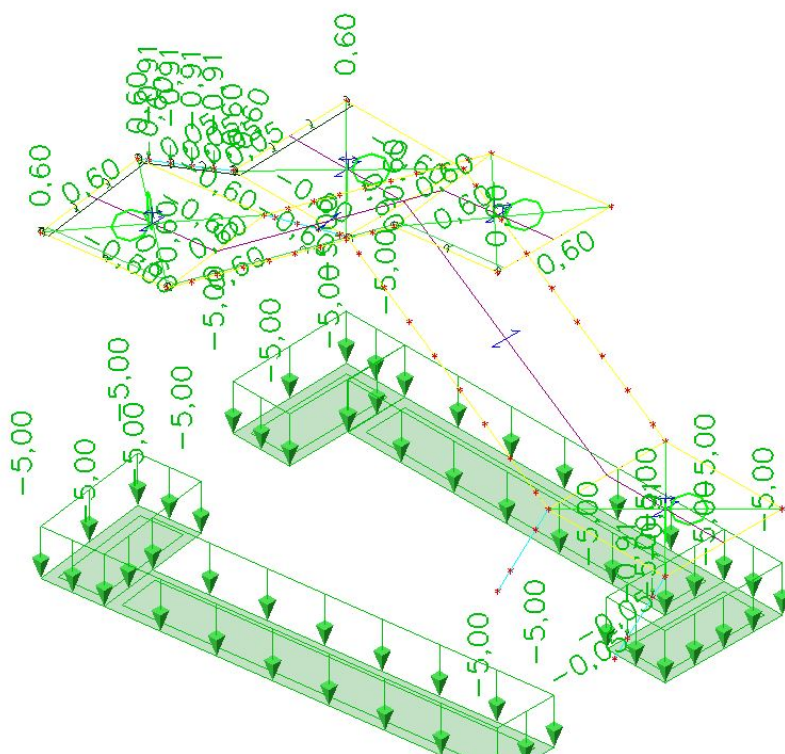
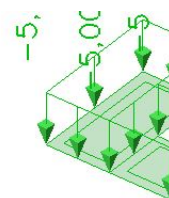
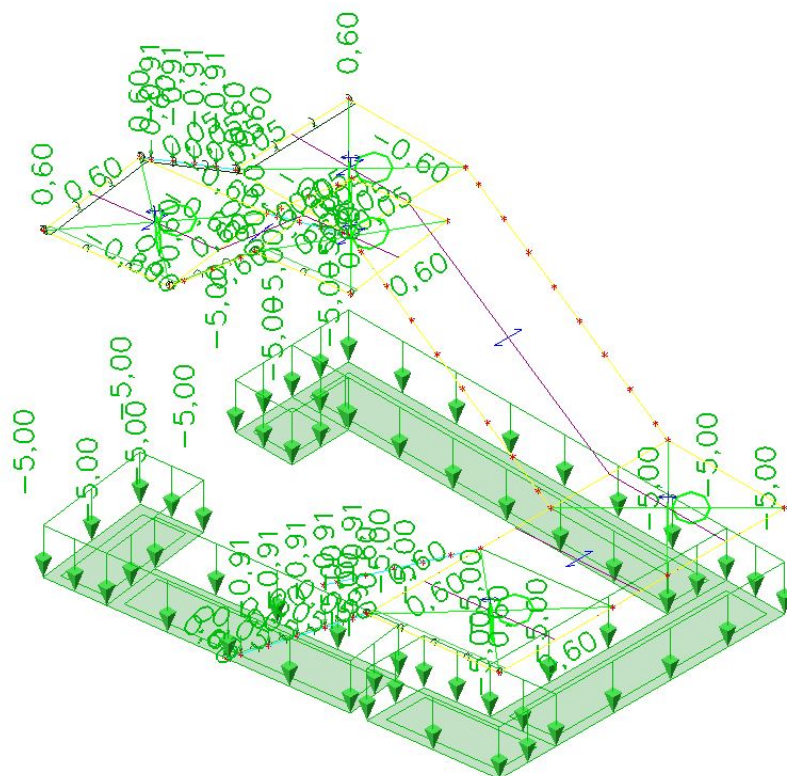


8.6. Obtežni primeri - Koristna 4

Name	Description	Action type	Load group	Duration	Master load case
	Spec	Load type			
Koristna 4		Variable	Koristna	Medium	None
	Standard	Static			



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9. Obtežne kombinacije z NSK in pomiki

9.1. Obtežne kombinacije z NSK in pomiki - All SLS

Name	List
All SLS	SLS-Char (auto) - EN-SLS Characteristic

9.1.1. 1D internal forces

Linear calculation
Class: All SLS
Coordinate system: Principal
Extreme 1D: Global
Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B51	0,000	SLS-Char (auto)/1	-13,00	0,00	0,00	0,00	0,00	0,00
B61	2,341-	SLS-Char (auto)/1	27,91	2,61	2,64	-0,65	17,69	1,68
B120	4,021	SLS-Char (auto)/1	-6,52	-11,64	8,69	0,00	-2,34	0,00
B120	2,771+	SLS-Char (auto)/1	24,29	6,55	-20,66	-0,75	15,92	-3,01
B121	3,751-	SLS-Char (auto)/2	21,39	3,90	-23,25	0,00	-3,80	2,58
B101	0,000	SLS-Char (auto)/1	2,54	-1,22	13,12	0,00	0,00	0,00
B65	0,000	SLS-Char (auto)/1	4,65	0,47	8,67	-2,34	0,00	0,00
B98	0,000	SLS-Char (auto)/3	4,81	-1,24	10,27	2,62	0,00	0,00
B121	3,751+	SLS-Char (auto)/4	0,30	-4,58	9,49	-0,16	-4,81	1,26
B121	2,771-	SLS-Char (auto)/2	22,42	-1,32	2,96	0,68	19,50	-1,04
B99	1,251+	SLS-Char (auto)/3	6,01	2,39	2,21	-0,91	7,27	-3,35
B98	3,976-	SLS-Char (auto)/3	8,62	3,10	-4,19	-1,62	13,57	3,38

Name	Combination key
SLS-Char (auto)/1	Lastna + Stalna + Koristna 2
SLS-Char (auto)/2	Lastna + Stalna + Koristna 1
SLS-Char (auto)/3	Lastna + Stalna + Koristna 3
SLS-Char (auto)/4	Lastna + Stalna + Koristna 4



9.1.2. N

Values: **N**

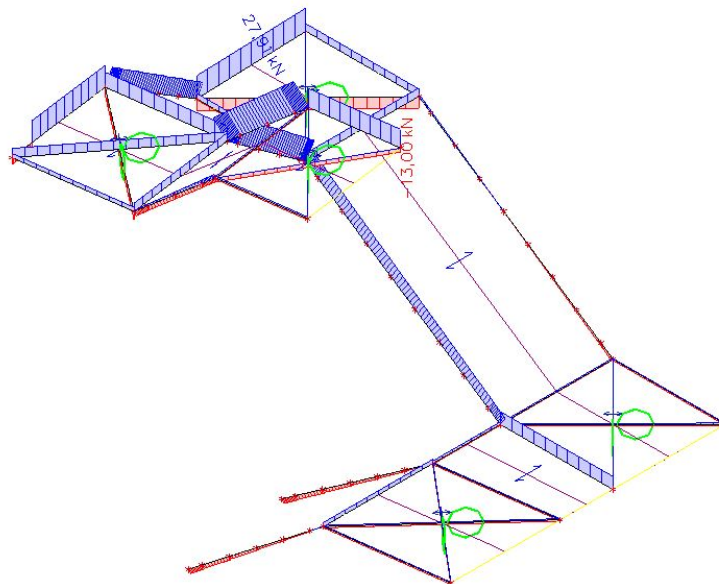
Linear calculation

Class: All SLS

Coordinate system: Principal

Extreme 1D: Global

Selection: All



Values: **N**

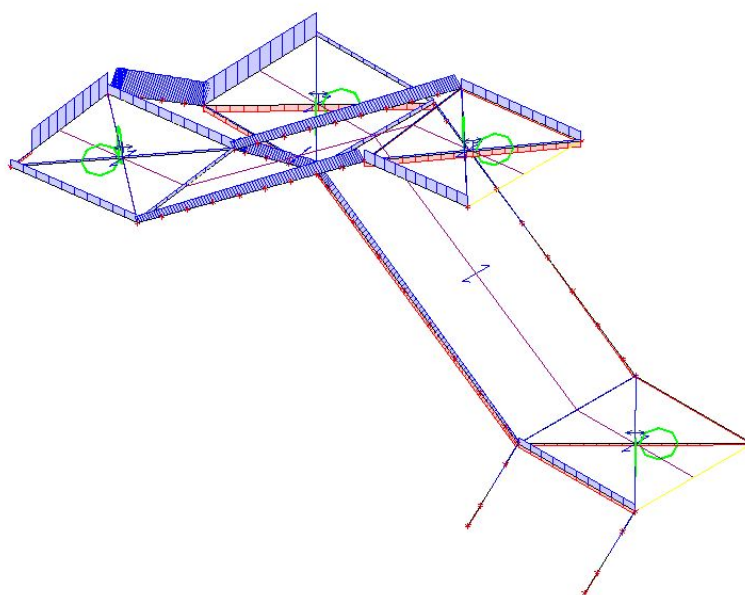
Linear calculation

Class: All SLS

Coordinate system: Principal

Extreme 1D: Global

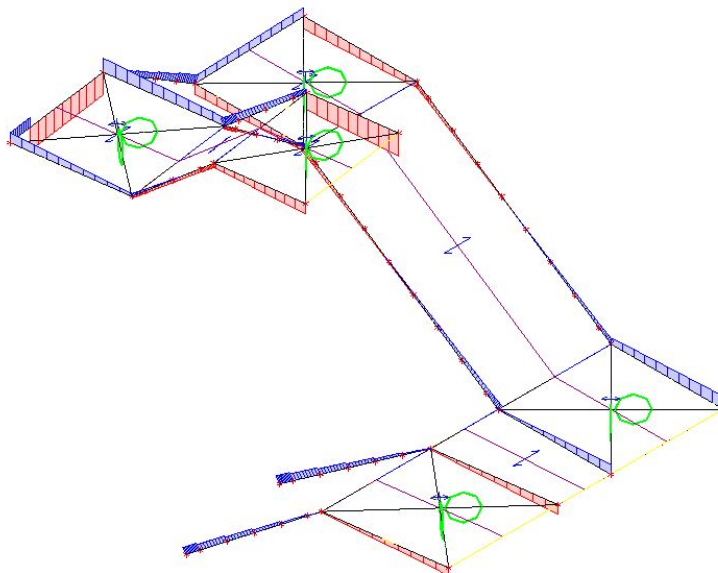
Selection: All



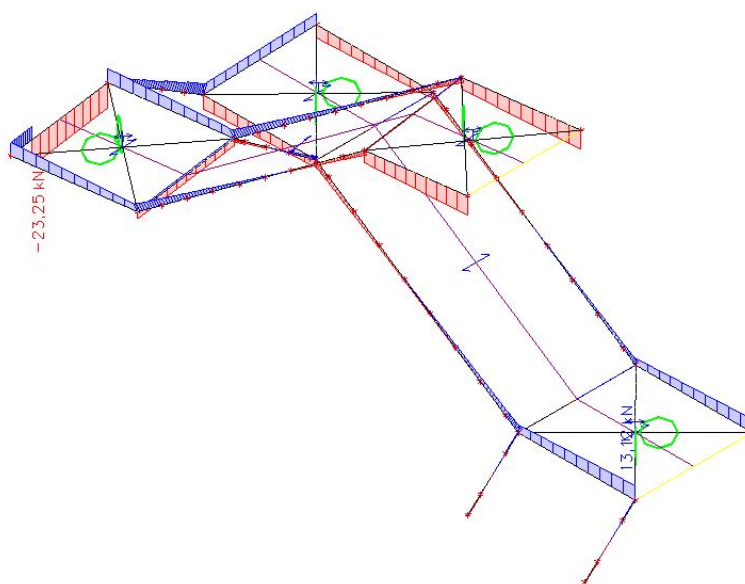


9.1.3. V_z

Values: V_z
Linear calculation
Class: All SLS
Coordinate system: Principal
Extreme 1D: Global
Selection: All



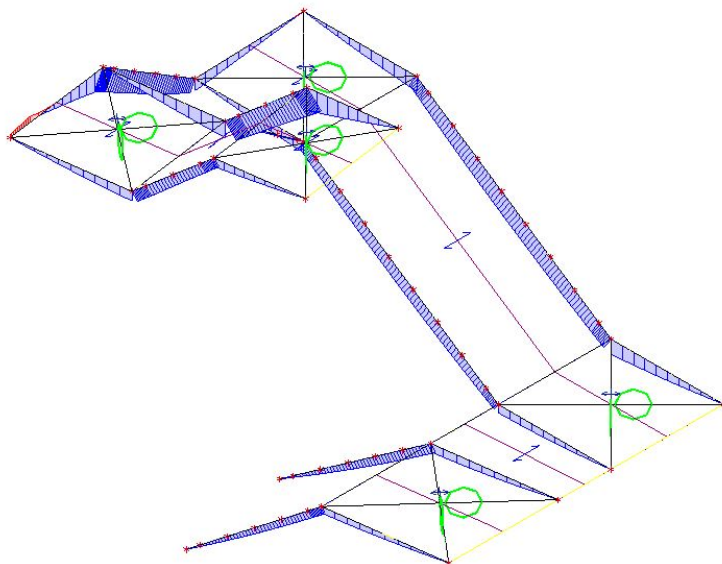
Values: V_z
Linear calculation
Class: All SLS
Coordinate system: Principal
Extreme 1D: Global
Selection: All



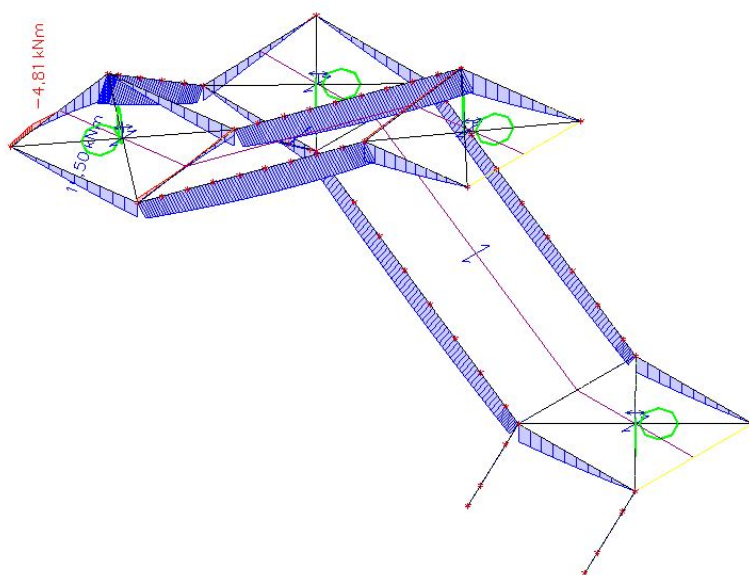


9.1.4. M_y

Values: M_y
Linear calculation
Class: All SLS
Coordinate system: Principal
Extreme 1D: Global
Selection: All



