

Generalinis projektuotojas	IĮ SAULIAUS REMEIKOS DIZAINO STUDIJA
Projektuotojas	MB „CONATUS FRAME“
Statytojas (užsakovas)	KAUNO MIESTO SAVIVALDYBĖ
Statinio projekto pavadinimas	PASTATO, RYTŲ G.19, KAUNE DALIES VIDAUS PATALPŲ (660,37 M²), KAPITALINIO REMONTO TECHNINIS PROJEKTAS
Statinio kategorija	YPATINGASIS STATINYS
Statinio grupė	NEGYVENAMIEJI PASTATAI
Naudojimo paskirtis	MOKSLO PASKIRTIES PASTATAI
Statybos rūšis	KAPITALINIS REMONTAS
Statinio projekto etapas	TECHNINIS PROJEKTAS
Statinio projekto dalis	KONSTRUKCINĖ
Statinio projekto numeris	284809-01-TP
Bylos (segtuvo) žymuo	SK-IS
Bylos (segtuvo) laidos žymuo	0
Direktorius	SAULIUS REMEIKA
Projekto vadovas	GRAŽVYDAS SABALIAUSKAS Atestato Nr. A1939
Projekto dalies vadovas	ZBIGNEV STANSKI Atestato Nr. 17521

MODEL - GENERAL DATA

	General	Model name	: Gimnazija Scenos
		Project name	: 201 gimnazija
		Type of model	: 3D
		Positive direction of global axis Z	: Upward
		Classification of load cases and combinations	: According to Standard: EN 1990 National Annex: LST - Lithuania
		☒ Automatically create combinations	: ☒ Load Combinations
	Options	☐ RF-FORM-FINDING - Find initial equilibrium shapes of membrane and cable structures	
		☐ RF-CUTTING-PATTERN	
		☐ Piping analysis	
		☐ Use CQC Rule	
		☐ Enable CAD/BIM model	
		Standard Gravity g	: 10.00 m/s ²

FE MESH SETTINGS

	General	Target length of finite elements	l_{FE}	: 0.500 m
		Maximum distance between a node and a line to integrate it into the line	ϵ	: 0.001 m
		Maximum number of mesh nodes (in thousands)		: 500
	Members	Number of divisions of members with cable, elastic foundation, taper, or plastic characteristic		: 10
		☒ Activate member divisions for large deformation or post-critical analysis		
		☒ Use division also for straight members, which are not integrated in surfaces, with Minimum number of member divisions		: Target length LFE of finite elements : 2
		☒ Use division for members with node lying on them		
	Surfaces	Maximum ratio of FE rectangle diagonals	Δ_D	: 1.800
		Maximum out-of-plane inclination of two finite elements	α	: 0.50 °
		Shape direction of finite elements		: Triangles and quadrangles ☒ Same squares where possible

1.3 MATERIALS

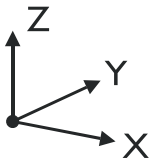
Matl. No.	Modulus E [kN/cm ²]	Modulus G [kN/cm ²]	Poisson's Ratio ν [-]	Spec. Weight γ [kN/m ³]	Coeff. of Th. Ex α [1/°C]	Partial Factor γ_M [-]	Material Model
1	Poplar and Softwood Timber C16 EN 338:2016-04 800.00	50.00	7.000	3.70	5.00E-06	1.30	Isotropic Linear Elastic

1.7 NODAL SUPPORTS

Support No.	Nodes No.	Axis System	Column in Z	u_x	u_y	u_z	φ_x	φ_y	φ_z
1	1,3,5,7,9,11,13,15,17,28,30,32,34,36,38,40,42,44,55,57,59,61,63,65,67,69,71,82,84,86,88,90,92,94,96,98,109,111,113,115,117,119,121,123,125,136,138,140,142,144,146,148,150,152,190-198	Global X,Y,Z	☐	☒	☒	☒	☐	☐	☒

1.13 CROSS-SECTIONS

Section No.	Matl. No.	J [cm ⁴] A [cm ²]	I_y [cm ⁴] A_y [cm ²]	I_z [cm ⁴] A_z [cm ²]	Principal Axes α [°]	Rotation α' [°]	Overall Dimensions [mm] Width b Height h	
1	T-Rectangle 100/100 1	1406.67 100.00	833.33 83.33	833.33 83.33	0.00	0.00	100.0	100.0
2	T-Rectangle 100/100 1	1406.67 100.00	833.33 83.33	833.33 83.33	0.00	0.00	100.0	100.0
3	T-Rectangle 100/150 1	2934.24 150.00	2812.50 125.00	1250.00 125.00	0.00	0.00	100.0	150.0
4	T-Rectangle 50/200 1	702.13 100.00	3333.33 83.33	208.33 83.33	0.00	0.00	50.0	200.0
5	T-Rectangle 100/50 1	286.09 50.00	104.17 41.67	416.67 41.67	0.00	0.00	100.0	50.0



T-Rectangle 100/100T-Rectangle 100/100

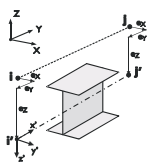


T-Rectangle 100/150T-Rectangle 50/200



T-Rectangle 100/50





1.15/1 MEMBER ECCENTRICITIES - ABSOLUTE

Ecc. No.	Reference System	Member Start - Eccentricity [mm]			Member End - Eccentricity			Member hinge location	
		$e_{i,x}$	$e_{i,y}$	$e_{i,z}$	$e_{j,x}$	$e_{j,y}$	$e_{j,z}$	Member Start	Member End
1	Global	0.0	0.0	0.0	0.0	0.0	0.0	at member	at member
2	Global	0.0	0.0	0.0	0.0	0.0	0.0	at member	at member

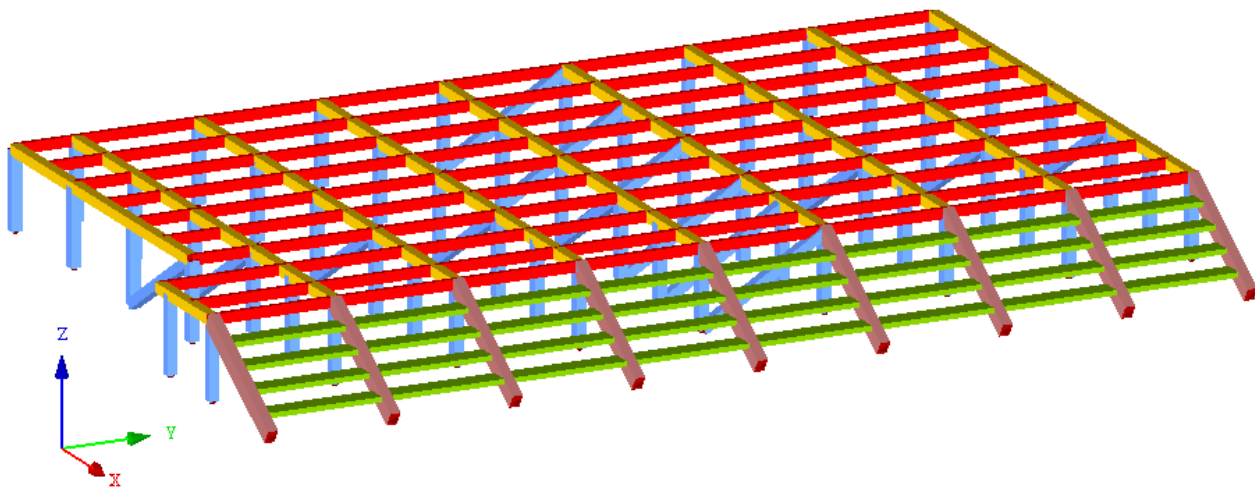
1.15/2 MEMBER ECCENTRICITIES - RELATIVE

Ecc. No.	Cross-Section Alignment		Transverse offset from cross-section of another obj.				Axial offset from adjacent	
	y-Axis	z-Axis	Object Type	Object No.	y-Axis	z-Axis	Member Sta	Member End
1	Middle	Top (-z)	None	0	Middle	Middle	☐	☐
2	Middle	Bottom (+z)	None	0	Middle	Middle	☐	☐

MODEL

- Cross-Sections
- 1: T-Rectangle 100/100; Poplar and Softwood Timt
 - 2: T-Rectangle 100/100; Poplar and Softwood Timt
 - 3: T-Rectangle 100/150; Poplar and Softwood Timt
 - 4: T-Rectangle 50/200; Poplar and Softwood Timbe
 - 5: T-Rectangle 100/50; Poplar and Softwood Timbe

Isometric

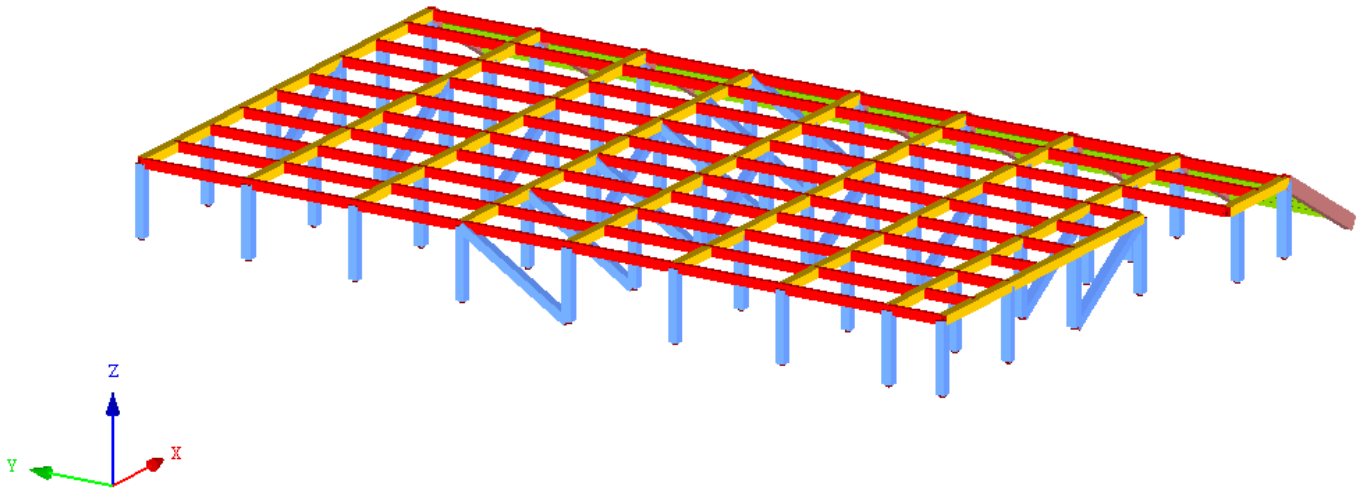


■ MODEL

Cross-Sections

- 1: T-Rectangle 100/100; Poplar and Softwood Timt
- 2: T-Rectangle 100/100; Poplar and Softwood Timt
- 3: T-Rectangle 100/150; Poplar and Softwood Timt
- 4: T-Rectangle 50/200; Poplar and Softwood Timbe
- 5: T-Rectangle 100/50; Poplar and Softwood Timbe

Isometric



■ 2.1 LOAD CASES

Load Case	Load Case Description	EN 1990 LST Action Category	Self-Weight - Factor in Direction			
			Active	X	Y	Z
LC1		Permanent	☒	0.000	0.000	-1.000
LC2		Imposed - Category C: congregation areas	☐			

■ 2.1.1 LOAD CASES - CALCULATION PARAMETERS

Load Case	Load Case Description	Calculation Parameters	
		Method of analysis	: ☒ Geometrically linear analysis
LC1		Method for solving system of nonlinear algebraic equations	: ☒ Newton-Raphson
		Activate stiffness factors of:	: ☒ Cross-sections (factor for J , I_y , I_z , A , A_y , A_z)
			: ☒ Members (factor for GJ , EI_y , EI_z , EA , GA_y , GA_z)
LC2		Method of analysis	: ☒ Geometrically linear analysis
		Method for solving system of nonlinear algebraic equations	: ☒ Newton-Raphson
		Activate stiffness factors of:	: ☒ Cross-sections (factor for J , I_y , I_z , A , A_y , A_z)
			: ☒ Members (factor for GJ , EI_y , EI_z , EA , GA_y , GA_z)

■ 2.5 LOAD COMBINATIONS

Load Combin.	Load Combination		No.	Factor	Load Case	
	DS	Description				
CO1	STR	1.35*LC1	1	1.35	LC1	
CO2	STR	1.35*LC1 + 1.3*LC2	1	1.35	LC1	
			2	1.30	LC2	
CO3	S Ch	LC1	1	1.00	LC1	
CO4	S Ch	LC1 + LC2	1	1.00	LC1	
			2	1.00	LC2	
CO5	S Fr	LC1	1	1.00	LC1	
CO6	S Fr	LC1 + 0.7*LC2	1	1.00	LC1	
			2	0.70	LC2	
CO7	S Qp	LC1	1	1.00	LC1	
CO8	S Qp	LC1 + 0.6*LC2	1	1.00	LC1	
			2	0.60	LC2	

2.5.2 LOAD COMBINATIONS - CALCULATION PARAMETERS

Load Combin.	Description	Calculation Parameters	
CO1	1.35*LC1	Method of analysis	: ☒ Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: ☒ Picard
		Options	: ☒ Consider favorable effects due to tension : ☒ Refer internal forces to deformed system for: : ☒ Normal forces N : ☒ Shear forces V_y and V_z : ☒ Moments M_y , M_z and M_T
		Activate stiffness factors of:	: ☒ Materials (partial factor γ_M) : ☒ Cross-sections (factor for J, I_y , I_z , A, A_y , A_z) : ☒ Members (factor for GJ, EI_y , EI_z , EA, GA_y , GA_z)
CO2	1.35*LC1 + 1.3*LC2	Method of analysis	: ☒ Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: ☒ Picard
		Options	: ☒ Consider favorable effects due to tension : ☒ Refer internal forces to deformed system for: : ☒ Normal forces N : ☒ Shear forces V_y and V_z : ☒ Moments M_y , M_z and M_T
		Activate stiffness factors of:	: ☒ Materials (partial factor γ_M) : ☒ Cross-sections (factor for J, I_y , I_z , A, A_y , A_z) : ☒ Members (factor for GJ, EI_y , EI_z , EA, GA_y , GA_z)
CO3	LC1	Method of analysis	: ☒ Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: ☒ Picard
		Options	: ☒ Consider favorable effects due to tension : ☒ Refer internal forces to deformed system for: : ☒ Normal forces N : ☒ Shear forces V_y and V_z : ☒ Moments M_y , M_z and M_T
		Activate stiffness factors of:	: ☒ Materials (partial factor γ_M) : ☒ Cross-sections (factor for J, I_y , I_z , A, A_y , A_z) : ☒ Members (factor for GJ, EI_y , EI_z , EA, GA_y , GA_z)
CO4	LC1 + LC2	Method of analysis	: ☒ Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: ☒ Picard
		Options	: ☒ Consider favorable effects due to tension : ☒ Refer internal forces to deformed system for: : ☒ Normal forces N : ☒ Shear forces V_y and V_z : ☒ Moments M_y , M_z and M_T
		Activate stiffness factors of:	: ☒ Materials (partial factor γ_M) : ☒ Cross-sections (factor for J, I_y , I_z , A, A_y , A_z) : ☒ Members (factor for GJ, EI_y , EI_z , EA, GA_y , GA_z)
CO5	LC1	Method of analysis	: ☒ Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: ☒ Picard
		Options	: ☒ Consider favorable effects due to tension : ☒ Refer internal forces to deformed system for: : ☒ Normal forces N : ☒ Shear forces V_y and V_z : ☒ Moments M_y , M_z and M_T
		Activate stiffness factors of:	: ☒ Materials (partial factor γ_M) : ☒ Cross-sections (factor for J, I_y , I_z , A, A_y , A_z) : ☒ Members (factor for GJ, EI_y , EI_z , EA, GA_y , GA_z)
CO6	LC1 + 0.7*LC2	Method of analysis	: ☒ Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: ☒ Picard
		Options	: ☒ Consider favorable effects due to tension : ☒ Refer internal forces to deformed system for: : ☒ Normal forces N : ☒ Shear forces V_y and V_z : ☒ Moments M_y , M_z and M_T
		Activate stiffness factors of:	: ☒ Materials (partial factor γ_M) : ☒ Cross-sections (factor for J, I_y , I_z , A, A_y , A_z) : ☒ Members (factor for GJ, EI_y , EI_z , EA, GA_y , GA_z)
CO7	LC1	Method of analysis	: ☒ Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: ☒ Picard
		Options	: ☒ Consider favorable effects due to tension : ☒ Refer internal forces to deformed system for: : ☒ Normal forces N : ☒ Shear forces V_y and V_z : ☒ Moments M_y , M_z and M_T
		Activate stiffness factors of:	: ☒ Materials (partial factor γ_M) : ☒ Cross-sections (factor for J, I_y , I_z , A, A_y , A_z) : ☒ Members (factor for GJ, EI_y , EI_z , EA, GA_y , GA_z)
CO8	LC1 + 0.6*LC2	Method of analysis	: ☒ Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: ☒ Picard
		Options	: ☒ Consider favorable effects due to tension : ☒ Refer internal forces to deformed system for: : ☒ Normal forces N : ☒ Shear forces V_y and V_z : ☒ Moments M_y , M_z and M_T
		Activate stiffness factors of:	: ☒ Materials (partial factor γ_M) : ☒ Cross-sections (factor for J, I_y , I_z , A, A_y , A_z) : ☒ Members (factor for GJ, EI_y , EI_z , EA, GA_y , GA_z)

2.7 RESULT COMBINATIONS

Result Combin	Description	Loading
RC1	ULS (STR/GEO) - Permanent / transient - Eq. 6.10	CO1/p or CO2/p
RC2	SLS - Characteristic	CO3/p or CO4/p
RC3	SLS - Frequent	CO5/p or CO6/p
RC4	SLS - Quasi-permanent	CO7/p or CO8/p

LC1

3.2 MEMBER LOADS

LC1

No.	Reference to	On Members No.	Load Type	Load Distribution	Load Direction	Reference Length	Symbol	Value	Unit
1	Members	167,176,184,195,203,212,220,239,247,256,264,273,281,290,298,307,315	Force	Uniform	ZL	True Length	p	-0.300	kN/m

3.2/1 MEMBER LOADS - LOAD ECCENTRICITY

LC1

No.	Referenc to	On Member No.	Absolute Offset		Absolute Offset		Relative Offset		Relative Offset	
			Mbr. Start	Mbr. Start	Mbr. End	Mbr. End	Mbr. Start	Mbr. Start	Mbr. End	Mbr. End
			e _y [mm]	e _z [mm]	e _y [mm]	e _z [mm]	y-Axis	z-Axis	y-Axis	z-Axis
1	Members	167,176,184,195,203,212,220,239,247,256,264,273,281,290,298,307,315	0.0	0.0	0.0	0.0	Middle	Middle	Middle	Middle

3.15 GENERATED LOADS

LC1

No.	Load Description									
1	From Area Loads via Plane									
Area load direction					Global relative to the true area:					☒ ZL
Area of load application					☒ Fully closed plane					
Load distribution type:					☒ Combined					
Area load magnitude					☒ Constant					-0.50 kN/m ²
Boundary of the area load plane					Corner nodes					137,100,101,85,83,2,18,153,137,190,198,153
					Note					Each row in the drop down list box denotes one plane
Remove influence from					Single members					19,20,21,22,23,24,25,26,27,36,37,38,39,40,41,42,43,44,63,64,65,66,67,68,69,70,71,80,81,82,83,84,85,86,87,88,107,108,109,110,111,112,113,114,115,133,134,135,136,137,138,139,140,141,160,161,162,163,164,165,166,167,176,177,178,179,180,181,182,183,184,195,196,197,198,199,200,201,202,203,212,213,214,215,216,217,218,219,220,239,240,241,242,243,244,245,246,247,256,257,258,259,260,261,262,263,264,273,274,275,276,277,278,279,280,281,290,291,292,293,294,295,296,297,298,307,308,309,310,311,312,313,314,315
Generating total loads in direction					ΣP_{Areas}		X	:	0.000	kN
							Y	:	0.000	kN
							Z	:	-30.552	kN
					$\Sigma P_{Members}$		X	:	0.000	kN
							Y	:	0.000	kN
							Z	:	-30.552	kN
Total moment to the origin					ΣM_{Areas}		X	:	-134.692	kNm
							Y	:	102.538	kNm
							Z	:	0.000	kNm
					$\Sigma M_{Members}$		X	:	-134.692	kNm
							Y	:	102.375	kNm
							Z	:	0.000	kNm
Cells selected for generating					Σ number of cells					
					Σ cell area					
Convert loads to members No.										

3.15 GENERATED LOADS

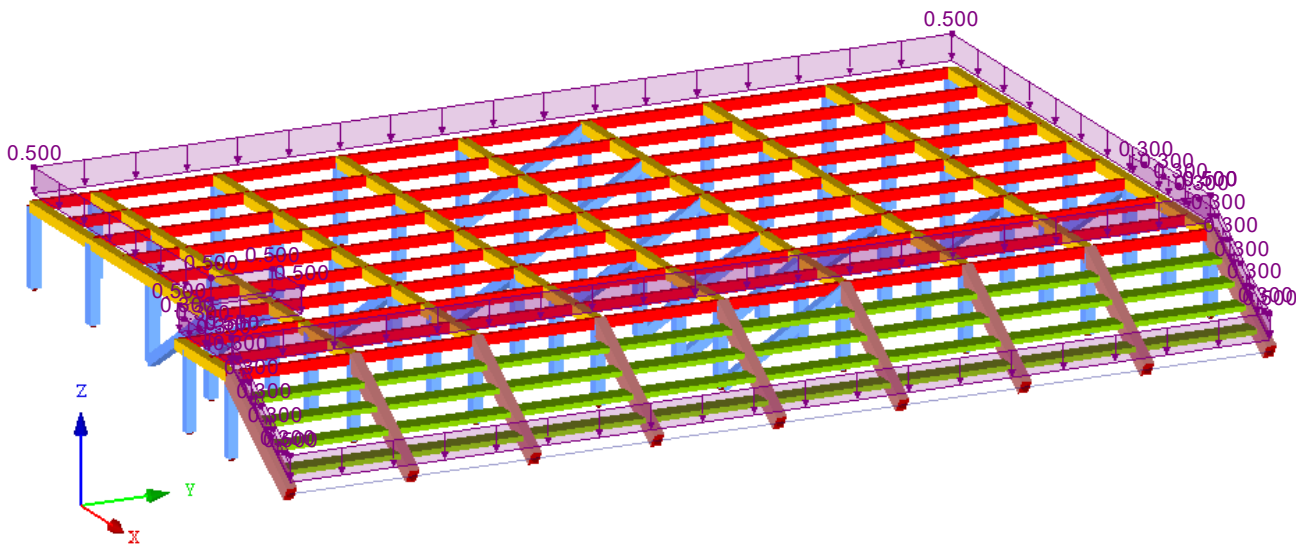
LC1

No.	Load Description
	158,168-175,204-211, 222,224,226,228,231, 233,235,237,248-255, 265-272,282-289, 299-306

LC1

LC1
Loads [kN/m]

Isometric



LC2

3.15 GENERATED LOADS

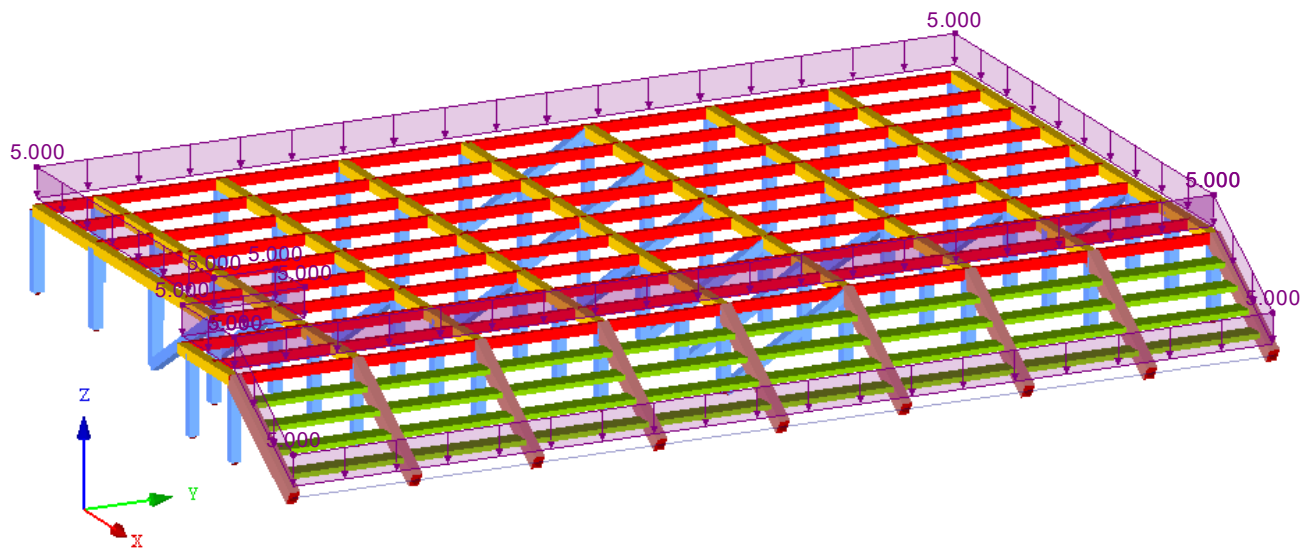
LC2

No.	Load Description			
1	From Area Loads via Plane			
	Area load direction	Global relative to the true area:	:	☒ ZL
	Area of load application	☒ Fully closed plane		
	Load distribution type:	☒ Combined		
	Area load magnitude	☒ Constant	:	-5.00 kN/m ²
	Boundary of the area load plane	Corner nodes	:	137,100,101,85,83,2,18,153;
				137,190,198,153
		Note	:	Each row in the drop down list box denotes one plane
	Remove influence from	Single members	:	19,20,21,22,23,24,25,26,27,36,37,38,39,40,41,42,43,44,63,64,65,66,67,68,69,70,71,80,81,82,83,84,85,86,87,88,107,108,109,110,111,112,113,114,115,133,134,135,136,137,138,139,140,141,160,161,162,163,164,165,166,167,176,177,178,179,180,181,182,183,184,195,196,197,198,199,200,201,202,203,212,213,214,215,216,217,218,219,220,239,240,241,242,243,244,245,246,247,256,257,258,259,260,261,262,263,264,273,274,275,276,277,278,279,280,281,290,291,292,293,294,295,296,297,298,307,308,309,310,311,312,313,314,315
	Generating total loads in direction	ΣP_{Areas}	X	: 0.000 kN
			Y	: 0.000 kN
			Z	: -305.525 kN
		$\Sigma P_{Members}$	X	: 0.000 kN
			Y	: 0.000 kN
			Z	: -305.525 kN
	Total moment to the origin	ΣM_{Areas}	X	: -1346.920 kNm
			Y	: 1025.380 kNm
			Z	: 0.000 kNm
		$\Sigma M_{Members}$	X	: -1346.920 kNm
			Y	: 1023.750 kNm
			Z	: 0.000 kNm
	Cells selected for generating	Σ number of cells		: 14
		Σ cell area		: 61.105 m ²
	Convert loads to members No.		:	2,4,6,8,11,13,15,17,28-35,46,48,50,52,55,57,59,61,72-79,90,92,94,96,99,101,103,105,117,119,121,123,125,127,129,131,143,145,147,149,152,154,156,158,168-175,204-211,222,224,226,228,231,233,235,237,248-255,265-272,282-289,299-306

