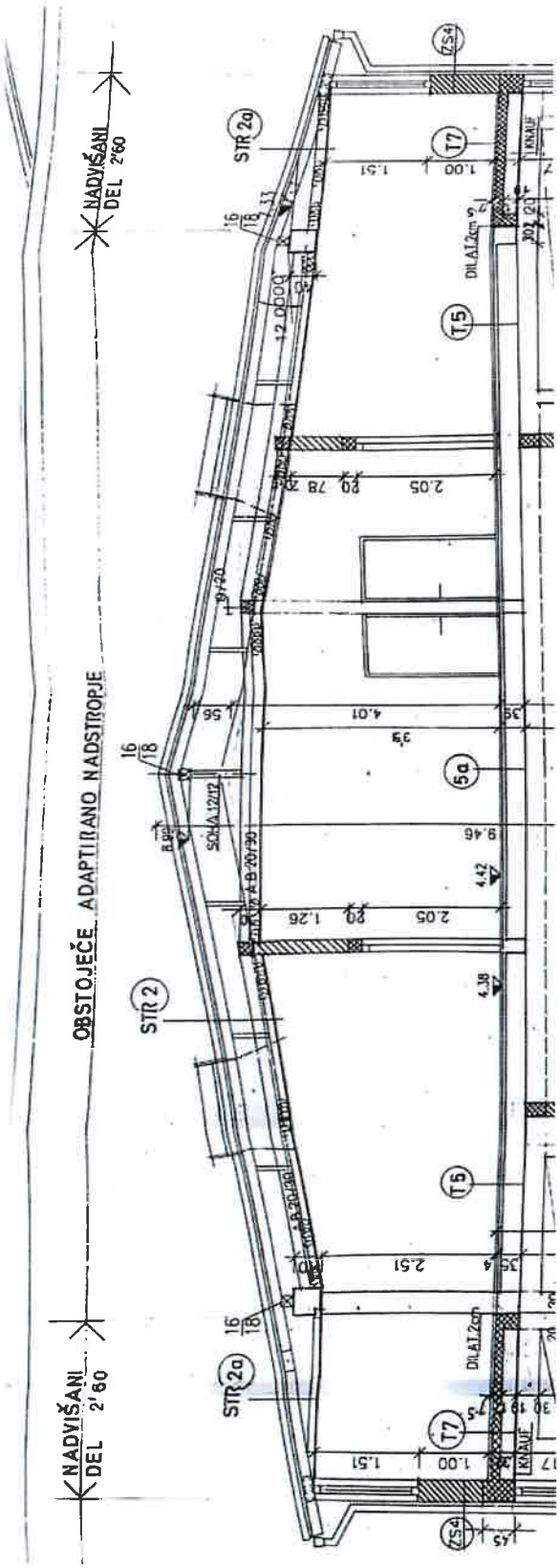
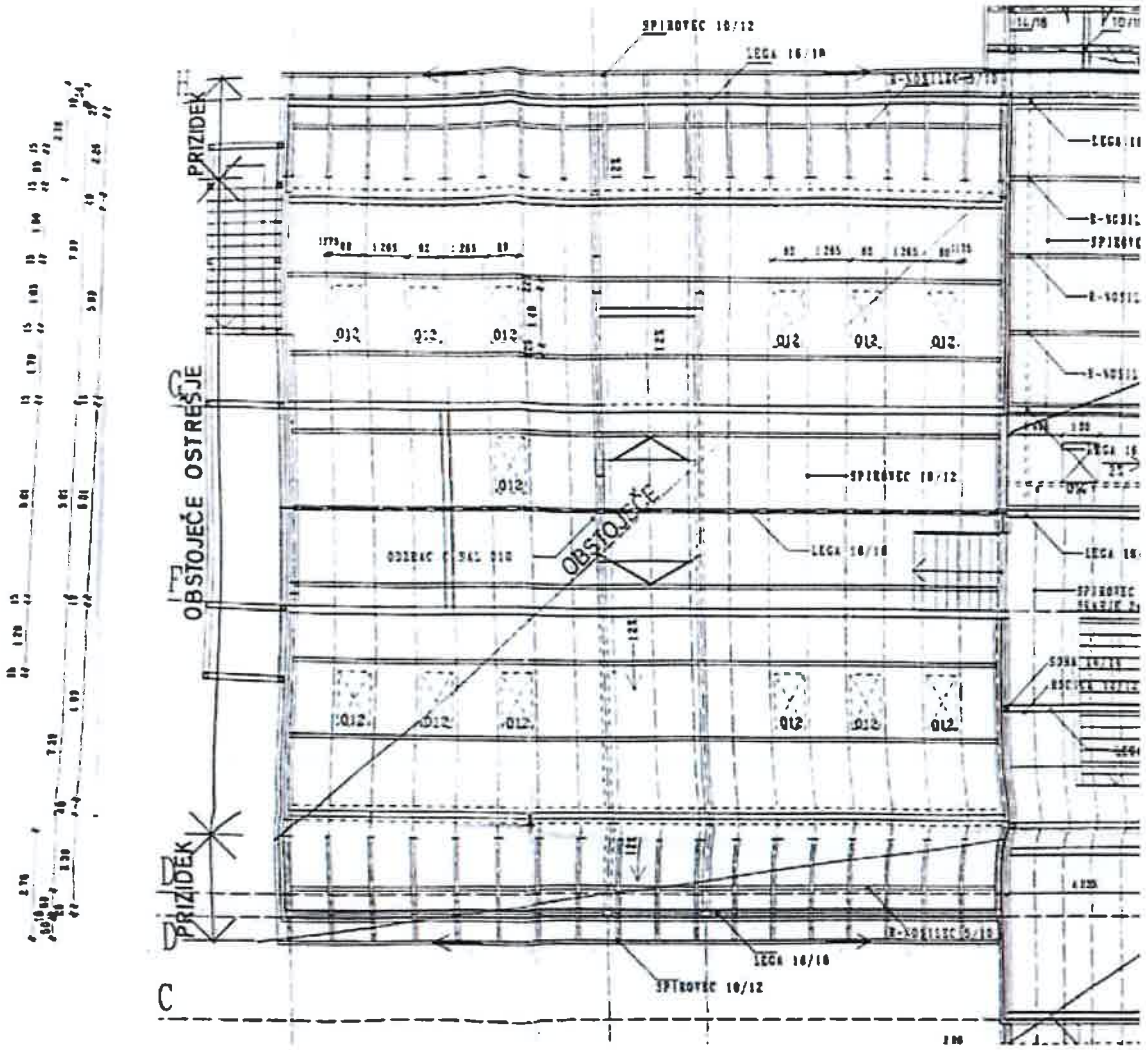


prerez ostrešja; sklop 1 – PZI



tloris ostrešja; sklop 1 – PZI

Sklop 2:

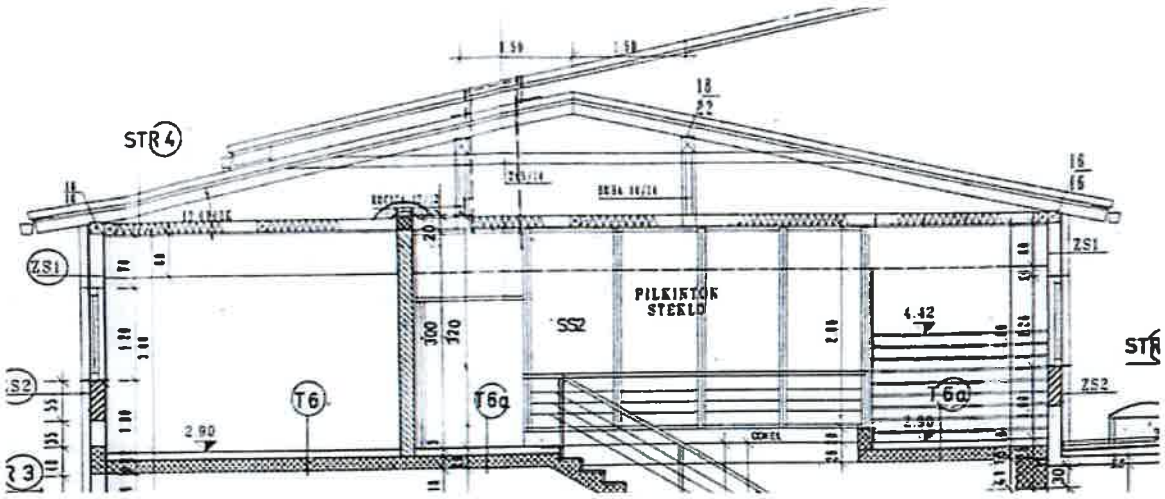
Konstrukcijo ostrešja tvorijo špirovci, kateri so pritrjeni na vmesne in kapne lege vzdolž objekta. Špirovci so v rastru e = 80 cm.

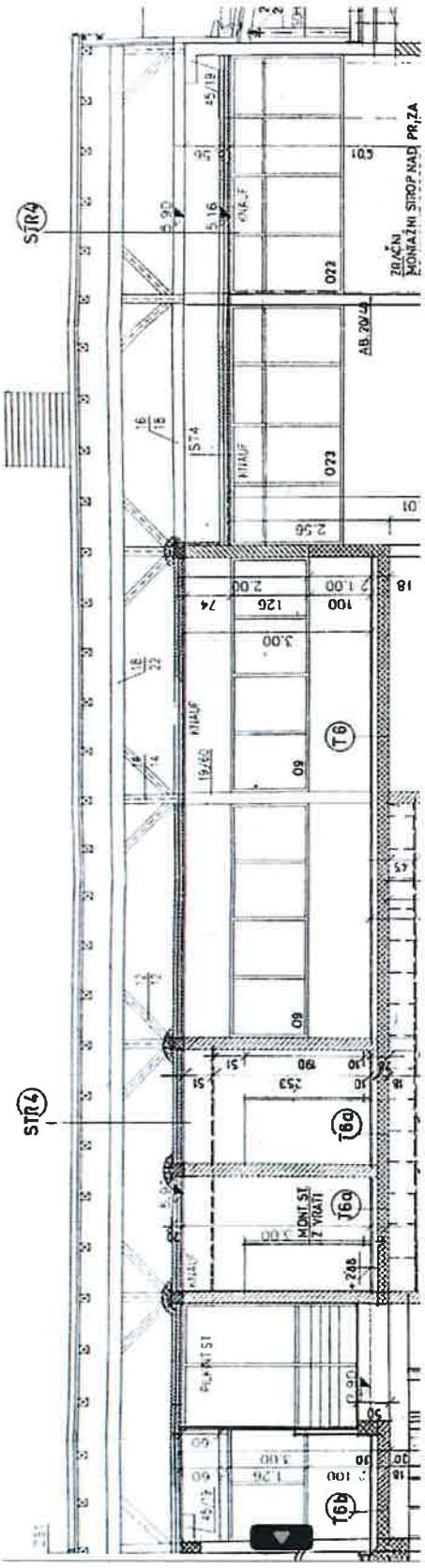
Nosilni elementi ostrešja – sklop 2:

- kapne lege 16/16cm; C24
- vmesne lege 18/22cm; ročice 12/12cm; C24
- vmesne sohe 14/14cm; raster – 400cm; C24
- Špirovci 10/16cm; e=80cm; C24

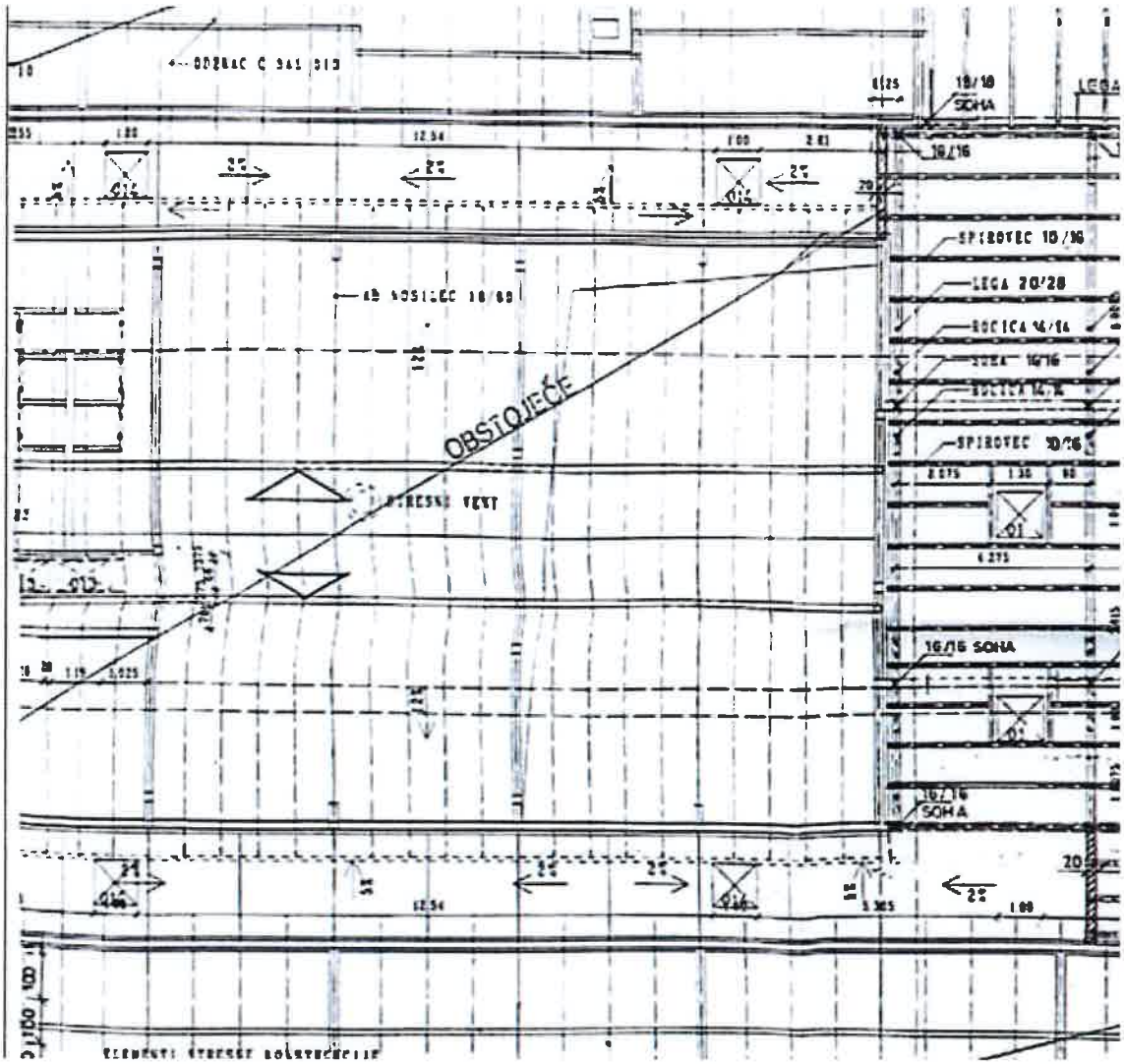
STR 4	**- KNAUF GIPS (kartonske plošče) 2 x**	**2,5 cm**
	- PE folija	
	- ladijski opaž	**2,0 cm**
	- stiropor	**6,0 cm**
	- NOVOTERM LIP	**8,0 cm**
	- A.B. nosilec 19/60 cm	
	- leseni profil 14 x 14	
	- nosilec	
	- letve 2 x 2 cm	
	- TRIMOTERM plošče SNV	**5,0 cm**

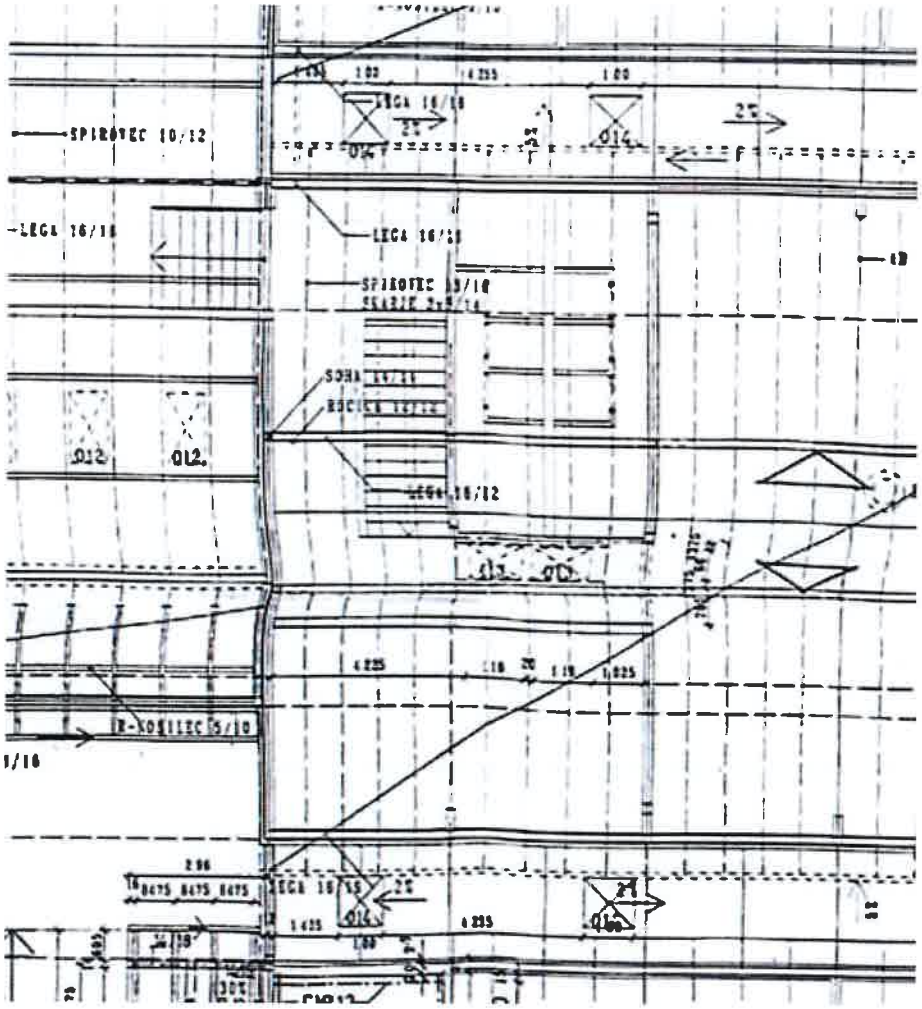
Sestava strehe, sklop 2 - PZI





prerez ostrešja; sklop 2 – PZI


OBSTOJEČE
SPIROVEC 10/16
LEGA 20/28
10/16 SOHA



tloris ostrešja; sklop 2 – PZI

OŠ SVETI TOMAŽ
Sveti Tomaž 11, Sv Tomaž, 2258, Slovenia | Mar 19, 2024

shema predvidene postavitve SE - simulacija

4 STATIČNI IZRAČUN

SPLOŠNO

Pri statični analizi in dimenzioniranju je upoštevano:

- stalno obtežbo,
- obtežbe snega in vetra,
- koristne obtežbe
- dodatno obtežbo FV panelov

Pri izdelavi presoje mehanske odpornosti in stabilnosti objekta so bili upoštevani naslednji predpisi:

- Pravilnik o mehanski odpornosti in stabilnosti, Ur.l. RS št.101/11.11.2005,
- standardi SIST EN 1990 do SIST EN 1998 (kot statična obtežba se upoštevana lastna teža posameznih konstrukcijskih elementov, sloji obdelave, ter koristna obtežba.

Določitev obremenitev in dimenzioniranje elementov nosilne konstrukcije je bila opravljena z računalniškim programom Dlubal RFEM5 in ob upoštevanju faktorirane obtežbe in upoštevanju teorije prvega reda v skladu s standardi EVROKOD. Konstrukcija ostrešja je obravnavana linijsko.
Dimenzioniranje in kontrola stabilnosti konstrukcijskih elementov je izvedena v skladu s standardi SIST EN 1990 - 1998.

OBTEŽBE

Povzetek vseh obtežb na strešno konstrukcijo:

Vrsta obtežbe	obtežba (kN/m2)
• Lastna in stalna teža	0,38 in 0,90
• Obtežba snega	1,51
• Obtežba vetra	0,58
• Dodatna stalna obtežba - FV	0,18

STALNA OBTEŽBA, VPLIVI

Stalno obtežbo predstavlja lastna teža konstrukcije ter stalne obtežbe strešne obloge, ki so pridobljene iz tehničnih katalogov proizvajalcev elementov in iz podatkov o konstrukciji. V stalni obtežbi so predvidene tudi obtežbe povezij, inštalacij itd.

Lastne teže konstrukcijskih elementov upošteva program sam. Fotovoltaični paneli so dodatna stalna obtežba na strehi.