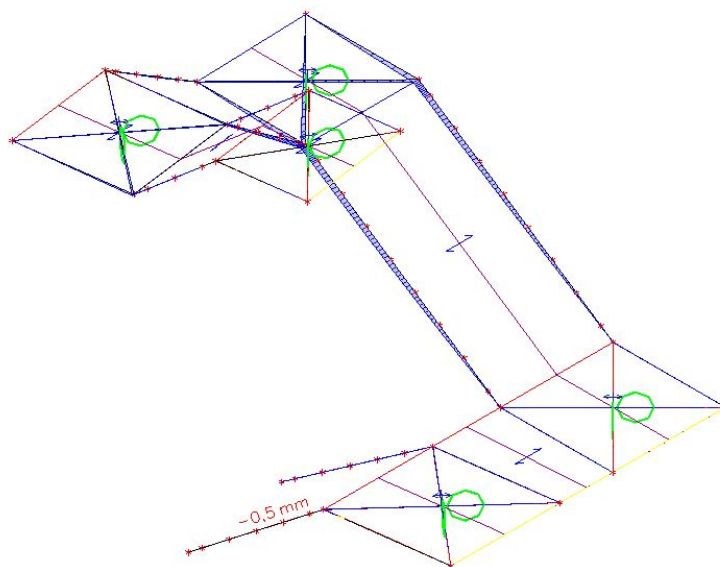
Values: M_y
Linear calculation
Class: All SLS
Coordinate system: Principal
Extreme 1D: Global
Selection: All



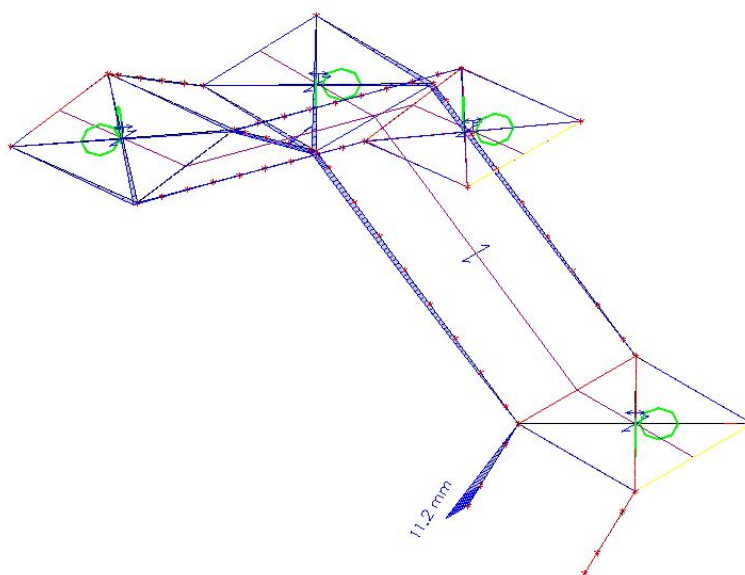


9.1.5. u_x

Values: u_x
Linear calculation
Class: All SLS
Coordinate system: Global
Extreme 1D: Global
Selection: All



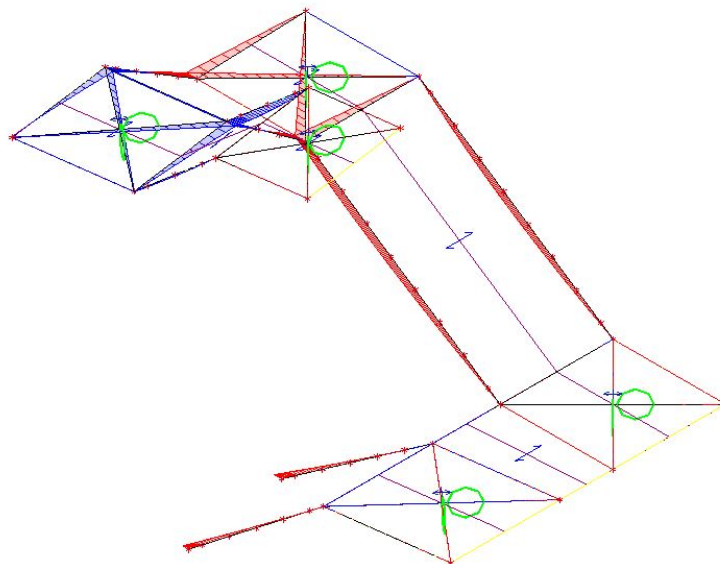
Values: u_x
Linear calculation
Class: All SLS
Coordinate system: Global
Extreme 1D: Global
Selection: All



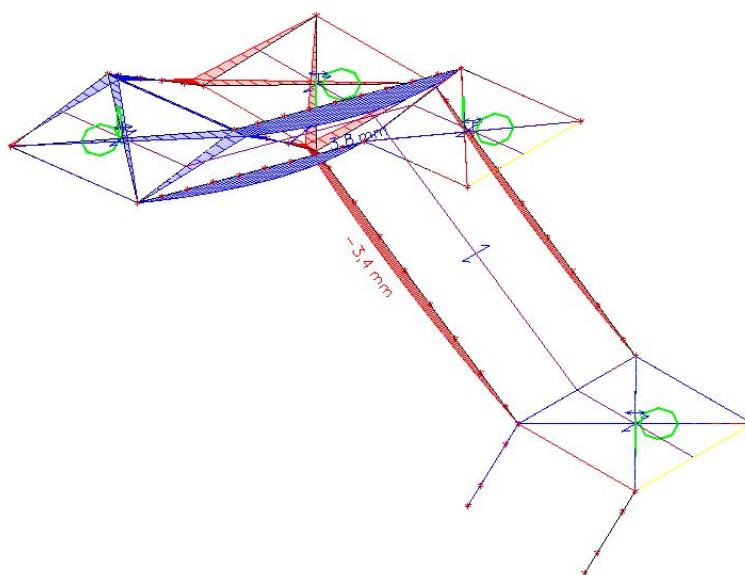


9.1.6. u_y

Values: u_y
Linear calculation
Class: All SLS
Coordinate system: Global
Extreme 1D: Global
Selection: All



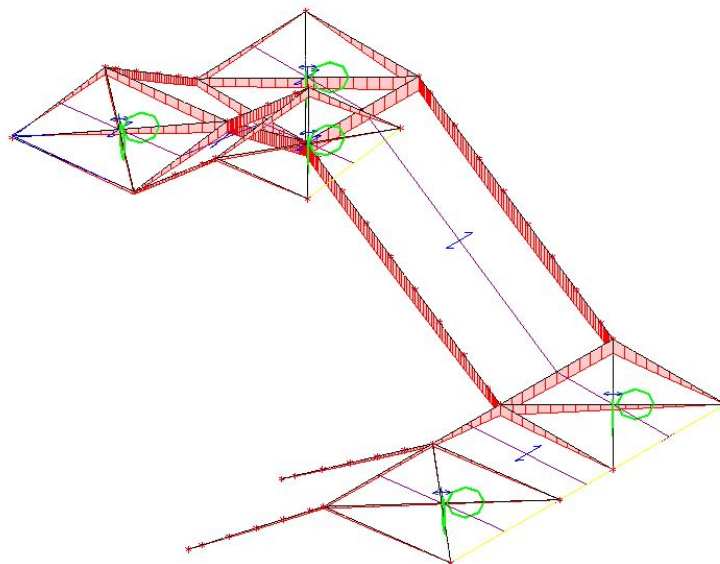
Values: u_y
Linear calculation
Class: All SLS
Coordinate system: Global
Extreme 1D: Global
Selection: All



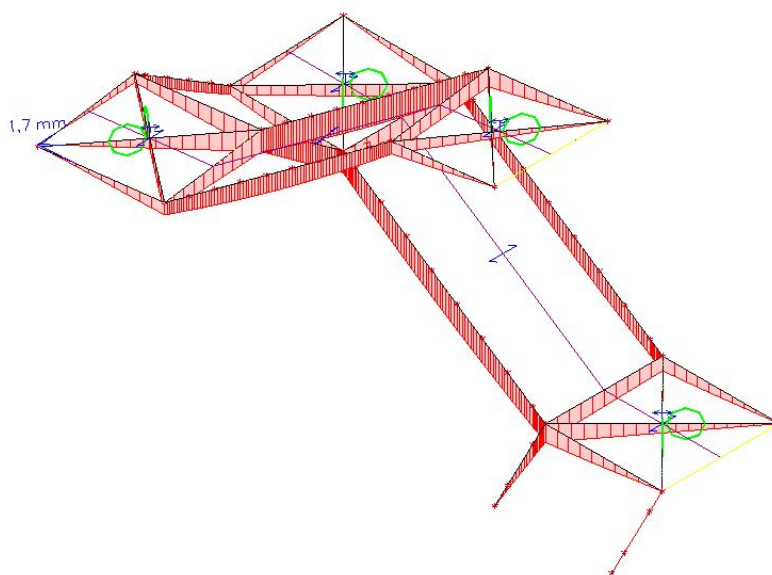


9.1.7. u_z

Values: u_z
Linear calculation
Class: All SLS
Coordinate system: Global
Extreme 1D: Global
Selection: All



Values: u_z
Linear calculation
Class: All SLS
Coordinate system: Global
Extreme 1D: Global
Selection: All





9.2. Obtežne kombinacije z NSK in pomiki - MSN nelinearna

Name	List
MSN nelinearna	MSN nelinearna
	MSN nelinearna1
	MSN nelinearna2
	Nelinearna MSN
	Nelinearna MSN1

9.2.1. 1D internal forces

Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B120	3,751+	MSN nelinearna2	-16,77	-15,15	12,59	0,00	-5,83	4,09
B61	2,341-	MSN nelinearna	36,28	3,90	2,65	-0,86	23,94	2,37
B120	4,021	MSN nelinearna	-14,10	-15,59	11,92	0,00	-3,53	0,00
B120	2,771+	MSN nelinearna	29,00	9,38	-30,25	-1,13	23,38	-4,59
B121	3,751-	MSN nelinearna2	30,41	5,62	-33,63	0,00	-5,44	3,67
B101	0,000	MSN nelinearna	0,82	-1,76	19,60	0,00	0,00	0,00
B65	0,000	MSN nelinearna	0,99	0,50	11,90	-3,53	0,00	0,00
B98	0,000	MSN nelinearna1	6,19	-1,81	14,47	3,94	0,00	0,00
B121	3,751-	Nelinearna MSN	18,29	5,18	-21,11	-0,24	-7,02	1,76
B121	2,771-	MSN nelinearna2	32,85	-1,93	4,32	1,00	28,31	-1,54
B121	2,771+	MSN nelinearna	33,17	8,52	-32,25	-1,13	25,97	-4,78
B98	3,976-	MSN nelinearna1	11,66	4,37	-6,07	-2,37	19,35	4,66



9.2.2. N

Values: **N**

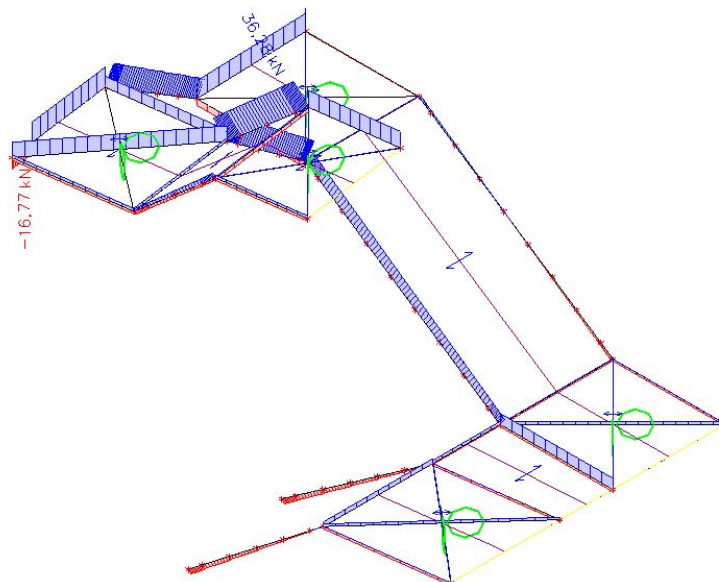
Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Global

Selection: All



Values: **N**

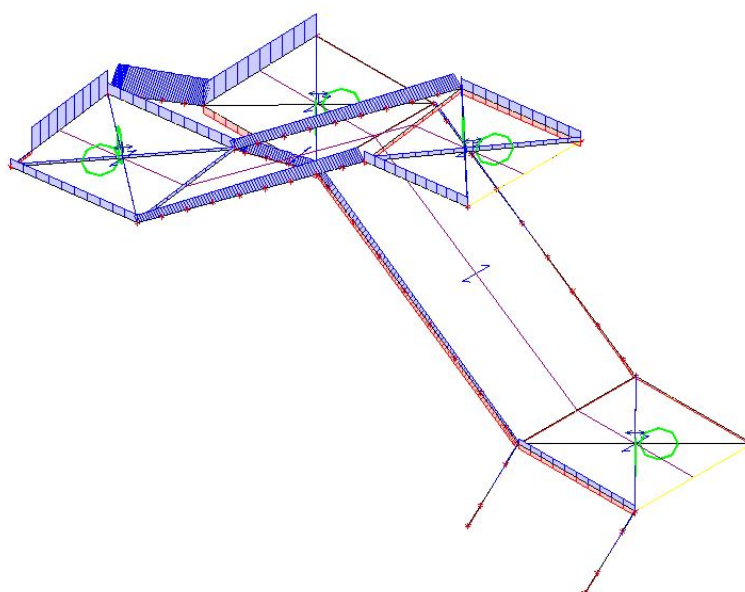
Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Global