■ LC2

LC2
Loads [kN/m]

Isometric



■ 4.0 RESULTS - SUMMARY

	Description	Value	Unit	Comment
Load Case LC1				
	Sum of loads in X	0.00	kN	
	Sum of support reactions in X	0.00	kN	
	Sum of loads in Y	0.00	kN	
	Sum of support reactions in Y	0.00	kN	
	Sum of loads in Z	-40.05	kN	
	Sum of support reactions in Z	-40.05	kN	Deviation 0.00%
	Resultant of reactions about X	-3.854	kNm	At center of gravity of model (X:3.584, Y:4.305, Z:0.539 m)
	Resultant of reactions about Y	-4.419	kNm	At center of gravity of model
	Resultant of reactions about Z	0.000	kNm	At center of gravity of model
	Max. displacement in X	-0.1	mm	Member No. 274, x: 0.177 m
	Max. displacement in Y	0.0	mm	Member No. 62, x: 0.375 m
	Max. displacement in Z	-0.3	mm	Member No. 35, x: 0.600 m
	Max. vector displacement	0.3	mm	Member No. 35, x: 0.600 m
	Max. rotation about X	0.4	mrاد	Member No. 27, x: 0.600 m
	Max. rotation about Y	0.4	mrاد	Member No. 15, x: 1.200 m
	Max. rotation about Z	-0.2	mrاد	Member No. 281, x: 0.283 m
	Maximum member strain	0.000	‰	Member No. 0, x: 0.000 m
	Method of analysis	Linear		Geometrically linear analysis
	Reduction of stiffness			Cross-sections, Members, Surfaces
	Number of load increments	1		
	Number of iterations	1		
	Maximum value of element of stiffness matrix on diagonal	1.827E+12		
	Minimum value of element of stiffness matrix on diagonal	7.152E+03		
	Stiffness matrix determinant	1.151E+3853		
	Infinity Norm	3.655E+12		
Load Case LC2				
	Sum of loads in X	0.00	kN	
	Sum of support reactions in X	0.00	kN	
	Sum of loads in Y	0.00	kN	
	Sum of support reactions in Y	0.00	kN	
	Sum of loads in Z	-305.52	kN	
	Sum of support reactions in Z	-305.52	kN	Deviation 0.00%
	Resultant of reactions about X	-31.645	kNm	At center of gravity of model (X:3.584, Y:4.305, Z:0.539 m)
	Resultant of reactions about Y	-71.190	kNm	At center of gravity of model
	Resultant of reactions about Z	0.000	kNm	At center of gravity of model
	Max. displacement in X	-0.6	mm	Member No. 288, x: 0.800 m
	Max. displacement in Y	0.2	mm	Member No. 62, x: 0.375 m
	Max. displacement in Z	-2.5	mm	Member No. 35, x: 0.600 m
	Max. vector displacement	2.5	mm	Member No. 35, x: 0.600 m
	Max. rotation about X	4.1	mrاد	Member No. 35, x: 1.200 m
	Max. rotation about Y	3.3	mrاد	Member No. 15, x: 1.200 m
	Max. rotation about Z	-2.0	mrاد	Member No. 281, x: 0.283 m
	Maximum member strain	0.000	‰	Member No. 0, x: 0.000 m
	Method of analysis	Linear		Geometrically linear analysis
	Reduction of stiffness			Cross-sections, Members, Surfaces
	Number of load increments	1		
	Number of iterations	1		
	Maximum value of element of stiffness matrix on diagonal	1.827E+12		
	Minimum value of element of stiffness matrix on diagonal	7.152E+03		
	Stiffness matrix determinant	1.151E+3853		
	Infinity Norm	3.655E+12		
Load Combination CO1 - 1.35*LC1				
	Sum of loads in X	-0.00	kN	
	Sum of support reactions in X	0.00	kN	
	Sum of loads in Y	0.00	kN	
	Sum of support reactions in Y	0.00	kN	
	Sum of loads in Z	-54.06	kN	
	Sum of support reactions in Z	-54.06	kN	Deviation 0.00%
	Resultant of reactions about X	-5.2	kNm	At center of gravity of model (X:3.6, Y:4.3, Z:0.5 m)
	Resultant of reactions about Y	-6.0	kNm	At center of gravity of model
	Resultant of reactions about Z	0.0	kNm	At center of gravity of model
	Max. displacement in X	-0.1	mm	Member No. 274, x: 0.177 m
	Max. displacement in Y	0.0	mm	Member No. 62, x: 0.375 m
	Max. displacement in Z	-0.5	mm	Member No. 35, x: 0.600 m
	Max. vector displacement	0.5	mm	Member No. 35, x: 0.600 m
	Max. rotation about X	0.8	mrاد	Member No. 27, x: 0.600 m
	Max. rotation about Y	0.7	mrاد	Member No. 15, x: 1.200 m
	Max. rotation about Z	-0.4	mrاد	Member No. 281, x: 0.283 m
	Maximum member strain	0.000	‰	Member No. 0, x: 0.000 m
	Method of analysis	2nd Order		Second order analysis (Nonlinear, Timoshenko)
	Internal forces referred to deformed system for...	☒		N, V _y , V _z , M _y , M _z , M _T
	Reduction of stiffness			Materials, Cross-sections, Members, Surfaces
	Consider favorable effects of tensile forces	☒		
	Divide results by CO factor	☐		
	Number of load increments	1		
	Number of iterations	2		
	Maximum value of element of stiffness matrix on diagonal	1.406E+12		
	Minimum value of element of stiffness matrix on diagonal	5.502E+03		
	Stiffness matrix determinant	4.260E+3796		
	Infinity Norm	2.812E+12		
Load Combination CO2 - 1.35*LC1 + 1.3*LC2				
	Sum of loads in X	-0.00	kN	
	Sum of support reactions in X	-0.00	kN	
	Sum of loads in Y	0.00	kN	
	Sum of support reactions in Y	0.00	kN	
	Sum of loads in Z	-451.25	kN	
	Sum of support reactions in Z	-451.25	kN	Deviation -0.00%

■ 4.0 RESULTS - SUMMARY

	Description	Value	Unit	Comment
	Resultant of reactions about X	-46.4	kNm	At center of gravity of model (X:3.6, Y:4.3, Z:0.5 m)
	Resultant of reactions about Y	-98.6	kNm	At center of gravity of model
	Resultant of reactions about Z	0.0	kNm	At center of gravity of model
	Max. displacement in X	-1.2	mm	Member No. 274, x: 0.177 m
	Max. displacement in Y	0.3	mm	Member No. 62, x: 0.375 m
	Max. displacement in Z	-4.6	mm	Member No. 35, x: 0.600 m
	Max. vector displacement	4.6	mm	Member No. 35, x: 0.600 m
	Max. rotation about X	7.7	mrاد	Member No. 35, x: 1.200 m
	Max. rotation about Y	6.2	mrاد	Member No. 26, x: 0.000 m
	Max. rotation about Z	-3.8	mrاد	Member No. 281, x: 0.283 m
	Maximum member strain	0.000	‰	Member No. 0, x: 0.000 m
	Method of analysis	2nd Order		Second order analysis (Nonlinear, Timoshenko)
	Internal forces referred to deformed system for...	☒		N, V _y , V _z , M _y , M _z , M _T
	Reduction of stiffness			Materials, Cross-sections, Members, Surfaces
	Consider favorable effects of tensile forces	☒		
	Divide results by CO factor	☐		
	Number of load increments	1		
	Number of iterations	2		
	Maximum value of element of stiffness matrix on diagonal	1.406E+12		
	Minimum value of element of stiffness matrix on diagonal	5.502E+03		
	Stiffness matrix determinant	5.961E+3796		
		0		
	Infinity Norm	2.812E+12		
Load Combination CO3 - LC1				
	Sum of loads in X	-0.00	kN	
	Sum of support reactions in X	0.00	kN	
	Sum of loads in Y	0.00	kN	
	Sum of support reactions in Y	0.00	kN	
	Sum of loads in Z	-40.05	kN	
	Sum of support reactions in Z	-40.05	kN	Deviation 0.00%
	Resultant of reactions about X	-3.9	kNm	At center of gravity of model (X:3.6, Y:4.3, Z:0.5 m)
	Resultant of reactions about Y	-4.4	kNm	At center of gravity of model
	Resultant of reactions about Z	0.0	kNm	At center of gravity of model
	Max. displacement in X	-0.1	mm	Member No. 274, x: 0.177 m
	Max. displacement in Y	0.0	mm	Member No. 62, x: 0.375 m
	Max. displacement in Z	-0.4	mm	Member No. 35, x: 0.600 m
	Max. vector displacement	0.4	mm	Member No. 35, x: 0.600 m
	Max. rotation about X	0.6	mrاد	Member No. 27, x: 0.600 m
	Max. rotation about Y	0.5	mrاد	Member No. 15, x: 1.200 m
	Max. rotation about Z	-0.3	mrاد	Member No. 281, x: 0.283 m
	Maximum member strain	0.000	‰	Member No. 0, x: 0.000 m
	Method of analysis	2nd Order		Second order analysis (Nonlinear, Timoshenko)
	Internal forces referred to deformed system for...	☒		N, V _y , V _z , M _y , M _z , M _T
	Reduction of stiffness			Materials, Cross-sections, Members, Surfaces
	Consider favorable effects of tensile forces	☒		
	Divide results by CO factor	☐		
	Number of load increments	1		
	Number of iterations	2		
	Maximum value of element of stiffness matrix on diagonal	1.406E+12		
	Minimum value of element of stiffness matrix on diagonal	5.502E+03		
	Stiffness matrix determinant	4.540E+3796		
		1		
	Infinity Norm	2.812E+12		
Load Combination CO4 - LC1 + LC2				
	Sum of loads in X	-0.00	kN	
	Sum of support reactions in X	-0.00	kN	
	Sum of loads in Y	0.00	kN	
	Sum of support reactions in Y	0.00	kN	
	Sum of loads in Z	-345.57	kN	
	Sum of support reactions in Z	-345.57	kN	Deviation -0.00%
	Resultant of reactions about X	-35.5	kNm	At center of gravity of model (X:3.6, Y:4.3, Z:0.5 m)
	Resultant of reactions about Y	-75.7	kNm	At center of gravity of model
	Resultant of reactions about Z	0.0	kNm	At center of gravity of model
	Max. displacement in X	-0.9	mm	Member No. 274, x: 0.177 m
	Max. displacement in Y	0.3	mm	Member No. 62, x: 0.375 m
	Max. displacement in Z	-3.5	mm	Member No. 35, x: 0.600 m
	Max. vector displacement	3.5	mm	Member No. 35, x: 0.600 m
	Max. rotation about X	5.9	mrاد	Member No. 27, x: 0.600 m
	Max. rotation about Y	4.8	mrاد	Member No. 15, x: 1.200 m
	Max. rotation about Z	-2.9	mrاد	Member No. 281, x: 0.283 m
	Maximum member strain	0.000	‰	Member No. 0, x: 0.000 m
	Method of analysis	2nd Order		Second order analysis (Nonlinear, Timoshenko)
	Internal forces referred to deformed system for...	☒		N, V _y , V _z , M _y , M _z , M _T
	Reduction of stiffness			Materials, Cross-sections, Members, Surfaces
	Consider favorable effects of tensile forces	☒		
	Divide results by CO factor	☐		
	Number of load increments	1		
	Number of iterations	2		
	Maximum value of element of stiffness matrix on diagonal	1.406E+12		
	Minimum value of element of stiffness matrix on diagonal	5.502E+03		
	Stiffness matrix determinant	1.002E+3796		
		1		
	Infinity Norm	2.812E+12		
Load Combination CO5 - LC1				
	Sum of loads in X	-0.00	kN	
	Sum of support reactions in X	0.00	kN	
	Sum of loads in Y	0.00	kN	
	Sum of support reactions in Y	0.00	kN	
	Sum of loads in Z	-40.05	kN	
	Sum of support reactions in Z	-40.05	kN	Deviation 0.00%
	Resultant of reactions about X	-3.9	kNm	At center of gravity of model (X:3.6, Y:4.3, Z:0.5 m)

■ 4.0 RESULTS - SUMMARY

	Description	Value	Unit	Comment
	Resultant of reactions about Y	-4.4	kNm	At center of gravity of model
	Resultant of reactions about Z	0.0	kNm	At center of gravity of model
	Max. displacement in X	-0.1	mm	Member No. 274, x: 0.177 m
	Max. displacement in Y	0.0	mm	Member No. 62, x: 0.375 m
	Max. displacement in Z	-0.4	mm	Member No. 35, x: 0.600 m
	Max. vector displacement	0.4	mm	Member No. 35, x: 0.600 m
	Max. rotation about X	0.6	mrاد	Member No. 27, x: 0.600 m
	Max. rotation about Y	0.5	mrاد	Member No. 15, x: 1.200 m
	Max. rotation about Z	-0.3	mrاد	Member No. 281, x: 0.283 m
	Maximum member strain	0.000	‰	Member No. 0, x: 0.000 m
	Method of analysis	2nd Order		Second order analysis (Nonlinear, Timoshenko)
	Internal forces referred to deformed system for...	☒		N, V _y , V _z , M _y , M _z , M _T
	Reduction of stiffness			Materials, Cross-sections, Members, Surfaces
	Consider favorable effects of tensile forces	☒		
	Divide results by CO factor	☐		
	Number of load increments	1		
	Number of iterations	2		
	Maximum value of element of stiffness matrix on diagonal	1.406E+12		
	Minimum value of element of stiffness matrix on diagonal	5.502E+03		
	Stiffness matrix determinant	4.540E+3796		
	Infinity Norm	2.812E+12		

Load Combination CO6 - LC1 + 0.7*LC2

	Sum of loads in X	-0.00	kN	
	Sum of support reactions in X	0.00	kN	
	Sum of loads in Y	0.00	kN	
	Sum of support reactions in Y	0.00	kN	
	Sum of loads in Z	-253.91	kN	
	Sum of support reactions in Z	-253.91	kN	Deviation -0.00%
	Resultant of reactions about X	-26.0	kNm	At center of gravity of model (X:3.6, Y:4.3, Z:0.5 m)
	Resultant of reactions about Y	-54.3	kNm	At center of gravity of model
	Resultant of reactions about Z	0.0	kNm	At center of gravity of model
	Max. displacement in X	-0.7	mm	Member No. 274, x: 0.177 m
	Max. displacement in Y	0.2	mm	Member No. 62, x: 0.375 m
	Max. displacement in Z	-2.6	mm	Member No. 35, x: 0.600 m
	Max. vector displacement	2.6	mm	Member No. 35, x: 0.600 m
	Max. rotation about X	4.3	mrاد	Member No. 27, x: 0.600 m
	Max. rotation about Y	3.5	mrاد	Member No. 15, x: 1.200 m
	Max. rotation about Z	-2.1	mrاد	Member No. 281, x: 0.283 m
	Maximum member strain	0.000	‰	Member No. 0, x: 0.000 m
	Method of analysis	2nd Order		Second order analysis (Nonlinear, Timoshenko)
	Internal forces referred to deformed system for...	☒		N, V _y , V _z , M _y , M _z , M _T
	Reduction of stiffness			Materials, Cross-sections, Members, Surfaces
	Consider favorable effects of tensile forces	☒		
	Divide results by CO factor	☐		
	Number of load increments	1		
	Number of iterations	2		
	Maximum value of element of stiffness matrix on diagonal	1.406E+12		
	Minimum value of element of stiffness matrix on diagonal	5.502E+03		
	Stiffness matrix determinant	1.577E+3796		
	Infinity Norm	2.812E+12		

Load Combination CO7 - LC1

	Sum of loads in X	-0.00	kN	
	Sum of support reactions in X	0.00	kN	
	Sum of loads in Y	0.00	kN	
	Sum of support reactions in Y	0.00	kN	
	Sum of loads in Z	-40.05	kN	
	Sum of support reactions in Z	-40.05	kN	Deviation 0.00%
	Resultant of reactions about X	-3.9	kNm	At center of gravity of model (X:3.6, Y:4.3, Z:0.5 m)
	Resultant of reactions about Y	-4.4	kNm	At center of gravity of model
	Resultant of reactions about Z	0.0	kNm	At center of gravity of model
	Max. displacement in X	-0.1	mm	Member No. 274, x: 0.177 m
	Max. displacement in Y	0.0	mm	Member No. 62, x: 0.375 m
	Max. displacement in Z	-0.4	mm	Member No. 35, x: 0.600 m
	Max. vector displacement	0.4	mm	Member No. 35, x: 0.600 m
	Max. rotation about X	0.6	mrاد	Member No. 27, x: 0.600 m
	Max. rotation about Y	0.5	mrاد	Member No. 15, x: 1.200 m
	Max. rotation about Z	-0.3	mrاد	Member No. 281, x: 0.283 m
	Maximum member strain	0.000	‰	Member No. 0, x: 0.000 m
	Method of analysis	2nd Order		Second order analysis (Nonlinear, Timoshenko)
	Internal forces referred to deformed system for...	☒		N, V _y , V _z , M _y , M _z , M _T
	Reduction of stiffness			Materials, Cross-sections, Members, Surfaces
	Consider favorable effects of tensile forces	☒		
	Divide results by CO factor	☐		
	Number of load increments	1		
	Number of iterations	2		
	Maximum value of element of stiffness matrix on diagonal	1.406E+12		
	Minimum value of element of stiffness matrix on diagonal	5.502E+03		
	Stiffness matrix determinant	4.540E+3796		
	Infinity Norm	2.812E+12		

Load Combination CO8 - LC1 + 0.6*LC2

	Sum of loads in X	-0.00	kN	
	Sum of support reactions in X	0.00	kN	
	Sum of loads in Y	0.00	kN	
	Sum of support reactions in Y	0.00	kN	
	Sum of loads in Z	-223.36	kN	
	Sum of support reactions in Z	-223.36	kN	Deviation 0.00%
	Resultant of reactions about X	-22.8	kNm	At center of gravity of model (X:3.6, Y:4.3, Z:0.5 m)
	Resultant of reactions about Y	-47.2	kNm	At center of gravity of model

■ 4.0 RESULTS - SUMMARY

	Description	Value	Unit	Comment
	Resultant of reactions about Z	0.0	kNm	At center of gravity of model
	Max. displacement in X	-0.6	mm	Member No. 274, x: 0.177 m
	Max. displacement in Y	0.2	mm	Member No. 62, x: 0.375 m
	Max. displacement in Z	-2.3	mm	Member No. 35, x: 0.600 m
	Max. vector displacement	2.3	mm	Member No. 35, x: 0.600 m
	Max. rotation about X	3.8	mrاد	Member No. 27, x: 0.600 m
	Max. rotation about Y	3.0	mrاد	Member No. 15, x: 1.200 m
	Max. rotation about Z	-1.9	mrاد	Member No. 281, x: 0.283 m
	Maximum member strain	0.000	‰	Member No. 0, x: 0.000 m
	Method of analysis	2nd Order		Second order analysis (Nonlinear, Timoshenko)
	Internal forces referred to deformed system for...	☒		N, V _y , V _z , M _y , M _z , M _T
	Reduction of stiffness			Materials, Cross-sections, Members, Surfaces
	Consider favorable effects of tensile forces	☒		
	Divide results by CO factor	☐		
	Number of load increments	1		
	Number of iterations	2		
	Maximum value of element of stiffness matrix on diagonal	1.406E+12		
	Minimum value of element of stiffness matrix on diagonal	5.502E+03		
	Stiffness matrix determinant	1.835E+3796		
		1		
	Infinity Norm	2.812E+12		
Summary				
	Max. displacement in X	-1.2	mm	CO2, Member No. 274, x: 0.177 m
	Max. displacement in Y	0.3	mm	CO2, Member No. 62, x: 0.375 m
	Max. displacement in Z	-4.6	mm	CO2, Member No. 35, x: 0.600 m
	Max. vector displacement	4.6	mm	CO2, Member No. 35, x: 0.600 m
	Max. rotation about X	7.7	mrاد	CO2, Member No. 35, x: 1.200 m
	Max. rotation about Y	6.2	mrاد	CO2, Member No. 26, x: 0.000 m
	Max. rotation about Z	-3.8	mrاد	CO2, Member No. 281, x: 0.283 m
	Other Settings:			
	Number of 1D finite elements	1002		
	Number of 2D finite elements	0		
	Number of 3D finite elements	0		
	Number of FE mesh nodes	885		
	Number of equations	5310		
	Internal forces referred to deformed system for...:			
	Max. number of iterations	100		
	Number of divisions for member results	10		
	Division of cable/foundation/tapered members	10		
	Number of member divisions for searching maximum values	10		
	Subdivisions of FE mesh for graphical results	3		
	Percentage of iterations according to Picard method in combination with Newton-Raphson method	5	%	
	Options:			
	Activate shear stiffness of members (Ay, Az)	☒		
	Activate member divisions for large deformation or post-critical analysis	☒		
	Activate entered stiffness modifications	☒		
	Ignore rotational degrees of freedom	☐		
	Check of critical forces of members	☒		
	Nonsymmetric direct solver if demanded by nonlinear model	☐		
	Method for the system of equations	Direct		
	Plate bending theory	Mindlin		
	Solver version	64-bit		
	Precision and Tolerance:			
	Change default setting	☐		

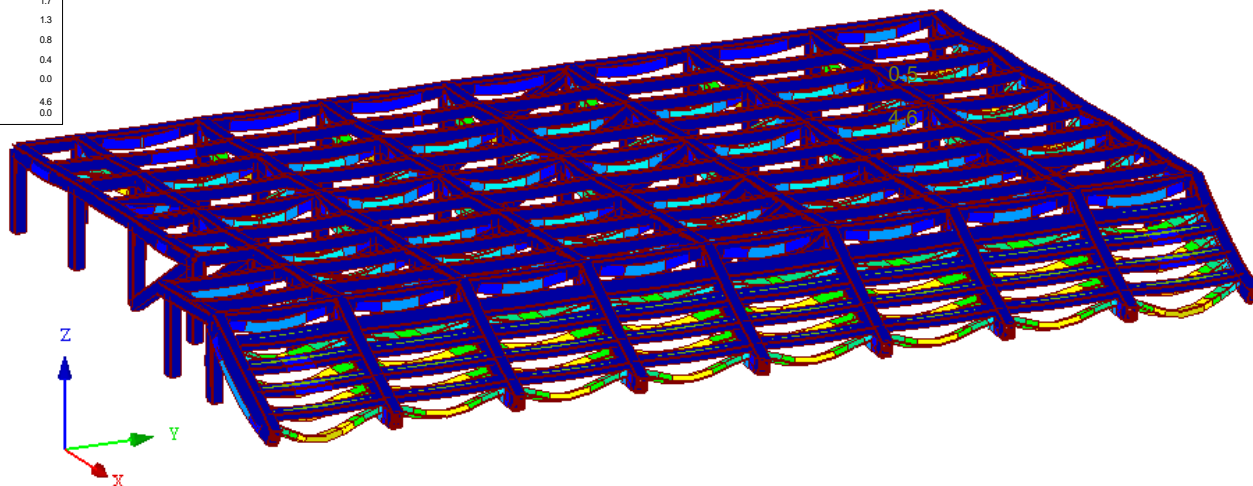
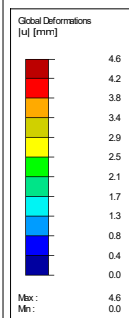
■ GLOBAL DEFORMATIONS u

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Global Deformations u [mm]

Result Combinations: Max and Min Values

Isometric



Factor of deformations: 100.00

Max u: 4.6, Min u: 0.0 mm

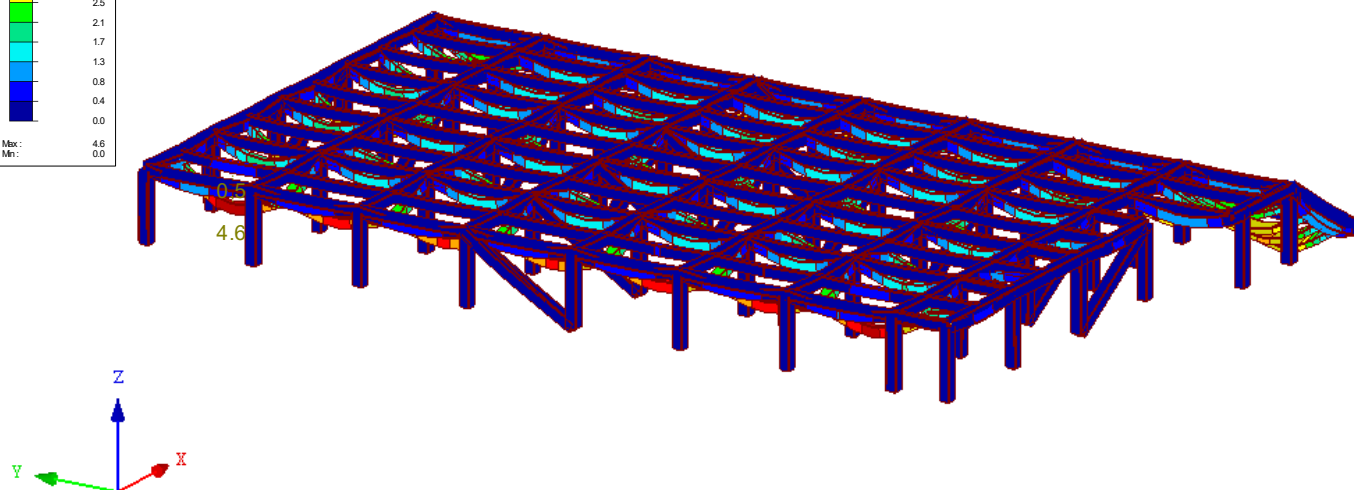
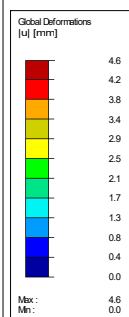
■ GLOBAL DEFORMATIONS u