- FV paneli, naprava: g2 (fv) = 0,18 kN/m2; podatki naročnika

DVOKAPNICA - sklop 1

obtežba	opis sloja	teža kN/m3	d ali h m	b m	raster m	teža kN/m2	teža kN/m2
Zgornji sloji	kritina; strešni panel					0,17	
	strešna lepenka	15,00	0,001	1,00	1,00	0,02	
	leseni opaž	6,00	0,020	1,00	1,00	0,12	
							0,31
Nosilna konstrukcija	špirovci	6,00	0,120	0,10	1,00	0,07	
	TI med špirovci	0,20	0,100	1,00	1,00	0,02	
	parna zapora					-	0,09
Strop	letve	6,00	0,050	0,10	0,60	0,05	
	TI med letvami; volna	0,20	0,020	1,00	1,00	0,00	
	TI med letvami; volna	0,20	0,060	1,00	1,00	0,01	
	TI; stiropor	0,20	0,060	1,00	1,00	0,01	0,50
	ladijski pod - deske	6,00	0,020	1,00	1,00	0,12	
	spuščen strop	12,00	0,025	1,00	1,00	0,30	
			skupaj	**skupaj**	**skupaj**	**0,90**	
dodatna	FV paneli					0,18	0,18

DVOKAPNICA - sklop 2

obtežba	opis sloja	teža kN/m3	d ali h m	b m	raster m	teža kN/m2	teža kN/m2
Zgornji sloji	kritina; strešni panel					0,17	
	strešna lepenka	15,00	0,001	1,00	1,00	0,02	
	leseni opaž	6,00	0,020	1,00	1,00	0,12	
							0,31
Nosilna konstrukcija	špirovci	6,00	0,120	0,10	1,00	0,07	
							0,07
Strop	stropna konstrukcija je po predvidevanjih in podatkih naročnika obešena na lastno podkonstrukcijo						-
			skupaj	**skupaj**	**skupaj**	**0,38**	
dodatna	FV paneli					0,18	0,18

OBTEŽBA SNEGA

IZRAČUN OBTEŽB ZA TRAJNA IN ZAČASNA PROJEKTNA STANJA

Obtežba snega

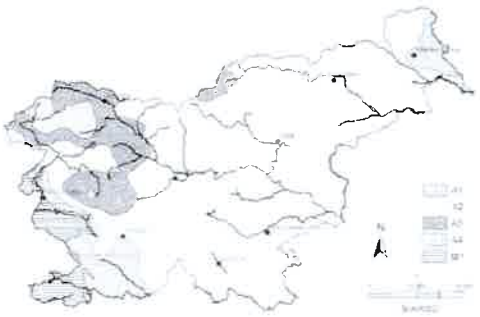
Podatki:

Kraj:	Sv.Tomaž
Snežna Cona:	A2
N.M.V.:	300 m
Naklon α1:	12 °
Naklon α2:	12 °

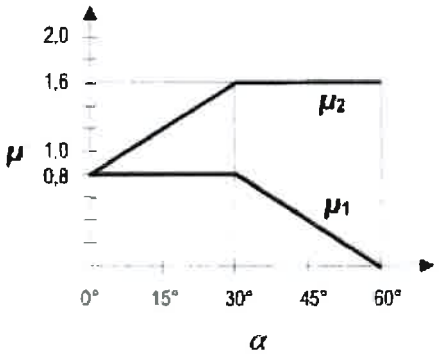
Obtežba snega na tleh odvisna od snežne cone in NMV:

Sk= 1,293(1+(A/728)^2)

Sk= 1,5126 kN/m2



Snežna karta Slovenije razdeljena na 5 snežnih con



Oblikovni koenficient obtežbe snega

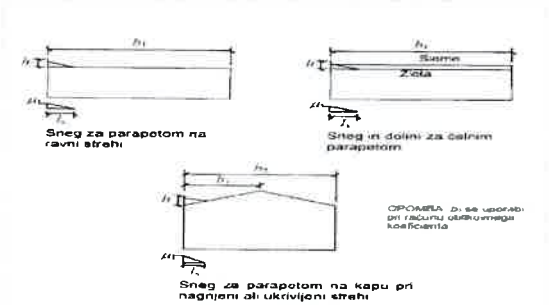
Izračun obtežbe snega na strehi:

S=μ·Ce·Ct·Sk

μ= 0,8	μ - oblikovni koeficient obtežbe snega
Ce= 1,0	Ce - koeficient izpostavljenosti
Ct= 1,0	Ct - toplotni koeficient

S= 1,210	kN/m2	α1
S= 1,210	kN/m2	α2

Vrsta kopičenja: nagomilanje ob parapetih



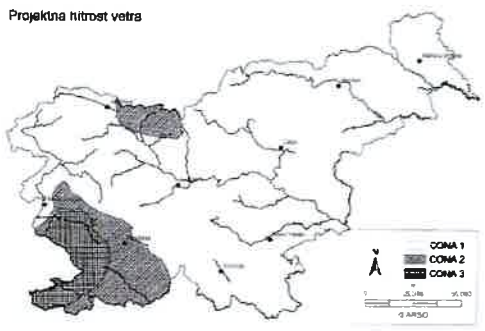
OBTEŽBA VETRA

Obtežba vetra je določena v skladu s SIST EN 1991-1-4.

Obtežba vetra

Podatki:

Kraj:	Sv.Tomaž	**Vb,0=**	**25 m/s --: Projektna hitrost**
Vetrna cona:	2	**Kategorija terena:**	3
N.M.V.:	300 m		
Višina objekta:	7 m		



Hitrosti vetra:

Cona 1 (večina Slovenije):
20 m/s pod 800m
25 m/s od 800 m do 1600 m
30 m/s od 1600 m do 2000 m
40 m/s nad 2000 m

Cona 2 (Trnovski gozd, Notranjska, Karavanke):
25m/s pod 1600 m
30 m/s od 1600 do 2000 m
40 m/s nad 2000 m

Cona 3 (Primorje, Kras in del Vipavske doline):
30 m/s

Vetrna karta Slovenije razdeljena na 3 vetrne cone in hitrosti vetra glede na nadmorsko višini

Osnovna hitrost vetra

Vb=Cdir*Cseason*Vb,0

Cdir=	1,0	Cdir - smerni faktor
Cseason=	1,0	Cseason - faktor letnega časa
Vb=	25	m/s

Srednji veter

Vm(z)=Cr(z)*Co(z)*Vb

Cr(Z)=	*0,6784512*	Cr(z) - faktor hrapavosti terena
Co(z)=	1,0	co(z) - faktor hribovitosti
Vm(z)=	16,96	m/s

Vetrna turbolenca

Iv(z)= 0,31747211

Tlak pri največji hitrosti ob sunku vetra

qp(z)=(1+7*Iv(z))*0,5*ρ*Vm(z)^2 ρ= 1,25 kg/m^3 -> gostota zraka

qp(z)=	**0,579**	**kN/m2**	**(največji tlak pri sunkih vetra)**

KOMBINACIJE OBTEŽB

Kombinacije obtežb posameznih vplivov določim v skladu s SIST EN 1990. Za dimenzioniranje pri mejnem stanju nosilnosti (MSN) upoštevam varnostne faktorje za kombinacije običajnih obtežb 1,35 za stalne vplive in 1,5 za spremenljive vplive, za nezgodne kombinacije in za potresno projektno stanje pa varnostne faktorje 1,0 za stalne in spremenljive vplive. Za dimenzioniranje pri mejnem stanju uporabnosti (MSU) upoštevamo varnostne faktorje 1,0 za stalne in spremenljive vplive. Pri kombinacijah obtežb upoštevamo tudi parcialne faktorje ψ (za spremenljive vplive, ki niso prevladujoči) v vrednostih 0,6 za obtežbo vetra in 0,5 za obtežbo snega pri običajnih kombinacijah (faktor $\psi 0$). V primeru kombinacij s potresno obtežbo sta parcialna faktorja ($\psi 2$) za sneg in veter enaka 0 (snega in vetra v kombinaciji s potresno obtežbo ne upoštevamo).

(1) **Splošna oblika kombinacije učinkov vplivov je:**

$$E_d = \gamma_{Sd} E \{ \gamma_{G,j} G_{k,j} ; \gamma_P P ; \gamma_{Q,1} Q_{k,1} ; \gamma_{Q,i} \Psi_{0,i} Q_{k,i} \} j \geq 1 ; i > 1 \qquad \textbf{(6.9.a)}$$

(2) **Obravnavane kombinacije učinkov vplivov temeljijo na:**

- **projektni vrednosti prevladujočega spremenljivega vpliva in**
- **projektnih kombinacijskih vrednostih spremljajočih spremenljivih vplivov:**

OPOMBA: Glej tudi točko 6.4.3.2(4).

$$E_d = E \{ \gamma_{G,j} G_{k,j} ; \gamma_P P ; \gamma_{Q,1} Q_{k,1} ; \gamma_{Q,i} \Psi_{0,i} Q_{k,i} \} j \geq 1; i > 1 \qquad \textbf{(6.9.b)}$$

(3) **Kombinacija vplivov v oklepajih { } v (6.9.b) se lahko izrazi kot:**

$$\sum_{j \geq 1} \gamma_{G,j} G_{k,j} \text{ "+" } \gamma_P P \text{ "+" } \gamma_{Q,1} Q_{k,1} \text{ "+" } \sum_{i>1} \gamma_{Q,i} \Psi_{0,i} Q_{k,i} \qquad \textbf{(6.10)}$$

ali alternativno za mejna stanja STR in GEO z neugodnejšim od naslednjih dveh izrazov:

$$\sum_{j \geq 1} \gamma_{G,j} G_{k,j} \text{ "+" } \gamma_P P \text{ "+" } \gamma_{Q,1} \Psi_{0,1} Q_{k,1} \text{ "+" } \sum_{i>1} \gamma_{Q,i} \Psi_{0,i} Q_{k,i} \qquad \textbf{(6.10.a)}$$

$$\sum_{j \geq 1} \zeta_j \gamma_{G,j} G_{k,j} \text{ "+" } \gamma_P P \text{ "+" } \gamma_{Q,1} Q_{k,1} \text{ "+" } \sum_{i>1} \gamma_{Q,i} \Psi_{0,i} Q_{k,i} \qquad \textbf{(6.10.b)}$$

Pri izračunu smo primerjali dodatne obremenitve, ki so posledica stalne obtežbe FV panelov z obremenitvami zaradi obtežbe snega.

MNENJE

Glede na pridobljene podatke in izdelano statično presojo smatramo, da nosilna konstrukcija ostrešja pogojno ustreza zahtevam za povečano obtežbo za montažo sončne elektrarne (FV panelov)!

OPOMBA: Pred izvedbo izvajalec preveri stanje finalne strešne kritine na licu mesta. Izvajalec SE izdela delavniško dokumentacijo, kjer se definira detajlno stikovanje in sidranje podkonstrukcije SE skladno s tehnologijo izvedbe, ter jo posreduje v potrditev projektantu in nadzorniku.

Zaradi pomanjkljivih podatkov o obstoječi nosilni konstrukciji (pomanjkljiva dokumentacija, nedostopnost), so bili dodatni podatki podani ustno iz strani naročnika/uporabnika.