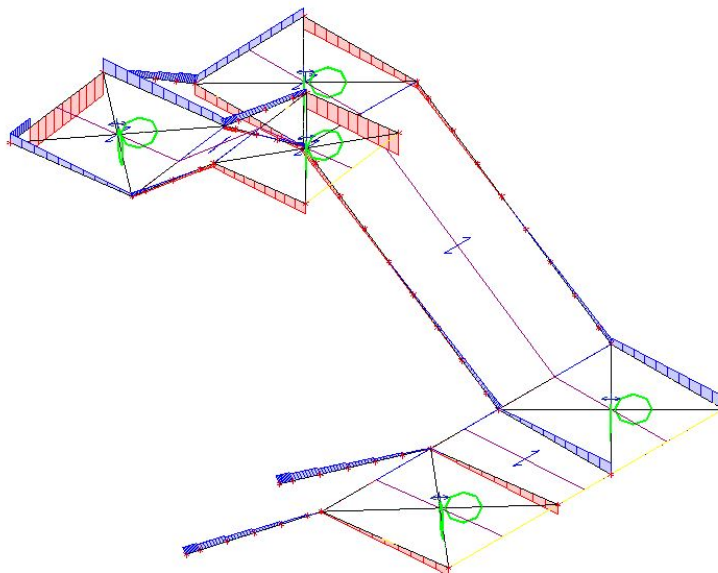
Selection: All



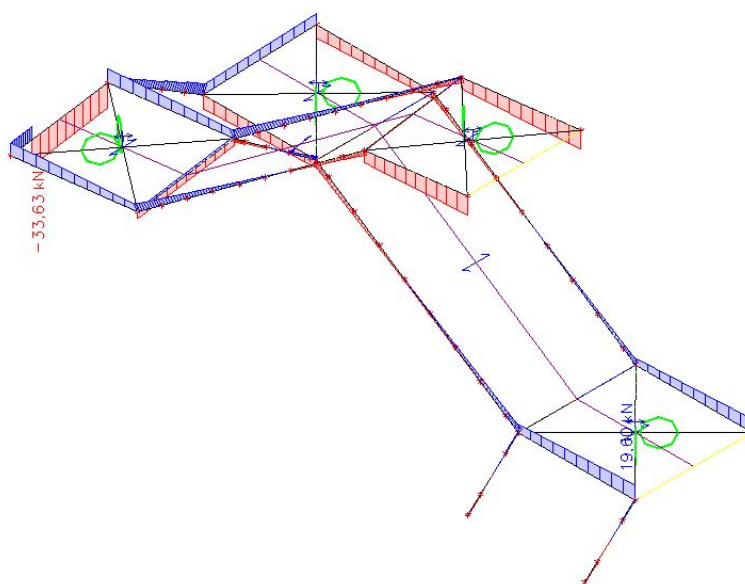


9.2.3. V_z

Values: V_z
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All



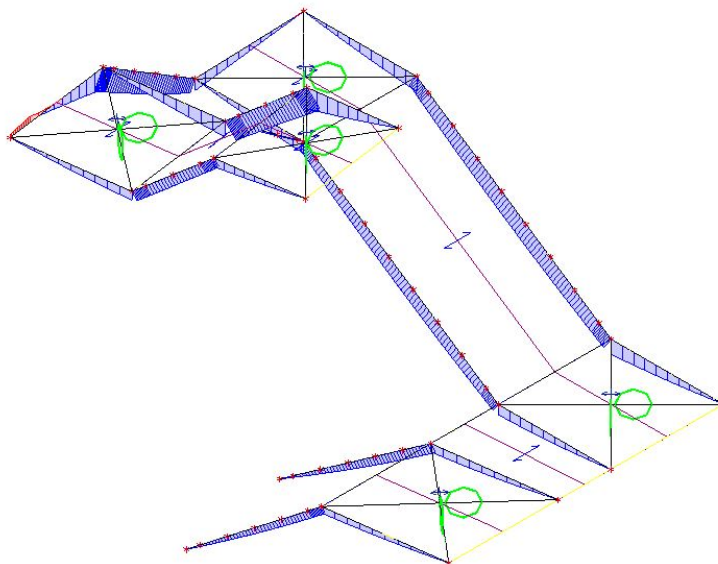
Values: V_z
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All



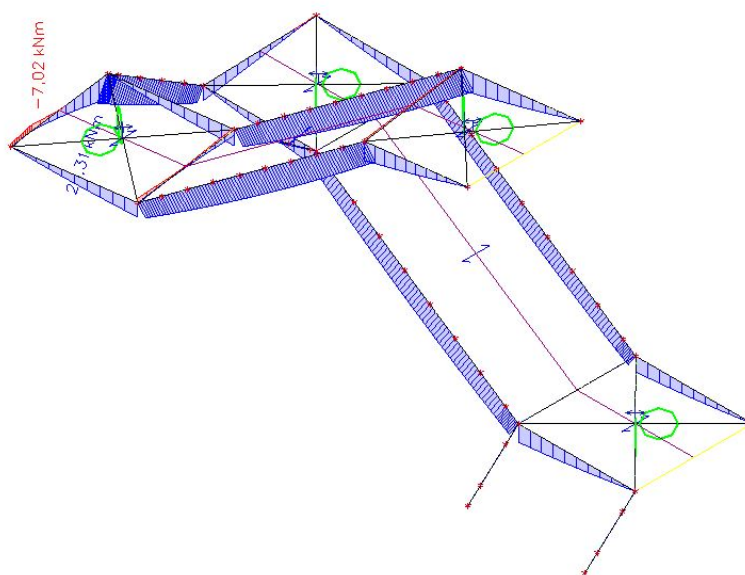


9.2.4. M_y

Values: M_y
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All



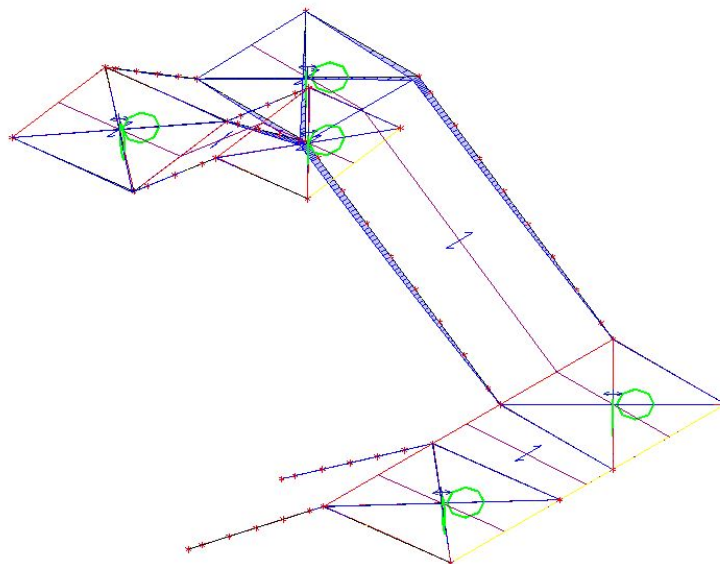
Values: M_y
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Principal
Extreme 1D: Global
Selection: All



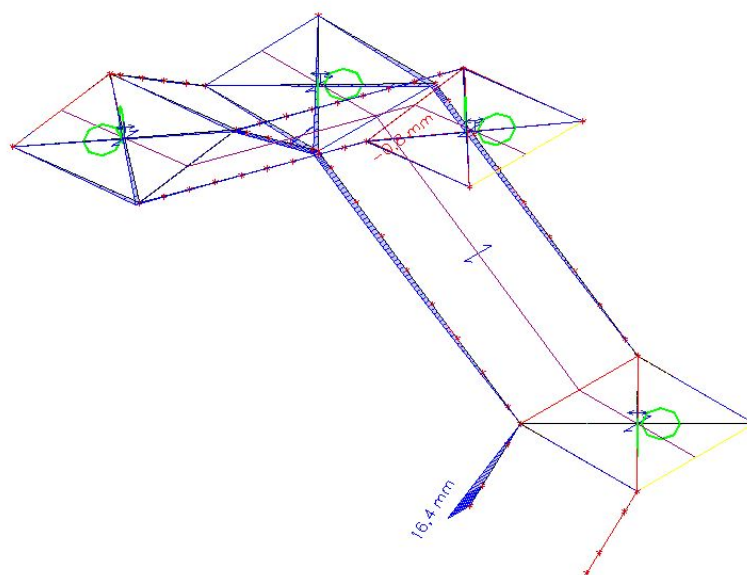


9.2.5. u_x

Values: u_x
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Global
Extreme 1D: Global
Selection: All



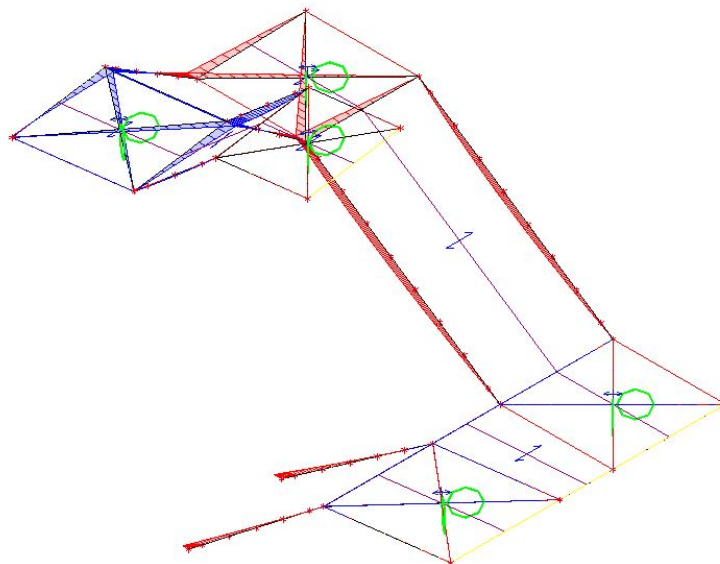
Values: u_x
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Global
Extreme 1D: Global
Selection: All



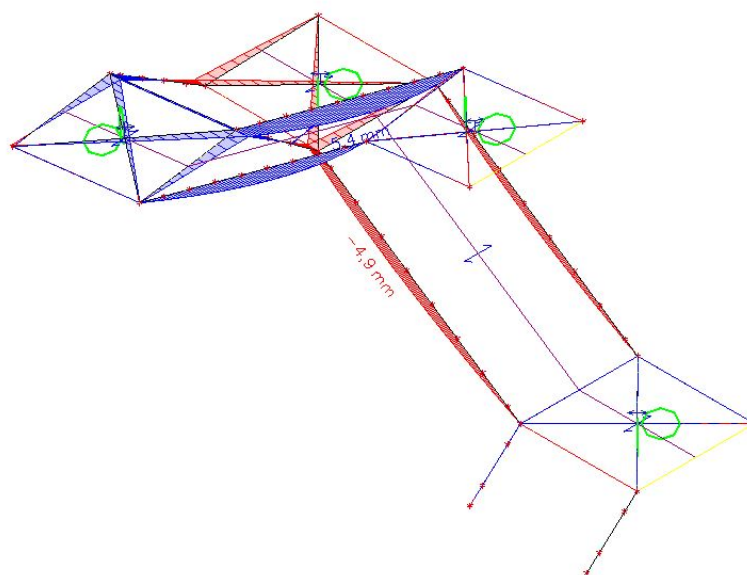


9.2.6. u_y

Values: u_y
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Global
Extreme 1D: Global
Selection: All



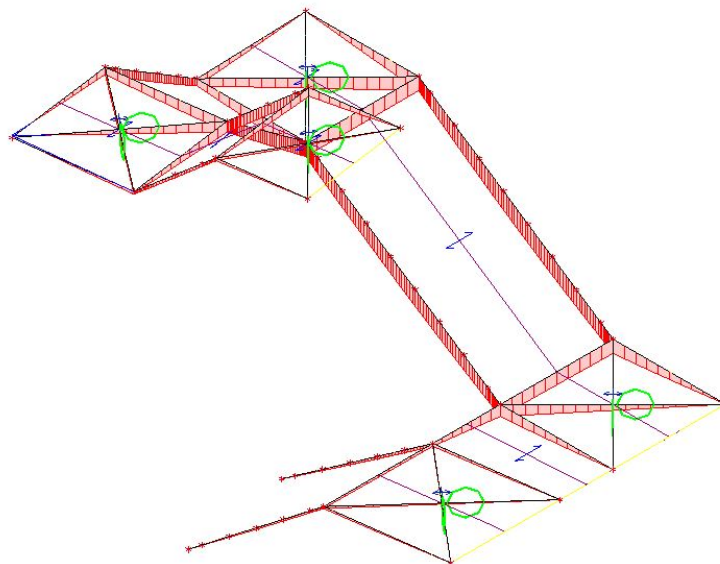
Values: u_y
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Global
Extreme 1D: Global
Selection: All



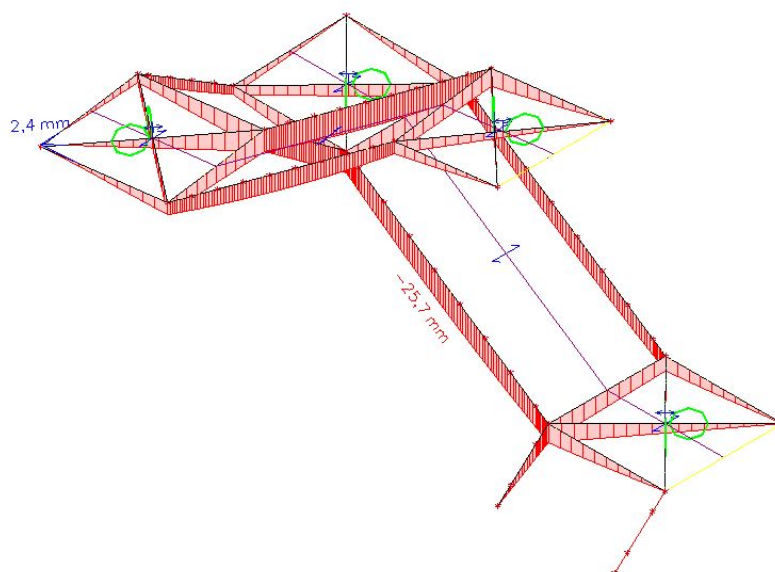


9.2.7. u_z

Values: u_z
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Global
Extreme 1D: Global
Selection: All



Values: u_z
Nonlinear calculation
Class: MSN nelinearna
Coordinate system: Global
Extreme 1D: Global
Selection: All





10. Dimenzioniranje Jekla

10.1. EC-EN 1993 Steel check ULS

Values: **UC_{Overall}**

Nonlinear calculation

Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B12	0,777 / 0,777 m	IPE200	Rolled	S 235	MSN nelinearna	0,36 -
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Combination key

MSN nelinearna / MSN nelinearna

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	235,0	MPa
Ultimate strength	f_u	360,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Tension	N_{Ed}	2,08	kN	$N_{t,Rd}$	669,75	kN	0,00
Shear V_y	$V_{y,Ed}$	-0,35	kN	$V_{pl,y,Rd}$	244,02	kN	0,00
Shear V_z	$V_{z,Ed}$	-0,43	kN	$V_{pl,z,Rd}$	190,17	kN	0,00
Torsion	T_{Ed}	48,3	MPa	T_{Rd}	135,7	MPa	0,36

Combined section checks

Combined section checks	Unity check [-]
Shear V_y and Torsion	0,00
Shear V_z and Torsion	0,00

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B52	0,000 / 1,838 m	RD16	Rolled	S 235	MSN nelinearna	0,72 -
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Combination key

MSN nelinearna / MSN nelinearna

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	235,0	MPa
Ultimate strength	f_u	360,0	MPa

Warning: Strength reduction in function of the thickness is not supported for this type of cross-section.