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Global Deformations u [mm]

Result Combinations: Max and Min Values

Isometric



Factor of deformations: 100.00

Max u: 4.6, Min u: 0.0 mm

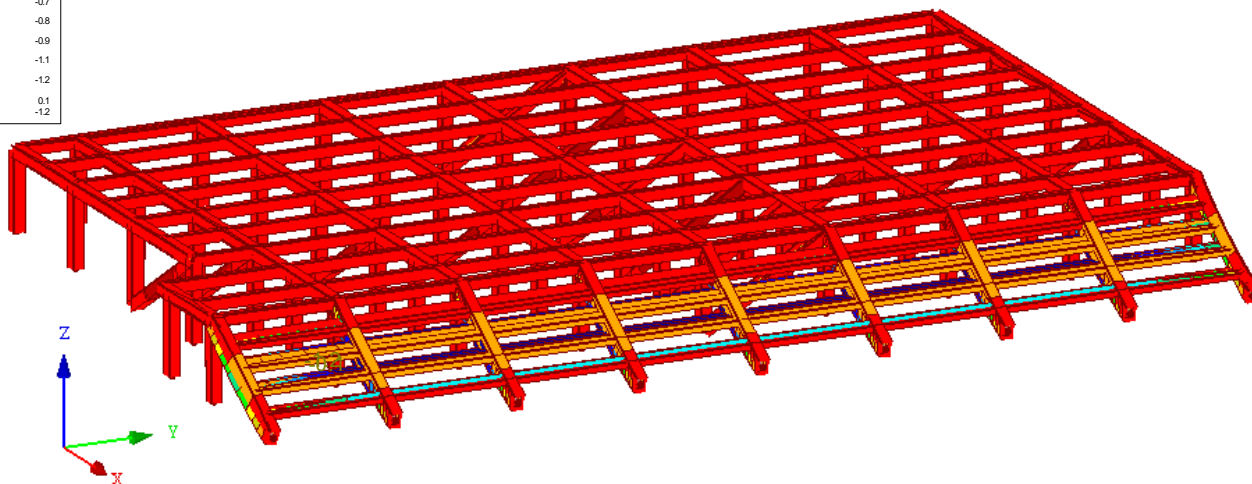
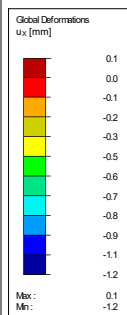
■ GLOBAL DEFORMATIONS u_x

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Global Deformations u-X [mm]

Result Combinations: Max and Min Values

Isometric



Factor of deformations: 100.00

Max u-X: 0.1, Min u-X: -1.2 mm

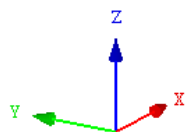
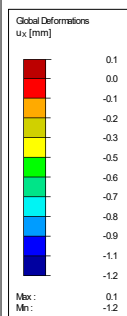
■ GLOBAL DEFORMATIONS u_x

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Global Deformations u-X [mm]

Result Combinations: Max and Min Values

Isometric



Factor of deformations: 100.00

Max u-X: 0.1, Min u-X: -1.2 mm

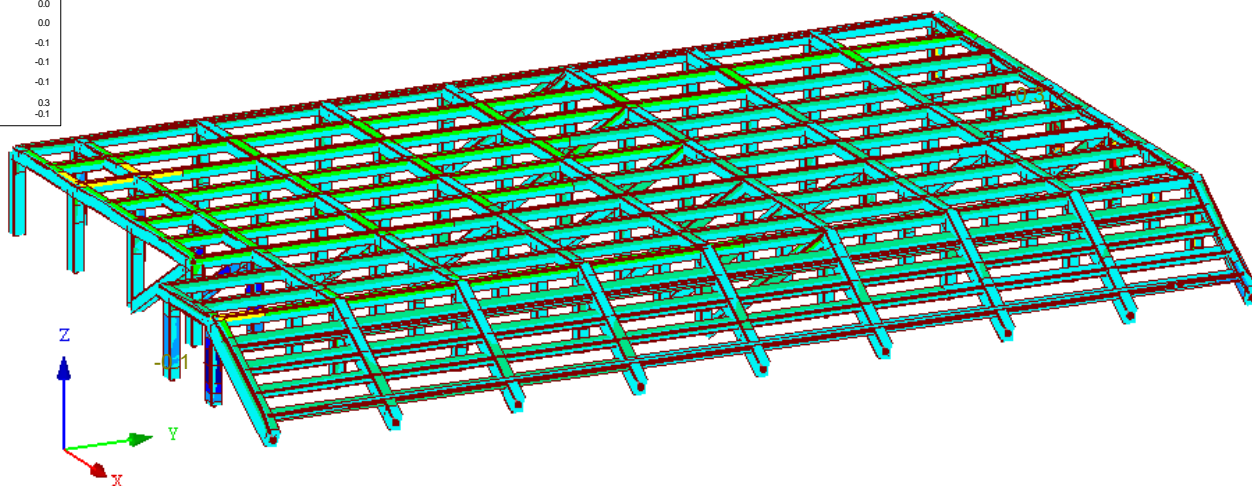
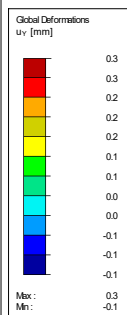
■ GLOBAL DEFORMATIONS u_y

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Global Deformations u-Y [mm]

Result Combinations: Max and Min Values

Isometric



Factor of deformations: 100.00

Max u-Y: 0.3, Min u-Y: -0.1 mm

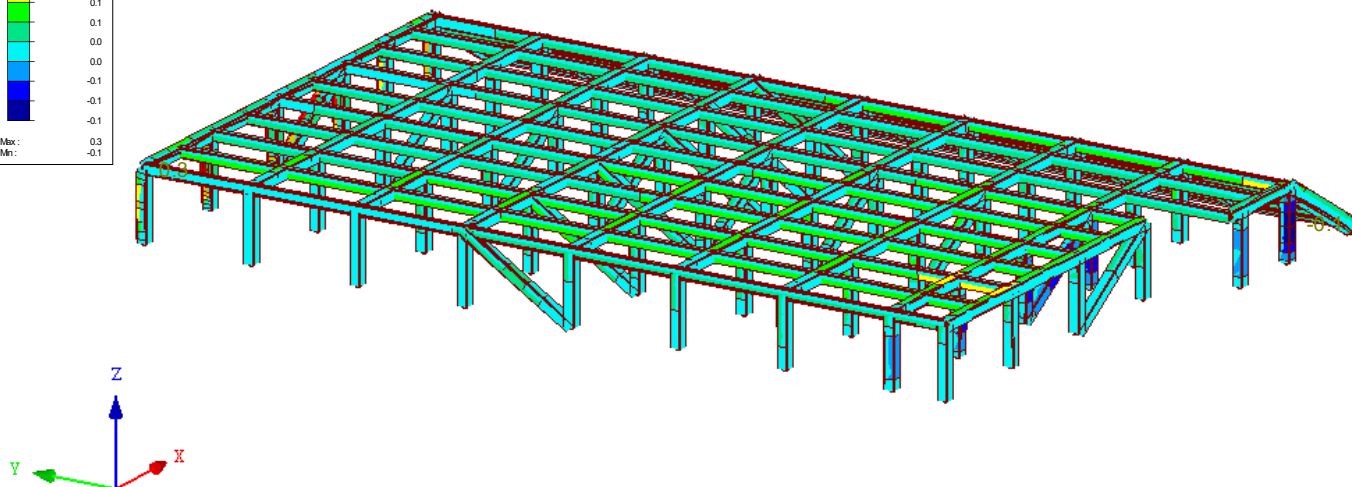
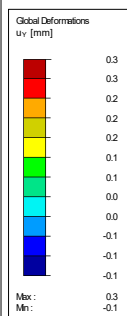
■ GLOBAL DEFORMATIONS u_y

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Global Deformations u-Y [mm]

Result Combinations: Max and Min Values

Isometric



Factor of deformations: 100.00

Max u-Y: 0.3, Min u-Y: -0.1 mm

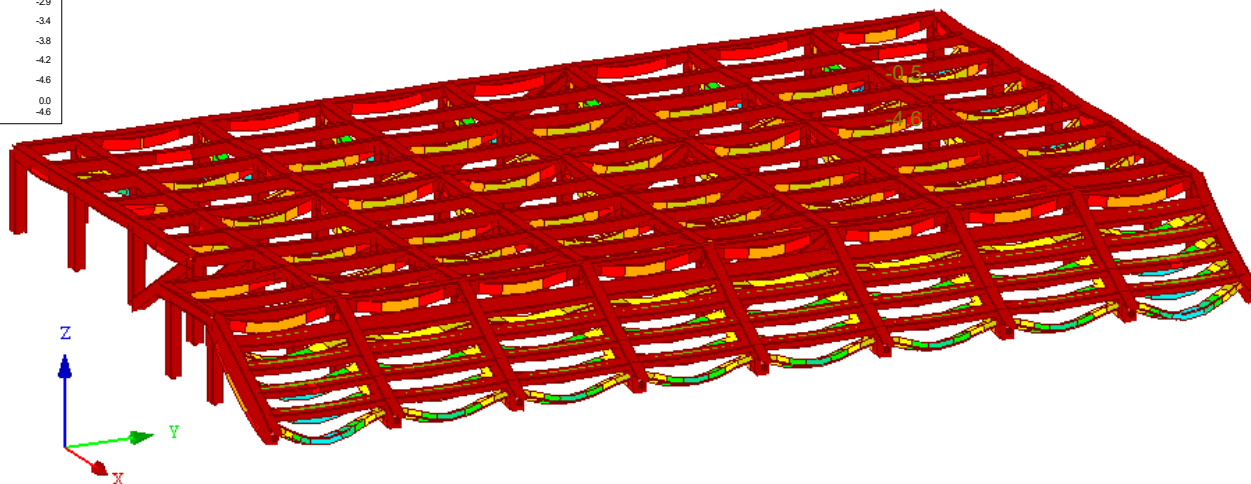
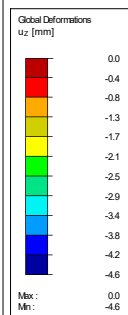
■ GLOBAL DEFORMATIONS u_z

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Global Deformations u-Z [mm]

Result Combinations: Max and Min Values

Isometric



Factor of deformations: 100.00

Max u-Z: 0.0, Min u-Z: -4.6 mm

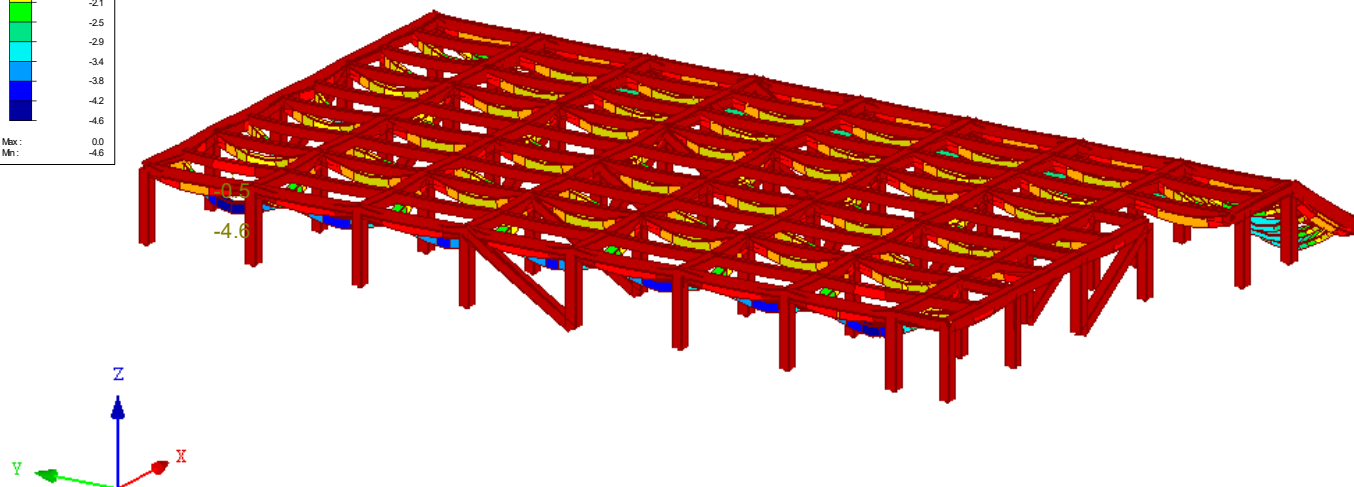
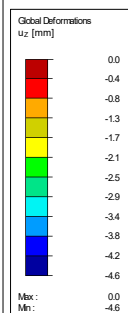
■ GLOBAL DEFORMATIONS u_z

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Global Deformations u-Z [mm]

Result Combinations: Max and Min Values

Isometric



Factor of deformations: 100.00

Max u-Z: 0.0, Min u-Z: -4.6 mm

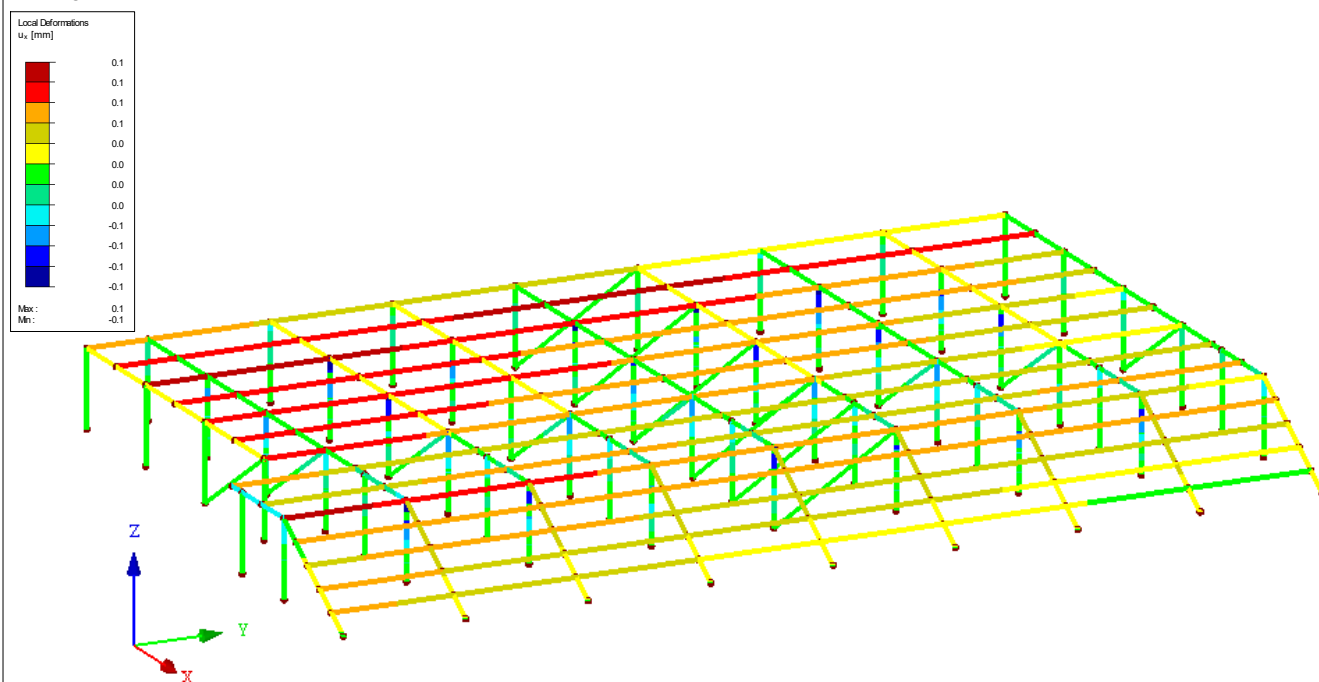
■ LOCAL DEFORMATIONS u_x

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations u_x

Result Combinations: Max and Min Values

Isometric

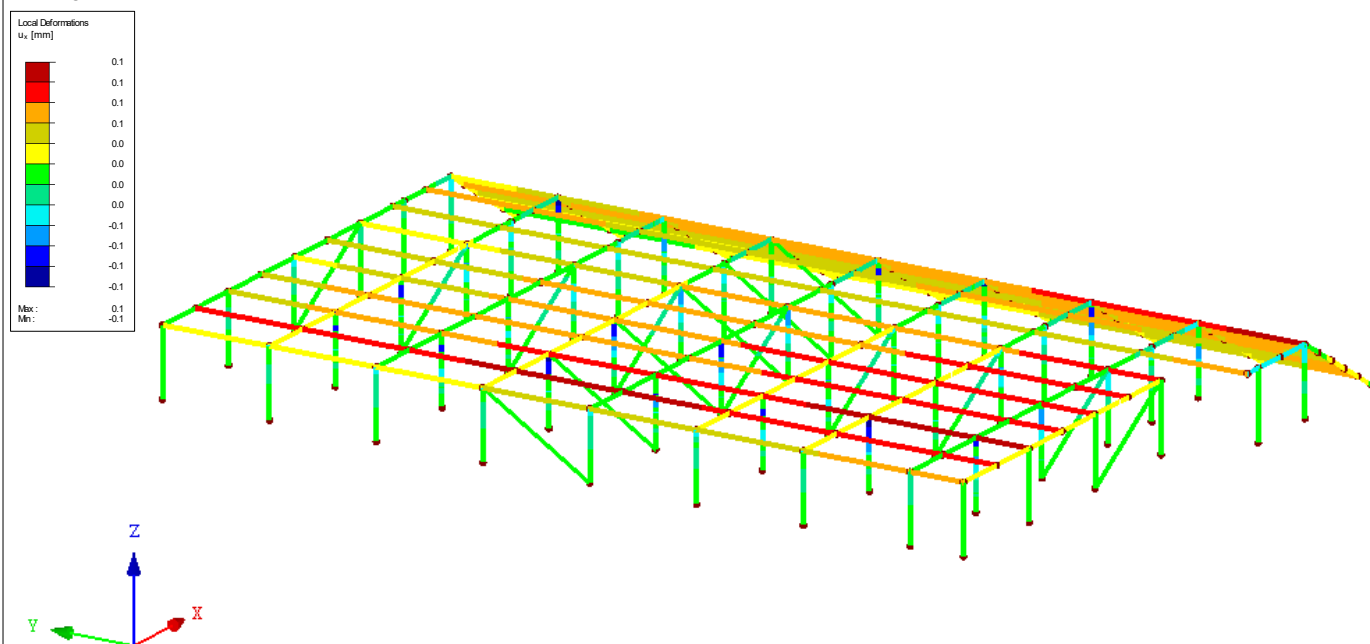
■ LOCAL DEFORMATIONS u_x

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations u_x

Result Combinations: Max and Min Values

Isometric



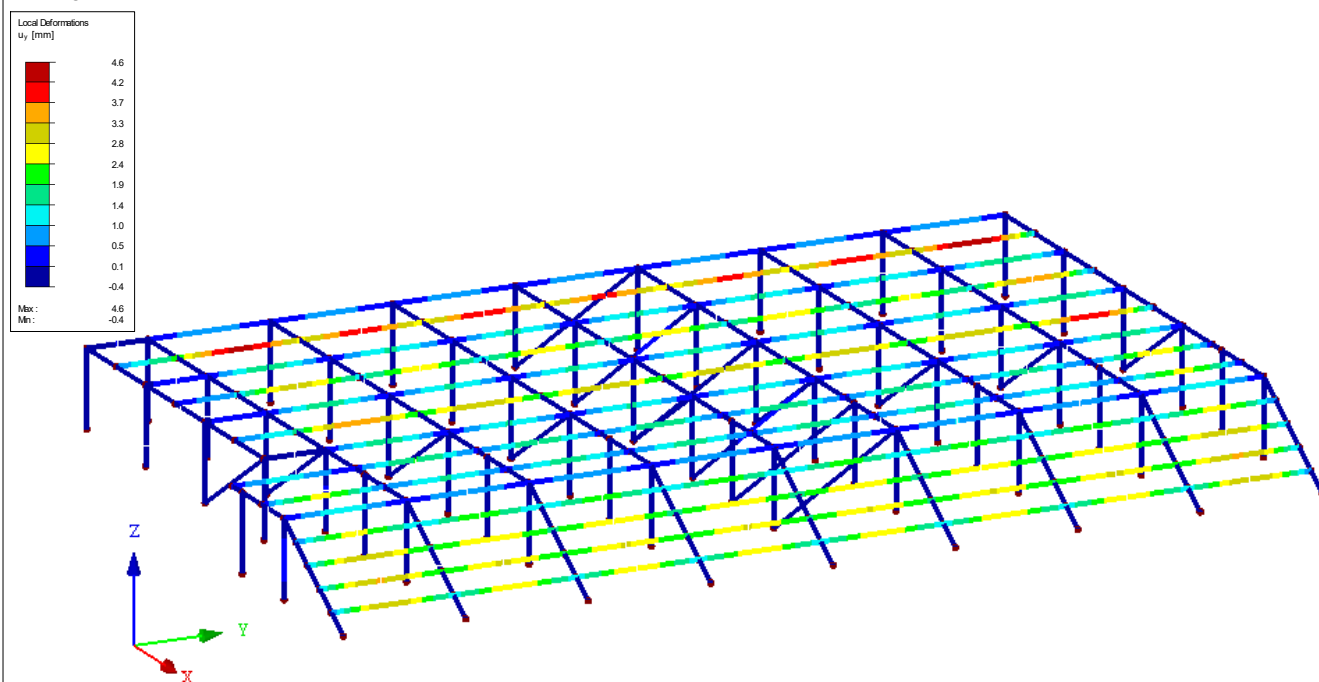
■ LOCAL DEFORMATIONS u_y

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations u-y

Result Combinations: Max and Min Values

Isometric



Max u-y: 4.6, Min u-y: -0.4 [mm]

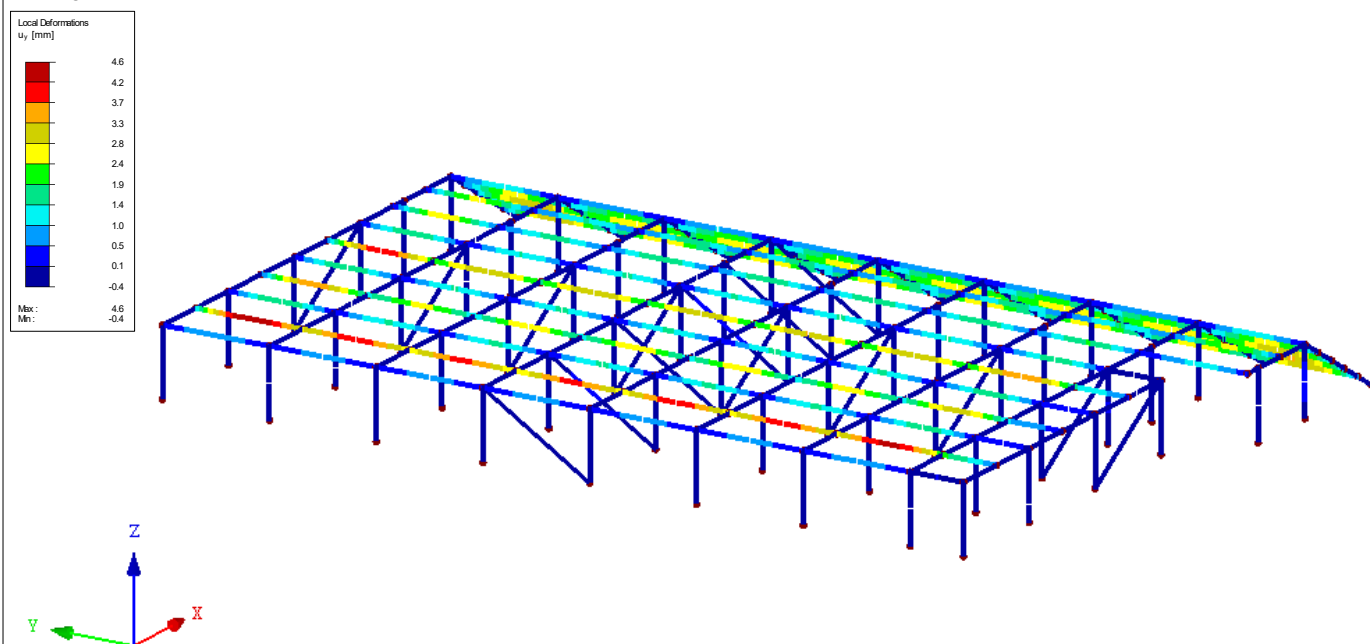
■ LOCAL DEFORMATIONS u_y

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations u-y

Result Combinations: Max and Min Values

Isometric



Max u-y: 4.6, Min u-y: -0.4 [mm]