Pred izvedbo je potrebno zagotoviti izvedbo dodatnega pregleda obstoječe strehe, strešne kritine, ter nosilne strešne konstrukcije, ter ugotoviti skladnost podatkov s podanimi podatki v statični presoji.

STATIČNI IZRAČUN - PRILOGE

STRUCTURAL ANALYSIS

PROJECT

STATICNA PRESOJA ZA MONTAZO FV PANELOV

OSNOVNA SOLA SV.TOMAZ

OSTRESJE - ZAHODNI DEL

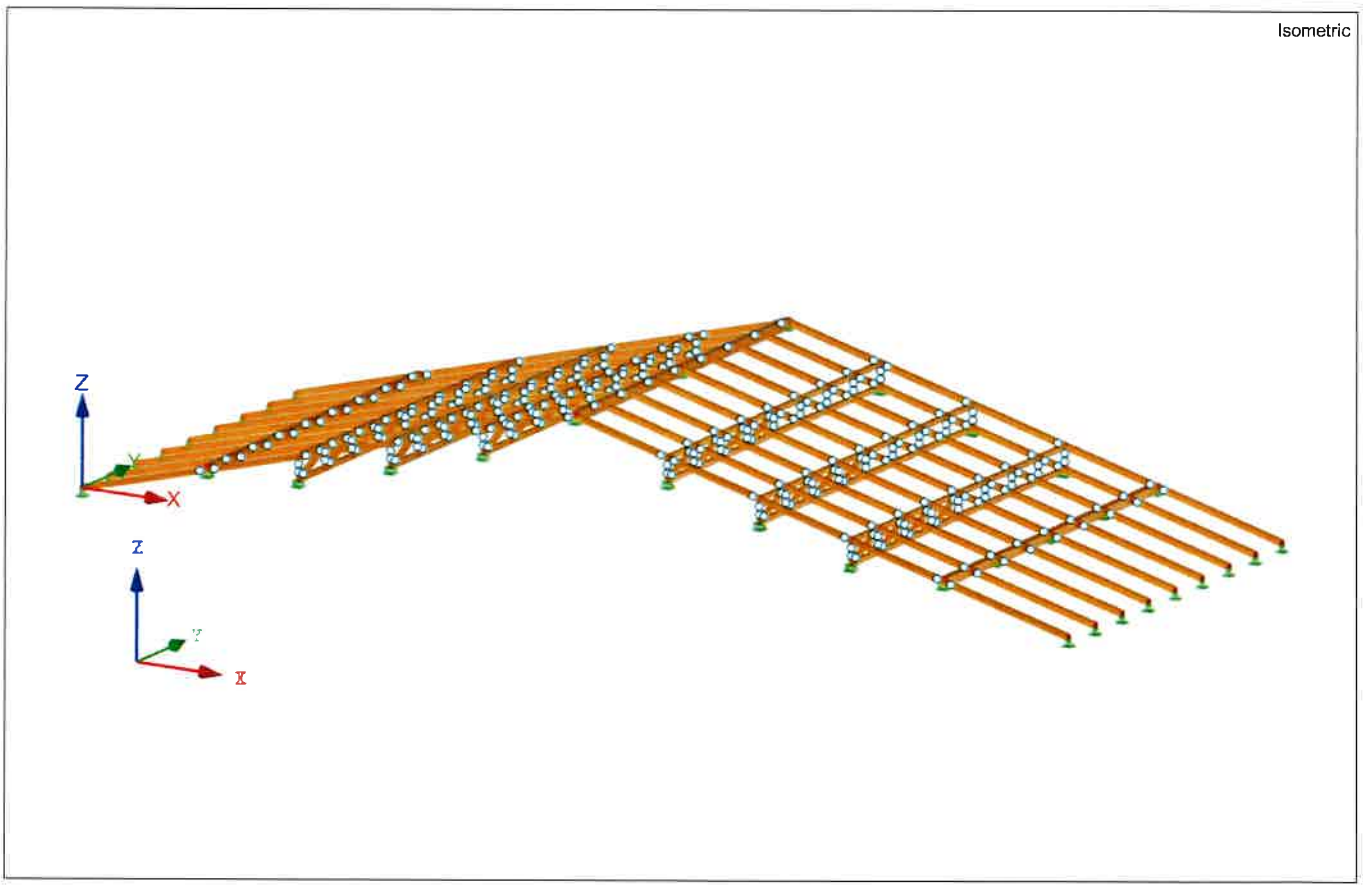
CLIENT

Obcina Sv.Tomaz
Sveti Tomaz 37, 2258 Sveti Tomaz

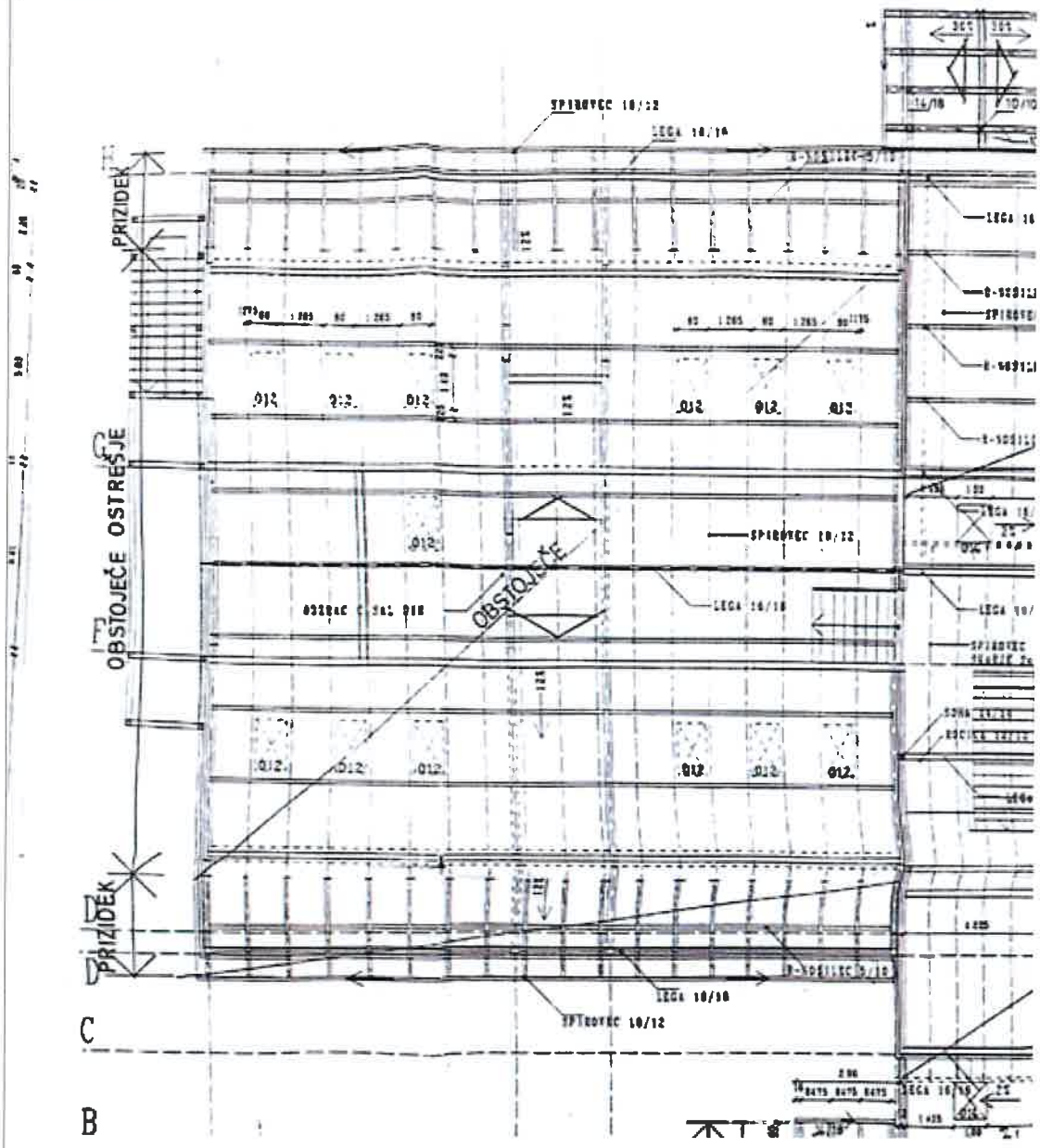
CREATED BY

NORMAPRO d.o.o.
www.normapro.eu

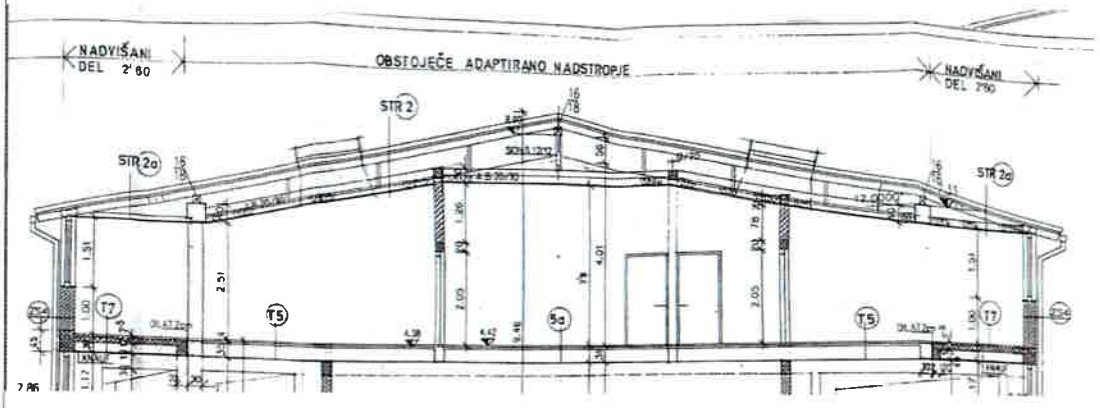
Isometric



TLORIS



PREREZ



MODEL - GENERAL DATA

General	Model name	:	01-SS2_Sv.Tomaz_ostresje - zahodni del
	Type of model	:	3D
	Positive direction of global axis Z	:	Upward
	Classification of load cases and combinations	:	According to Standard: EN 1990 + EN 1995 (Wood) National Annex: SIST - Slovenia
	☒ 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/s²

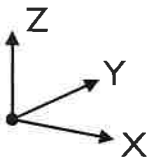
FE MESH SETTINGS

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 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