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Tension	N_{Ed}	34,12	kN	$N_{t,Rd}$	47,23	kN	0,72

Combined section checks

Combined section checks	Unity check [-]
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EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B101	5,245 / 5,245 m	RHS200/100/5.0	Rolled	S 235	MSN nelinearna	0,61 -
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Combination key
MSN nelinearna / MSN nelinearna

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f_y	235,0	MPa
Ultimate strength	f_u	360,0	MPa

Section checks

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-10,50	kN	$N_{c,Rd}$	674,45	kN	0,02
Shear V_y	$V_{y,Ed}$	-1,36	kN	$V_{pl,y,Rd}$	129,80	kN	0,01
Shear V_z	$V_{z,Ed}$	-18,08	kN	$V_{pl,z,Rd}$	259,60	kN	0,07
Torsion	T_{Ed}	4,3	MPa	T_{Rd}	135,7	MPa	0,03

Combined section checks

Combined section checks	Unity check [-]
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Stability checks

Decisive position for stability classification: 5,245 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	1,00	5,245	1126,40		0,77	1,00
z-z	0,97	1,221	7015,75		0,31	1,00
LTB	1,00	1,254		4122,58	0,10	1,00

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,01	0,45	0,64	0,79

Maximum moment $M_{y,Ed}$ is derived from beam B101 position 2,474 m.

Maximum moment $M_{z,Ed}$ is derived from beam B101 position 3,991 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	24,19	1,70	0,61

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B121	2,771 / 4,021 m	RHS200/100/5.0	Cold formed	S 235	MSN nelinearna	0,66 -
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Note: EN 1993-1-3 article 1.1(3) specifies that this part does not apply to cold formed CHS and RHS sections. The default EN 1993-1-1 code check is executed instead of the EN 1993-1-3 code check.

Combination key
MSN nelinearna / MSN nelinearna2

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f_y	235,0	MPa
Ultimate strength	f_u	360,0	MPa

Section checks

Section is classified as Class 1



Values: $UC_{Overall}$

Nonlinear calculation

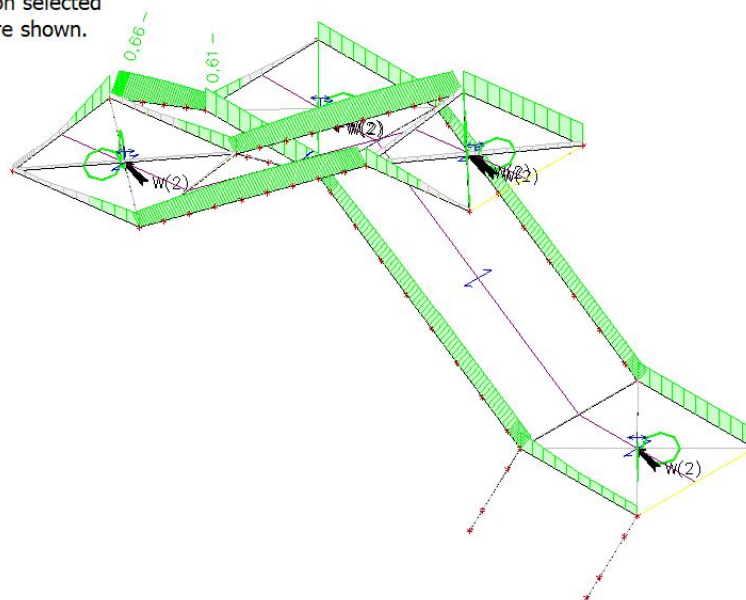
Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.



10.3. Section check

Values: UC_{sec}

Nonlinear calculation

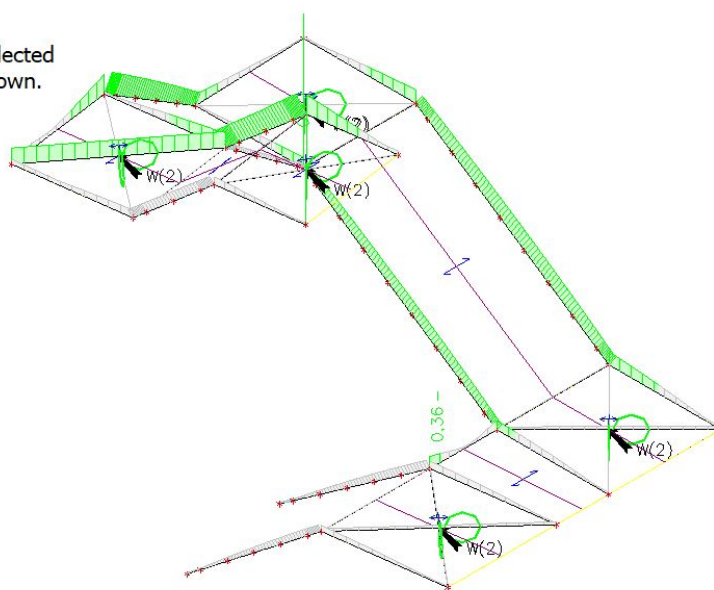
Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.





Values: UC_{sec}

Nonlinear calculation

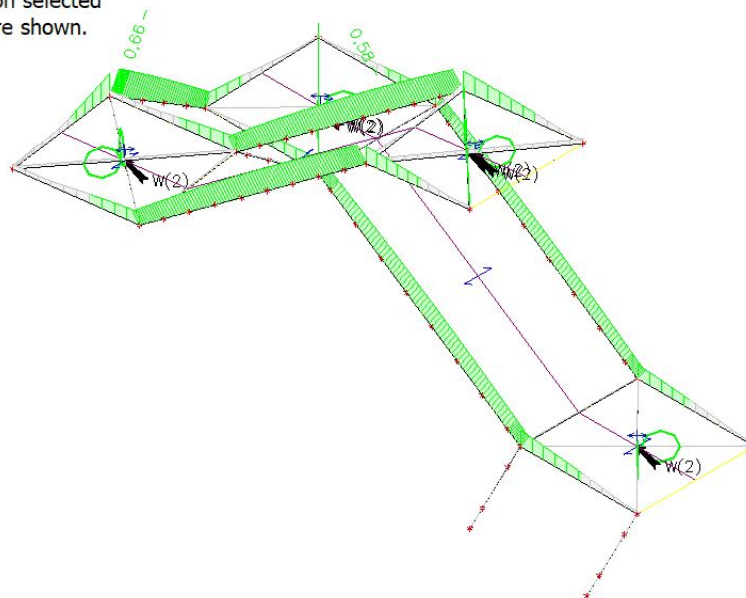
Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.



10.4. Stability check

Values: UC_{stab}

Nonlinear calculation

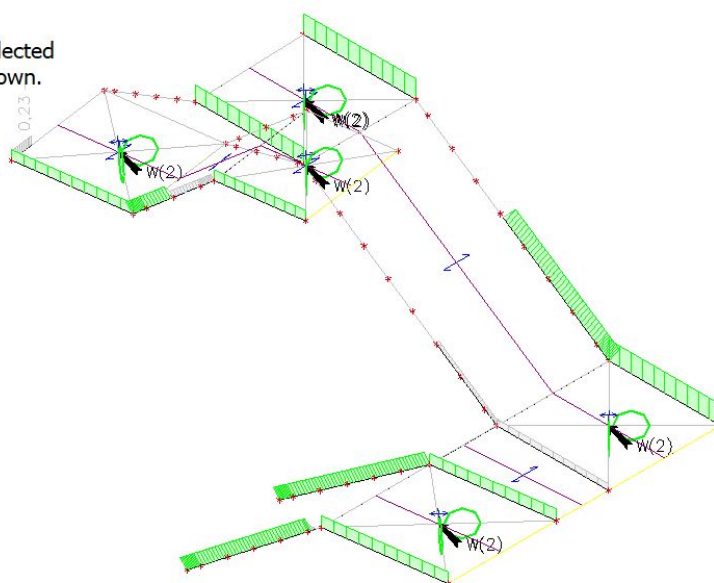
Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.





Values: **UC_{stab}**

Nonlinear calculation

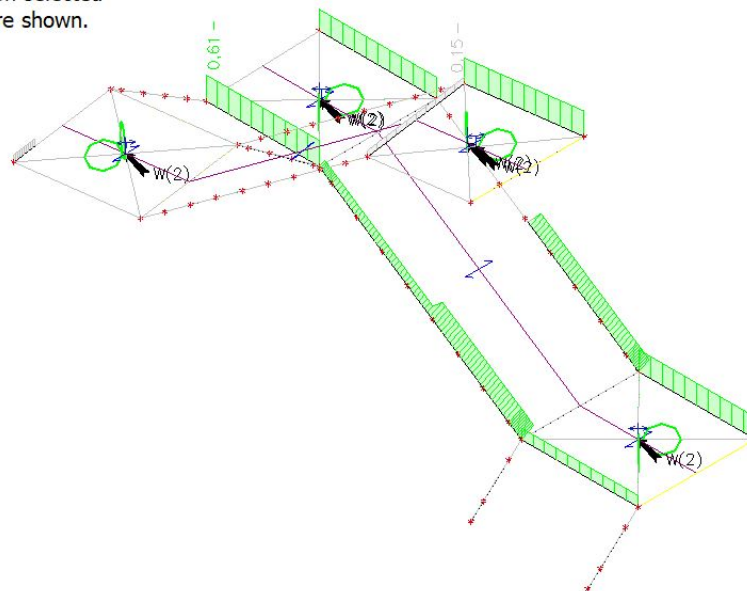
Class: MSN nelinearna

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

There are 2 warnings on selected members. 2 of them are shown.






1. Kazalo

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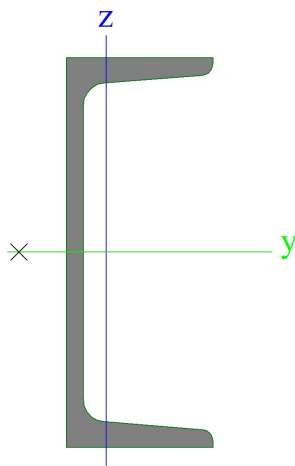



2. Materiali

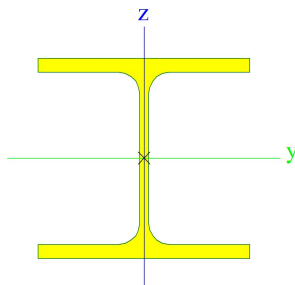

Steel EC3

Name	ρ [kg/m ³]	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	7850,00	2,1000e+05 8,0769e+04	0.3 0,01e-003	0,00 40,00	40,00 80,00	235,0 215,0	360,0 360,0	

3. Prerezi

Nosilec		
Type	UNP200	
Formcode	5 - Channel section	
Shape type	Thin-walled	
Item material	S 235	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	c	c
A [mm ²]	3,2200e+03	
A _y [mm ²], A _z [mm ²]	1,6758e+03	1,6900e+03
A _L [m ² /m], A _D [m ² /m]	6,6100e-01	6,6027e-01
C _{y,UCS} [mm], c _{z,UCS} [mm]	20,14	100,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	1,9100e+07	1,4800e+06
i _y [mm], i _z [mm]	77,02	21,44
W _{el,y} [mm ³], W _{el,z} [mm ³]	1,9100e+05	2,7000e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	2,2800e+05	5,1800e+04
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	53537321,19	53537321,19
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	12190474,51	12190474,51
d _y [mm], d _z [mm]	-44,46	0,00
I _t [mm ⁴], I _w [mm ⁶]	1,2000e+05	1,0499e+10
β _y [mm], β _z [mm]	0,00	216,60
Picture		
Steber 1		
Type	HEA120	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 235	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	2.5300e+03	



A _y [mm ²], A _z [mm ²]	1,8775e+03	6,1698e+02
A _L [m ² /m], A _D [m ² /m]	6,7700e-01	6,7730e-01
c _{y,UCS} [mm], c _{z,UCS} [mm]	60,00	57,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	6,0600e+06	2,3100e+06
i _y [mm], i _z [mm]	48,94	30,22
W _{el,y} [mm ³], W _{el,z} [mm ³]	1,0600e+05	3,8500e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	1,1958e+05	5,8750e+04
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	28104342,46	28104342,46
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	13834122,27	13834122,27
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	5,9900e+04	6,4719e+09
β _y [mm], β _z [mm]	0,00	0,00
Picture		
Primarec		
Type	IPE200	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 235	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	a	b
A [mm ²]	2,8500e+03	
A _y [mm ²], A _z [mm ²]	1,7729e+03	1,1448e+03
A _L [m ² /m], A _D [m ² /m]	7,6810e-01	7,6810e-01
c _{y,UCS} [mm], c _{z,UCS} [mm]	50,00	100,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	1,9430e+07	1,4230e+06
i _y [mm], i _z [mm]	82,57	22,34
W _{el,y} [mm ³], W _{el,z} [mm ³]	1,9430e+05	2,8470e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	2,2060e+05	4,4610e+04
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	51897038,90	51897038,90
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	10487720,20	10487720,20
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	6,9150e+04	1,2980e+10
β _y [mm], β _z [mm]	0,00	0,00



Picture		
za torzijo 2		
Type	QRO50X5	
Formcode	2 - Rectangular hollow section	
Shape type	Thin-walled	
Item material	S 235	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	a	a
A [mm ²]	8,7900e+02	
A _y [mm ²], A _z [mm ²]	4,3907e+02	4,3907e+02
A _L [m ² /m], A _D [m ² /m]	1,9100e-01	3,5137e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	25,00	25,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	2,9500e+05	2,9500e+05
i _y [mm], i _z [mm]	18,32	18,32
W _{el,y} [mm ³], W _{el,z} [mm ³]	1,1800e+04	1,1800e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	1,4700e+04	1,4700e+04
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	3461135,06	3461135,06
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	3461135,06	3461135,06
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	4,6400e+05	1,3021e+08
β _y [mm], β _z [mm]	0,00	0,00
Picture		

Explanations of symbols	
Formcode	h - Height b - Flange width t - Flange thickness s - Web thickness r - Radius at flange root r1 - Radius at flange toe a - Flange slope wm1 - Unit warping at flange root wm2 - Unit warping at flange toe
A	Area
A _y	Shear Area in principal y-direction

Explanations of symbols	
A _z	Shear Area in principal z-direction
A _L	Circumference per unit length
A _D	Drying surface per unit length
C _{y,UCS}	Centroid coordinate in Y-direction of Input axis system
C _{z,UCS}	Centroid coordinate in Z-direction of Input axis system
I _{y,LCS}	Second moment of area about the YLCS axis
I _{z,LCS}	Second moment of area about the ZLCS axis



Explanations of symbols	
$I_{Y,LCS}$	Product moment of area in the LCS system
α	Rotation angle of the principal axis system
I_y	Second moment of area about the principal y-axis
I_z	Second moment of area about the principal z-axis
i_y	Radius of gyration about the principal y-axis
i_z	Radius of gyration about the principal z-axis
$W_{el,y}$	Elastic section modulus about the principal y-axis
$W_{el,z}$	Elastic section modulus about the principal z-axis
$W_{pl,y}$	Plastic section modulus about the principal y-axis
$W_{pl,z}$	Plastic section modulus about the principal z-axis
$M_{pl,y,+}$	Plastic moment about the principal y-axis for a positive M_y moment
$M_{pl,y,-}$	Plastic moment about the principal y-axis for a negative M_y moment

Explanations of symbols	
$M_{pl,z,+}$	Plastic moment about the principal z-axis for a positive M_z moment
$M_{pl,z,-}$	Plastic moment about the principal z-axis for a negative M_z moment
d_y	Shear center coordinate in principal y-direction measured from the centroid
d_z	Shear center coordinate in principal z-direction measured from the centroid
I_t	Torsional constant
I_w	Warping constant
β_y	Mono-symmetry constant about the principal y-axis
β_z	Mono-symmetry constant about the principal z-axis