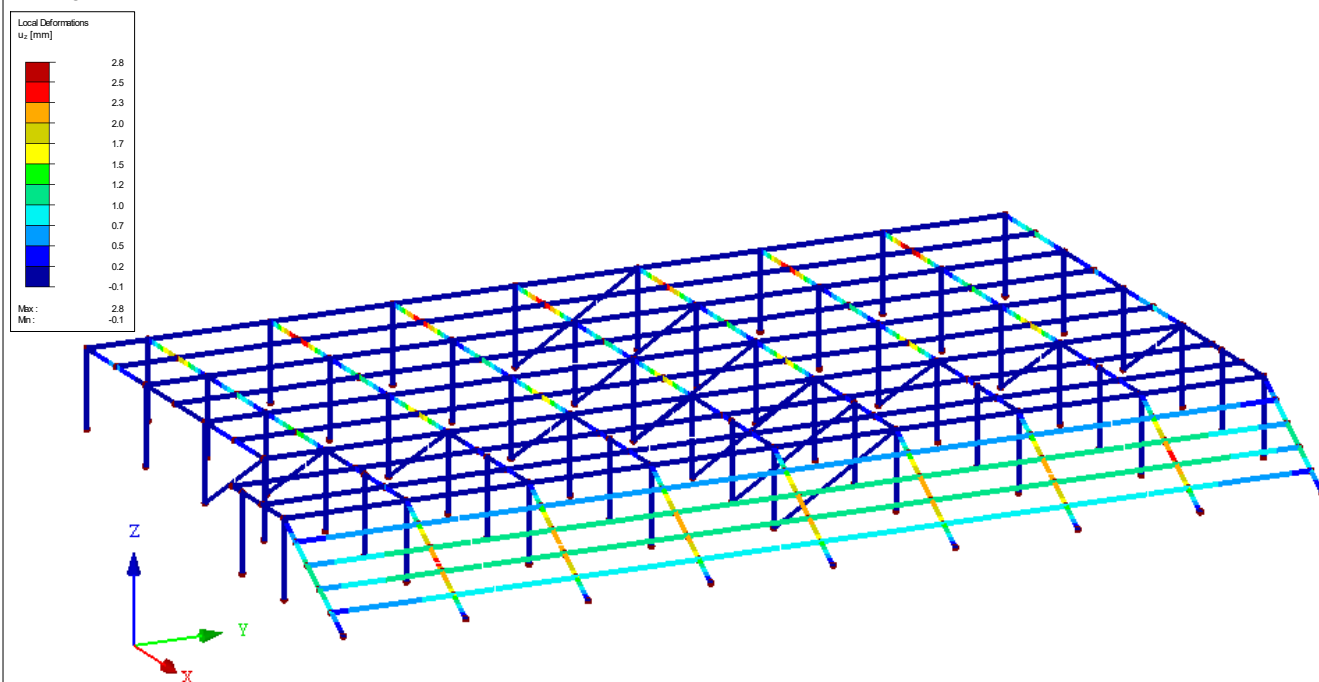
■ LOCAL DEFORMATIONS u_z

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations u-z

Result Combinations: Max and Min Values

Isometric

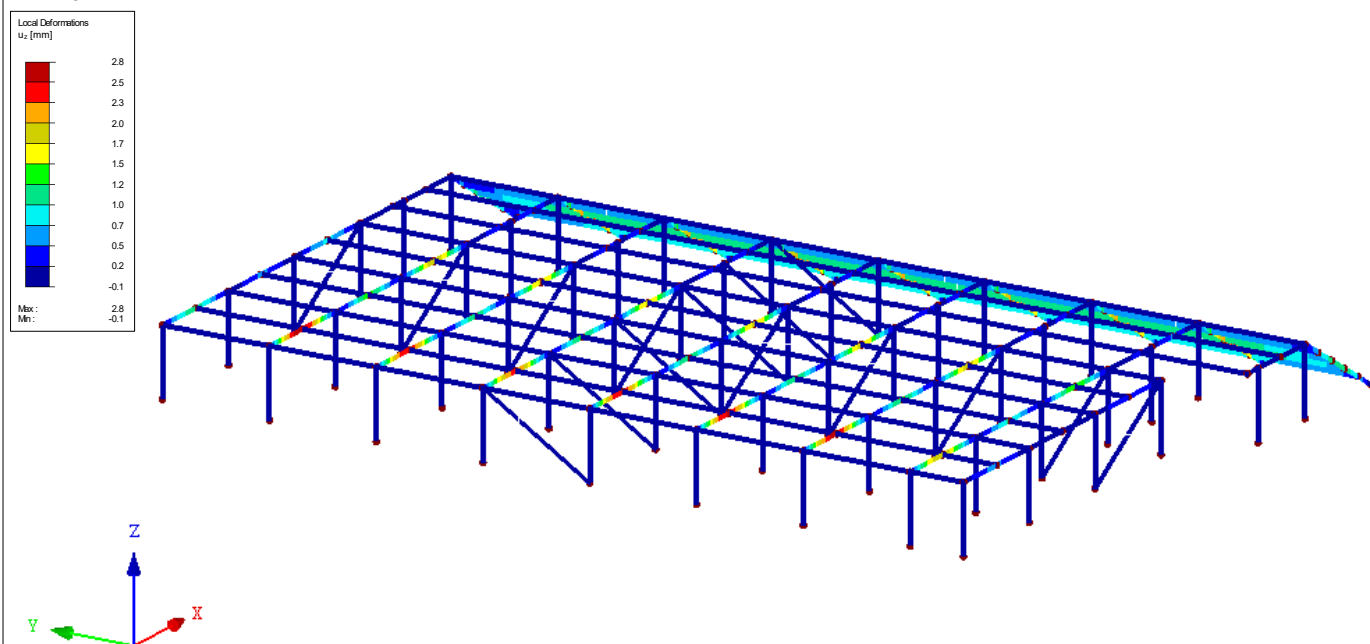
■ LOCAL DEFORMATIONS u_z

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations u-z

Result Combinations: Max and Min Values

Isometric



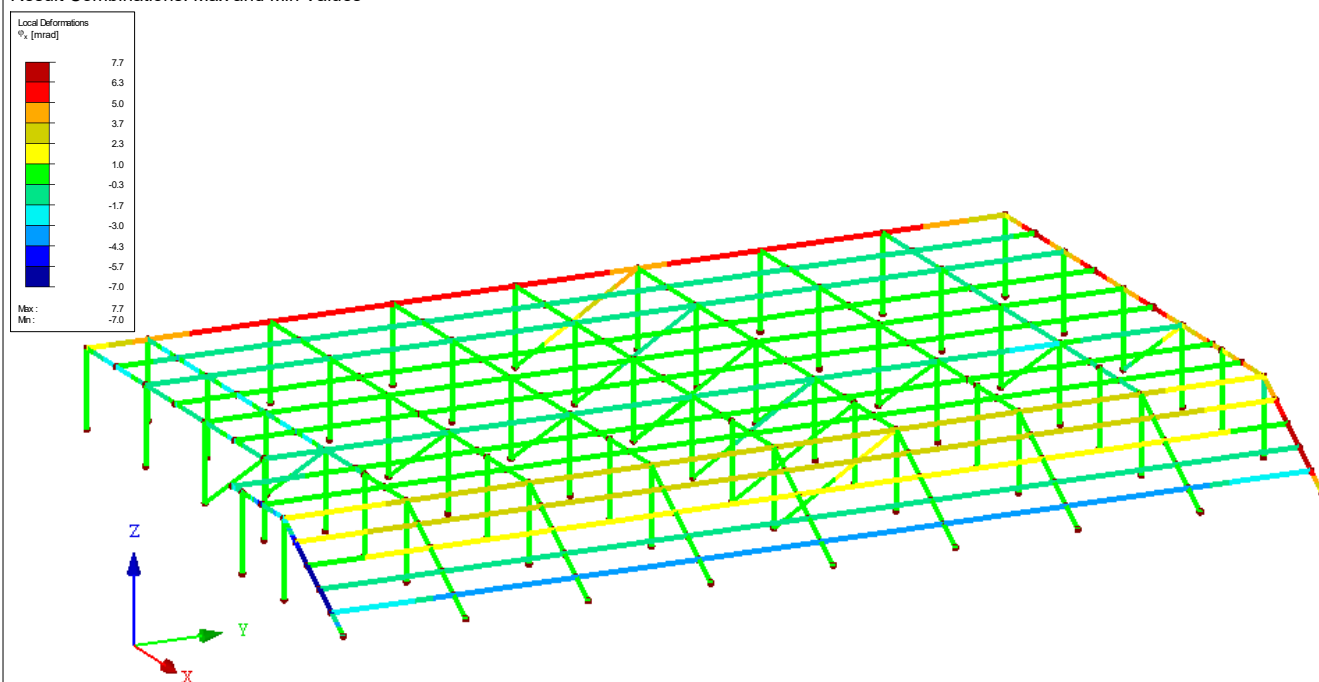
■ LOCAL DEFORMATIONS φ_x

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations Phi-x

Result Combinations: Max and Min Values

Isometric

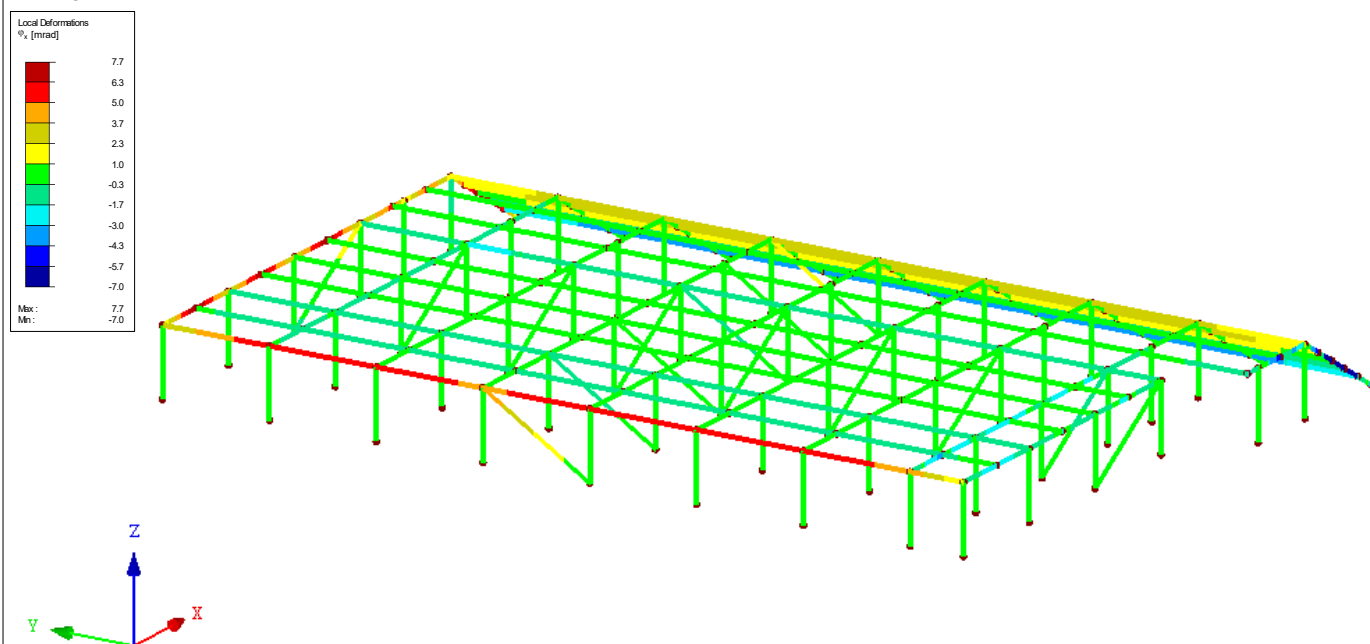
■ LOCAL DEFORMATIONS φ_x

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations Phi-x

Result Combinations: Max and Min Values

Isometric



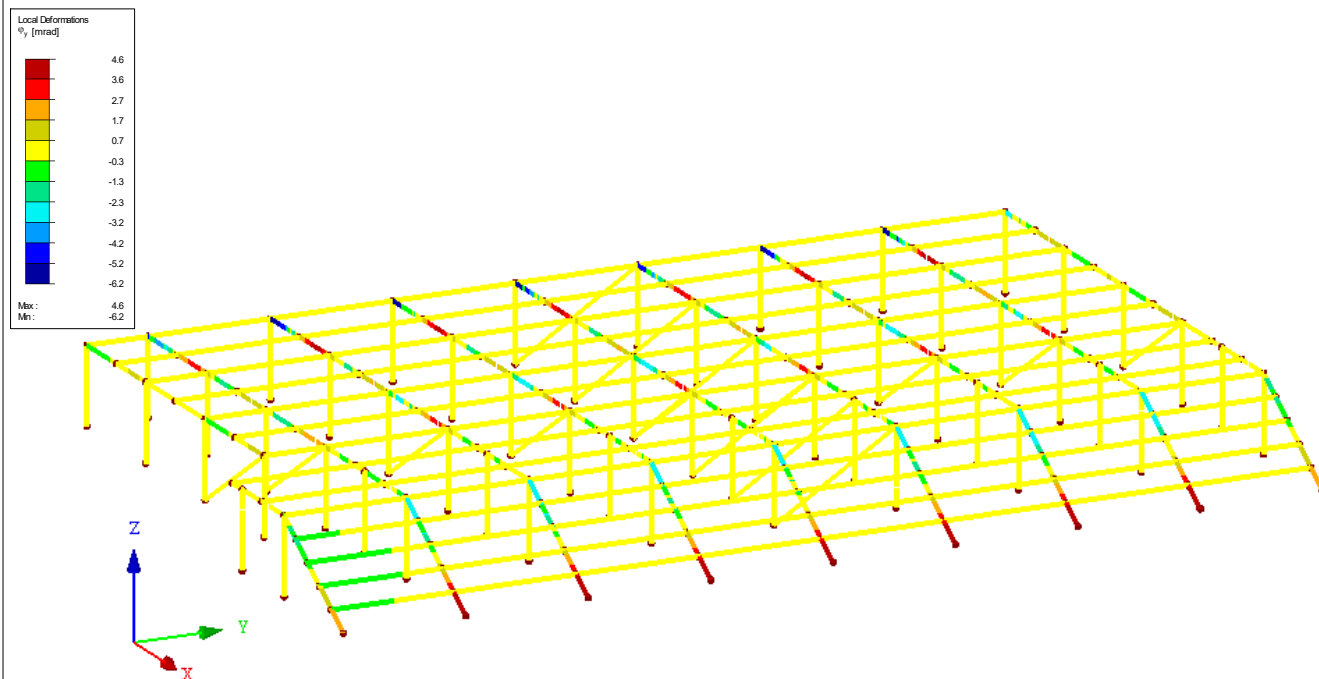
■ LOCAL DEFORMATIONS ϕ_y

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations Phi-y

Result Combinations: Max and Min Values

Isometric



Max Phi-y: 4.6, Min Phi-y: -6.2 [mrad]

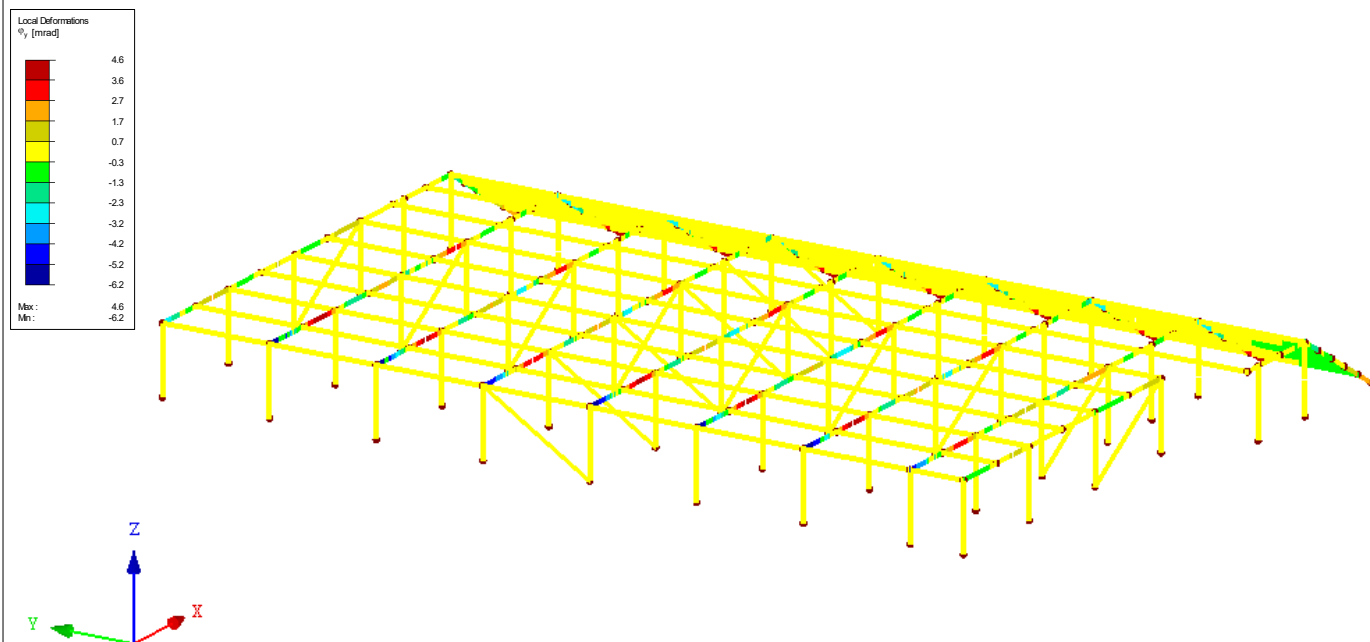
■ LOCAL DEFORMATIONS ϕ_y

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations Phi-y

Result Combinations: Max and Min Values

Isometric



Max Phi-y: 4.6, Min Phi-y: -6.2 [mrad]