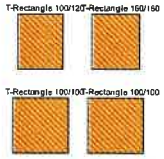
Matl. No.	Modulus E [kN/cm²]	Modulus G [kN/cm²]	Poisson's Ratio ν [-]	Spec. Weight γ [kN/m³]	Coeff. of Th. Ex α [1/°C]	Partial Factor γ_M [-]	Material Model
1	Poplar and Softwood Timber C24 | SIST EN 338:2016-10						
	1100.00	69.00	6.971	4.20	5.00E-06	1.30	Isotropic Linear Elastic
2	Steel S 235 | EN 10025-2:2004-11						
	21000.00	8076.92	0.300	78.50	1.20E-05	1.00	Isotropic Linear Elastic
4	Glulam Timber GL24c | SIST EN 14080:2013-08						
	1100.00	65.00	7.462	4.00	5.00E-06	1.25	Isotropic Linear Elastic

1.7 NODAL SUPPORTS



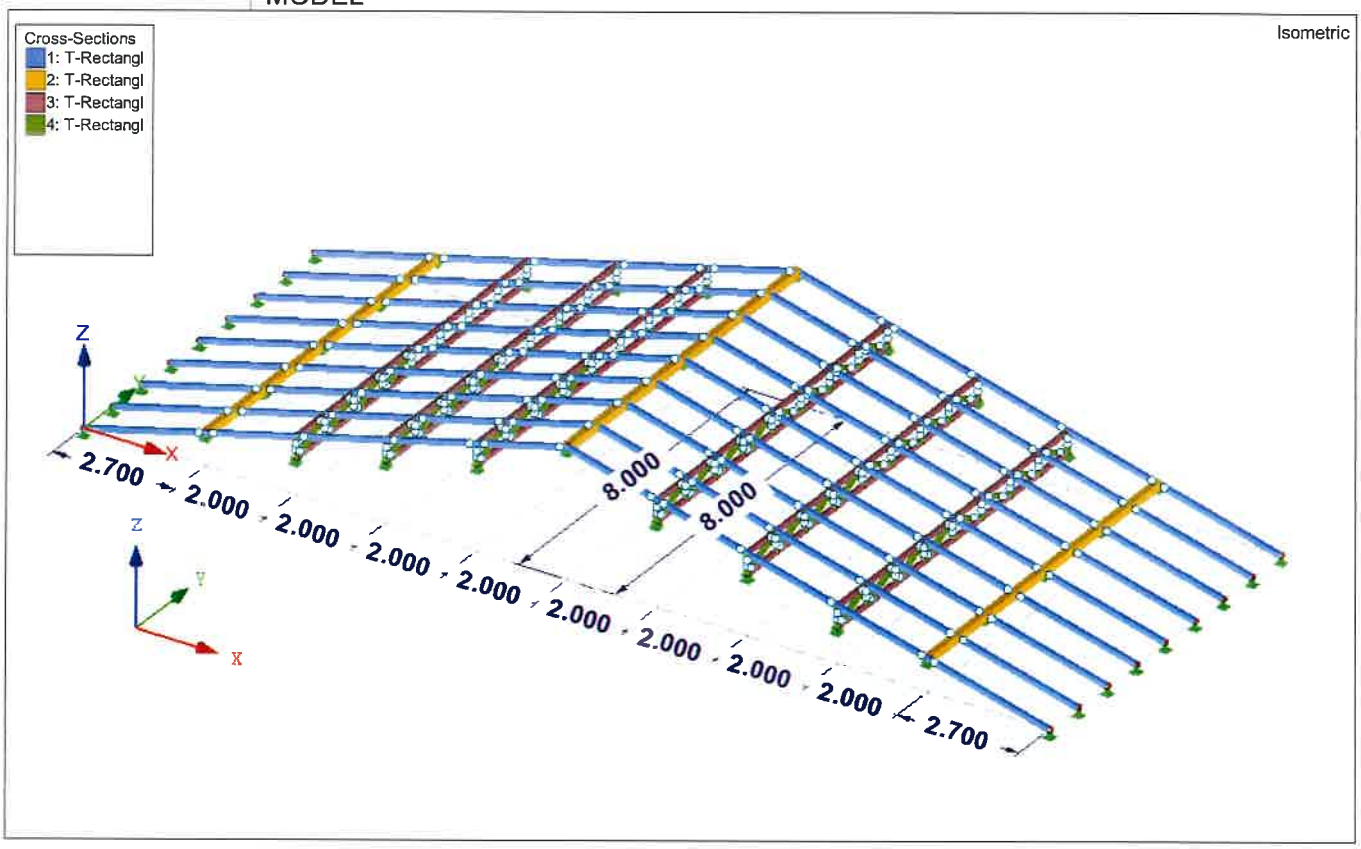
Support No.	Nodes No.	Axis System	Column in Z	Support Conditions u_X	u_Y	u_Z	φ_X	φ_Y	φ_Z
1	1,3,5,12,15,17,18,26, 83,86,88,91,96,97,103, 155,158,160	Global X,Y,Z	☐	☒	☒	☒	☐	☐	☒
2	2,4,7-11,22,25,27,28, 46,47,51,55,59,64, 79-82,132,134,148,156	Global X,Y,Z	☐	☒	☒	☒	☐	☒	☒

1.13 CROSS-SECTIONS

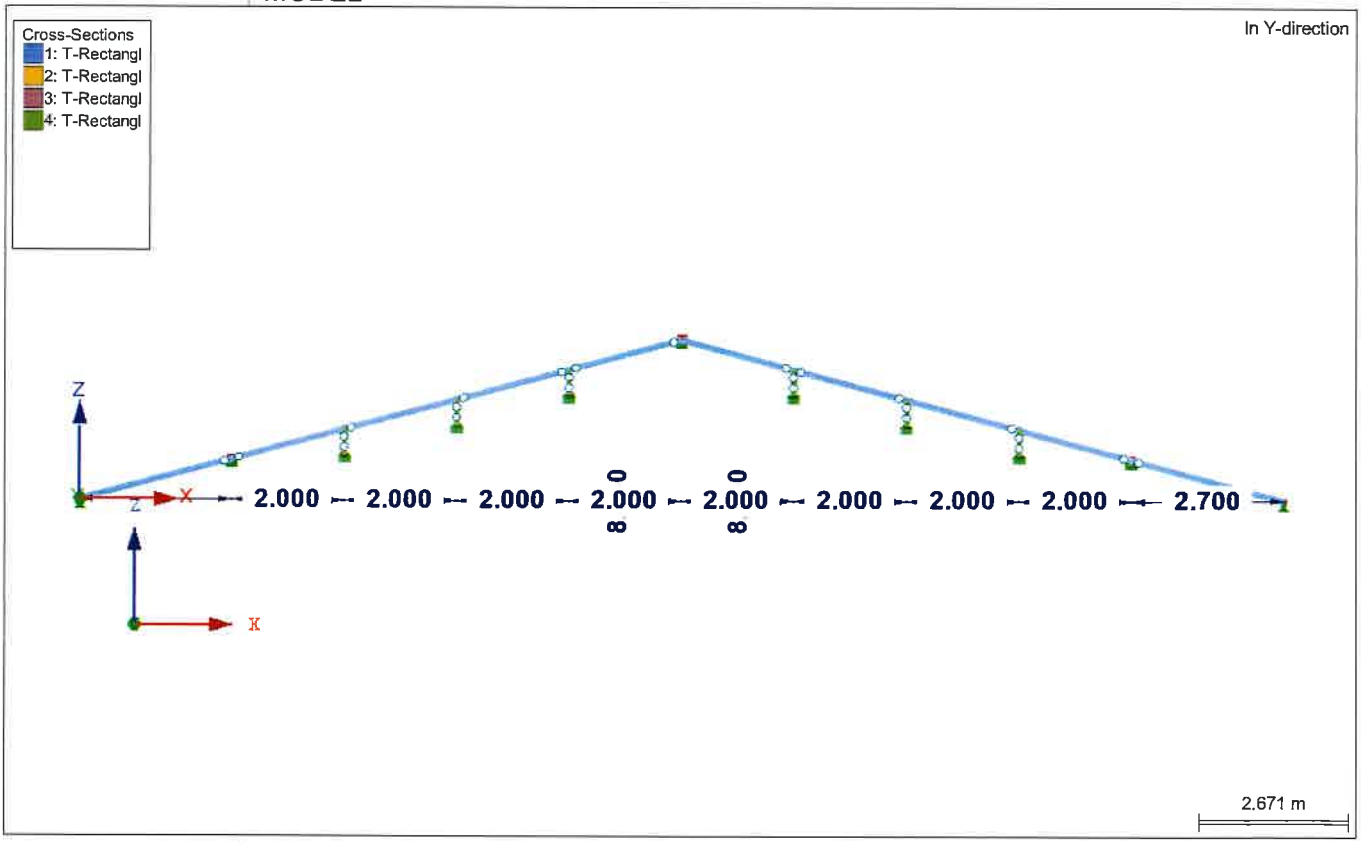


Section No.	Matl. No.	J [cm⁴] A [cm²]	I_y [cm⁴] A_y [cm²]	I_z [cm⁴] A_z [cm²]	Principal Axes α [°]	Rotation α' [°]	Overall Dimensions [mm] Width b	Height h
1	T-Rectangle 100/120							
	1	1983.59	1440.00	1000.00	0.00	0.00	100.0	120.0
		120.00	100.00	100.00				
	spirovci							
2	T-Rectangle 160/180							
	1	11522.61	7776.00	6144.00	0.00	0.00	160.0	180.0
		288.00	240.00	240.00				
	vmesne lege							
3	T-Rectangle 100/100							
	1	1406.67	833.33	833.33	0.00	0.00	100.0	100.0
		100.00	83.33	83.33				
	vzdolzni nosilec - pasovi							
4	T-Rectangle 100/100							
	1	1406.67	833.33	833.33	0.00	0.00	100.0	100.0
		100.00	83.33	83.33				
	vzdolzni nosilec - diagonale							