4. Elementi

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B5	Primarec - IPE200	S 235	1,000	N7	N13	beam (80)
B6	Primarec - IPE200	S 235	1,000	N13	N3	beam (80)
B7	Steber 1 - HEA120	S 235	2,180	N14	N7	column (100)
B8	Steber 1 - HEA120	S 235	2,180	N15	N3	column (100)
B11	Steber 1 - HEA120	S 235	2,130	N3	N49	column (100)
B12	Steber 1 - HEA120	S 235	2,130	N7	N50	column (100)
B15	Primarec - IPE200	S 235	1,000	N76	N77	beam (80)
B16	Primarec - IPE200	S 235	1,000	N77	N75	beam (80)
B21	Steber 1 - HEA120	S 235	2,250	N76	N29	column (100)
B22	Steber 1 - HEA120	S 235	2,250	N75	N30	column (100)
B39	Steber 1 - HEA120	S 235	2,350	N49	N75	column (100)
B40	Steber 1 - HEA120	S 235	2,350	N50	N76	column (100)
B41	Nosilec - UNP200	S 235	4,855	N64	N53	beam (80)
B42	Nosilec - UNP200	S 235	4,855	N1	N51	beam (80)
B44	Nosilec - UNP200	S 235	4,828	N61	N70	beam (80)
B45	Nosilec - UNP200	S 235	4,828	N63	N72	beam (80)
B43	Nosilec - UNP200	S 235	4,951	N73	N80	beam (80)
B46	Nosilec - UNP200	S 235	4,951	N78	N56	beam (80)
B47	Nosilec - UNP200	S 235	4,894	N58	N82	beam (80)
B49	Nosilec - UNP200	S 235	0,945	N65	N66	beam (80)
B50	Nosilec - UNP200	S 235	0,945	N71	N69	beam (80)
B51	Nosilec - UNP200	S 235	0,945	N74	N79	beam (80)
B52	Nosilec - UNP200	S 235	0,945	N83	N81	beam (80)
B53	za torzijo 2 - QRO50X5	S 235	0,945	N85	N86	beam (80)
B54	za torzijo 2 - QRO50X5	S 235	0,945	N87	N88	beam (80)
B55	za torzijo 2 - QRO50X5	S 235	0,945	N89	N90	beam (80)
B56	za torzijo 2 - QRO50X5	S 235	0,945	N91	N92	beam (80)
B57	za torzijo 2 - QRO50X5	S 235	0,945	N93	N94	beam (80)
B58	za torzijo 2 - QRO50X5	S 235	0,945	N95	N96	beam (80)
B59	za torzijo 2 - QRO50X5	S 235	0,945	N97	N98	beam (80)
B60	za torzijo 2 - QRO50X5	S 235	0,945	N99	N100	beam (80)
B61	za torzijo 2 - QRO50X5	S 235	0,945	N101	N102	beam (80)
B62	za torzijo 2 - QRO50X5	S 235	0,945	N103	N104	beam (80)
B63	za torzijo 2 - QRO50X5	S 235	0,945	N105	N106	beam (80)
B64	za torzijo 2 - QRO50X5	S 235	0,945	N107	N108	beam (80)
B65	Nosilec - UNP200	S 235	4,894	N59	N84	beam (80)



5. Vozlišča

Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N3	4,200	0,000	2,180
N7	4,200	2,000	2,180
N13	4,200	1,000	2,180
N14	4,200	2,000	0,000
N15	4,200	0,000	0,000
N29	4,200	2,000	8,910
N30	4,200	0,000	8,910
N49	4,200	0,000	4,310
N50	4,200	2,000	4,310
N51	4,200	0,955	2,180
N53	4,200	0,010	2,180
N56	4,200	0,955	6,660
N58	4,200	1,990	6,660
N59	4,200	1,045	6,660
N61	4,200	1,990	2,180
N63	4,200	1,045	2,180
N64	0,000	0,010	0,000
N65	3,300	0,010	2,180
N1	0,000	0,955	0,000
N66	3,300	0,955	2,180
N69	3,300	1,990	2,180
N70	0,000	1,990	4,310
N71	3,300	1,045	2,180
N72	0,000	1,045	4,310
N73	0,000	0,010	4,310
N74	3,300	0,010	6,660
N75	4,200	0,000	6,660
N76	4,200	2,000	6,660
N77	4,200	1,000	6,660
N78	0,000	0,955	4,310

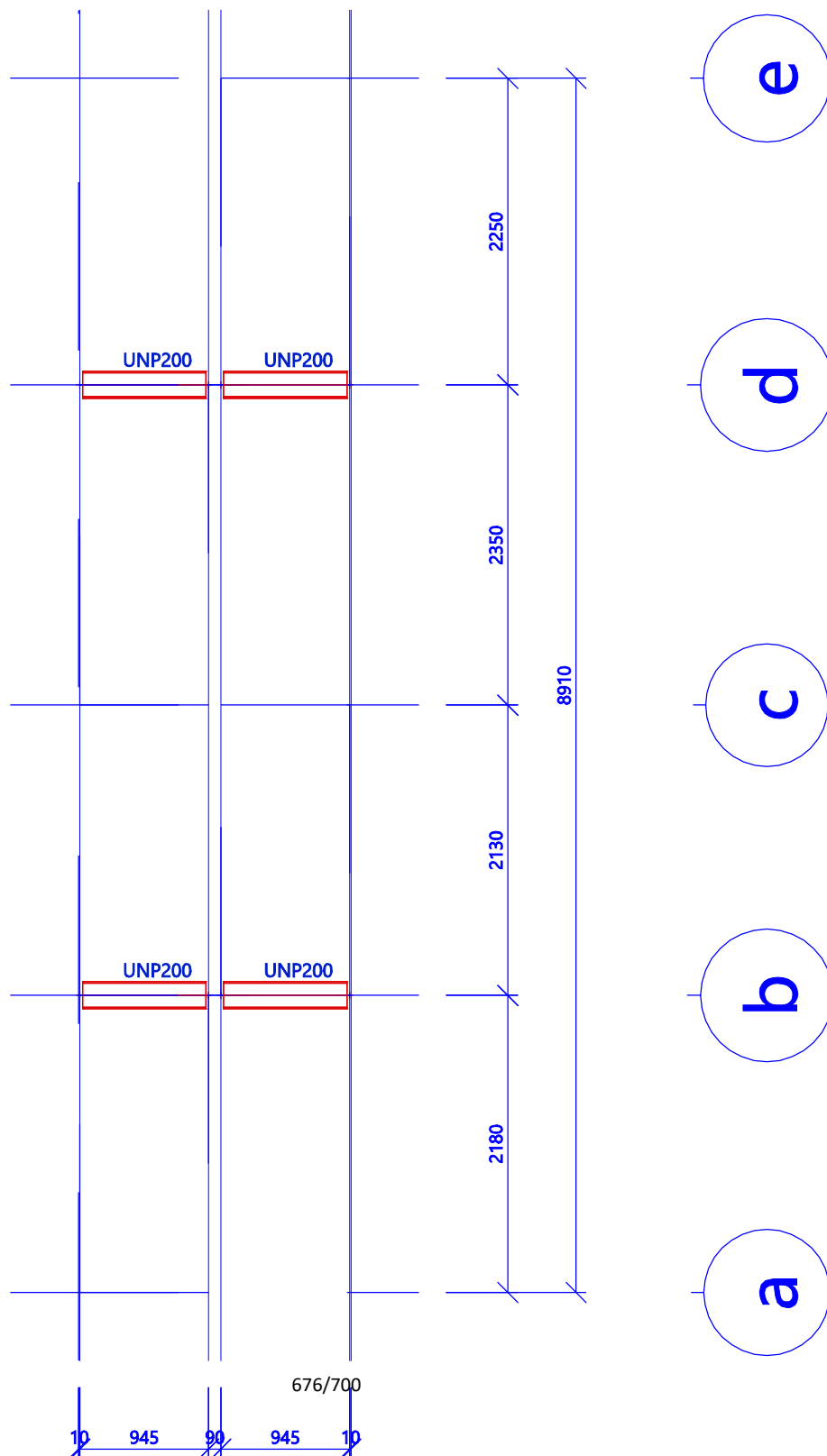
Name	Coord X [m]	Coord Y [m]	Coord Z [m]
N79	3,300	0,955	6,660
N80	4,200	0,010	6,660
N81	3,300	1,990	6,660
N82	0,000	1,990	8,910
N83	3,300	1,045	6,660
N84	0,000	1,045	8,910
N85	0,825	0,010	0,545
N86	0,825	0,955	0,545
N87	1,650	0,010	1,090
N88	1,650	0,955	1,090
N89	2,475	0,010	1,635
N90	2,475	0,955	1,635
N91	2,475	1,990	2,712
N92	2,475	1,045	2,712
N93	1,650	1,990	3,245
N94	1,650	1,045	3,245
N95	0,825	1,990	3,777
N96	0,825	1,045	3,777
N97	0,825	0,010	4,897
N98	0,825	0,955	4,897
N99	1,650	0,010	5,485
N100	1,650	0,955	5,485
N101	2,475	0,010	6,072
N102	2,475	0,955	6,072
N103	2,475	1,990	7,223
N104	2,475	1,045	7,223
N105	1,650	1,990	7,785
N106	1,650	1,045	7,785
N107	0,825	1,990	8,348
N108	0,825	1,045	8,348