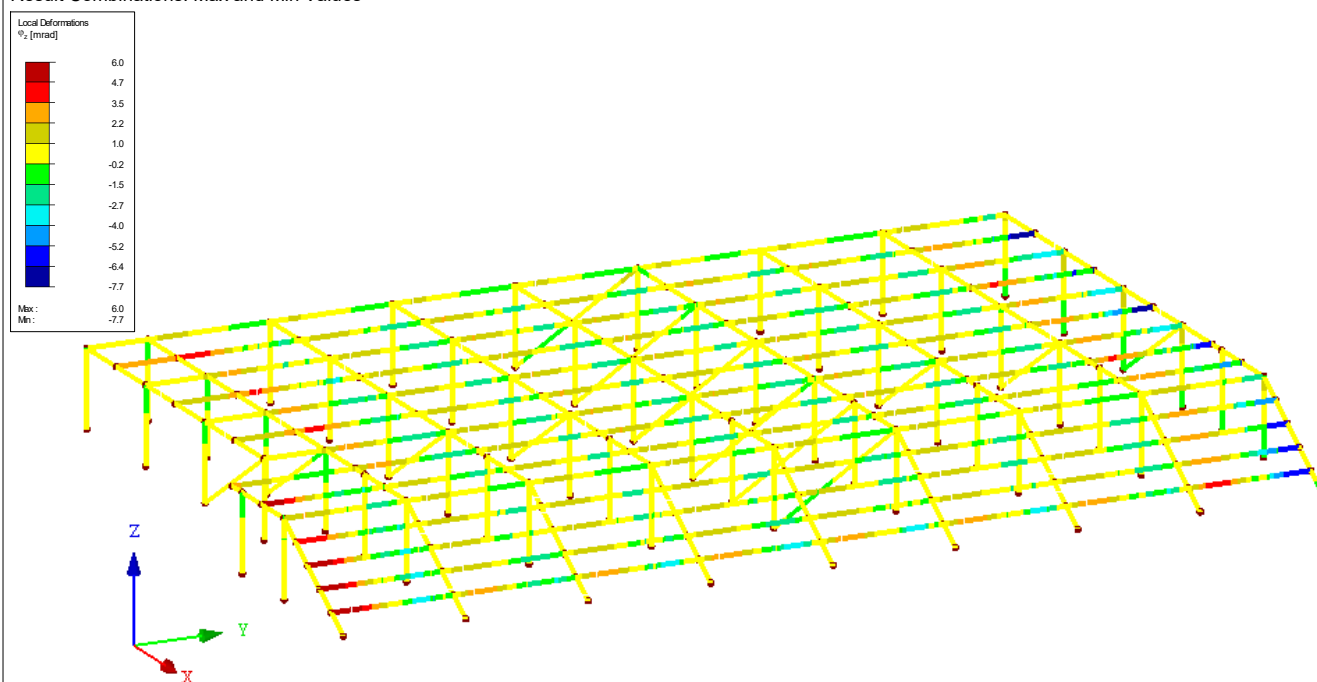
■ LOCAL DEFORMATIONS φ_z

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations Phi-z

Result Combinations: Max and Min Values

Isometric

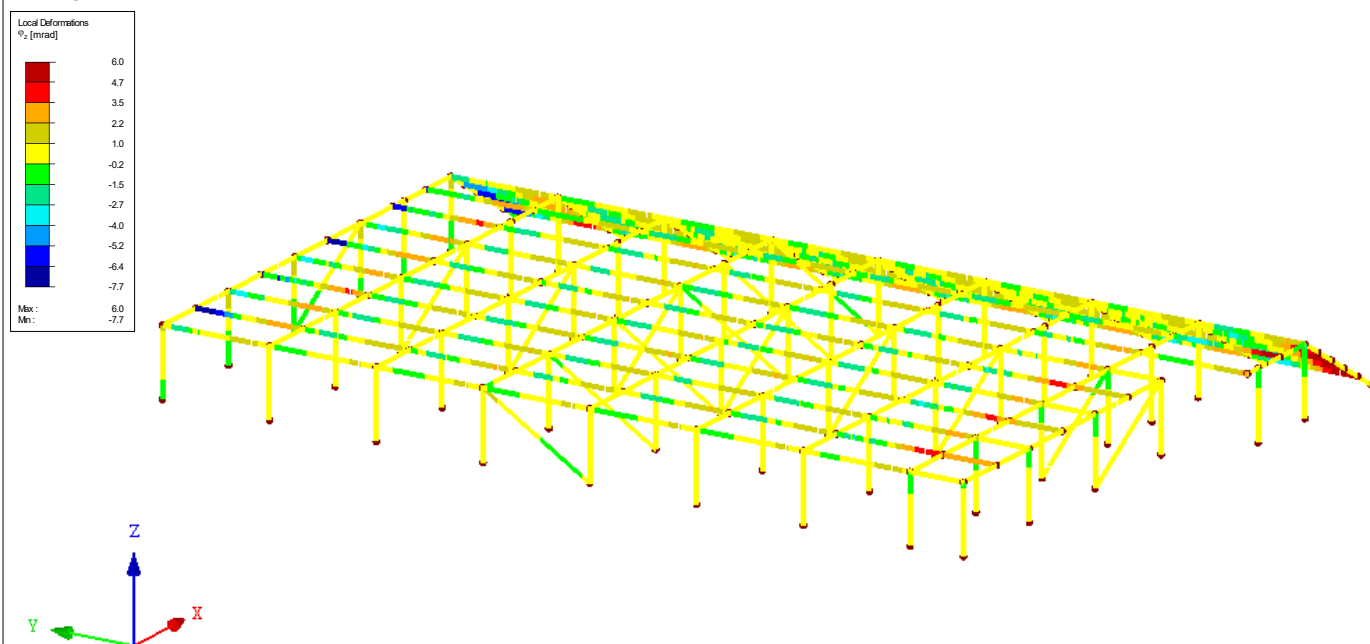
■ LOCAL DEFORMATIONS φ_z

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Local Deformations Phi-z

Result Combinations: Max and Min Values

Isometric



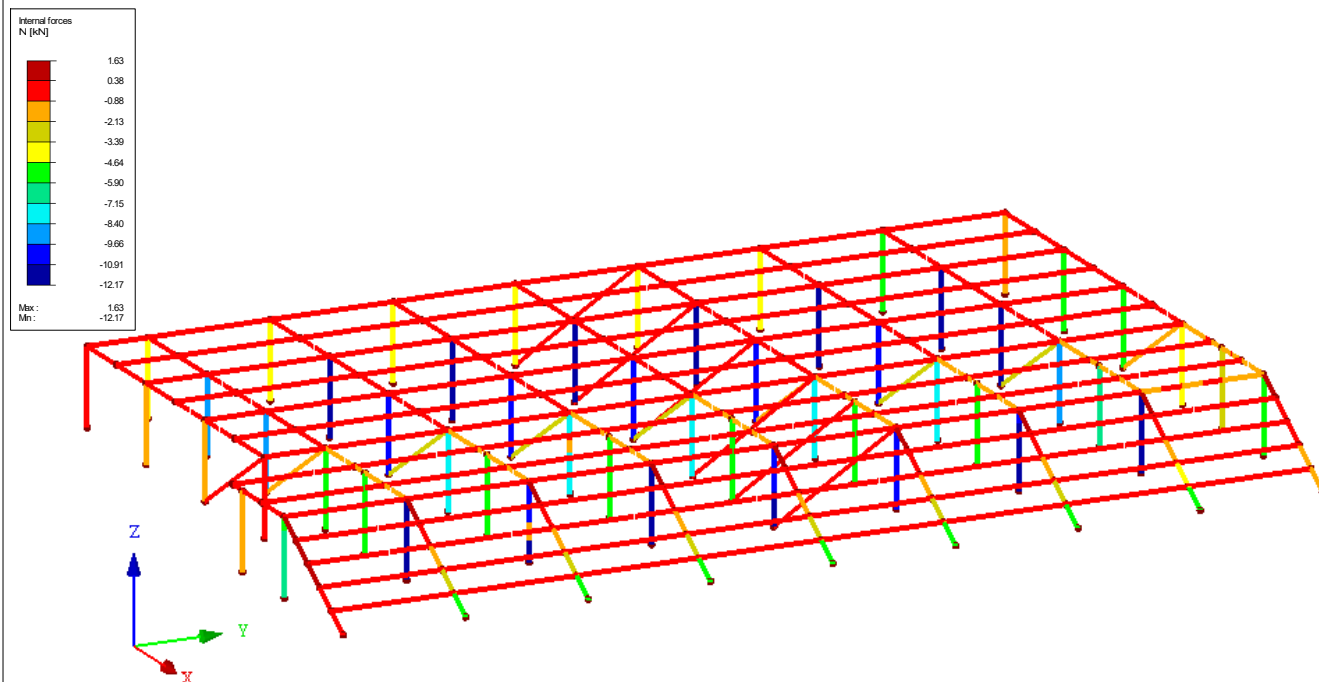
■ INTERNAL FORCES N

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Internal Forces N

Result Combinations: Max and Min Values

Isometric



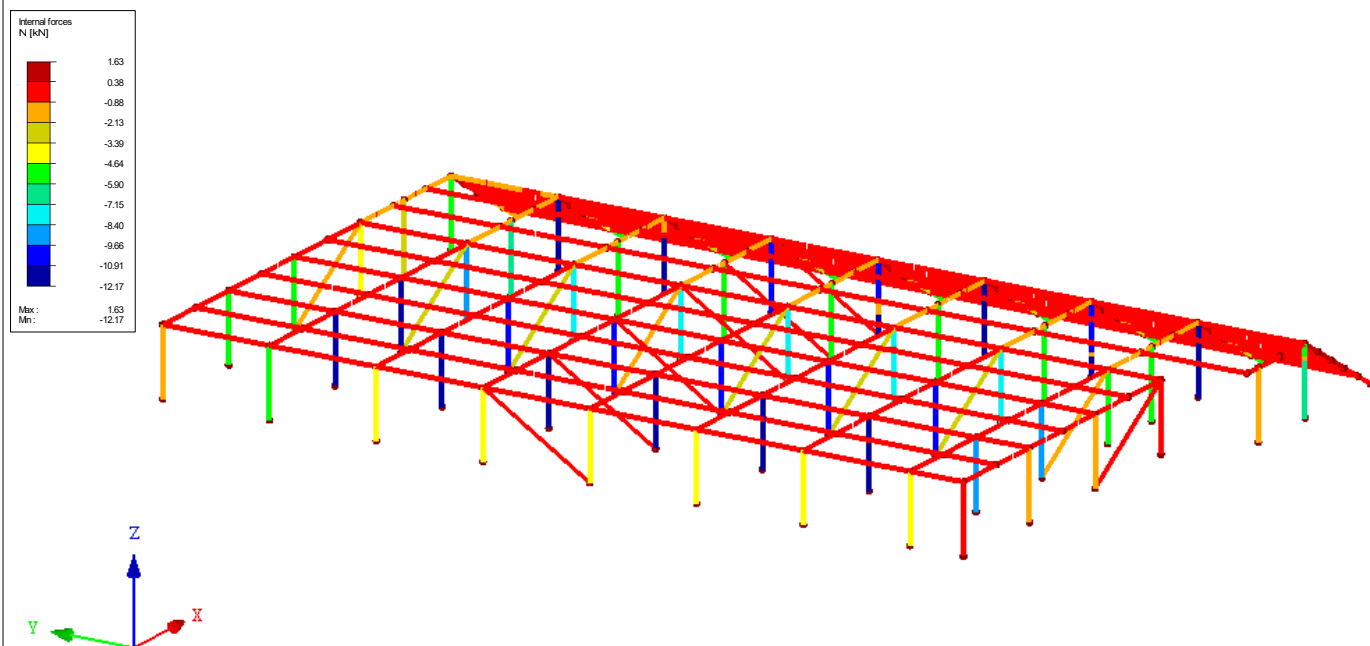
■ INTERNAL FORCES N

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Internal Forces N

Result Combinations: Max and Min Values

Isometric



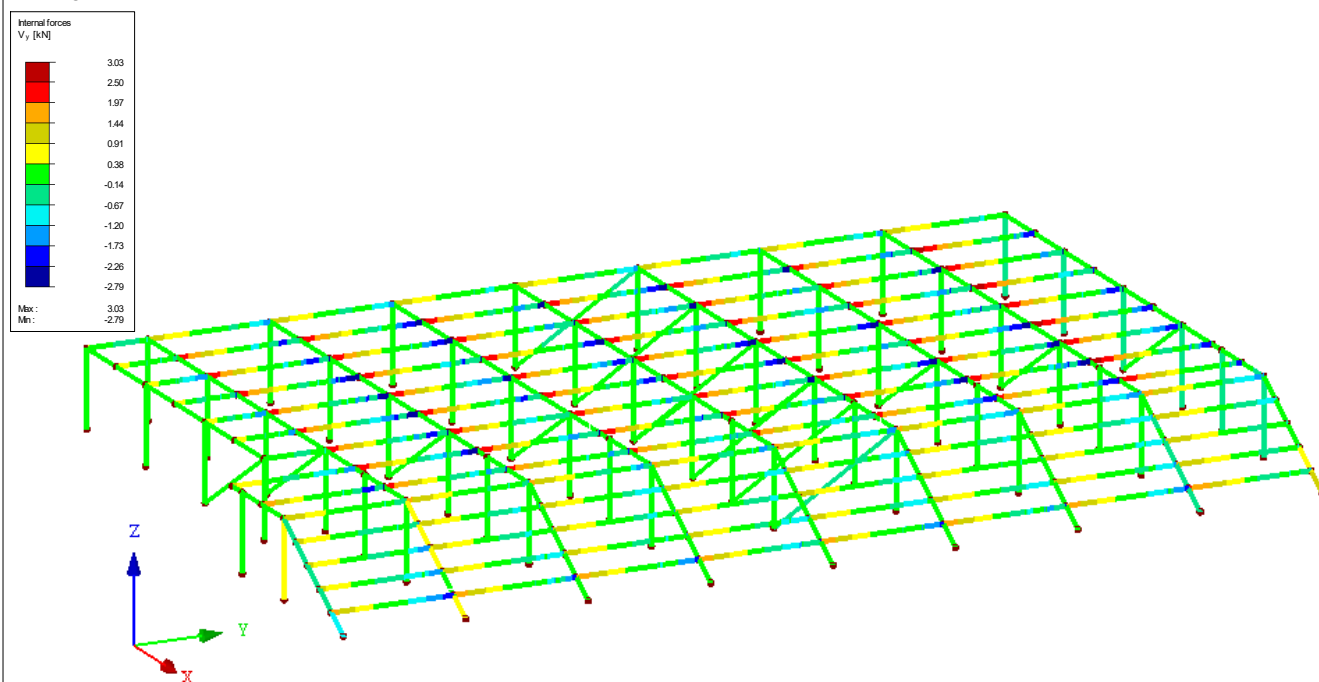
■ INTERNAL FORCES V_y

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Internal Forces V-y

Result Combinations: Max and Min Values

Isometric



Max V-y: 3.03, Min V-y: -2.79 [kN]

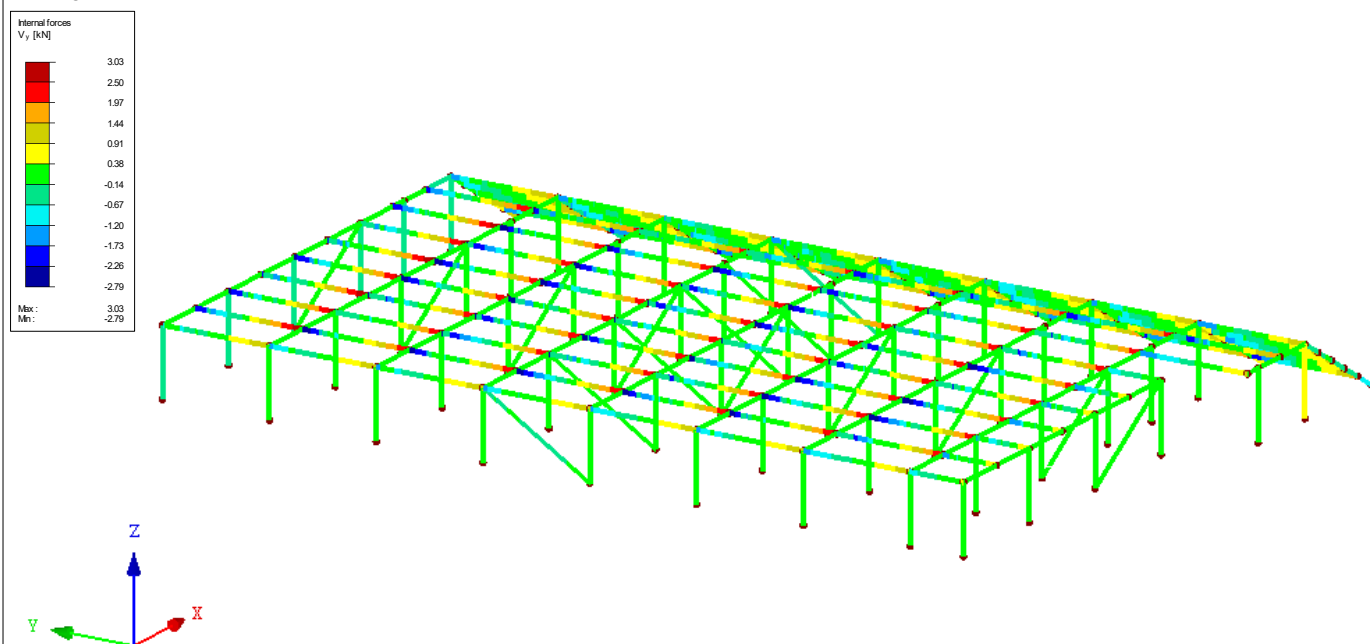
■ INTERNAL FORCES V_y

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Internal Forces V-y

Result Combinations: Max and Min Values

Isometric



Max V-y: 3.03, Min V-y: -2.79 [kN]

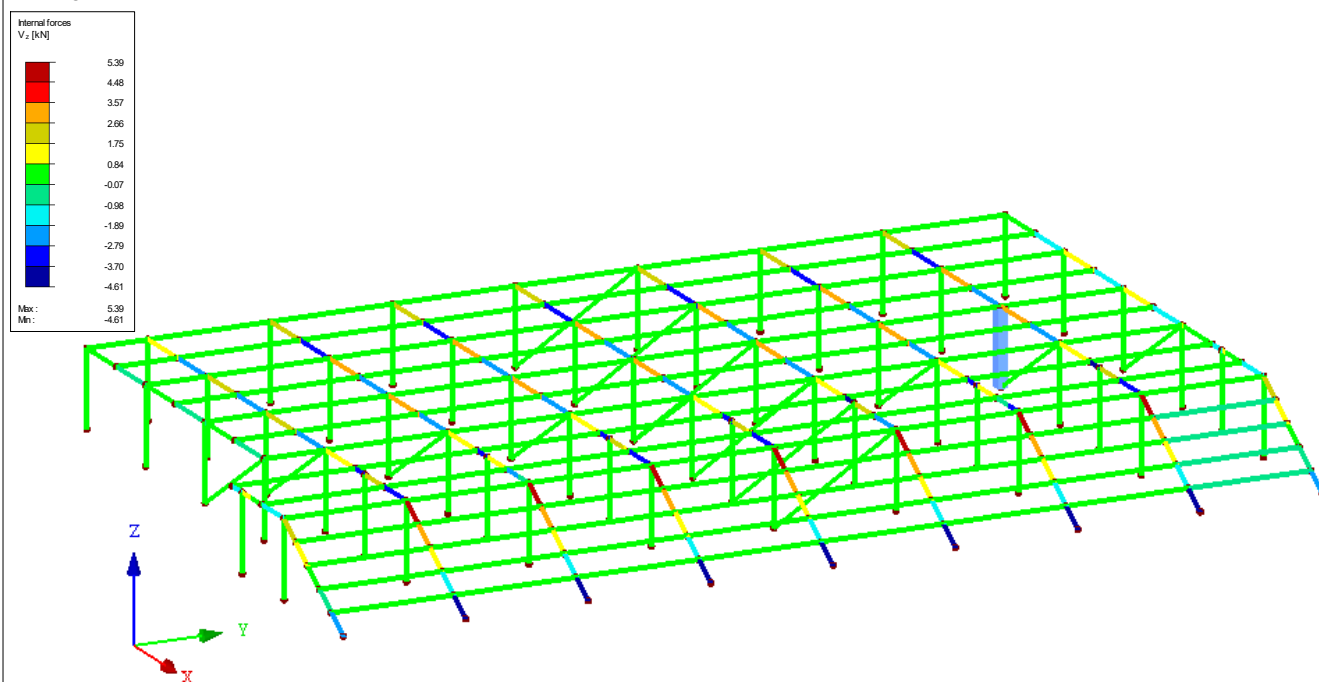
■ INTERNAL FORCES V_z

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Internal Forces V-z

Result Combinations: Max and Min Values

Isometric

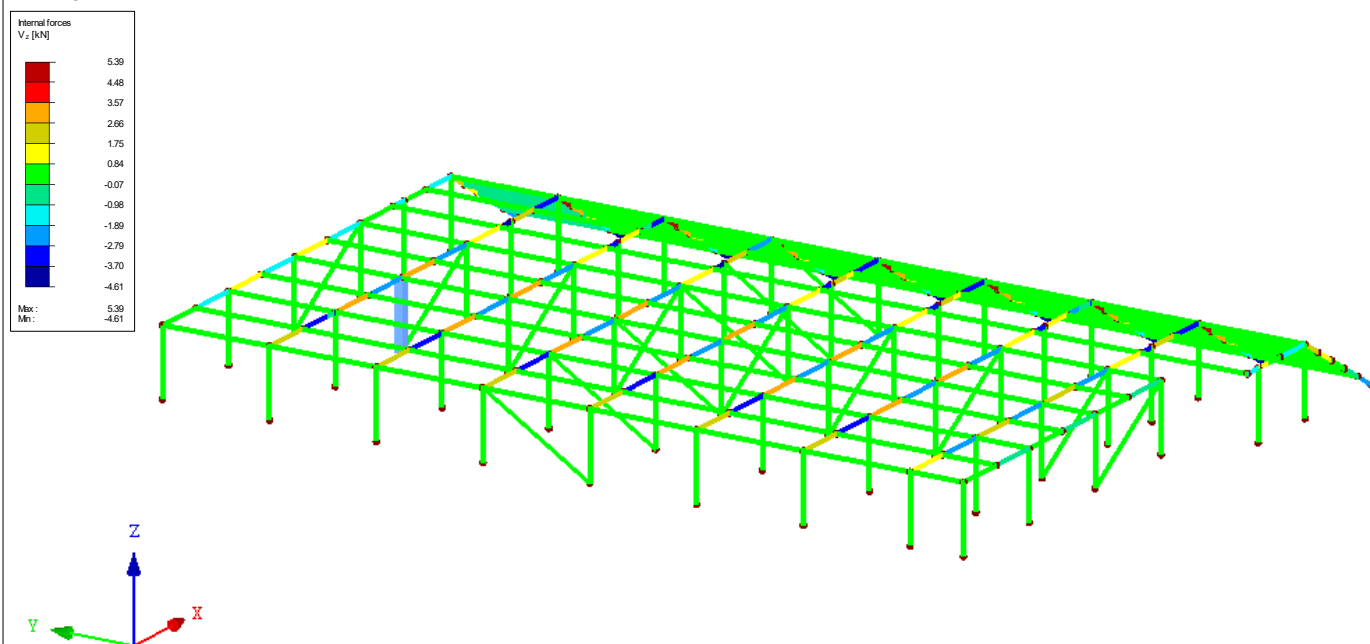
■ INTERNAL FORCES V_z

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Internal Forces V-z

Result Combinations: Max and Min Values

Isometric



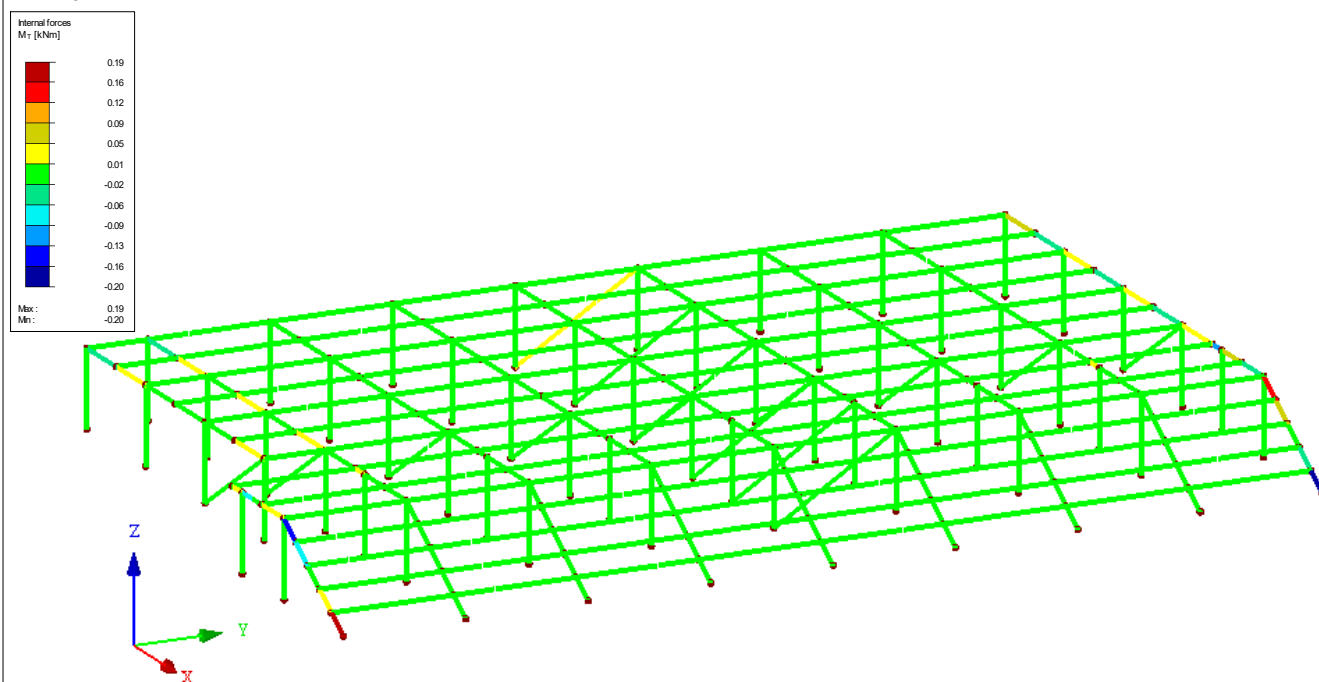
■ INTERNAL FORCES M_T

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Internal Forces M-T

Result Combinations: Max and Min Values

Isometric

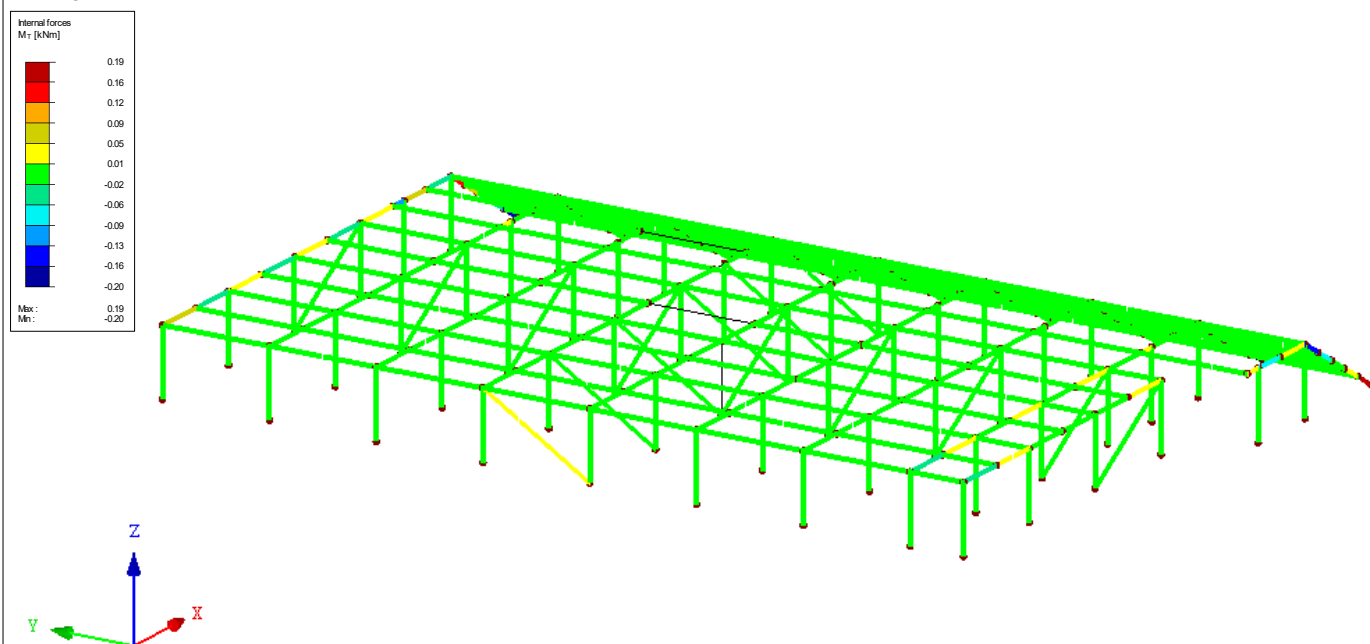
■ INTERNAL FORCES M_T

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Internal Forces M-T

Result Combinations: Max and Min Values

Isometric



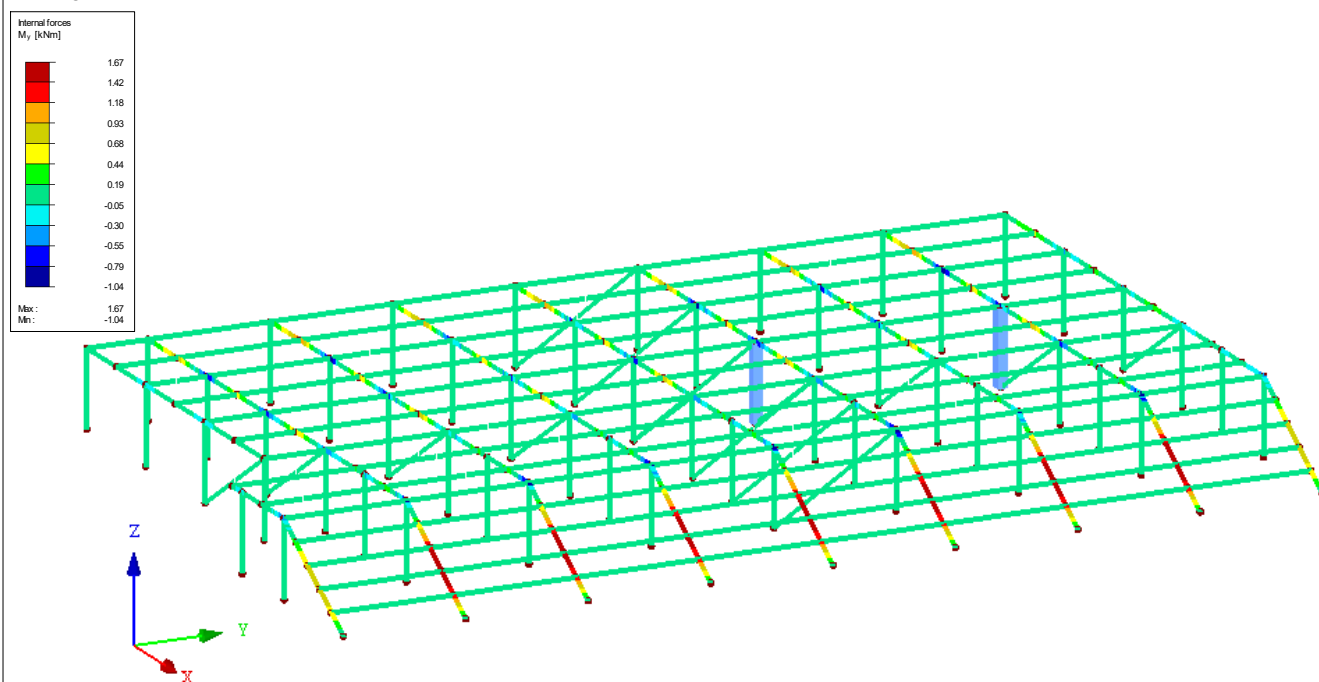
■ INTERNAL FORCES M_y

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Internal Forces M-y

Result Combinations: Max and Min Values

Isometric

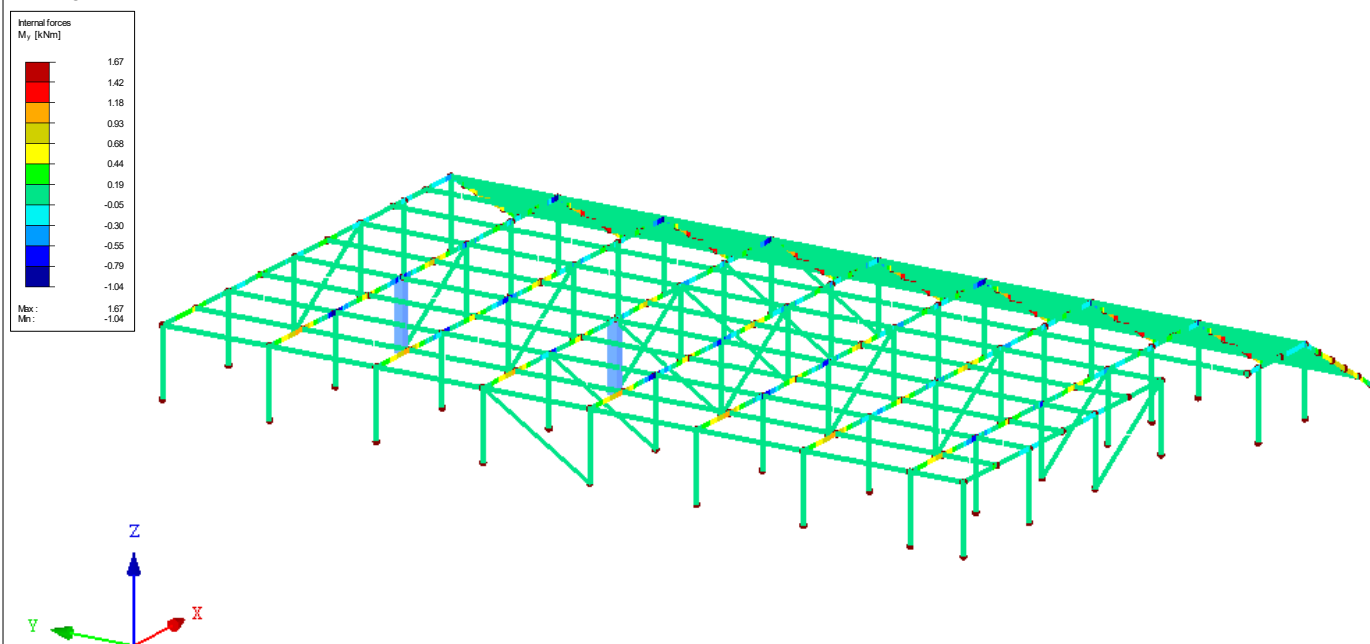
■ INTERNAL FORCES M_y

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Internal Forces M-y

Result Combinations: Max and Min Values

Isometric



1.1.1 GENERAL DATA

Members to design:	All
Design according to Standard:	LST EN 1995-1-1/NA:2011-10
Ultimate Limit State Design Result combinations to design:	RC1 ULS (STR/GEO) - Permanent / transient - Eq. 6.10
Serviceability Limit State Design Result combinations to design:	RC2 SLS - Characteristic RC3 SLS - Frequent RC4 SLS - Quasi-permanent