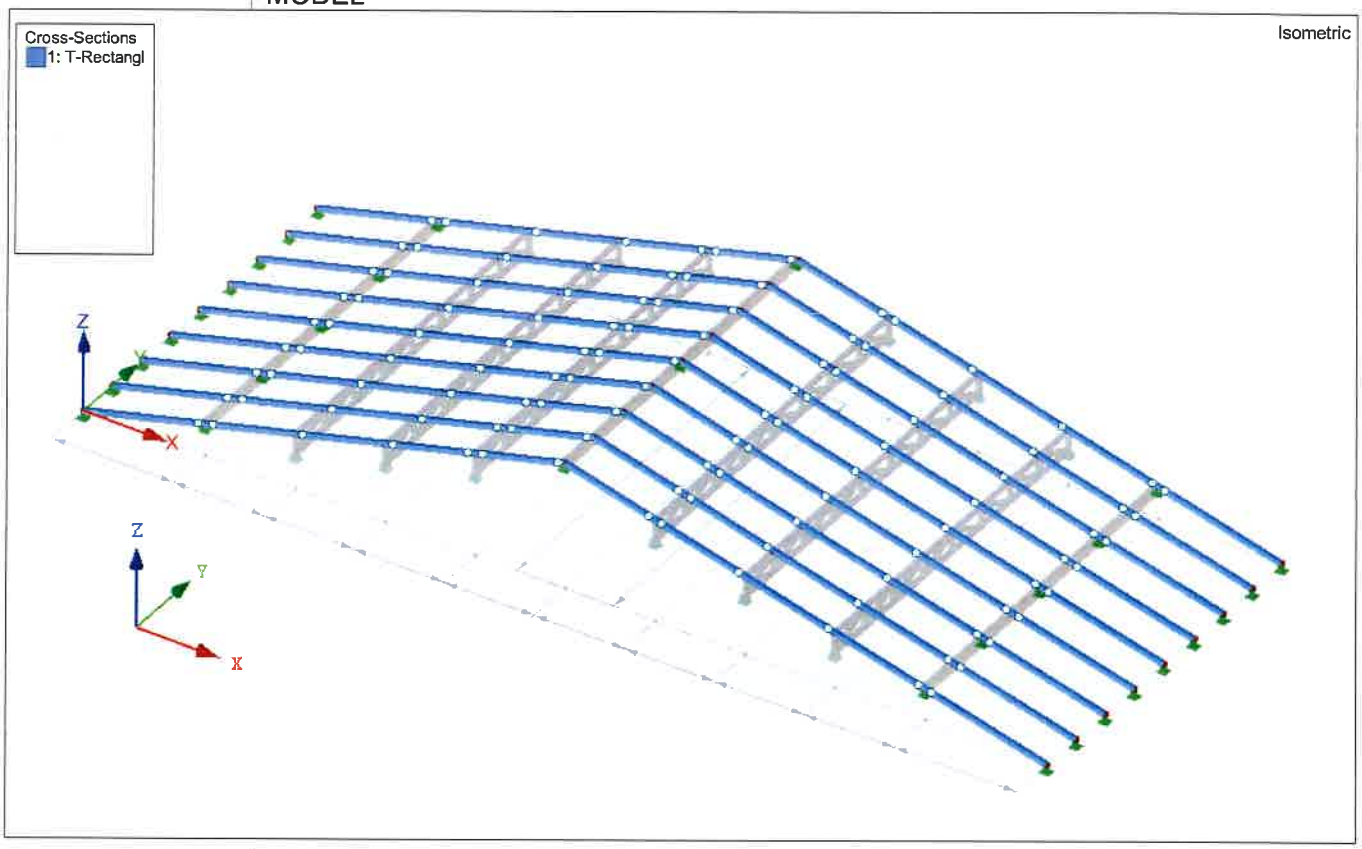
MODEL


Cross-Sections
1: T-Rectangl
2: T-Rectangl
3: T-Rectangl
4: T-Rectangl
Isometric
Z
X
Z
Y
X
2.700
2.000
2.000
2.000
2.000
2.000
2.000
2.000
2.700
8.000
8.000

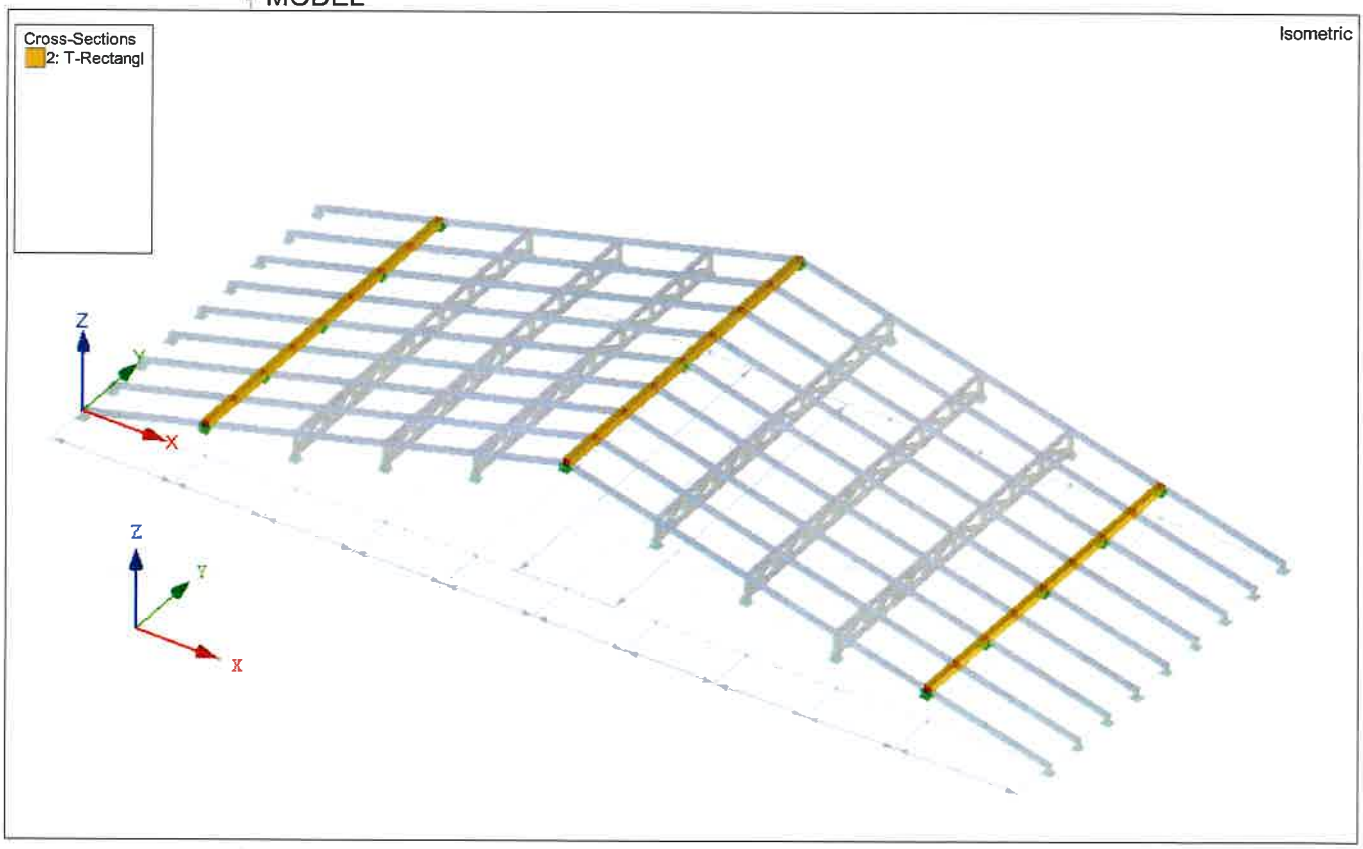
MODEL


Cross-Sections
1: T-Rectangl
2: T-Rectangl
3: T-Rectangl
4: T-Rectangl
In Y-direction
Z
X
Z
X
2.000
2.000
2.000
2.000
8.000
2.000
8.000
2.000
2.000
2.000
2.700
2.671 m

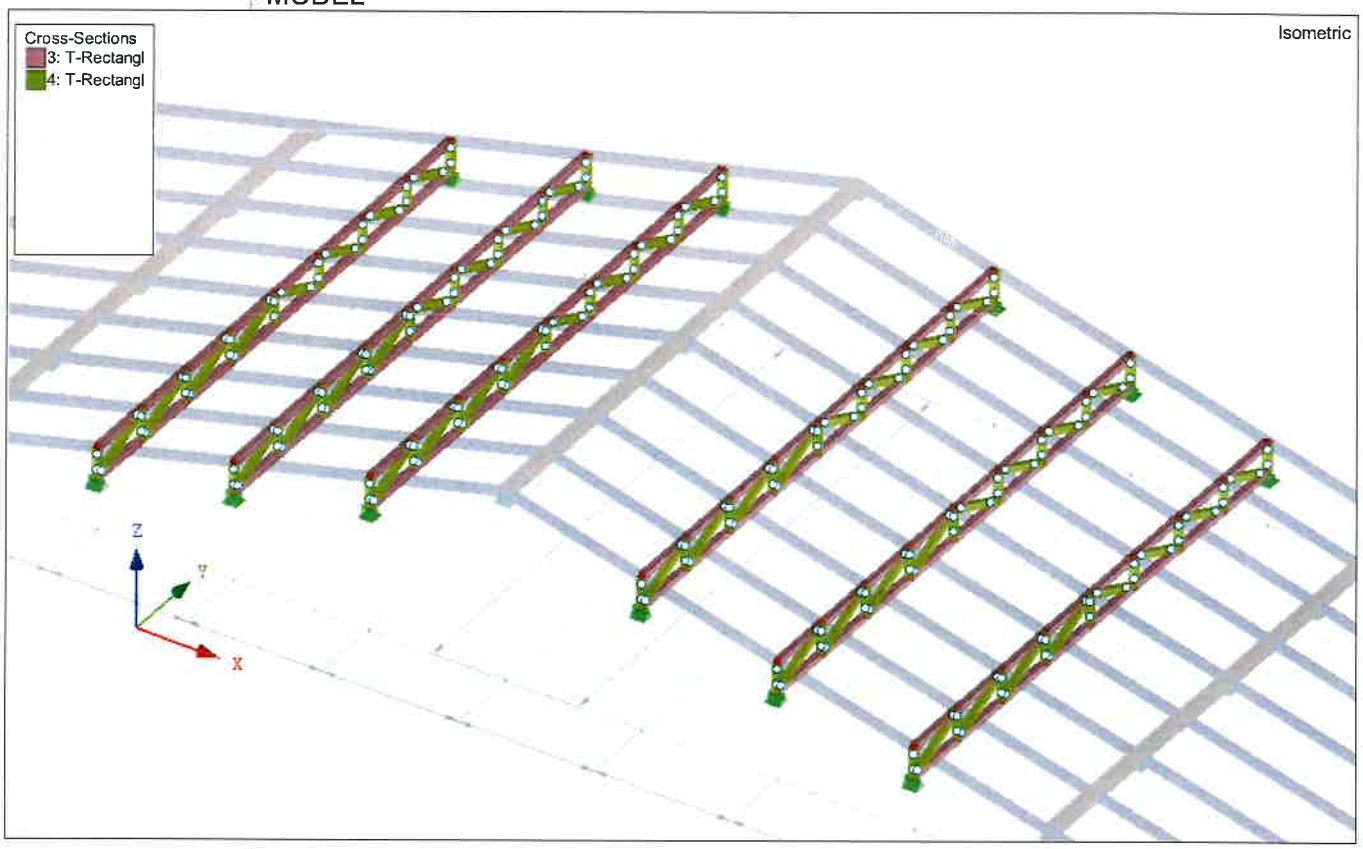
MODEL


Cross-Sections
1: T-Rectangl
Isometric
Z
Y
X
Z
Y
X

MODEL


Cross-Sections
2: T-Rectangl
Isometric
Z
Y
X
Z
Y
X

MODEL



2.1 LOAD CASES

Load Case	Load Case Description	Action Category	Self-Weight - Factor in Direction Active	X	Y	Z	EN 1990 + 1995 | SIST Load Duration
LC1	Self-weight	Permanent	☒	0.000	0.000	-1.000	Permanent
LC2	FV paneli	Permanent	☐				Permanent
LC3	Snow	Snow (H ≤ 1000 m a.s.l.)	☐				Short-term