TecHub

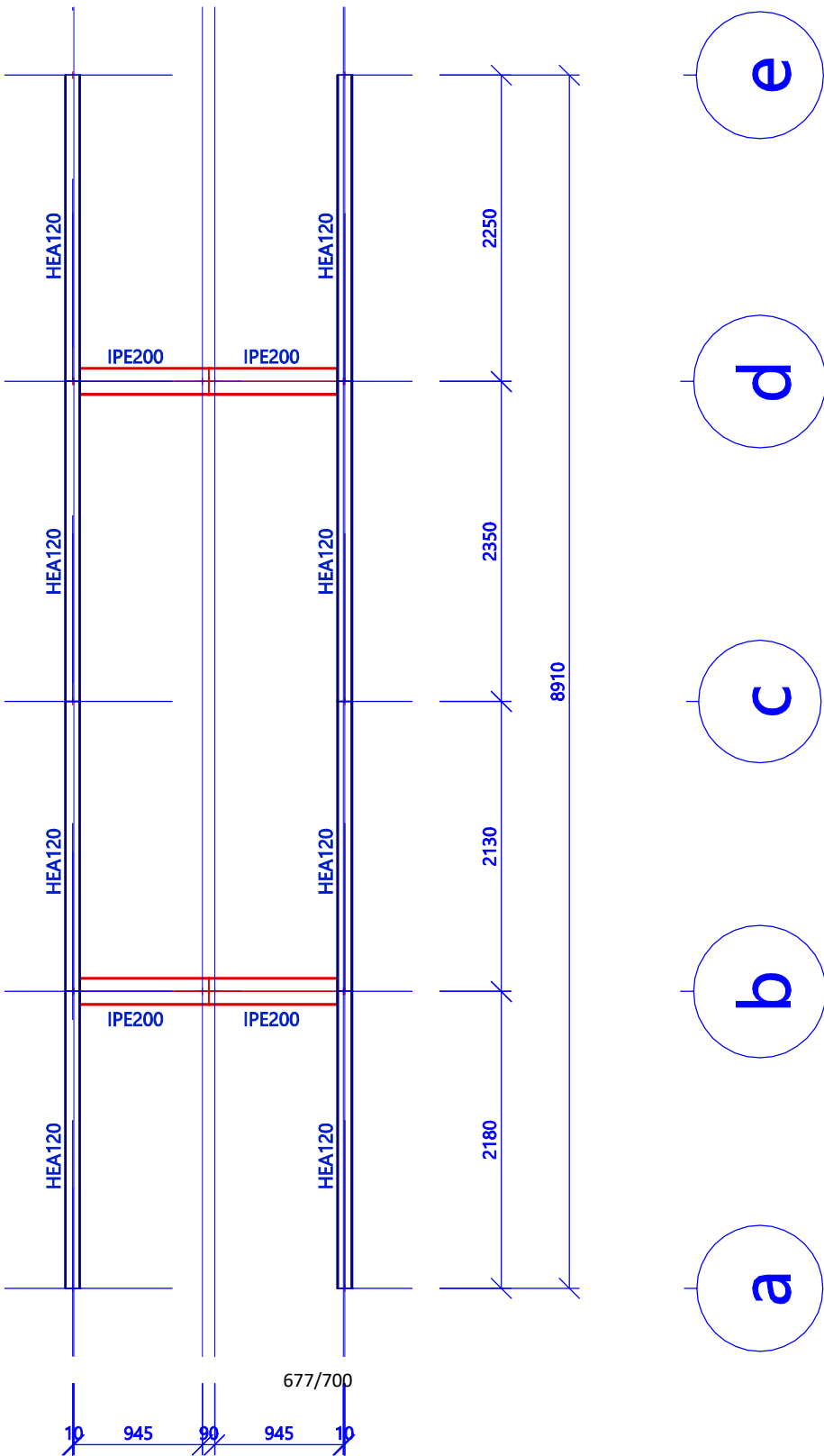
Notranje stopnišče 2
-
5. 04. 2024

EC - EN
Slovenian SIST-EN NA



Section - C

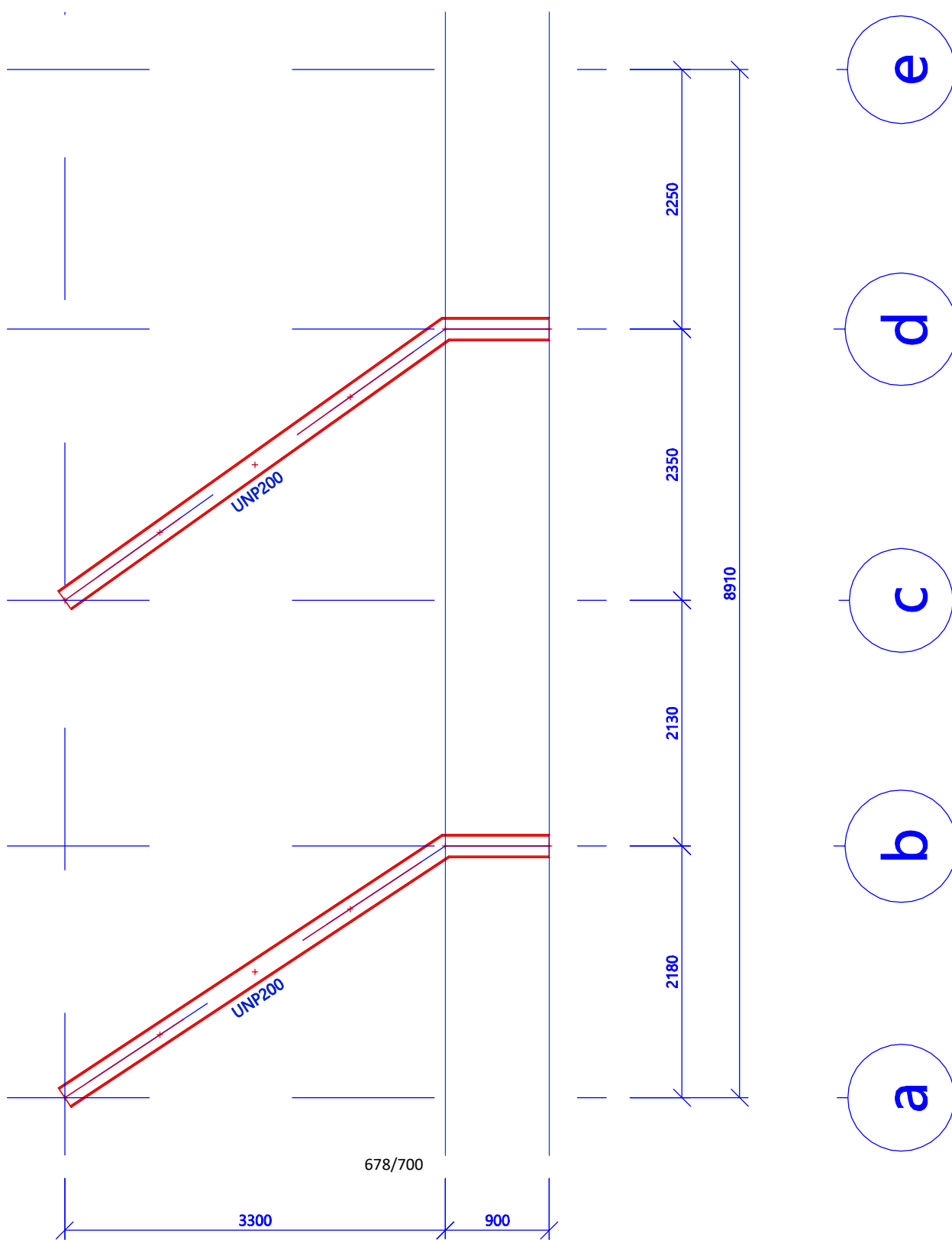
C





Section - 2

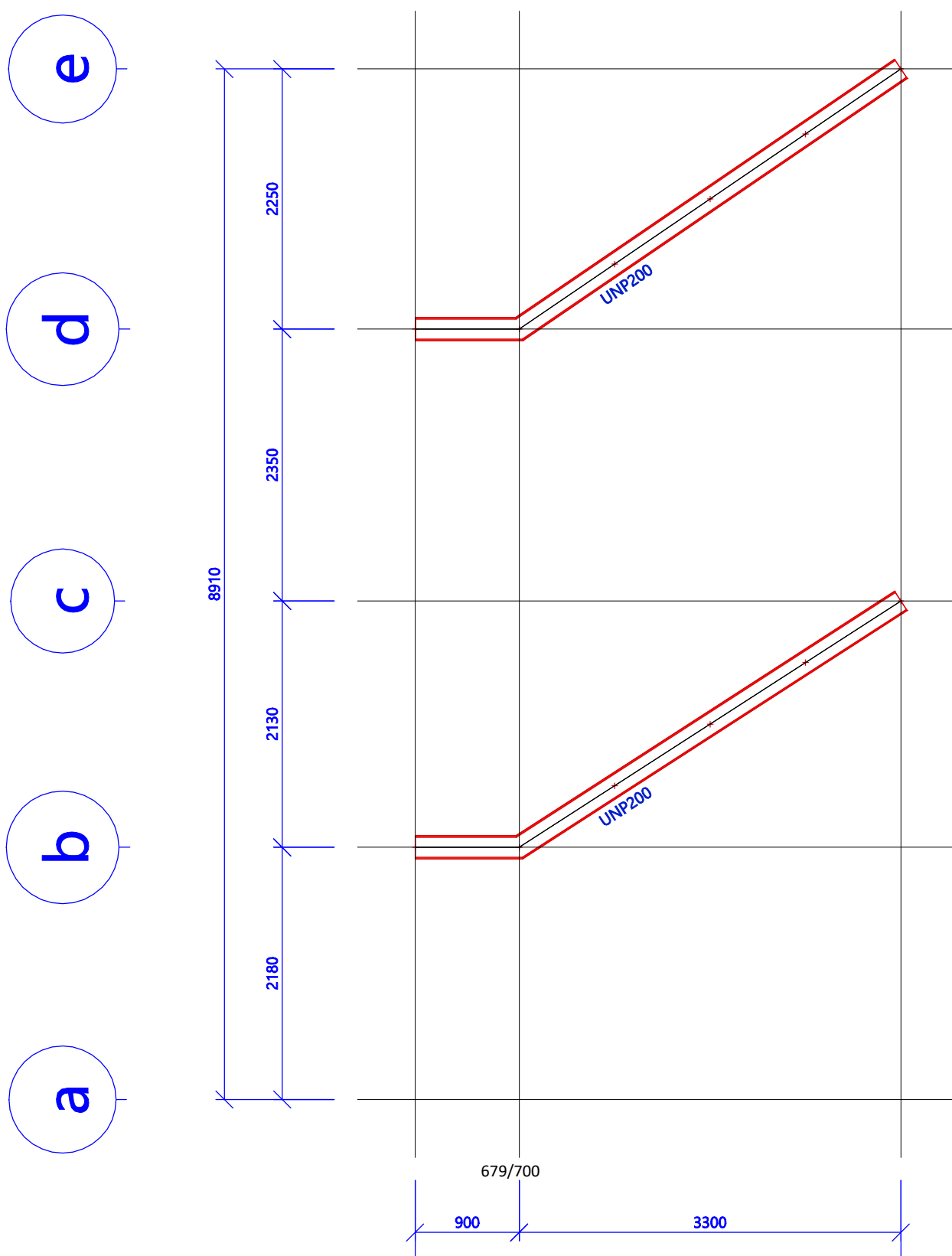
2



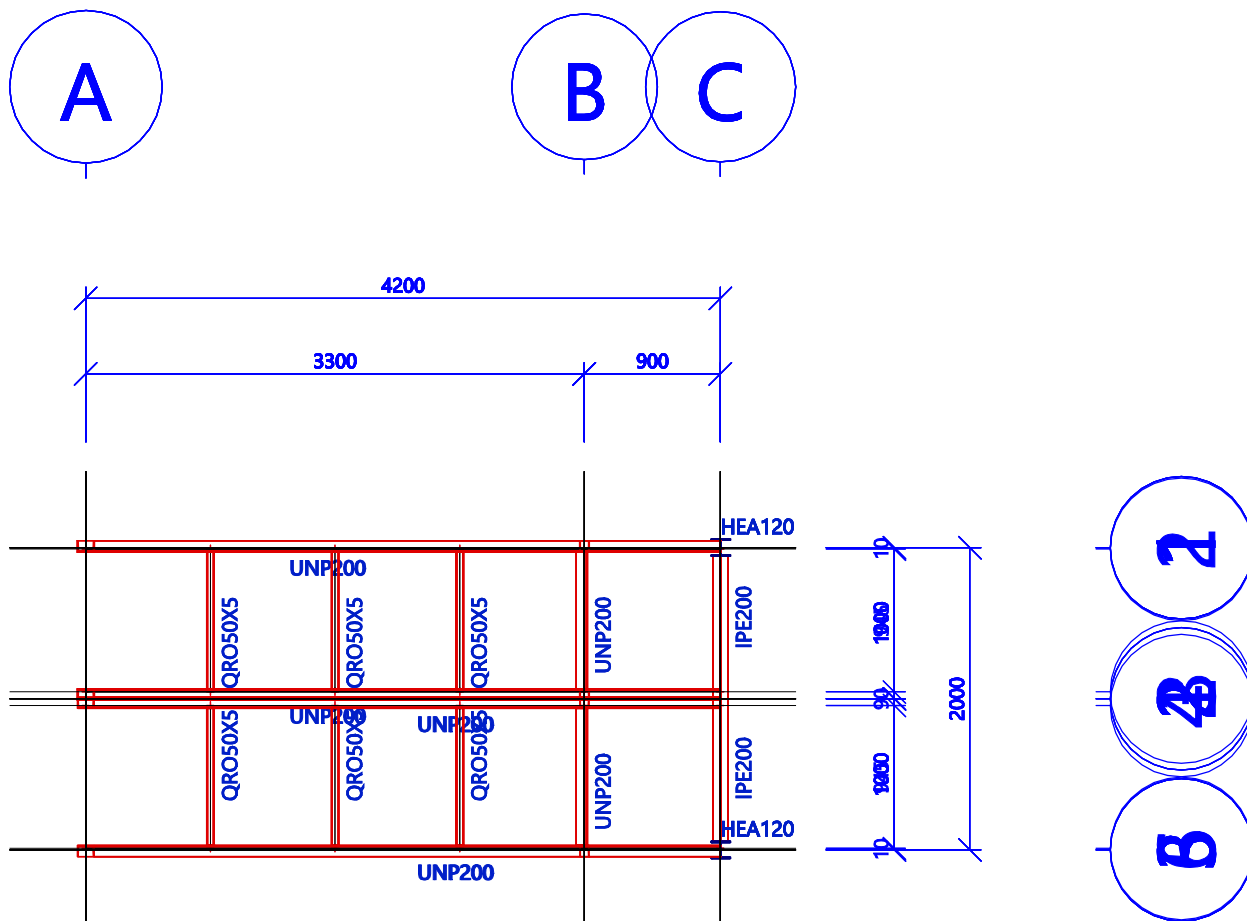


Section - 5

5

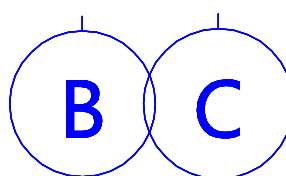
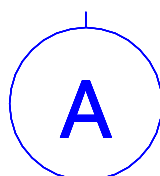
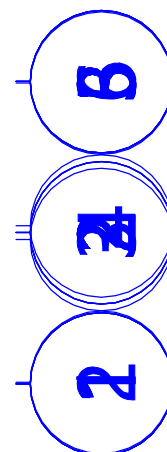
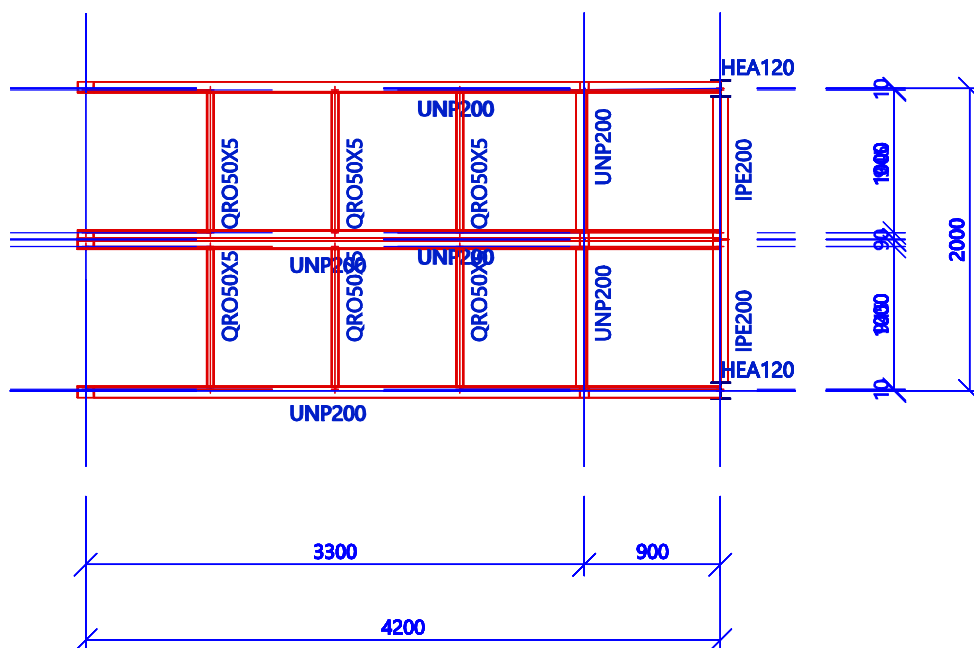


Section - b





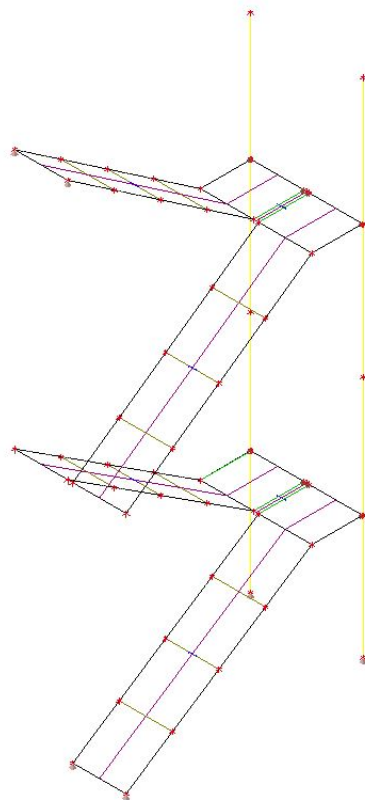
Section - d



7. Obtežni primeri

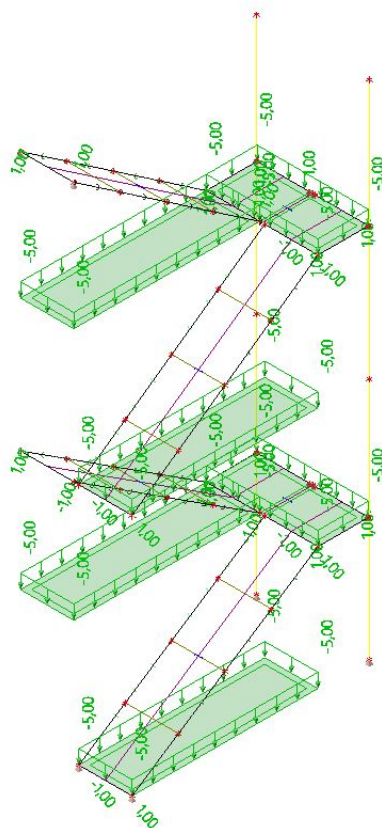
7.1. Obtežni primeri - Lastna

Name	Description Spec	Action type Load type	Load group	Direction
Lastna		Permanent	Lastna in stalna	-Z
		Self weight		



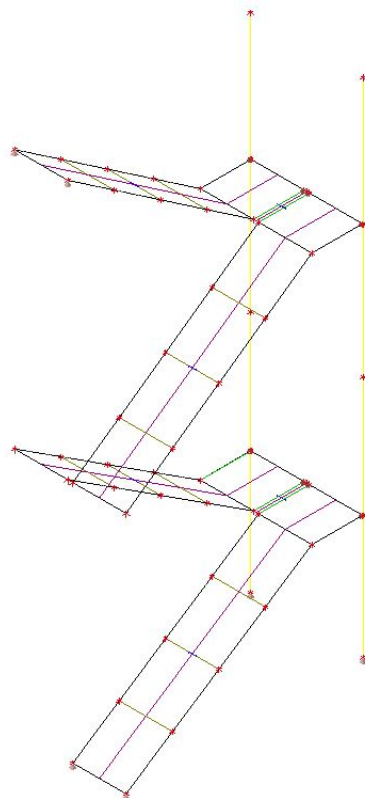
7.2. Obtežni primeri - Stalna

Name	Description Spec	Action type Load type	Load group
Stalna		Permanent	Lastna in stalna
		Standard	