1.2 MATERIALS

Matl. No.	Description	Factor Category	Comment
1	Poplar and Softwood Timber C16 EN 338-16	Solid Timber	

1.3.1 CROSS-SECTIONS

T-Rectangle 100/100-T-Rectangle 100/100



Secl. No.	Matl. No.	Cross-section Description [mm]	Max Design Ratio	Comment
1	1	T-Rectangle 100/100	0.43	
2	1	T-Rectangle 100/100	0.97	
3	1	T-Rectangle 100/150	0.63	
4	1	T-Rectangle 50/200	0.78	
5	1	T-Rectangle 100/50	1.00	

T-Rectangle 100/150-T-Rectangle 50/200 T-Rectangle 100/50



1.4 LOAD DURATION AND SERVICE CLASS

LC/CO/RC	LC, CO or RC Description	Load Case Type	Classification of Load Duration
LC1		Permanent	Permanent
LC2		Imposed - Category C: congregation areas	Permanent
CO1	1.35*LC1	-	Permanent
CO2	1.35*LC1 + 1.3*LC2	-	Permanent
CO3	LC1	-	Permanent
CO4	LC1 + LC2	-	Permanent
CO5	LC1	-	Permanent
CO6	LC1 + 0.7*LC2	-	Permanent
CO7	LC1	-	Permanent
CO8	LC1 + 0.6*LC2	-	Permanent
Service Class SECL Service Class 1: Identical for All Members/Sets of Members			

2.4 DESIGN BY MEMBER

Member No.	Location x [m]	LC/CO/RC	Design	Design No.	Description
31	Cross-section No. 5 - T-Rectangle 100/50				
	0.400	CO2	0.00 ≤ 1	101)	Cross-section resistance - Tension along the grain acc. to 6.1.2
	0.000	CO2	0.79 ≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	0.000	CO1	0.08 ≤ 1	152)	Cross-section resistance - Uniaxial bending about z-axis acc. to 6.1.6
	0.000	CO2	0.84 ≤ 1	162)	Cross-section resistance - Uniaxial bending about z-axis and tension acc. to 6.2.3
	0.000	CO2	0.84 ≤ 1	316)	Flexural member without compression force acc. to 6.3.3 - Bending about z-axis
	0.000	CO3	0.00 ≤ 1	400)	Serviceability - Negligible deformations
	0.600	CO4	0.36 ≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	0.600	CO8	0.17 ≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
45	Cross-section No. 1 - T-Rectangle 100/100				
	0.000	CO2	0.03 ≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	0.000	CO2	0.01 ≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	0.750	CO2	0.06 ≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4
	0.000	CO2	0.03 ≤ 1	303)	Compression member with axial compression acc. to 6.3.2 - Buckling about both axes
	0.750	CO2	0.08 ≤ 1	328)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about both axes
	0.000	CO3	0.00 ≤ 1	400)	Serviceability - Negligible deformations
	0.375	CO4	0.02 ≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
98	Cross-section No. 1 - T-Rectangle 100/100				
	0.000	CO2	0.01 ≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	0.000	CO2	0.00 ≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.314	CO2	0.00 ≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6

2.4 DESIGN BY MEMBER

Member No.	Location x [m]	LC/CO/RC	Design		Design No.	Description
	0.943	CO2	0.01	≤ 1	121)	6.1.7 Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.629	CO1	0.01	≤ 1	151)	Cross-section resistance - Uniaxial bending acc. to 6.1.6
	1.415	CO1	0.00	≤ 1	152)	Cross-section resistance - Uniaxial bending about z-axis acc. to 6.1.6
	1.258	CO1	0.00	≤ 1	153)	Cross-section resistance - Biaxial bending acc. to 6.1.6
	0.472	CO2	0.01	≤ 1	171)	Cross-section resistance - Uniaxial bending about y-axis and compression acc. to 6.2.4
	1.415	CO2	0.02	≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4
	1.258	CO2	0.02	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.629	CO1	0.01	≤ 1	311)	Flexural member without compression force acc. to 6.3.3 - Bending about y-axis
	0.472	CO2	0.01	≤ 1	323)	Member with bending and compression acc. to 6.3.2 - Buckling about both axes
	1.415	CO2	0.03	≤ 1	328)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about both axes
	1.258	CO2	0.03	≤ 1	333)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about both axes
	0.157	CO2	0.01	≤ 1	341)	Flexural member with compression force acc. to 6.3.3 - Bending about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	0.629	CO4	0.01	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	0.629	CO8	0.01	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	0.943	CO4	0.01	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	0.943	CO8	0.00	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
182	Cross-section No. 2 - T-Rectangle 100/100					
	0.200	CO2	0.02	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	0.200	CO2	0.54	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.000	CO2	0.02	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.200	CO2	0.29	≤ 1	171)	Cross-section resistance - Uniaxial bending about y-axis and compression acc. to 6.2.4
	0.100	CO1	0.00	≤ 1	303)	Compression member with axial compression acc. to 6.3.2 - Buckling about both axes
	0.200	CO2	0.29	≤ 1	323)	Member with bending and compression acc. to 6.3.2 - Buckling about both axes
	0.200	CO2	0.11	≤ 1	341)	Flexural member with compression force acc. to 6.3.3 - Bending about y-axis
192	Cross-section No. 1 - T-Rectangle 100/100					
	0.000	CO2	0.07	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	0.750	CO2	0.01	≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4
	0.000	CO2	0.07	≤ 1	303)	Compression member with axial compression acc. to 6.3.2 - Buckling about both axes
	0.750	CO2	0.08	≤ 1	328)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about both axes
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	0.375	CO4	0.00	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	0.375	CO8	0.00	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
278	Cross-section No. 3 - T-Rectangle 100/150					
	0.142	CO2	0.02	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	0.000	CO2	0.09	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.142	CO2	0.01	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	0.283	CO1	0.07	≤ 1	151)	Cross-section resistance - Uniaxial bending acc. to 6.1.6
	0.142	CO2	0.53	≤ 1	171)	Cross-section resistance - Uniaxial bending about y-axis and compression acc. to 6.2.4
	0.283	CO2	0.58	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.283	CO1	0.07	≤ 1	311)	Flexural member without compression force acc. to 6.3.3 - Bending about y-axis
	0.142	CO2	0.53	≤ 1	323)	Member with bending and compression acc. to 6.3.2 - Buckling about both axes
	0.283	CO2	0.58	≤ 1	333)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about both axes
	0.283	CO2	0.35	≤ 1	341)	Flexural member with compression force acc. to 6.3.3 - Bending about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	0.142	CO4	0.09	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
281	Cross-section No. 3 - T-Rectangle 100/150					
	0.000	CO2	0.05	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.000	CO2	0.02	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	0.283	CO2	0.02	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.283	CO1	0.06	≤ 1	151)	Cross-section resistance - Uniaxial bending acc. to 6.1.6
	0.000	CO1	0.05	≤ 1	153)	Cross-section resistance - Biaxial bending acc. to 6.1.6
	0.283	CO2	0.30	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.283	CO1	0.06	≤ 1	311)	Flexural member without compression force acc. to 6.3.3 - Bending about y-axis

2.4 DESIGN BY MEMBER

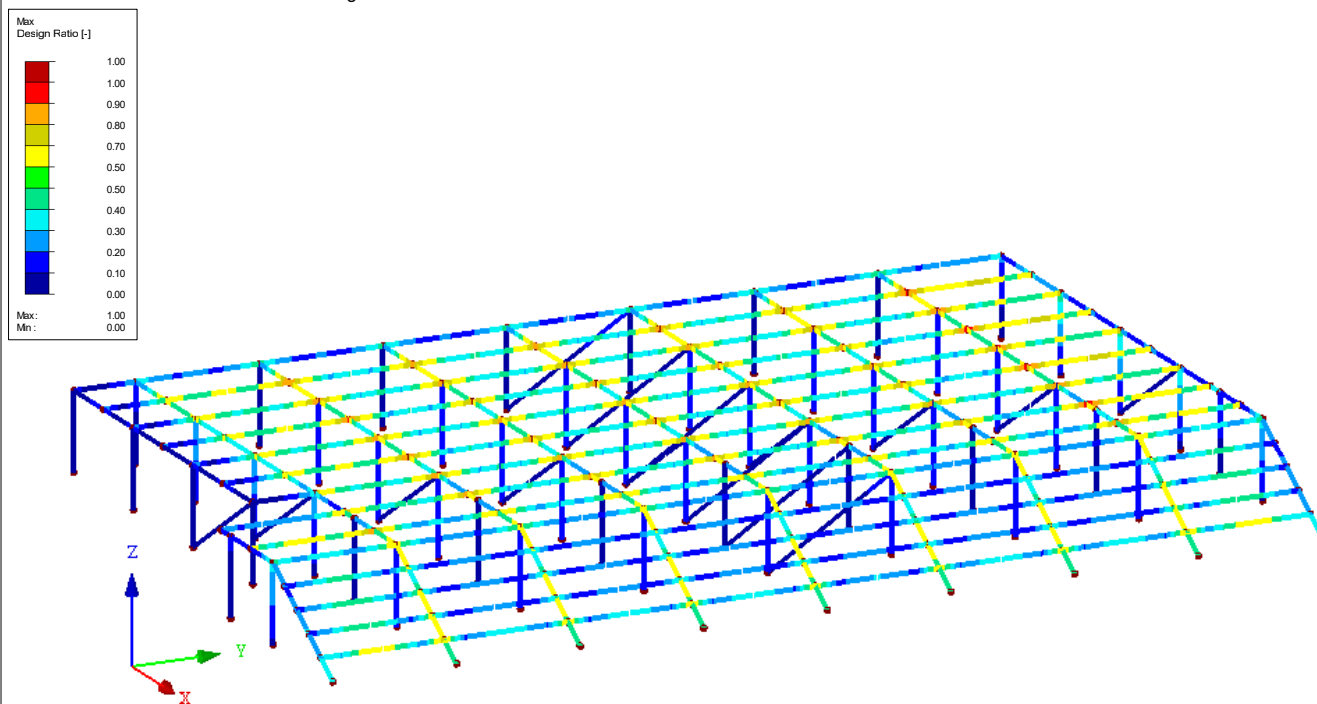
Member No.	Location x [m]	LC/CO/RC	Design		Design No.	Description
	0.283	CO2	0.30	≤ 1	333)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about both axes
	0.283	CO2	0.09	≤ 1	341)	Flexural member with compression force acc. to 6.3.3 - Bending about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	0.142	CO4	0.05	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	0.142	CO8	0.02	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	0.142	CO4	0.00	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	0.142	CO8	0.00	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction

DESIGN: ULTIMATE LIMIT STATE - CROSS-SECTION DESIGN

RF-TIMBER Pro CA1

Ultimate Limit State - Cross-Section Design

Isometric



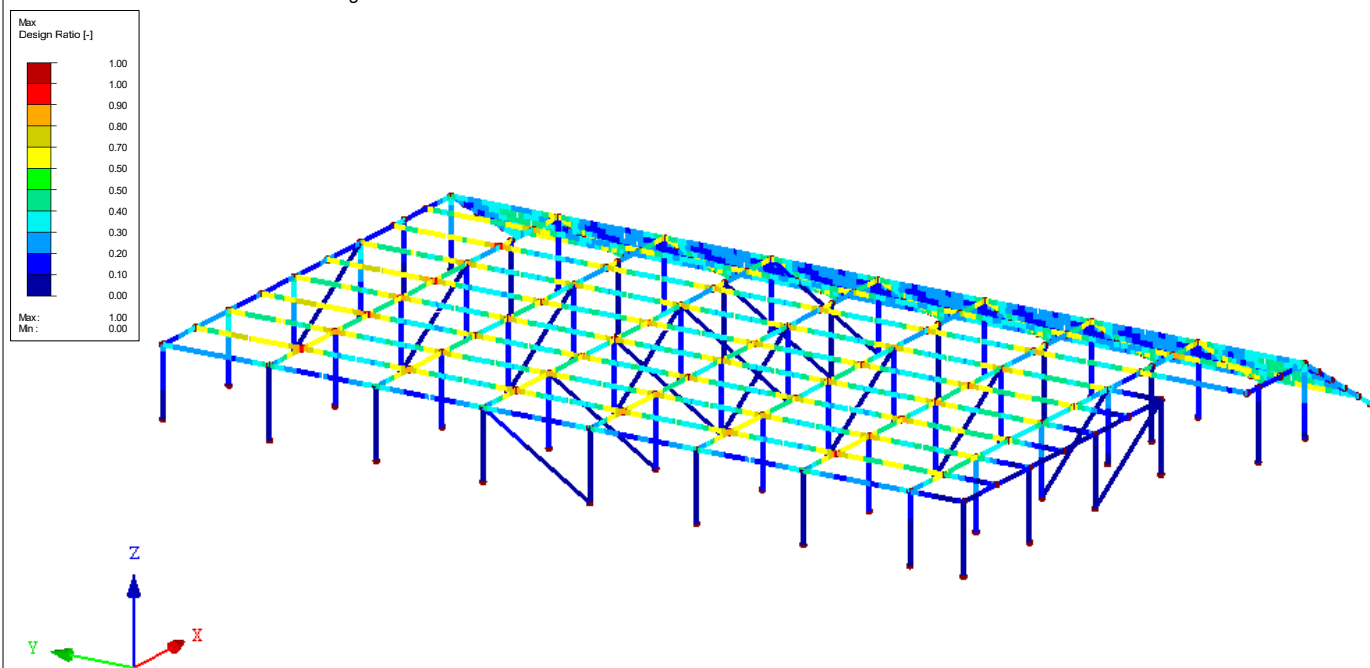
Max Design Ratio: 1.00

■ DESIGN: ULTIMATE LIMIT STATE - CROSS-SECTION DESIGN

RF-TIMBER Pro CA1

Ultimate Limit State - Cross-Section Design

Isometric

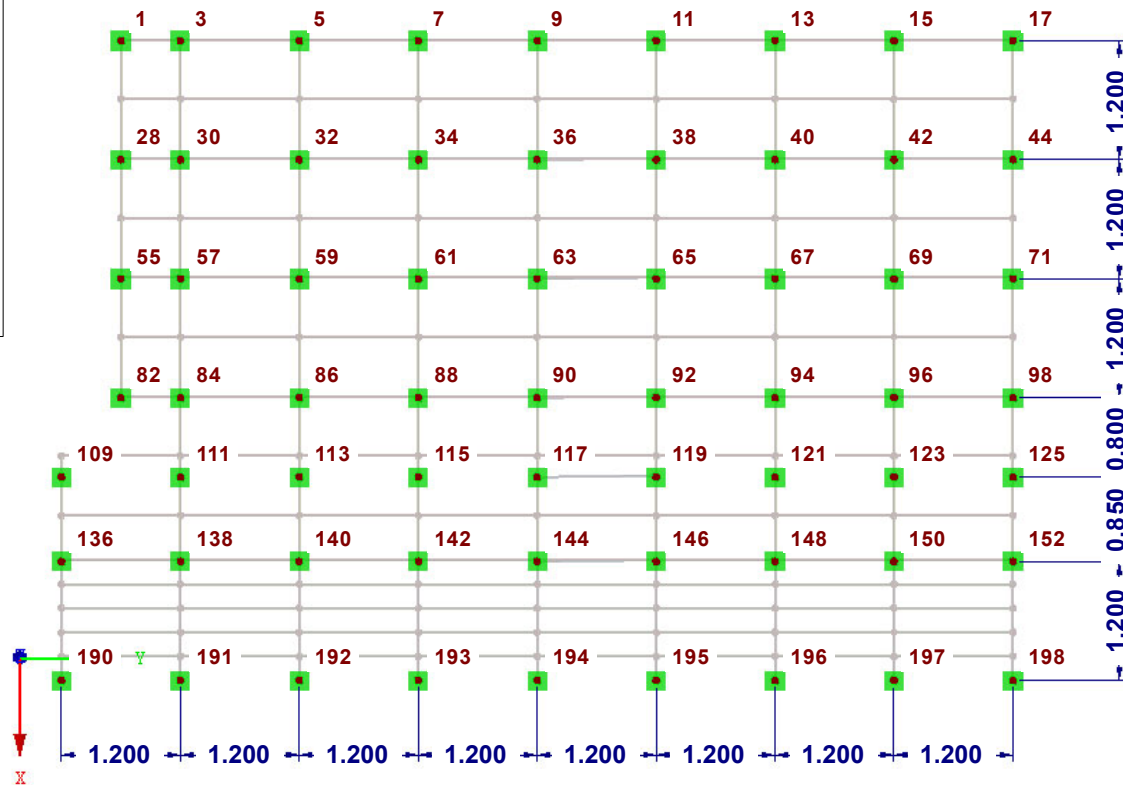


■ RC1: ULS (STR/GEO) - PERMANENT / TRANSIENT - EQ. 6.10

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

Isometric

Cross-Sections

■ GLOBAL DEFORMATIONS u_z , SUPPORT REACTIONS

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10

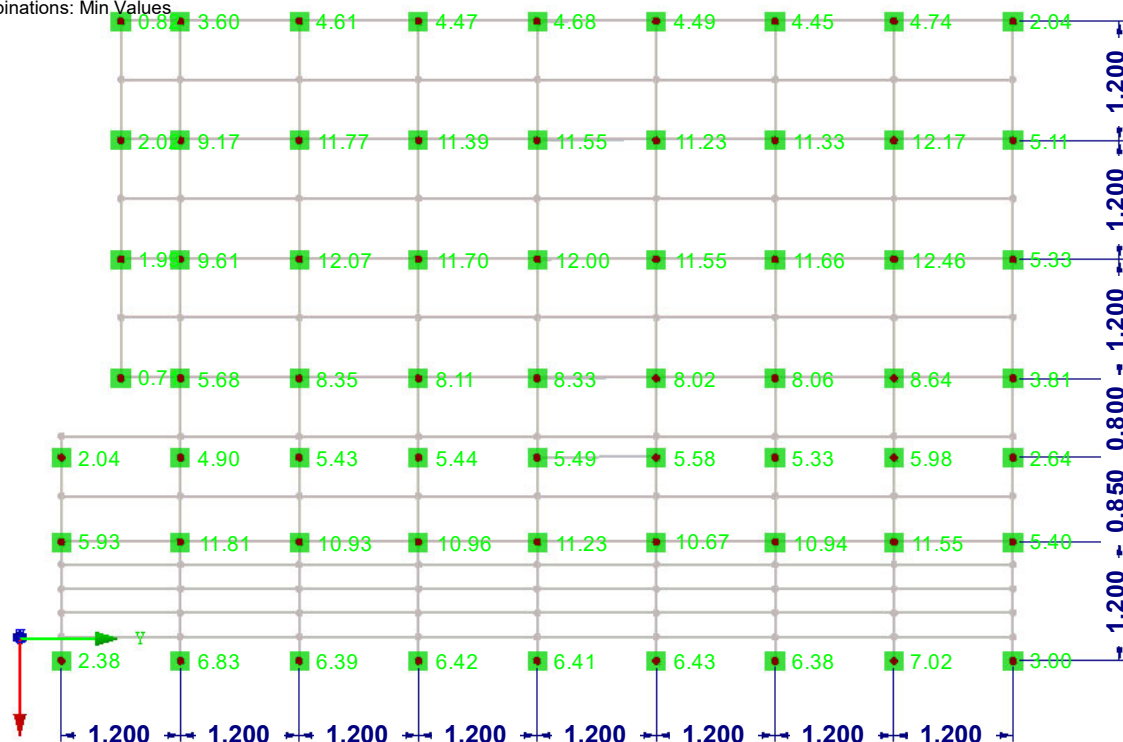
Global Deformations u_z [mm]

Support Reactions [kN]

Result Combinations: Min Values

Isometric

Cross-Sections



Factor of deformations: 240.00

Max P-Z: -0.71, Min P-Z: -12.46 kN

Max u_z : - Min u_z : -

■ 1.1 NODES - SUPPORT FORCES

Result Combinations

Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			P _x	P _y	P _z	M _x	M _y	M _z	
1	RC1	Max	0.00	-0.01	-0.14	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.05	-0.82	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.10	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00 SLS - Characteristic
		Min	0.00	-0.04	-0.63	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.10	0.00	0.00	0.00	SLS - Characteristic 0.00 SLS - Frequent
		Min	0.00	-0.03	-0.47	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.10	0.00	0.00	0.00	SLS - Frequent 0.00 SLS - Quasi-permanent
		Min	0.00	-0.02	-0.42	0.00	0.00	0.00	
3	RC1	Max	0.00	-0.01	-0.42	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.13	-3.60	0.00	0.00	0.00	
	RC2	Max	0.00	-0.01	-0.31	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00 SLS - Characteristic
		Min	0.00	-0.10	-2.76	0.00	0.00	0.00	
	RC3	Max	0.00	-0.01	-0.31	0.00	0.00	0.00	SLS - Characteristic 0.00 SLS - Frequent
		Min	0.00	-0.07	-2.03	0.00	0.00	0.00	
	RC4	Max	0.00	-0.01	-0.31	0.00	0.00	0.00	SLS - Frequent 0.00 SLS - Quasi-permanent
		Min	0.00	-0.07	-1.78	0.00	0.00	0.00	
5	RC1	Max	0.00	0.03	-0.53	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-4.61	0.00	0.00	0.00	
	RC2	Max	0.00	0.02	-0.39	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00 SLS - Characteristic
		Min	0.00	0.00	-3.53	0.00	0.00	0.00	
	RC3	Max	0.00	0.01	-0.39	0.00	0.00	0.00	SLS - Characteristic 0.00 SLS - Frequent
		Min	0.00	0.00	-2.59	0.00	0.00	0.00	
	RC4	Max	0.00	0.01	-0.39	0.00	0.00	0.00	SLS - Frequent 0.00 SLS - Quasi-permanent
		Min	0.00	0.00	-2.27	0.00	0.00	0.00	
7	RC1	Max	0.00	0.01	-0.51	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-4.47	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.38	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00 SLS - Characteristic
		Min	0.00	0.00	-3.43	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.38	0.00	0.00	0.00	SLS - Characteristic 0.00 SLS - Frequent
		Min	0.00	0.00	-2.51	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.38	0.00	0.00	0.00	SLS - Frequent 0.00 SLS - Quasi-permanent
		Min	0.00	0.00	-2.21	0.00	0.00	0.00	
9	RC1	Max	-0.02	-0.03	-0.57	0.00	0.00	0.09	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.01
		Min	-0.18	-0.26	-4.68	0.00	0.00	0.07	
	RC2	Max	-0.01	-0.02	-0.42	0.00	0.00	0.01	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.05 SLS - Characteristic
		Min	-0.14	-0.20	-3.58	0.00	0.00	0.01	
	RC3	Max	-0.01	-0.02	-0.42	0.00	0.00	0.01	SLS - Characteristic 0.01 SLS - Frequent
		Min	-0.10	-0.15	-2.63	0.00	0.00	0.01	
	RC4	Max	-0.01	-0.02	-0.42	0.00	0.00	0.04	SLS - Frequent 0.01 SLS - Quasi-permanent
		Min	-0.09	-0.13	-2.32	0.00	0.00	0.01	
11	RC1	Max	0.00	0.00	-0.55	0.00	0.00	0.01	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-4.49	0.00	0.00	0.01	
	RC2	Max	0.00	0.00	-0.40	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00 SLS - Characteristic
		Min	0.00	0.00	-3.44	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.40	0.00	0.00	0.00	SLS - Characteristic 0.00 SLS - Frequent
		Min	0.00	0.00	-2.53	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.40	0.00	0.00	0.00	SLS - Frequent 0.00 SLS - Quasi-permanent
		Min	0.00	0.00	-2.22	0.00	0.00	0.00	
13	RC1	Max	0.00	0.01	-0.51	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-4.45	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.38	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00 SLS - Characteristic
		Min	0.00	0.00	-3.41	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.38	0.00	0.00	0.00	SLS - Characteristic 0.00 SLS - Frequent
		Min	0.00	0.00	-2.50	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.38	0.00	0.00	0.00	SLS - Frequent 0.00 SLS - Quasi-permanent
		Min	0.00	0.00	-2.20	0.00	0.00	0.00	
15	RC1	Max	0.00	0.00	-0.54	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.03	-4.74	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.40	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00 SLS - Characteristic
		Min	0.00	-0.02	-3.63	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.40	0.00	0.00	0.00	SLS - Characteristic 0.00 SLS - Frequent
		Min	0.00	-0.02	-2.66	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.40	0.00	0.00	0.00	SLS - Frequent 0.00 SLS - Quasi-permanent
		Min	0.00	-0.02	-2.34	0.00	0.00	0.00	
17	RC1	Max	0.00	0.31	-0.26	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.03	-2.04	0.00	0.00	0.00	
	RC2	Max	0.00	0.24	-0.20	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00 SLS - Characteristic
		Min	0.00	0.02	-1.56	0.00	0.00	0.00	
	RC3	Max	0.00	0.17	-0.20	0.00	0.00	0.00	SLS - Characteristic 0.00 SLS - Frequent
		Min	0.00	0.02	-1.15	0.00	0.00	0.00	
	RC4	Max	0.00	0.15	-0.20	0.00	0.00	0.00	SLS - Frequent 0.00 SLS - Quasi-permanent
		Min	0.00	0.02	-1.01	0.00	0.00	0.00	
28	RC1	Max	0.00	-0.01	-0.29	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.10	-2.02	0.00	0.00	0.00	
	RC2	Max	0.00	-0.01	-0.22	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00 SLS - Characteristic
		Min	0.00	-0.07	-1.54	0.00	0.00	0.00	
	RC3	Max	0.00	-0.01	-0.22	0.00	0.00	0.00	SLS - Characteristic 0.00 SLS - Frequent
		Min	0.00	-0.05	-1.15	0.00	0.00	0.00	
	RC4	Max	0.00	-0.01	-0.22	0.00	0.00	0.00	SLS - Frequent 0.00 SLS - Quasi-permanent
		Min	0.00	-0.05	-1.01	0.00	0.00	0.00	