2.5 LOAD COMBINATIONS

Load Combin.	DS	Load Combination Description	No.	Factor	Load Case	
CO1	STR	1.35G1 + 1.35G2	1	1.35	LC1	Self-weight
			2	1.35	LC2	FV paneli
CO2	STR	1.35G1 + 1.35G2 + 1.5Qs	1	1.35	LC1	Self-weight
			2	1.35	LC2	FV paneli
			3	1.50	LC3	Snow
CO3	S Ch	G1 + G2	1	1.00	LC1	Self-weight
			2	1.00	LC2	FV paneli
CO4	S Ch	G1 + G2 + Qs	1	1.00	LC1	Self-weight
			2	1.00	LC2	FV paneli
			3	1.00	LC3	Snow
CO5	S Qp	1.6G1 + 1.6G2	1	1.60	LC1	Self-weight
			2	1.60	LC2	FV paneli
CO6	S Qp	1.6G1 + 1.6G2 + Qs	1	1.60	LC1	Self-weight
			2	1.60	LC2	FV paneli
			3	1.00	LC3	Snow

LC1
Self-weight

3.15 GENERATED LOADS

LC1: Self-weight

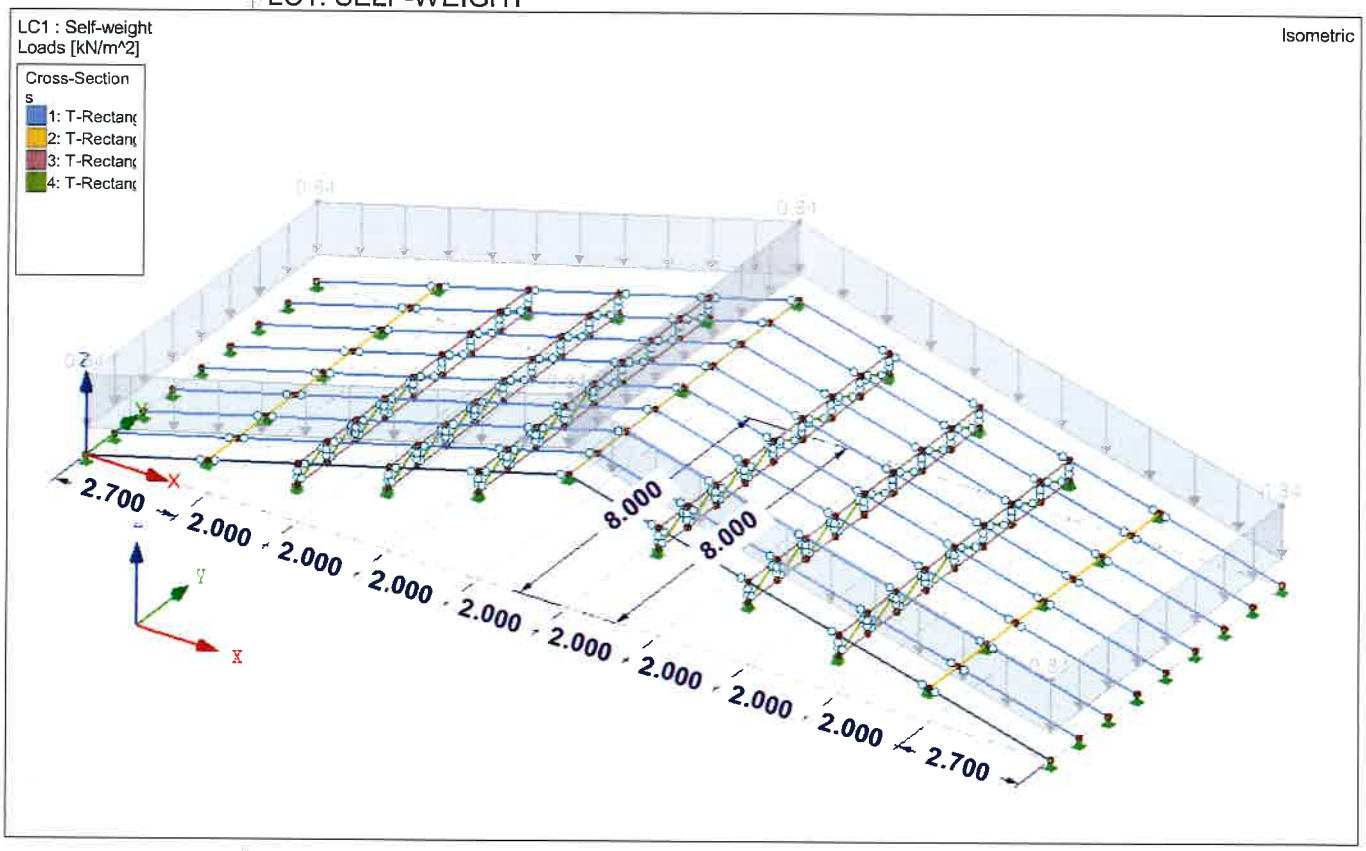
No.	Load Description			
1	**From Area Loads via Plane**			
	Area load direction	Global relative to the true area:	:	☒ZL
	Area of load application	☒Fully closed plane		
	Load distribution type:	☒Combined		
	Area load magnitude	☒Constant	:	-0.84 kN/m²
	Boundary of the area load plane	Corner nodes	:	1,3,4,2; 4,17,5,2
		Note	:	Each row in the drop down list box denotes one plane

3.15 GENERATED LOADS

LC1: Self-weight

No.	Load Description				
	Remove influence from	Single members	:	1,2,3,4,5,6,7,8,9,10, 11,12,13,14,15,16,17, 18,19,20,21,34,37,40, 43,46,59,60,61,67,70, 73,76,79,92,93,94, 100,103,106,109,112, 125,126,127,133,134, 180,183,186,189,192, 205,206,207,213,216, 219,222,225,238,239, 240,246,249,252,255, 258,271,272,273,279	
	Generating total loads in direction	ΣP_{Areas}	X :	0.000	kN
			Y :	0.000	kN
			Z :	-148.881	kN
		$\Sigma P_{Members}$	X :	0.000	kN
			Y :	0.000	kN
			Z :	-148.881	kN
	Total moment to the origin	ΣM_{Areas}	X :	-595.524	kNm
			Y :	1593.030	kNm
			Z :	0.000	kNm
		$\Sigma M_{Members}$	X :	-595.524	kNm
			Y :	1593.030	kNm
			Z :	0.000	kNm
	Cells selected for generating	Σ number of cells	:	16	
		Σ cell area	:	177.239	m²
	Convert loads to members No.		:	135-179,280-324	