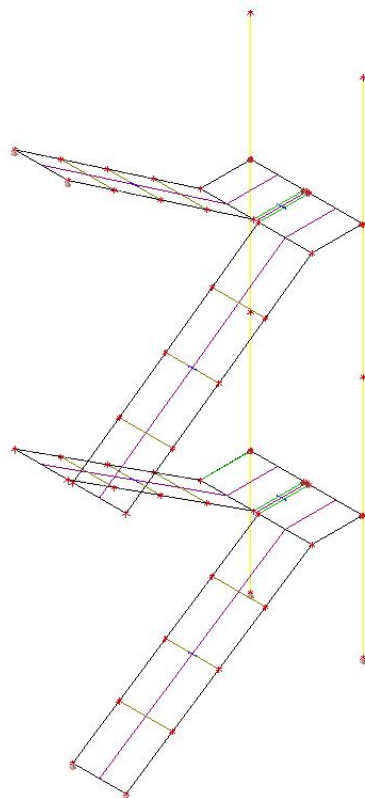
7.4. Obtežni primeri - Potres x

Name	Description	Action type	Load group	Master load case
	Spec	Load type		
Potres x	Seismicity	Variable Dynamic	Potres	None



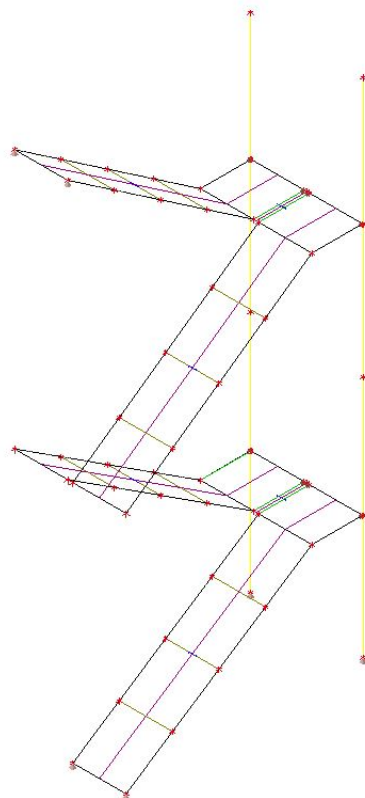
7.5. Obtežni primeri - Potres x_AE

Name	Description	Action type	Load group	Duration	Master load case
	Spec	Load type			
Potres x_AE	Accidental eccentricity for Potrs x	Variable	Potrs x_AE	Short	Potres x
	Seismic accidental eccentricity	Static			



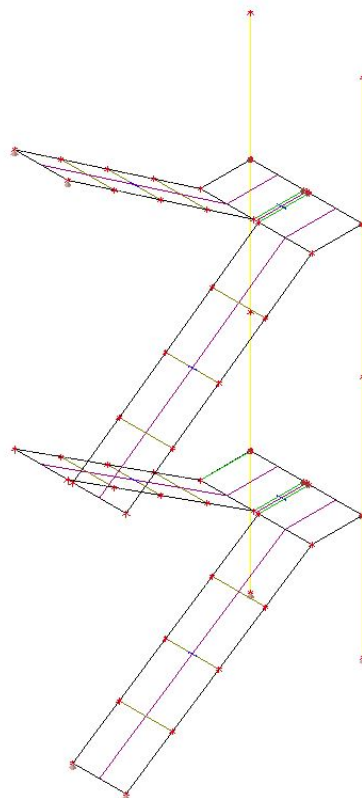
7.6. Obtežni primeri - Potres y

Name	Description	Action type	Load group	Master load case
	Spec	Load type		
Potres y	Seismicity	Variable Dynamic	Potres	None



7.7. Obtežni primeri - Potres y_AE

Name	Description	Action type	Load group	Duration	Master load case
	Spec	Load type			
Potres y_AE	Accidental eccentricity for Potrs y	Variable	Potrs y_AE	Short	Potres y
	Seismic accidental eccentricity	Static			



8. Obtežne kombinacije z NSK in pomiki

8.1. Obtežne kombinacije z NSK in pomiki - All ULS

Name	List
All ULS	ULS-Set B (auto) - EN-ULS (STR/GEO) Set B
	ULS-Seis (auto) - EN-Seismic
	Potrs x - Envelope - ultimate
	Potrs y - Envelope - ultimate

8.1.1. 1D internal forces

Linear calculation

Class: All ULS

Coordinate system: Principal

Extreme 1D: Global

Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B7	0,000	ULS-Set B (auto)/1	-43,01	0,25	0,71	0,00	0,00	0,00
B65	4,894	ULS-Set B (auto)/1	9,21	0,24	-0,38	-0,02	0,00	0,00
B15	0,955+	ULS-Set B (auto)/1	-0,11	-3,51	1,95	0,00	2,96	-1,03
B5	0,955+	ULS-Set B (auto)/1	0,26	6,04	-0,53	0,00	-4,73	0,08
B5	0,000	ULS-Set B (auto)/1	-0,35	0,57	-19,19	0,00	2,32	0,00
B15	0,000	ULS-Set B (auto)/1	-0,59	0,74	21,48	0,00	-0,26	0,00
B65	3,896+	ULS-Set B (auto)/1	7,05	0,24	2,80	-1,37	-1,21	-0,24



Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B43	1,013-	ULS-Set B (auto)/2	-4,77	-0,27	-5,03	1,30	-6,59	-0,28
B47	2,453-	ULS-Set B (auto)/1	0,51	-0,26	0,04	0,10	-20,57	0,06
B46	2,431-	ULS-Set B (auto)/1	-4,30	0,32	-0,05	0,16	9,27	0,04
B59	0,945	ULS-Set B (auto)/1	0,01	-0,68	0,40	0,03	-1,50	-1,54
B64	0,945	ULS-Seis (auto)/3	0,00	2,39	-0,55	-0,05	-0,21	1,15

Name	Combination key
ULS-Set B (auto)/1	1.35*Lastna + 1.35*Stalna + 1.50*Koristna 1
ULS-Set B (auto)/2	Lastna + Stalna + 1.50*Koristna 1
ULS-Seis (auto)/3	Lastna + Stalna + 0.30*Koristna 1 - 0.30*Potres x - 0.30*Potres x_AE + Potres y + Potres y_AE

Values: **N**

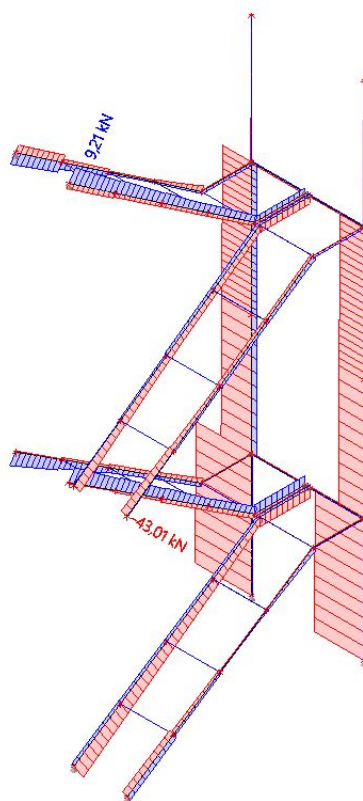
Linear calculation

Class: All ULS

Coordinate system: Principal

Extreme 1D: Global

Selection: All





Values: V_z

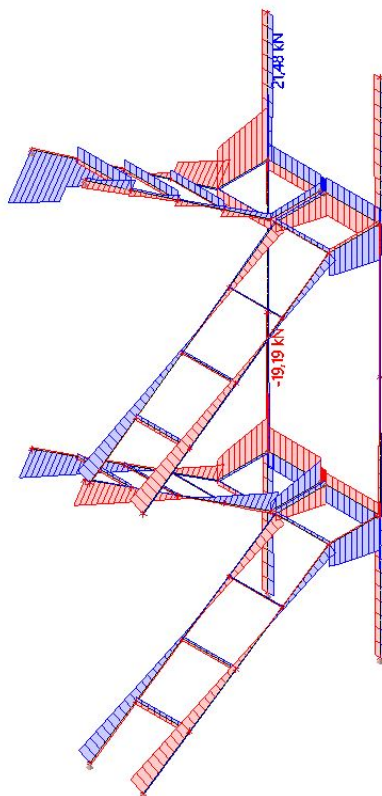
Linear calculation

Class: All ULS

Coordinate system: Principal

Extreme 1D: Global

Selection: All



Values: M_y

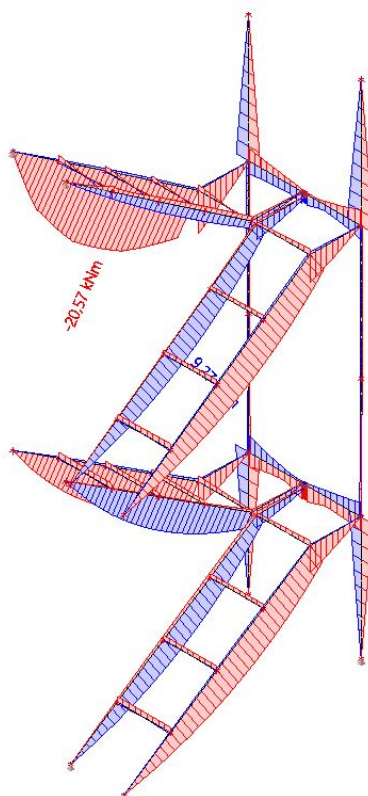
Linear calculation

Class: All ULS

Coordinate system: Principal

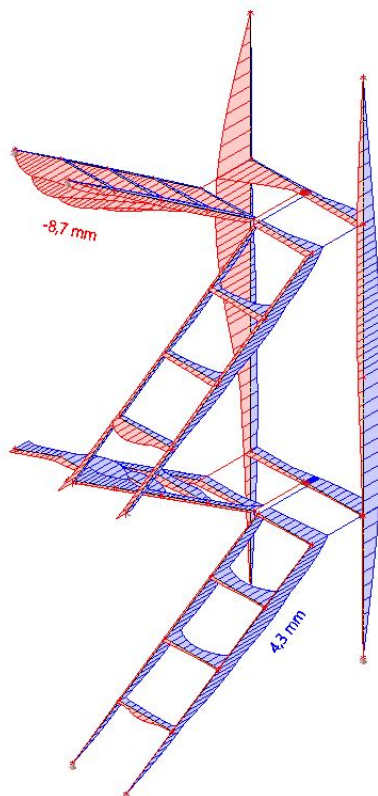
Extreme 1D: Global

Selection: All

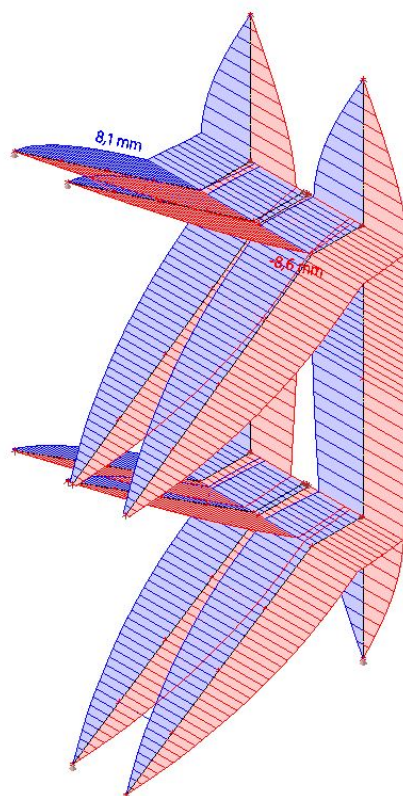




Values: u_x
Linear calculation
Class: All ULS
Coordinate system: Global
Extreme 1D: Global
Selection: All



Values: u_y
Linear calculation
Class: All ULS
Coordinate system: Global
Extreme 1D: Global
Selection: All





Values: u_z

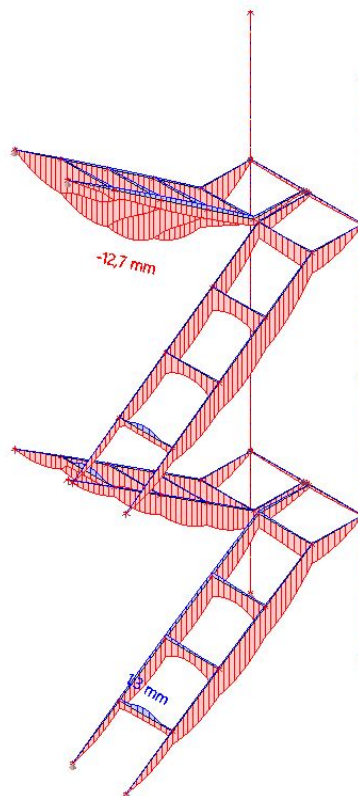
Linear calculation

Class: All ULS

Coordinate system: Global

Extreme 1D: Global

Selection: All



8.2. Obtežne kombinacije z NSK in pomiki - All SLS

Name	List
All SLS	SLS-Char (auto) - EN-SLS Characteristic

8.2.1. 1D internal forces

Linear calculation

Class: All SLS

Coordinate system: Principal

Extreme 1D: Global

Selection: All

Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B7	0,000	SLS-Char (auto)/1	-29,45	0,17	0,48	0,00	0,00	0,00
B65	4,894	SLS-Char (auto)/1	6,42	0,16	-0,38	-0,02	0,00	0,00
B15	0,955+	SLS-Char (auto)/1	-0,08	-2,48	1,29	0,00	2,05	-0,67
B5	0,955+	SLS-Char (auto)/1	0,18	4,16	-0,36	0,00	-3,23	0,05
B5	0,000	SLS-Char (auto)/1	-0,24	0,39	-13,10	0,00	1,59	0,00
B15	0,000	SLS-Char (auto)/1	-0,40	0,50	14,61	0,00	-0,19	0,00
B65	3,896+	SLS-Char (auto)/1	4,94	0,16	1,79	-0,92	-0,70	-0,16
B43	1,013-	SLS-Char (auto)/1	-3,63	-0,20	-3,67	0,85	-4,80	-0,21
B47	2,453-	SLS-Char (auto)/1	0,33	-0,17	0,03	0,07	-13,91	0,04
B46	2,431-	SLS-Char	-2,99	0,22	-0,04	0,10	6,33	0,02



Name	dx [m]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/1						
B59	0,945	SLS-Char (auto)/1	0,01	-0,47	0,28	0,02	-1,00	-1,03
B64	0,945	SLS-Char (auto)/1	0,00	1,36	2,72	-0,21	1,37	0,69