1.1 NODES - SUPPORT FORCES

Result Combinations

Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			P _x	P _y	P _z	M _x	M _y	M _z	
30	RC1	Max	0.00	-0.03	-1.00	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.26	-9.17	0.00	0.00	0.00	
	RC2	Max	0.00	-0.02	-0.74	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.20	-7.02	0.00	0.00	0.00	
	RC3	Max	0.00	-0.02	-0.74	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.14	-5.14	0.00	0.00	0.00	
	RC4	Max	0.00	-0.02	-0.74	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.13	-4.51	0.00	0.00	0.00	
32	RC1	Max	0.00	0.05	-1.26	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.01	-11.77	0.00	0.00	0.00	
	RC2	Max	0.00	0.04	-0.94	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-9.02	0.00	0.00	0.00	
	RC3	Max	0.00	0.03	-0.94	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-6.59	0.00	0.00	0.00	
	RC4	Max	0.00	0.02	-0.94	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-5.78	0.00	0.00	0.00	
34	RC1	Max	0.00	0.01	-1.23	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-11.39	0.00	0.00	0.00	
	RC2	Max	0.00	0.01	-0.91	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-8.72	0.00	0.00	0.00	
	RC3	Max	0.00	0.01	-0.91	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-6.38	0.00	0.00	0.00	
	RC4	Max	0.00	0.01	-0.91	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-5.60	0.00	0.00	0.00	
36	RC1	Max	0.05	-0.01	-1.27	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.13	-11.55	0.00	0.00	-0.02	
	RC2	Max	0.04	-0.01	-0.94	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.10	-8.85	0.00	0.00	-0.02	
	RC3	Max	0.03	-0.01	-0.94	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.08	-6.48	0.00	0.00	-0.01	
	RC4	Max	0.02	-0.01	-0.94	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.07	-5.69	0.00	0.00	-0.01	
38	RC1	Max	0.00	0.01	-1.24	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-11.23	0.00	0.00	0.00	
	RC2	Max	0.00	0.01	-0.92	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-8.60	0.00	0.00	0.00	
	RC3	Max	0.00	0.01	-0.92	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-6.30	0.00	0.00	0.00	
	RC4	Max	0.00	0.01	-0.92	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-5.53	0.00	0.00	0.00	
40	RC1	Max	0.00	0.02	-1.22	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-11.33	0.00	0.00	0.00	
	RC2	Max	0.00	0.01	-0.90	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-8.68	0.00	0.00	0.00	
	RC3	Max	0.00	0.01	-0.90	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-6.35	0.00	0.00	0.00	
	RC4	Max	0.00	0.01	-0.90	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-5.57	0.00	0.00	0.00	
42	RC1	Max	0.00	-0.01	-1.30	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.06	-12.17	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.96	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.04	-9.32	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.96	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.03	-6.82	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.96	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.03	-5.98	0.00	0.00	0.00	
44	RC1	Max	0.00	0.60	-0.60	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.06	-5.11	0.00	0.00	0.00	
	RC2	Max	0.00	0.46	-0.45	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.04	-3.92	0.00	0.00	0.00	
	RC3	Max	0.00	0.33	-0.45	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.04	-2.88	0.00	0.00	0.00	
	RC4	Max	0.00	0.29	-0.45	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.04	-2.53	0.00	0.00	0.00	
55	RC1	Max	0.00	-0.01	-0.32	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.10	-1.99	0.00	0.00	0.00	
	RC2	Max	0.00	-0.01	-0.24	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.07	-1.52	0.00	0.00	0.00	
	RC3	Max	0.00	-0.01	-0.24	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.05	-1.14	0.00	0.00	0.00	
	RC4	Max	0.00	-0.01	-0.24	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.05	-1.01	0.00	0.00	0.00	
57	RC1	Max	-0.20	-0.03	-1.09	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.68	-0.30	-9.61	0.00	0.00	-0.01	
	RC2	Max	-0.15	-0.02	-0.81	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.29	-0.23	-7.36	0.00	0.00	0.00	
	RC3	Max	-0.15	-0.02	-0.81	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	-0.95	-0.17	-5.40	0.00	0.00	0.00	
	RC4	Max	-0.15	-0.02	-0.81	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	-0.83	-0.15	-4.74	0.00	0.00	0.00	

1.1 NODES - SUPPORT FORCES

Result Combinations

Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			P _x	P _y	P _z	M _x	M _y	M _z	
59	RC1	Max	-0.22	0.05	-1.33	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.95	0.01	-12.07	0.00	0.00	0.00	
	RC2	Max	-0.16	0.04	-0.99	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.49	0.00	-9.25	0.00	0.00	0.00	
	RC3	Max	-0.16	0.03	-0.99	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	-1.09	0.00	-6.77	0.00	0.00	0.00	
	RC4	Max	-0.16	0.03	-0.99	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	-0.96	0.00	-5.94	0.00	0.00	0.00	
61	RC1	Max	-0.22	0.01	-1.30	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.90	0.00	-11.70	0.00	0.00	0.00	
	RC2	Max	-0.16	0.01	-0.96	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.46	0.00	-8.96	0.00	0.00	0.00	
	RC3	Max	-0.16	0.01	-0.96	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	-1.07	0.00	-6.56	0.00	0.00	0.00	
	RC4	Max	-0.16	0.01	-0.96	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	-0.94	0.00	-5.76	0.00	0.00	0.00	
63	RC1	Max	-0.22	-0.03	-1.36	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.01
		Min	-1.94	-0.30	-12.00	0.00	0.00	0.00	
	RC2	Max	-0.16	-0.02	-1.01	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.48	-0.23	-9.19	0.00	0.00	0.00	
	RC3	Max	-0.16	-0.02	-1.01	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	-1.09	-0.17	-6.73	0.00	0.00	0.00	
	RC4	Max	-0.16	-0.02	-1.01	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	-0.95	-0.15	-5.92	0.00	0.00	0.00	
65	RC1	Max	-0.21	0.02	-1.32	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.78	0.00	-11.55	0.00	0.00	0.00	
	RC2	Max	-0.15	0.02	-0.97	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.36	0.00	-8.85	0.00	0.00	0.00	
	RC3	Max	-0.15	0.01	-0.97	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	-1.00	0.00	-6.48	0.00	0.00	0.00	
	RC4	Max	-0.15	0.01	-0.97	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	-0.88	0.00	-5.70	0.00	0.00	0.00	
67	RC1	Max	-0.22	0.02	-1.29	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.92	0.00	-11.66	0.00	0.00	0.00	
	RC2	Max	-0.16	0.02	-0.96	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.47	0.00	-8.93	0.00	0.00	0.00	
	RC3	Max	-0.16	0.01	-0.96	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	-1.07	0.00	-6.54	0.00	0.00	0.00	
	RC4	Max	-0.16	0.01	-0.96	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	-0.94	0.00	-5.74	0.00	0.00	0.00	
69	RC1	Max	-0.22	-0.01	-1.38	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.93	-0.07	-12.46	0.00	0.00	0.00	
	RC2	Max	-0.17	0.00	-1.02	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-1.48	-0.05	-9.55	0.00	0.00	0.00	
	RC3	Max	-0.17	0.00	-1.02	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	-1.09	-0.04	-6.99	0.00	0.00	0.00	
	RC4	Max	-0.17	0.00	-1.02	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	-0.95	-0.03	-6.13	0.00	0.00	0.00	
71	RC1	Max	-0.17	0.68	-0.69	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-0.98	0.07	-5.33	0.00	0.00	0.00	
	RC2	Max	-0.13	0.52	-0.51	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	-0.75	0.05	-4.08	0.00	0.00	0.00	
	RC3	Max	-0.13	0.38	-0.51	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	-0.56	0.05	-3.01	0.00	0.00	0.00	
	RC4	Max	-0.13	0.33	-0.51	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	-0.50	0.05	-2.65	0.00	0.00	0.00	
82	RC1	Max	0.00	0.00	-0.16	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.03	-0.71	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.12	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.02	-0.54	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.12	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.01	-0.42	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.12	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.01	-0.37	0.00	0.00	0.00	
84	RC1	Max	0.00	-0.03	-0.67	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.27	-5.68	0.00	0.00	0.00	
	RC2	Max	0.00	-0.02	-0.49	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.21	-4.35	0.00	0.00	0.00	
	RC3	Max	0.00	-0.02	-0.49	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.15	-3.20	0.00	0.00	0.00	
	RC4	Max	0.00	-0.02	-0.49	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.13	-2.81	0.00	0.00	0.00	
86	RC1	Max	0.00	0.04	-0.93	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-8.35	0.00	0.00	0.00	
	RC2	Max	0.00	0.03	-0.69	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-6.40	0.00	0.00	0.00	
	RC3	Max	0.00	0.02	-0.69	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-4.68	0.00	0.00	0.00	
	RC4	Max	0.00	0.02	-0.69	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-4.11	0.00	0.00	0.00	

■ 1.1 NODES - SUPPORT FORCES

Result Combinations

Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			P _x	P _y	P _z	M _x	M _y	M _z	
88	RC1	Max	0.00	0.01	-0.90	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-8.11	0.00	0.00	0.00	
	RC2	Max	0.00	0.01	-0.67	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-6.21	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.67	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-4.55	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.67	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-3.99	0.00	0.00	0.00	
90	RC1	Max	0.07	-0.03	-0.96	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 -0.03
		Min	0.01	-0.27	-8.33	0.00	0.00	0.00	
	RC2	Max	0.05	-0.02	-0.71	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.01	-0.21	-6.38	0.00	0.00	-0.03	
	RC3	Max	0.04	-0.02	-0.71	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.01	-0.15	-4.68	0.00	0.00	-0.02	
	RC4	Max	0.03	-0.02	-0.71	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.01	-0.13	-4.11	0.00	0.00	-0.02	
92	RC1	Max	0.00	0.00	-0.92	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-8.02	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.68	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-6.14	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.68	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-4.50	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.68	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-3.96	0.00	0.00	0.00	
94	RC1	Max	0.00	0.01	-0.90	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-8.06	0.00	0.00	0.00	
	RC2	Max	0.00	0.01	-0.67	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-6.17	0.00	0.00	0.00	
	RC3	Max	0.00	0.01	-0.67	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-4.52	0.00	0.00	0.00	
	RC4	Max	0.00	0.01	-0.67	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-3.97	0.00	0.00	0.00	
96	RC1	Max	0.00	-0.01	-0.95	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.05	-8.64	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.71	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.04	-6.62	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.71	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.03	-4.84	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.71	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.03	-4.25	0.00	0.00	0.00	
98	RC1	Max	0.00	0.52	-0.59	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.05	-3.81	0.00	0.00	0.00	
	RC2	Max	0.00	0.40	-0.43	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.04	-2.91	0.00	0.00	0.00	
	RC3	Max	0.00	0.29	-0.43	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.04	-2.17	0.00	0.00	0.00	
	RC4	Max	0.00	0.25	-0.43	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.04	-1.92	0.00	0.00	0.00	
109	RC1	Max	0.00	-0.01	-0.45	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.15	-2.04	0.00	0.00	0.00	
	RC2	Max	0.00	-0.01	-0.33	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.11	-1.56	0.00	0.00	0.00	
	RC3	Max	0.00	-0.01	-0.33	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.08	-1.19	0.00	0.00	0.00	
	RC4	Max	0.00	-0.01	-0.33	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.07	-1.07	0.00	0.00	0.00	
111	RC1	Max	0.00	0.00	-0.54	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.02	-4.90	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.40	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.01	-3.75	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.40	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.01	-2.75	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.40	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.01	-2.41	0.00	0.00	0.00	
113	RC1	Max	0.00	0.00	-0.59	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-5.43	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.44	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-4.16	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.44	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-3.04	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.44	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-2.67	0.00	0.00	0.00	
115	RC1	Max	0.00	0.00	-0.59	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-5.44	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.44	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-4.17	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.44	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-3.05	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.44	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-2.68	0.00	0.00	0.00	

■ 1.1 NODES - SUPPORT FORCES

Result Combinations

Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			P _x	P _y	P _z	M _x	M _y	M _z	
117	RC1	Max	0.01	0.00	-0.62	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 -0.01
		Min	0.00	-0.01	-5.49	0.00	0.00	0.00	
	RC2	Max	0.01	0.00	-0.46	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.01	-4.21	0.00	0.00	0.00	
	RC3	Max	0.01	0.00	-0.46	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.01	-3.08	0.00	0.00	0.00	
	RC4	Max	0.01	0.00	-0.46	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.01	-2.71	0.00	0.00	0.00	
119	RC1	Max	0.00	0.00	-0.64	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-5.58	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.47	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-4.28	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.47	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-3.14	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.47	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-2.76	0.00	0.00	0.00	
121	RC1	Max	0.00	0.01	-0.58	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-5.33	0.00	0.00	0.00	
	RC2	Max	0.00	0.01	-0.43	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-4.09	0.00	0.00	0.00	
	RC3	Max	0.00	0.01	-0.43	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-2.99	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.43	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-2.62	0.00	0.00	0.00	
123	RC1	Max	0.00	0.00	-0.64	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.04	-5.98	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.48	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.03	-4.58	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.48	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.02	-3.35	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.48	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.02	-2.94	0.00	0.00	0.00	
125	RC1	Max	0.00	0.24	-0.61	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.02	-2.64	0.00	0.00	0.00	
	RC2	Max	0.00	0.18	-0.45	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.02	-2.01	0.00	0.00	0.00	
	RC3	Max	0.00	0.13	-0.45	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.02	-1.54	0.00	0.00	0.00	
	RC4	Max	0.00	0.12	-0.45	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.02	-1.39	0.00	0.00	0.00	
136	RC1	Max	0.00	-0.04	-1.23	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.41	-5.93	0.00	0.00	0.00	
	RC2	Max	0.00	-0.03	-0.91	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.31	-4.52	0.00	0.00	0.00	
	RC3	Max	0.00	-0.03	-0.91	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.23	-3.44	0.00	0.00	0.00	
	RC4	Max	0.00	-0.03	-0.91	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.20	-3.08	0.00	0.00	0.00	
138	RC1	Max	0.00	0.04	-1.40	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.01	-11.81	0.00	0.00	0.00	
	RC2	Max	0.00	0.03	-1.04	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-9.04	0.00	0.00	0.00	
	RC3	Max	0.00	0.03	-1.04	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-6.64	0.00	0.00	0.00	
	RC4	Max	0.00	0.02	-1.04	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-5.84	0.00	0.00	0.00	
140	RC1	Max	0.00	0.01	-1.29	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-10.93	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.95	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-8.37	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.95	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-6.14	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.95	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-5.40	0.00	0.00	0.00	
142	RC1	Max	0.00	0.01	-1.30	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-10.96	0.00	0.00	0.00	
	RC2	Max	0.00	0.01	-0.96	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-8.39	0.00	0.00	0.00	
	RC3	Max	0.00	0.01	-0.96	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-6.16	0.00	0.00	0.00	
	RC4	Max	0.00	0.01	-0.96	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-5.42	0.00	0.00	0.00	
144	RC1	Max	-0.01	-0.05	-1.36	0.00	0.00	0.06	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.01
		Min	-0.11	-0.42	-11.23	0.00	0.00	0.00	
	RC2	Max	-0.01	-0.04	-1.01	0.00	0.00	0.04	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.01
		Min	-0.09	-0.32	-8.60	0.00	0.00	0.01	
	RC3	Max	-0.01	-0.04	-1.01	0.00	0.00	0.03	SLS - Characteristic 0.01
		Min	-0.06	-0.24	-6.32	0.00	0.00	0.01	
	RC4	Max	-0.01	-0.04	-1.01	0.00	0.00	0.03	SLS - Frequent 0.01
		Min	-0.06	-0.21	-5.56	0.00	0.00	0.01	

■ 1.1 NODES - SUPPORT FORCES

Result Combinations

Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			P _x	P _y	P _z	M _x	M _y	M _z	
146	RC1	Max	0.00	0.00	-1.29	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.01	-10.67	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-0.96	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.01	-8.17	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-0.96	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.01	-6.01	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-0.96	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.01	-5.28	0.00	0.00	0.00	
148	RC1	Max	0.00	0.02	-1.29	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-10.94	0.00	0.00	0.00	
	RC2	Max	0.00	0.01	-0.96	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.00	-8.38	0.00	0.00	0.00	
	RC3	Max	0.00	0.01	-0.96	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.00	-6.15	0.00	0.00	0.00	
	RC4	Max	0.00	0.01	-0.96	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.00	-5.41	0.00	0.00	0.00	
150	RC1	Max	0.00	0.00	-1.37	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.02	-11.55	0.00	0.00	0.00	
	RC2	Max	0.00	0.00	-1.02	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	-0.02	-8.84	0.00	0.00	0.00	
	RC3	Max	0.00	0.00	-1.02	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	-0.01	-6.50	0.00	0.00	0.00	
	RC4	Max	0.00	0.00	-1.02	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	-0.01	-5.71	0.00	0.00	0.00	
152	RC1	Max	0.00	0.42	-1.11	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.04	-5.40	0.00	0.00	0.00	
	RC2	Max	0.00	0.32	-0.82	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.00	0.03	-4.13	0.00	0.00	0.00	
	RC3	Max	0.00	0.24	-0.82	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.00	0.03	-3.13	0.00	0.00	0.00	
	RC4	Max	0.00	0.21	-0.82	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.00	0.03	-2.80	0.00	0.00	0.00	
190	RC1	Max	-0.04	-0.11	-0.53	0.00	0.00	0.36	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.04
		Min	-0.47	-1.04	-2.38	0.00	0.00	0.00	
	RC2	Max	-0.03	-0.08	-0.39	0.00	0.00	0.28	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.03
		Min	-0.36	-0.80	-1.81	0.00	0.00	0.00	
	RC3	Max	-0.03	-0.08	-0.39	0.00	0.00	0.03	SLS - Characteristic 0.20
		Min	-0.26	-0.58	-1.39	0.00	0.00	0.00	
	RC4	Max	-0.03	-0.08	-0.39	0.00	0.00	0.18	SLS - Frequent 0.03
		Min	-0.23	-0.51	-1.25	0.00	0.00	0.00	
191	RC1	Max	2.29	0.40	-0.81	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 -0.01
		Min	0.24	0.05	-6.83	0.00	0.00	0.00	
	RC2	Max	1.75	0.31	-0.60	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 -0.01
		Min	0.18	0.04	-5.24	0.00	0.00	0.00	
	RC3	Max	1.28	0.23	-0.60	0.00	0.00	0.00	SLS - Characteristic -0.01
		Min	0.18	0.04	-3.85	0.00	0.00	0.00	
	RC4	Max	1.12	0.20	-0.60	0.00	0.00	0.00	SLS - Frequent -0.01
		Min	0.18	0.04	-3.38	0.00	0.00	0.00	
192	RC1	Max	1.77	0.12	-0.77	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 -0.01
		Min	0.21	0.01	-6.39	0.00	0.00	0.00	
	RC2	Max	1.35	0.09	-0.57	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 -0.01
		Min	0.16	0.01	-4.89	0.00	0.00	0.00	
	RC3	Max	0.99	0.07	-0.57	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.16	0.01	-3.60	0.00	0.00	0.00	
	RC4	Max	0.88	0.06	-0.57	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.16	0.01	-3.16	0.00	0.00	0.00	
193	RC1	Max	1.90	0.08	-0.77	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.22	0.01	-6.42	0.00	0.00	0.00	
	RC2	Max	1.45	0.06	-0.57	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.16	0.01	-4.92	0.00	0.00	0.00	
	RC3	Max	1.07	0.04	-0.57	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.16	0.01	-3.61	0.00	0.00	0.00	
	RC4	Max	0.94	0.04	-0.57	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.16	0.01	-3.18	0.00	0.00	0.00	
194	RC1	Max	1.91	0.04	-0.77	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.22	0.01	-6.41	0.00	0.00	0.00	
	RC2	Max	1.47	0.03	-0.57	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.16	0.00	-4.91	0.00	0.00	0.00	
	RC3	Max	1.07	0.02	-0.57	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.16	0.00	-3.61	0.00	0.00	0.00	
	RC4	Max	0.94	0.02	-0.57	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.16	0.00	-3.18	0.00	0.00	0.00	
195	RC1	Max	1.97	0.00	-0.77	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.23	0.00	-6.43	0.00	0.00	0.00	
	RC2	Max	1.51	0.00	-0.57	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10 0.00
		Min	0.17	0.00	-4.93	0.00	0.00	0.00	
	RC3	Max	1.11	0.00	-0.57	0.00	0.00	0.00	SLS - Characteristic 0.00
		Min	0.17	0.00	-3.62	0.00	0.00	0.00	
	RC4	Max	0.97	0.00	-0.57	0.00	0.00	0.00	SLS - Frequent 0.00
		Min	0.17	0.00	-3.19	0.00	0.00	0.00	

1.1 NODES - SUPPORT FORCES

Result Combinations

Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			P _x	P _y	P _z	M _x	M _y	M _z	
196	RC1	Max	1.77	0.00	-0.76	0.00	0.00	0.00	
		Min	0.21	-0.04	-6.38	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10
	RC2	Max	1.35	0.00	-0.57	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10
		Min	0.16	-0.03	-4.89	0.00	0.00	0.00	SLS - Characteristic
	RC3	Max	0.99	0.00	-0.57	0.00	0.00	0.00	SLS - Frequent
		Min	0.16	-0.02	-3.59	0.00	0.00	0.00	SLS - Frequent
	RC4	Max	0.87	0.00	-0.57	0.00	0.00	0.00	SLS - Quasi-permanent
		Min	0.16	-0.02	-3.16	0.00	0.00	0.00	SLS - Quasi-permanent
	RC1	Max	2.59	-0.04	-0.83	0.00	0.00	0.01	
		Min	0.27	-0.33	-7.02	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10
197	RC2	Max	1.98	-0.03	-0.62	0.00	0.00	0.01	SLS - Characteristic
		Min	0.20	-0.25	-5.38	0.00	0.00	0.00	SLS - Characteristic
	RC3	Max	1.45	-0.03	-0.62	0.00	0.00	0.01	SLS - Frequent
		Min	0.20	-0.18	-3.95	0.00	0.00	0.00	SLS - Frequent
	RC4	Max	1.27	-0.03	-0.62	0.00	0.00	0.00	SLS - Quasi-permanent
		Min	0.20	-0.16	-3.48	0.00	0.00	0.00	SLS - Quasi-permanent
	RC1	Max	0.52	1.09	-0.64	0.00	0.00	-0.04	
		Min	0.14	0.12	-3.00	0.00	0.00	-0.38	ULS (STR/GEO) - Permanent / transient - Eq. 6.10
	RC2	Max	0.40	0.84	-0.48	0.00	0.00	-0.03	SLS - Characteristic
		Min	0.10	0.09	-2.29	0.00	0.00	-0.29	SLS - Characteristic
198	RC3	Max	0.31	0.61	-0.48	0.00	0.00	-0.03	SLS - Frequent
		Min	0.10	0.09	-1.74	0.00	0.00	-0.21	SLS - Frequent
	RC4	Max	0.28	0.54	-0.48	0.00	0.00	-0.03	SLS - Quasi-permanent
		Min	0.10	0.09	-1.56	0.00	0.00	-0.18	SLS - Quasi-permanent

STEEL LINTEL - GENERAL DATA

	General	Model name	: Peremichka Misha
		Project name	: 2XX
		Type of model	: 3D
		Positive direction of global axis Z	: Upward
		Classification of load cases and combinations	: According to Standard: EN 1990 National Annex: LST - Lithuania
		☒ Automatically create combinations	: ☒ Load Combinations
	Options	☐ RF-FORM-FINDING - Find initial equilibrium shapes of membrane and cable structures	
		☐ RF-CUTTING-PATTERN	
		☐ Piping analysis	
		☐ Use CQC Rule	
		☐ Enable CAD/BIM model	
		Standard Gravity	
		g	: 10.00 m/s ²

1.3 MATERIALS

Matl. No.	Modulus E [kN/cm ²]	Modulus G [kN/cm ²]	Poisson's Ratio ν [-]	Spec. Weight γ [kN/m ³]	Coeff. of Th. Ex α [1/°C]	Partial Factor γ_M [-]	Material Model
1	Steel S 355 EN 10025-2:2004-11 21000.00	8076.92	0.300	78.50	1.20E-05	1.00	Isotropic Linear Elastic
2	Steel S 355 EN 10025-2:2004-11 21000.00	8076.92	0.300	78.50	1.20E-05	1.00	Isotropic Linear Elastic
3	Steel S 355 EN 10025-2:2004-11 21000.00	8076.92	0.300	78.50	1.20E-05	1.00	Isotropic Linear Elastic
4	Steel S 355 EN 10025-2:2004-11 21000.00	8076.92	0.300	78.50	1.20E-05	1.00	Isotropic Linear Elastic

1.13 CROSS-SECTIONS

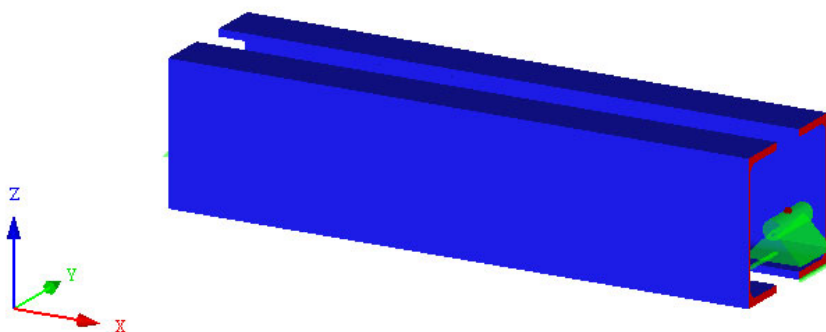
Section No.	Matl. No.	J [cm ⁴]	I _y [cm ⁴]	I _z [cm ⁴]	Principal Axes α [°]	Rotation α' [°]	Overall Dimensions [mm]	
		A [cm ²]	A _y [cm ²]	A _z [cm ²]			Width b	Height h
2	2UV UPE 240-70/10 EN 10279 1	11490.52 77.00	7198.00 45.61	7881.68 29.31	0.00	0.00	250.0	240.0

1.17 MEMBERS

Mbr. No.	Line No.	Member	Rotation		Cross-Section		Hinge No.		Ecc. No.	Div. No.	Length L [m]	
			Type	β [°]	Start	End	Start	End				
1	1	Beam	Angle	0.00	2	2	-	-	-	-	1.000	X

MODEL

Isometric



2.5 LOAD COMBINATIONS

Load Combin.	DS	Load Combination Description	No.	Factor	Load Case
CO1	STR	1.35*LC1	1	1.35	LC1 Self-weight
CO2	STR	1.35*LC1 + 1.3*LC2	1	1.35	LC1 Self-weight
			2	1.30	LC2 Imposed load
CO3	STR	1.35*LC1 + 1.3*LC2 + 0.91*LC3	1	1.35	LC1 Self-weight
			2	1.30	LC2 Imposed load
			3	0.91	LC3 Snow
CO4	STR	1.35*LC1 + 1.3*LC3	1	1.35	LC1 Self-weight
			2	1.30	LC3 Snow
CO5	STR	1.35*LC1 + 0.91*LC2 + 1.3*LC3	1	1.35	LC1 Self-weight
			2	0.91	LC2 Imposed load
			3	1.30	LC3 Snow
CO6	S Ch	LC1	1	1.00	LC1 Self-weight
CO7	S Ch	LC1 + LC2	1	1.00	LC1 Self-weight
			2	1.00	LC2 Imposed load
CO8	S Ch	LC1 + LC2 + 0.7*LC3	1	1.00	LC1 Self-weight
			2	1.00	LC2 Imposed load
			3	0.70	LC3 Snow
CO9	S Ch	LC1 + LC3	1	1.00	LC1 Self-weight
			2	1.00	LC3 Snow
CO10	S Ch	LC1 + 0.7*LC2 + LC3	1	1.00	LC1 Self-weight
			2	0.70	LC2 Imposed load
			3	1.00	LC3 Snow
CO11	S Fr	LC1	1	1.00	LC1 Self-weight
CO12	S Fr	LC1 + 0.5*LC2	1	1.00	LC1 Self-weight
			2	0.50	LC2 Imposed load
CO13	S Fr	LC1 + 0.5*LC2 + 0.2*LC3	1	1.00	LC1 Self-weight
			2	0.50	LC2 Imposed load
			3	0.20	LC3 Snow
CO14	S Fr	LC1 + 0.5*LC3	1	1.00	LC1 Self-weight
			2	0.50	LC3 Snow
CO15	S Fr	LC1 + 0.3*LC2 + 0.5*LC3	1	1.00	LC1 Self-weight
			2	0.30	LC2 Imposed load
			3	0.50	LC3 Snow
CO16	S Qp	LC1	1	1.00	LC1 Self-weight
CO17	S Qp	LC1 + 0.3*LC2	1	1.00	LC1 Self-weight
			2	0.30	LC2 Imposed load
CO18	S Qp	LC1 + 0.3*LC2 + 0.2*LC3	1	1.00	LC1 Self-weight
			2	0.30	LC2 Imposed load
			3	0.20	LC3 Snow
CO19	S Qp	LC1 + 0.2*LC3	1	1.00	LC1 Self-weight
			2	0.20	LC3 Snow

2.7 RESULT COMBINATIONS

Result Combin	Description	Loading
RC1	ULS (STR/GEO) - Permanent / transient - Eq. 6.10	CO1/p or to CO5
RC2	SLS - Characteristic	CO6/p or to CO10
RC3	SLS - Frequent	CO11/p or to CO15
RC4	SLS - Quasi-permanent	CO16/p or to CO19

LC1
Self-weight

3.2 MEMBER LOADS

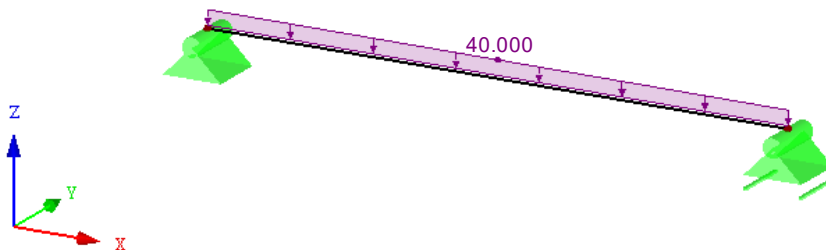
LC1: Self-weight

No.	Reference to	On Members No.	Load Type	Load Distribution	Load Direction	Reference Length	Symbol	Value	Unit
1	Members	1	Force	Uniform	ZL	True Length	p	-40.000	kN/m

LC1: SELF-WEIGHT

LC1 : Self-weight
Loads [kN/m]

Isometric



LC2
Imposed load

■ 3.2 MEMBER LOADS

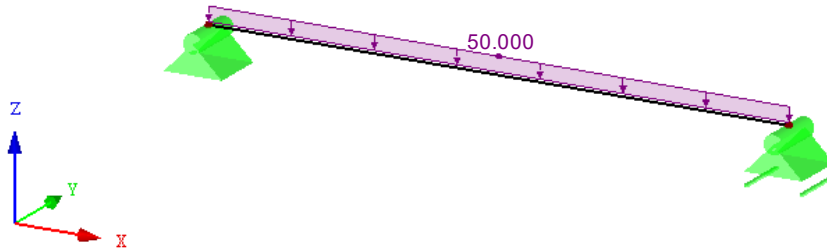
LC2: Imposed load

No.	Reference to	On Members No.	Load Type	Load Distribution	Load Direction	Reference Length	Symbol	Load Parameters	
								Value	Unit
1	Members	1	Force	Uniform	ZL	True Length	p	-50.000	kN/m

■ LC2: IMPOSED LOAD

LC2 : Imposed load
Loads [kN/m]

Isometric



LC3
Snow

■ 3.2 MEMBER LOADS

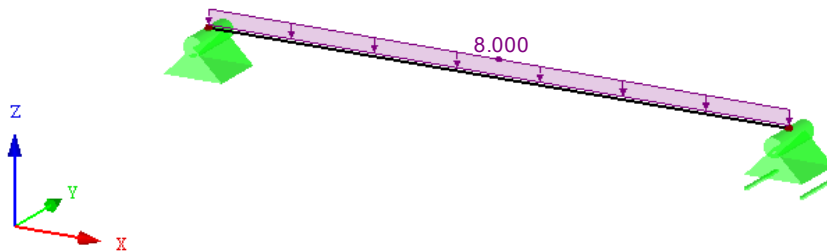
LC3: Snow

No.	Reference to	On Members No.	Load Type	Load Distribution	Load Direction	Reference Length	Symbol	Load Parameters	
								Value	Unit
1	Members	1	Force	Uniform	ZL	True Length	p	-8.000	kN/m

■ LC3: SNOW

LC3 : Snow
Loads [kN/m]

Isometric



■ 4.1 NODES - SUPPORT FORCES

Node No.	LC/CO	Support Forces [kN]			Support Moments [kNm]			
		P _{X'}	P _{Y'}	P _{Z'}	M _{X'}	M _{Y'}	M _{Z'}	
1	LC1	0.00	0.00	-20.30	0.00	0.00	0.00	Self-weight
	LC2	0.00	0.00	-25.00	0.00	0.00	0.00	Imposed load
	LC3	0.00	0.00	-4.00	0.00	0.00	0.00	Snow
	CO1	0.00	0.00	-27.41	0.00	0.00	0.00	
	CO2	0.00	0.00	-59.91	0.00	0.00	0.00	
	CO3	0.00	0.00	-63.55	0.00	0.00	0.00	
	CO4	0.00	0.00	-32.61	0.00	0.00	0.00	
	CO5	0.00	0.00	-55.36	0.00	0.00	0.00	
	CO6	0.00	0.00	-20.30	0.00	0.00	0.00	
	CO7	0.00	0.00	-45.30	0.00	0.00	0.00	
	CO8	0.00	0.00	-48.10	0.00	0.00	0.00	
	CO9	0.00	0.00	-24.30	0.00	0.00	0.00	
	CO10	0.00	0.00	-41.80	0.00	0.00	0.00	
	CO11	0.00	0.00	-20.30	0.00	0.00	0.00	
	CO12	0.00	0.00	-32.80	0.00	0.00	0.00	
	CO13	0.00	0.00	-33.60	0.00	0.00	0.00	
	CO14	0.00	0.00	-22.30	0.00	0.00	0.00	
	CO15	0.00	0.00	-29.80	0.00	0.00	0.00	
	CO16	0.00	0.00	-20.30	0.00	0.00	0.00	
	CO17	0.00	0.00	-27.80	0.00	0.00	0.00	
	CO18	0.00	0.00	-28.60	0.00	0.00	0.00	
	CO19	0.00	0.00	-21.10	0.00	0.00	0.00	
2	LC1	0.00	0.00	-20.30	0.00	0.00	0.00	Self-weight
	LC2	0.00	0.00	-25.00	0.00	0.00	0.00	Imposed load
	LC3	0.00	0.00	-4.00	0.00	0.00	0.00	Snow
	CO1	0.00	0.00	-27.41	0.00	0.00	0.00	
	CO2	0.00	0.00	-59.91	0.00	0.00	0.00	
	CO3	0.00	0.00	-63.55	0.00	0.00	0.00	
	CO4	0.00	0.00	-32.61	0.00	0.00	0.00	
	CO5	0.00	0.00	-55.36	0.00	0.00	0.00	
	CO6	0.00	0.00	-20.30	0.00	0.00	0.00	
	CO7	0.00	0.00	-45.30	0.00	0.00	0.00	
	CO8	0.00	0.00	-48.10	0.00	0.00	0.00	
	CO9	0.00	0.00	-24.30	0.00	0.00	0.00	
	CO10	0.00	0.00	-41.80	0.00	0.00	0.00	
	CO11	0.00	0.00	-20.30	0.00	0.00	0.00	
	CO12	0.00	0.00	-32.80	0.00	0.00	0.00	
	CO13	0.00	0.00	-33.60	0.00	0.00	0.00	
	CO14	0.00	0.00	-22.30	0.00	0.00	0.00	
	CO15	0.00	0.00	-29.80	0.00	0.00	0.00	
	CO16	0.00	0.00	-20.30	0.00	0.00	0.00	
	CO17	0.00	0.00	-27.80	0.00	0.00	0.00	
	CO18	0.00	0.00	-28.60	0.00	0.00	0.00	
	CO19	0.00	0.00	-21.10	0.00	0.00	0.00	
	Σ Supp. LC1	0.00	0.00	-40.60				
	Σ Loads LC1	0.00	0.00	-40.60				
	Σ Supp. LC2	0.00	0.00	-50.00				
	Σ Loads LC2	0.00	0.00	-50.00				
	Σ Supp. LC3	0.00	0.00	-8.00				
	Σ Loads LC3	0.00	0.00	-8.00				
	Σ Supp. CO1	0.00	0.00	-54.82				
	Σ Supp. CO1	0.00	0.00	-54.82				
	Σ Supp. CO2	0.00	0.00	-119.82				
	Σ Supp. CO2	0.00	0.00	-119.82				
	Σ Supp. CO3	0.00	0.00	-127.10				
	Σ Supp. CO3	0.00	0.00	-127.10				
	Σ Supp. CO4	0.00	0.00	-65.22				
	Σ Supp. CO4	0.00	0.00	-65.22				
	Σ Supp. CO5	0.00	0.00	-110.72				
	Σ Supp. CO5	0.00	0.00	-110.72				
	Σ Supp. CO6	0.00	0.00	-40.60				
	Σ Supp. CO6	0.00	0.00	-40.60				
	Σ Supp. CO7	0.00	0.00	-90.60				
	Σ Supp. CO7	0.00	0.00	-90.60				
	Σ Supp. CO8	0.00	0.00	-96.20				
	Σ Supp. CO8	0.00	0.00	-96.20				
	Σ Supp. CO9	0.00	0.00	-48.60				
	Σ Supp. CO9	0.00	0.00	-48.60				
	Σ Supp. CO10	0.00	0.00	-83.60				
	Σ Supp. CO10	0.00	0.00	-83.60				
	Σ Supp. CO11	0.00	0.00	-40.60				
	Σ Supp. CO11	0.00	0.00	-40.60				
	Σ Supp. CO12	0.00	0.00	-65.60				
	Σ Supp. CO12	0.00	0.00	-65.60				
	Σ Supp. CO13	0.00	0.00	-67.20				
	Σ Supp. CO13	0.00	0.00	-67.20				
	Σ Supp. CO14	0.00	0.00	-44.60				
	Σ Supp. CO14	0.00	0.00	-44.60				
	Σ Supp. CO15	0.00	0.00	-59.60				
	Σ Supp. CO15	0.00	0.00	-59.60				
	Σ Supp. CO16	0.00	0.00	-40.60				
	Σ Supp. CO16	0.00	0.00	-40.60				
	Σ Supp. CO17	0.00	0.00	-55.60				
	Σ Supp. CO17	0.00	0.00	-55.60				
	Σ Supp. CO18	0.00	0.00	-57.20				
	Σ Supp. CO18	0.00	0.00	-57.20				
	Σ Supp. CO19	0.00	0.00	-42.20				
	Σ Supp. CO19	0.00	0.00	-42.20				

■ 4.12 CROSS-SECTIONS - INTERNAL FORCES

Member No.	LC/CO	Node No.	Location x [m]	Forces [kN]			Moments [kNm]			
				N	V _y	V _z	M _T	M _y	M _z	
1	Section No. 2: 2UV UPE 240-70/10 EN 10279									
	LC1	1	0.000	0.00	0.00	20.30	0.00	0.00	0.00	
		2	1.000	0.00	0.00	-20.30	0.00	0.00	0.00	
	LC2	1	0.000	0.00	0.00	25.00	0.00	0.00	0.00	
		2	1.000	0.00	0.00	-25.00	0.00	0.00	0.00	
	LC3	1	0.000	0.00	0.00	4.00	0.00	0.00	0.00	
		2	1.000	0.00	0.00	-4.00	0.00	0.00	0.00	

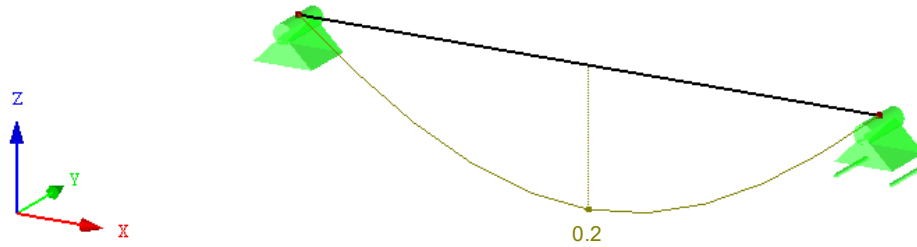
■ 4.12 CROSS-SECTIONS - INTERNAL FORCES

Member No.	LC/CO	Node No.	Location x [m]	Forces [kN]			Moments [kNm]			
				N	V _y	V _z	M _T	M _y	M _z	
1	CO1	1	0.000	0.00	0.00	27.41	0.00	0.00	0.00	
		2	1.000	0.00	-0.00	-27.41	0.00	0.00	0.00	
	CO2	1	0.000	0.02	0.00	59.91	0.00	0.00	0.00	
		2	1.000	0.02	-0.00	-59.91	0.00	0.00	0.00	
	CO3	1	0.000	0.02	0.00	63.55	0.00	0.00	0.00	
		2	1.000	0.02	0.00	-63.55	0.00	0.00	0.00	
	CO4	1	0.000	0.01	0.00	32.61	0.00	0.00	0.00	
		2	1.000	0.01	0.00	-32.61	0.00	0.00	0.00	
	CO5	1	0.000	0.02	0.00	55.36	0.00	0.00	0.00	
		2	1.000	0.02	0.00	-55.36	0.00	0.00	0.00	
	CO6	1	0.000	0.00	0.00	20.30	0.00	0.00	0.00	
		2	1.000	0.00	0.00	-20.30	0.00	0.00	0.00	
	CO7	1	0.000	0.01	0.00	45.30	0.00	0.00	0.00	
		2	1.000	0.01	-0.00	-45.30	0.00	0.00	0.00	
	CO8	1	0.000	0.01	0.00	48.10	0.00	0.00	0.00	
		2	1.000	0.01	-0.00	-48.10	0.00	0.00	0.00	
	CO9	1	0.000	0.00	0.00	24.30	0.00	0.00	0.00	
		2	1.000	0.00	-0.00	-24.30	0.00	0.00	0.00	
	CO10	1	0.000	0.01	0.00	41.80	0.00	0.00	0.00	
		2	1.000	0.01	0.00	-41.80	0.00	0.00	0.00	
	CO11	1	0.000	0.00	0.00	20.30	0.00	0.00	0.00	
		2	1.000	0.00	0.00	-20.30	0.00	0.00	0.00	
	CO12	1	0.000	0.01	0.00	32.80	0.00	0.00	0.00	
		2	1.000	0.01	0.00	-32.80	0.00	0.00	0.00	
	CO13	1	0.000	0.01	0.00	33.60	0.00	0.00	0.00	
		2	1.000	0.01	-0.00	-33.60	0.00	0.00	0.00	
	CO14	1	0.000	0.00	0.00	22.30	0.00	0.00	0.00	
		2	1.000	0.00	-0.00	-22.30	0.00	0.00	0.00	
	CO15	1	0.000	0.00	0.00	29.80	0.00	0.00	0.00	
		2	1.000	0.00	0.00	-29.80	0.00	0.00	0.00	
	CO16	1	0.000	0.00	0.00	20.30	0.00	0.00	0.00	
		2	1.000	0.00	0.00	-20.30	0.00	0.00	0.00	
	CO17	1	0.000	0.00	0.00	27.80	0.00	0.00	0.00	
		2	1.000	0.00	-0.00	-27.80	0.00	0.00	0.00	
	CO18	1	0.000	0.00	0.00	28.60	0.00	0.00	0.00	
		2	1.000	0.00	-0.00	-28.60	0.00	0.00	0.00	
	CO19	1	0.000	0.00	0.00	21.10	0.00	0.00	0.00	
		2	1.000	0.00	0.00	-21.10	0.00	0.00	0.00	

GLOBAL DEFORMATIONS u

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10
Global Deformations u [mm]
Result Combinations: Min Values

Isometric

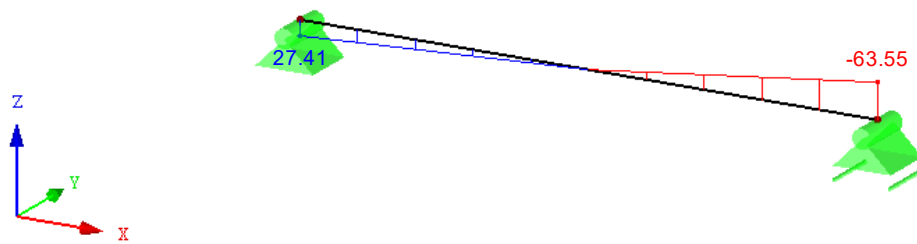


Factor of deformations: 1300.00
Max u : 0.2, Min u : 0.0 mm

INTERNAL FORCES V_z

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10
Internal Forces V_z
Result Combinations: Min Values

Isometric

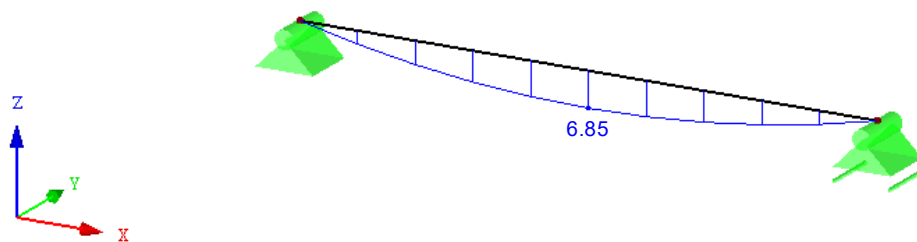


Max V_z : 27.41, Min V_z : -63.55 [kN]

INTERNAL FORCES M_y

RC1 : ULS (STR/GEO) - Permanent / transient - Eq. 6.10
Internal Forces M_y
Result Combinations: Min Values

Isometric



Max M_y : 6.85, Min M_y : 0.00 [kNm]

1.1 GENERAL DATA

Members to design:	1		
Sets of members to design:			
National Annex:	CEN		
Ultimate Limit State Design Result combinations to design:	RC1	ULS (STR/GEO) - Permanent / transient - Eq. 6.10	
Serviceability Limit State Design Result combinations to design:	RC1	ULS (STR/GEO) - Permanent / transient - Eq. 6.10	

1.2 MATERIALS

Matl. No.	Material Description	E- Modulus E [kN/cm ²]	Shear Modulus G [kN/cm ²]	Poisson's Ratio ν [-]	Yield Stress f_{yk} [kN/cm ²]	Max. Thickness t [mm]
1	Steel S 355 EN 10025-2:2004-11	21000.00	8076.92	0.300	35.50	3.0
					35.50	16.0
					34.50	40.0
					33.50	63.0
					32.50	80.0
					31.50	100.0
					29.50	150.0
					28.50	200.0

2UV UPE 240-70/10...



1.3 CROSS-SECTIONS

Sect. No.	Matl. No.	Cross-Section Description	Cross-Section Type	Max Design Ratio	Comment
2	1	2UV UPE 240-70/10 EN 10279	General	0.11	
Type General - Only Class 3 and Class 4 possible					

1.5 EFFECTIVE LENGTHS - MEMBERS

Member No.	Buckling Possible	Buckling About Axis y			Buckling About Axis z			Lateral-Torsional Buckling				
		Possible	$k_{cr,y}$	$L_{cr,y}$ [m]	Possible	$k_{cr,z}$	$L_{cr,z}$ [m]	Possible	k_z	k_w	L_w [m]	L_T [m]
1	☒	☒	1.00	1.000	☒	1.00	1.000	☐	1.0	1.0	1.000	1.000

1.9 SERVICEABILITY DATA

No.	Reference to	Members/Sets No.	Reference Length		Direct.	Precamber e_0 [mm]	Beam Type
			Manually	l [m]			
1	Member	1	☐	1.000	y, z	0.0	Beam
2	Member	2	☐	2.520	y, z	0.0	Beam
3	Member	4	☐	2.520	y, z	0.0	Beam

1.12 PARAMETERS - MEMBERS

Member No.	Description	Parameter
1	Cross-Section	2 - 2UV UPE 240-70/10 EN 10279
	Shear panel	☐
	Rotational restraint	☐
	Cross-sectional area for tension design	☐

2.4 DESIGN BY MEMBER

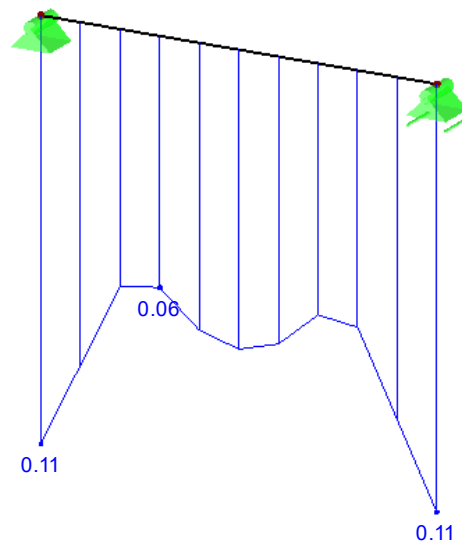
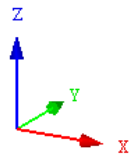
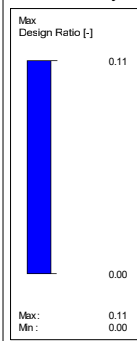
Member No.	Location x [m]	LC/CO/ RC	Design		Equation No.	Description
1	Cross-section No. 2 - 2UV UPE 240-70/10 EN 10279					
	0.500	RC1	0.07	≤ 1	CS112)	Cross-section check - Bending about y-axis acc. to 6.2.5 - Class 3
	0.000	RC1	0.11	≤ 1	CS122)	Cross-section check - Shear force in z-axis acc. to 6.2.6(4) - Class 3 or 4
	0.500	RC1	0.07	≤ 1	CS143)	Cross-section check - Bending and shear force acc. to 6.2.9.2 and 6.2.10 - Class 3 - General cross-section
	0.000	RC1	0.00	≤ 1	SE400)	Serviceability - Negligible deformations
	0.500	RC1	0.05	≤ 1	SE401)	Serviceability - Combination of actions 'Characteristic' - z-direction

■ DESIGN RATIO

RF-STEEL EC3 CA1

Isometric

Ultimate Limit State: Cross-Section Design, Stability Design, Weld Design, Pressure Design, Plastic Design
Serviceability Limit State: Deformations, Web Breathing



Max Design Ratio: 0.11