Name	Combination key
SLS-Char (auto)/1	Lastna + Stalna + Koristna 1

Values: **N**

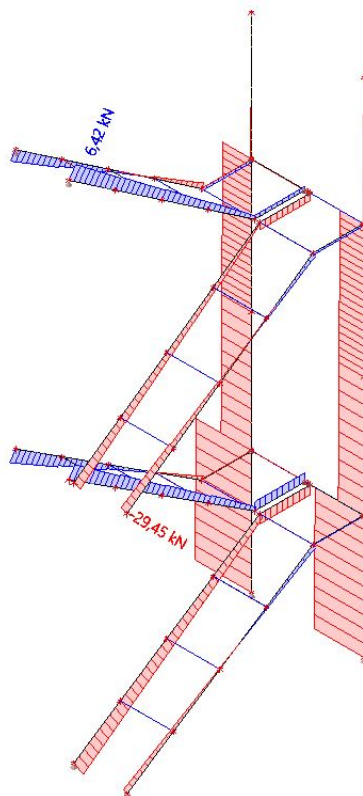
Linear calculation

Class: All SLS

Coordinate system: Principal

Extreme 1D: Global

Selection: All





Values: V_z

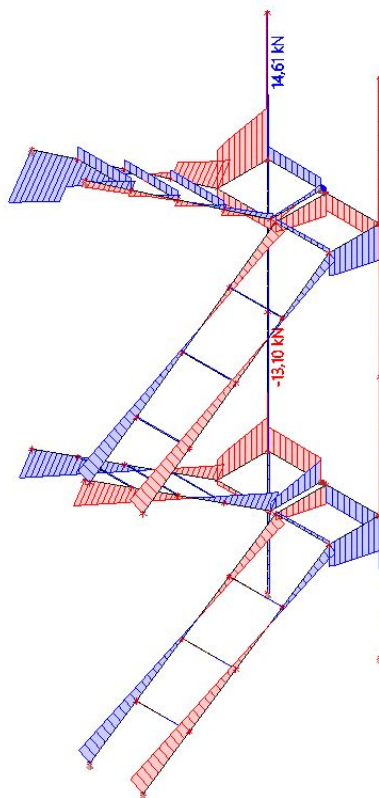
Linear calculation

Class: All SLS

Coordinate system: Principal

Extreme 1D: Global

Selection: All



Values: M_y

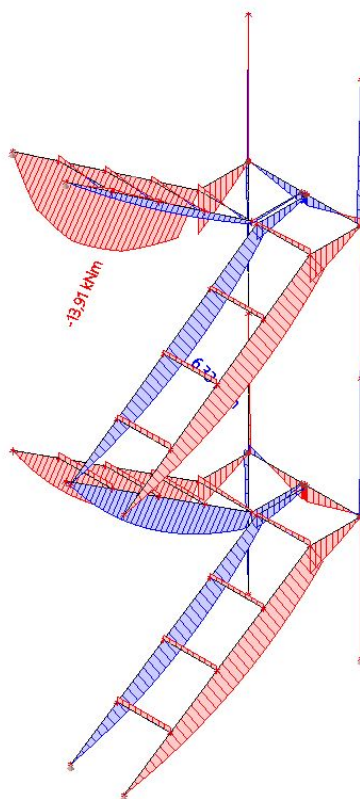
Linear calculation

Class: All SLS

Coordinate system: Principal

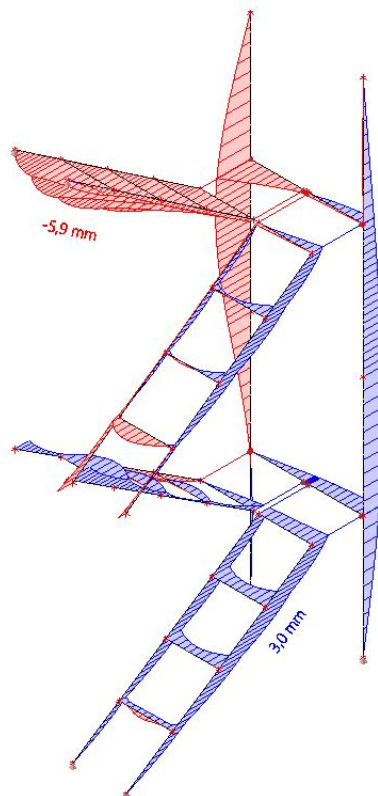
Extreme 1D: Global

Selection: All

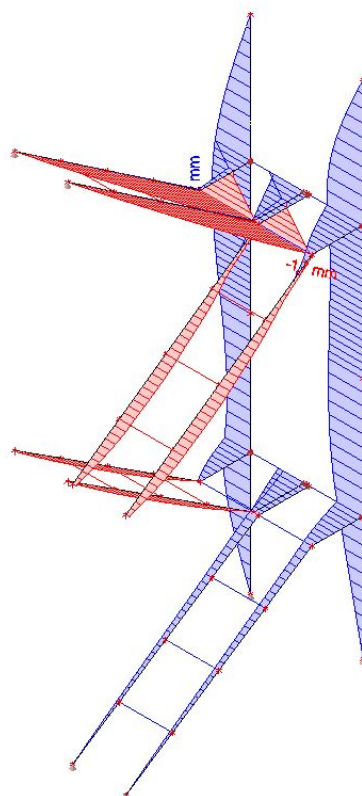




Values: u_x
Linear calculation
Class: All SLS
Coordinate system: Global
Extreme 1D: Global
Selection: All

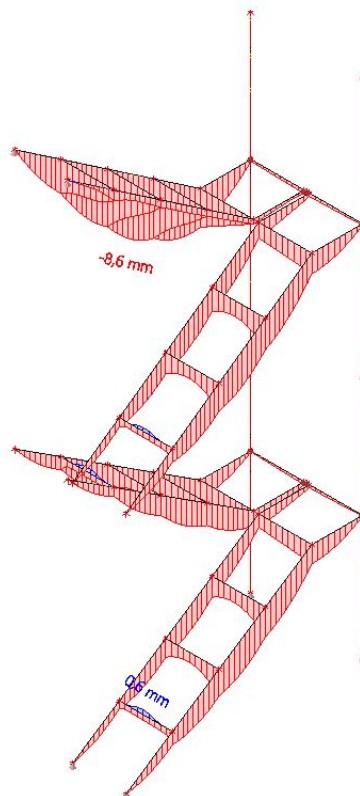


Values: u_y
Linear calculation
Class: All SLS
Coordinate system: Global
Extreme 1D: Global
Selection: All





Values: u_z
Linear calculation
Class: All SLS
Coordinate system: Global
Extreme 1D: Global
Selection: All



9. Dimenzioniranje Jekla

9.1. EC-EN 1993 Steel check ULS

Values: $U_{C_{Overall}}$
Linear calculation
Class: All ULS
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B7	0,000 / 2,180 m	HEA120	Rolled	S 235	All ULS	0,94 -
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Combination key

All ULS / 1.35*Lastna + 1.35*Stalna + 1.50*Koristna 1

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	235,0	MPa
Ultimate strength	f_u	360,0	MPa

Section checks

Section is classified as Class 1



Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-43,01	kN	$N_{c,Rd}$	594,55	kN	0,07
Shear V_y	$V_{y,Ed}$	0,25	kN	$V_{pl,y,Rd}$	272,03	kN	0,00
Shear V_z	$V_{z,Ed}$	0,71	kN	$V_{pl,z,Rd}$	114,24	kN	0,01

Combined section checks

Combined section checks	Unity check [-]
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Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	2,14	4,659	578,59		1,01	0,59
z-z	1,00	8,910	60,31		3,14	0,09
LTB	1,00	8,910		20,69	1,17	1,00

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Flexural buckling	N_{Ed}	-43,01	kN	$N_{b,Rd}$	51,99	kN	0,83

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,54	3,58	0,48	1,34

Maximum moment $M_{y,Ed}$ is derived from beam B7 position 2,180 m.

Maximum moment $M_{z,Ed}$ is derived from beam B21 position 0,000 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	1,54	-0,92	0,94

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B16	0,045 / 1,000 m	IPE200	Rolled	S 235	All ULS	0,16 -
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Combination key

All ULS / 1.35*Lastna + 1.35*Stalna + 1.50*Koristna 1

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	235,0	MPa
Ultimate strength	f_u	360,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-0,11	kN	$N_{c,Rd}$	669,75	kN	0,00
Shear V_y	$V_{y,Ed}$	-3,51	kN	$V_{pl,y,Rd}$	244,02	kN	0,01
Shear V_z	$V_{z,Ed}$	1,92	kN	$V_{pl,z,Rd}$	190,17	kN	0,01
Bending M_y	$M_{y,Ed}$	3,13	kNm	$M_{pl,y,Rd}$	51,84	kNm	0,06
Bending M_z	$M_{z,Ed}$	-1,35	kNm	$M_{pl,z,Rd}$	10,48	kNm	0,13
Torsion	T_{Ed}	0,5	MPa	T_{Rd}	135,7	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,13

Stability checks

Decisive position for stability classification: 0,045 m

Section is classified as Class 1

Buckling group : Default



Buckling axis	k	L [m]	N _{cr} [kN]	M _{cr} [kNm]	λ_{rel}	χ
y-y	1,43	2,853	4946,84		0,37	1,00
z-z	0,95	0,086	400529,47		0,04	1,00
LTB	1,00	0,090		35801,15	0,04	1,00

Combined stability checks

Interaction factors	k _{yy}	k _{yz}	k _{zy}	k _{zz}
Value	1,00	0,66	0,52	0,95

Maximum moment M_{y,Ed} is derived from beam B15 position 0,955 m.

Maximum moment M_{z,Ed} is derived from beam B16 position 0,045 m.

Combined stability checks	M _{y,Ed} [kNm]	M _{z,Ed} [kNm]	Unity check [-]
Bending and Axial Compression	3,33	-1,35	0,16

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B58	0,000 / 0,945 m	QRO50X5	Rolled	S 235	All ULS	0,75 -
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Combination key
All ULS / 1.35*Lastna + 1.35*Stalna + 1.50*Koristna 1

Partial safety factors		
Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material			
Yield strength	f _y	235,0	MPa
Ultimate strength	f _u	360,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N _{Ed}	-0,01	kN	N _{c,Rd}	206,56	kN	0,00
Shear V _y	V _{y,Ed}	-0,70	kN	V _{pl,y,Rd}	59,63	kN	0,01
Shear V _z	V _{z,Ed}	0,46	kN	V _{pl,z,Rd}	59,63	kN	0,01
Bending M _y	M _{y,Ed}	-1,91	kNm	M _{pl,y,Rd}	3,45	kNm	0,55
Bending M _z	M _{z,Ed}	-0,77	kNm	M _{pl,z,Rd}	3,45	kNm	0,22
Torsion	T _{Ed}	1,3	MPa	T _{Rd}	135,7	MPa	0,01

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,46

Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N _{cr} [kN]	M _{cr} [kNm]	λ_{rel}	χ
y-y	1,61	1,524	263,23		0,89	1,00
z-z	0,65	0,612	1631,20		0,36	1,00
LTB	1,00	0,945		179,13	0,14	1,00

Combined stability checks

Interaction factors	k _{yy}	k _{yz}	k _{zy}	k _{zz}
Value	0,96	0,54	0,57	0,90

Maximum moment M_{y,Ed} is derived from beam B58 position 0,000 m.

Maximum moment M_{z,Ed} is derived from beam B58 position 0,945 m.

Combined stability checks	M _{y,Ed} [kNm]	M _{z,Ed} [kNm]	Unity check [-]
Bending and Axial Compression	-1,91	-1,43	0,75

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B65	3,896 / 4,894 m	UNP200	Rolled	S 235	All ULS	0,99 -
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Combination key

All ULS / 1.35*Lastna + 1.35*Stalna + 1.50*Koristna 1

Partial safety factors

Resistance of cross-sections	γ_{M0}	1,00
Resistance to instability	γ_{M1}	1,00
Resistance of net sections	γ_{M2}	1,25

Material

Yield strength	f_y	235,0	MPa
Ultimate strength	f_u	360,0	MPa

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Tension	N_{Ed}	7,05	kN	$N_{t,Rd}$	756,70	kN	0,01
Shear V_y	$V_{y,Ed}$	0,24	kN	$V_{pl,y,Rd}$	234,04	kN	0,00
Shear V_z	$V_{z,Ed}$	2,80	kN	$V_{pl,z,Rd}$	234,04	kN	0,01
Bending M_y	$M_{y,Ed}$	-1,21	kNm	$M_{pl,y,Rd}$	53,58	kNm	0,02
Bending M_z	$M_{z,Ed}$	-0,24	kNm	$M_{pl,z,Rd}$	12,17	kNm	0,02
Torsion	T_{Ed}	133,9	MPa	T_{Rd}	135,7	MPa	0,99

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,05
Shear V_y and Torsion	0,00
Shear V_z and Torsion	0,03

9.2. NSK - Overall check

Values: $UC_{Overall}$

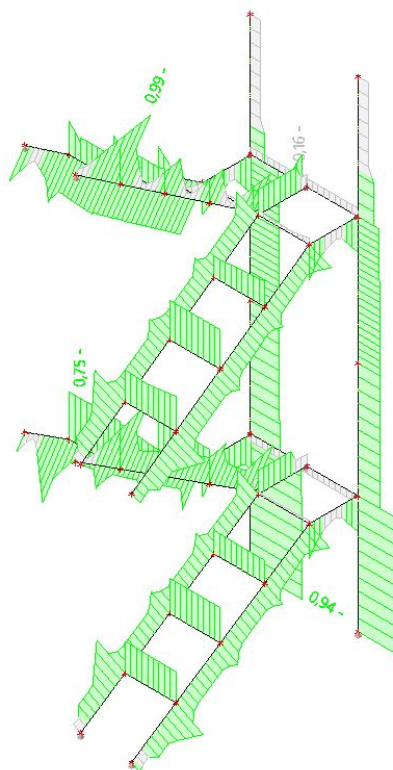
Linear calculation

Class: All ULS

Coordinate system: Principal

Extreme 1D: Cross-section

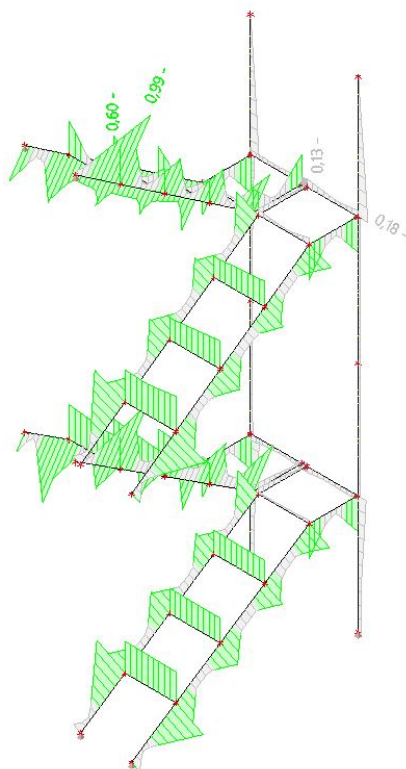
Selection: All





9.3. NSK - Section check

Values: UC_{sec}
Linear calculation
Class: All ULS
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All



9.4. NSK - Stability check

Values: UC_{stab}
Linear calculation
Class: All ULS
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All