LC1: SELF-WEIGHT



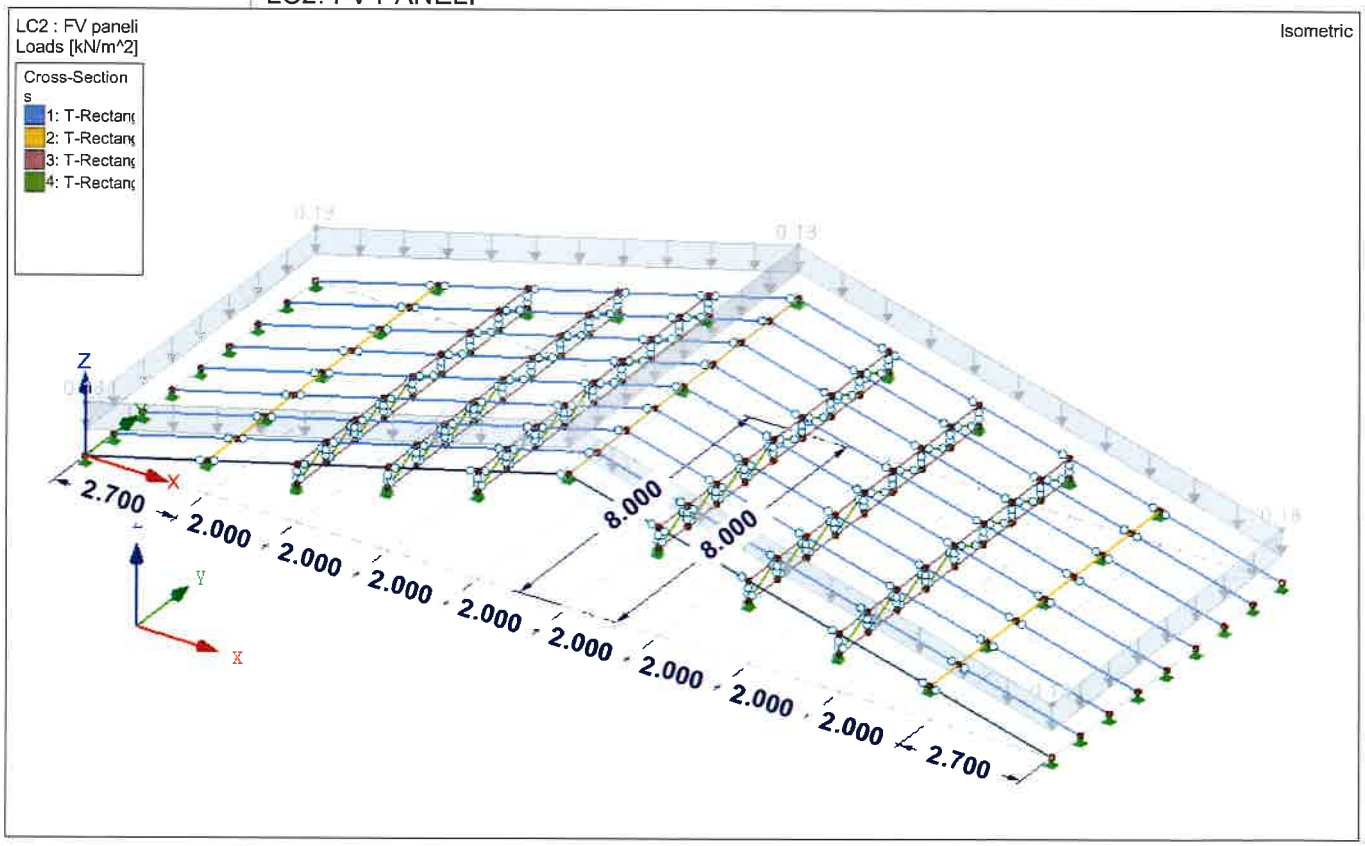
LC2
FV paneli

3.15 GENERATED LOADS

LC2: FV paneli

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	:	-0.18	kN/m²
	Boundary of the area load plane	Corner nodes	:	1,3,4,2; 4,17,5,2	
		Note	:	Each row in the drop down list box denotes one plane	
	Remove influence from	Single members	:	1,2,4,6,10,12,14,15, 16,17,18,19,20,21,34, 37,40,43,46,59,60,61, 67,70,73,76,79,92,93, 94,100,103,106,109, 112,125,126,127,134, 180,183,186,189,192, 205,206,207,213,216, 219,222,225,238,239, 240,246,249,252,255, 258,271,272,273,279	
	Generating total loads in direction	ΣP_{Areas}	X	: 0.000	kN
			Y	: 0.000	kN
			Z	: -31.903	kN
		$\Sigma P_{Members}$	X	: 0.000	kN
			Y	: 0.000	kN
			Z	: -31.903	kN
	Total moment to the origin	ΣM_{Areas}	X	: -127.612	kNm
			Y	: 341.363	kNm
			Z	: 0.000	kNm
		$\Sigma M_{Members}$	X	: -127.612	kNm
			Y	: 341.363	kNm
			Z	: 0.000	kNm
	Cells selected for generating	Σ number of cells	:	16	
		Σ cell area	:	177.239	m²
	Convert loads to members No.		:	3,5,7-9,11,13,133, 135-179,280-324	

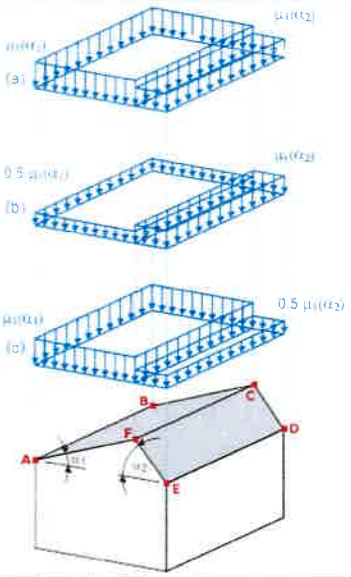
LC2: FV PANELI



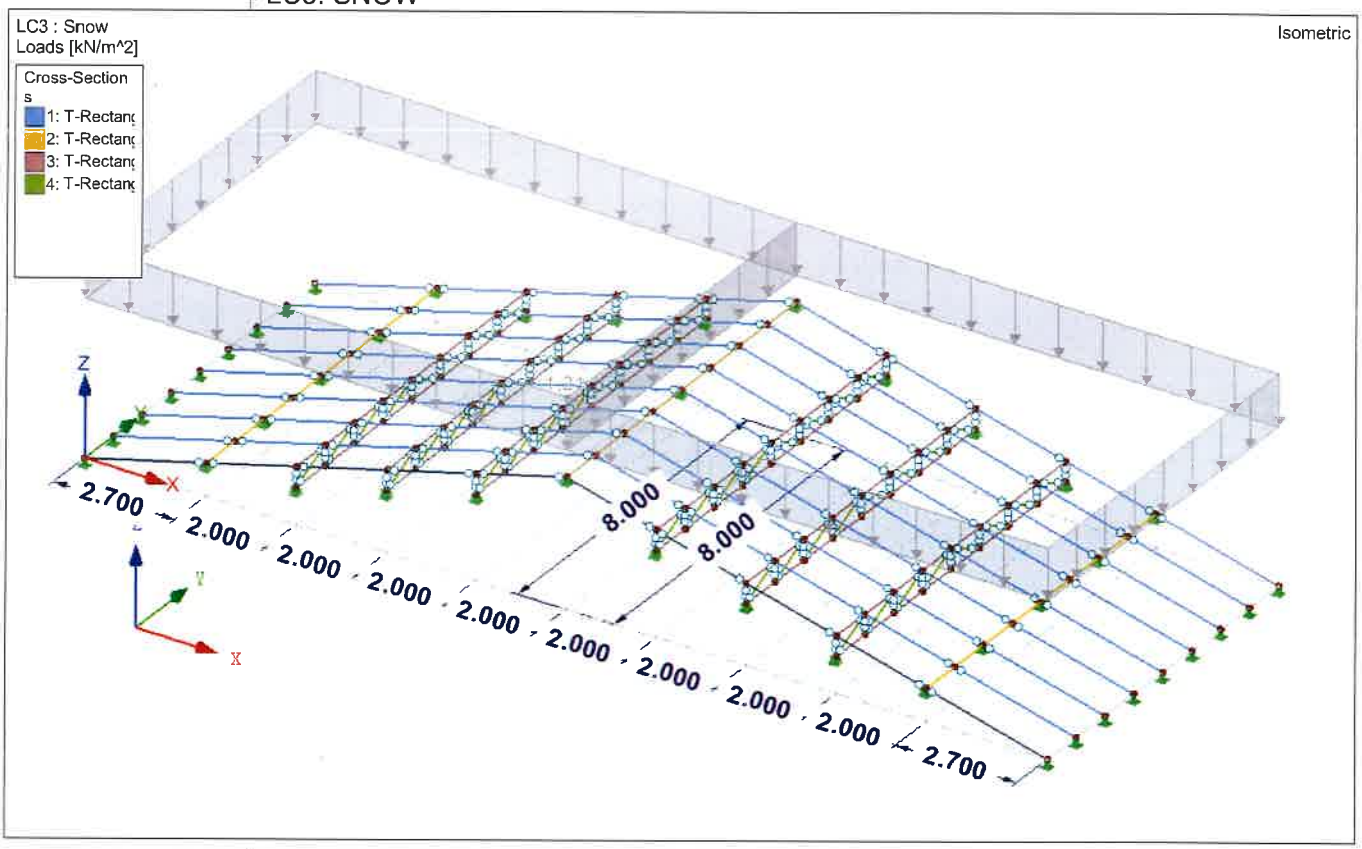
LC3
Snow

3.15 GENERATED LOADS

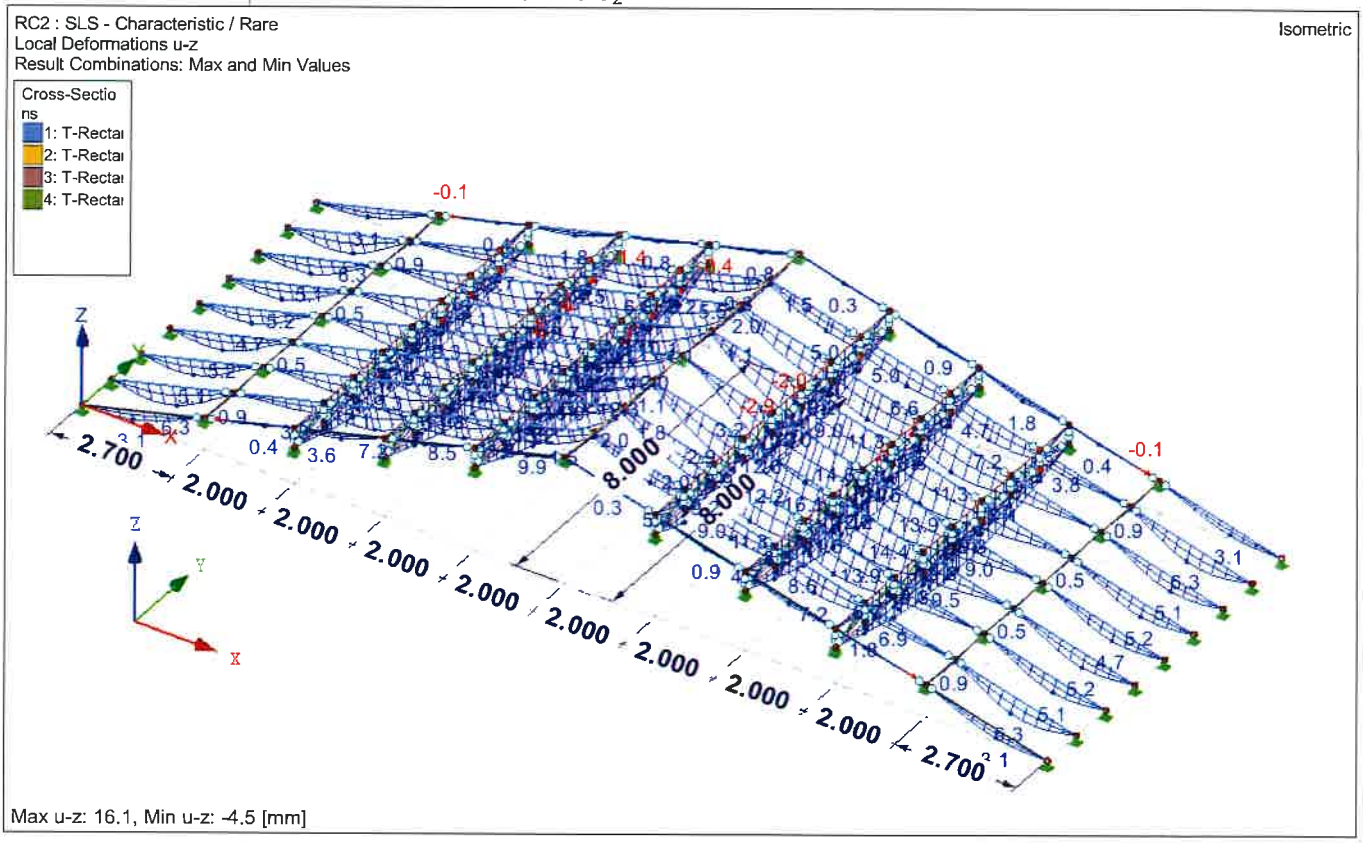
LC3: Snow

No.	Load Description				
1	**From Snow Loads (Duopitch Roof)**				
					
	Snow load parameters	According to Standard		:	EN 1991-1-3
		National Annex		:	Slovenia
		Snow load zone	Z	:	A2
		Altitude	A	:	300.000 m
		Ground snow load	s_k	:	1.51 kN/m²
		Topography type		:	Normal
	Coefficients	Exposure	C_e	:	1.00
		Thermal coefficient	C_t	:	1.00
	Roof geometry	Node	A	:	1
			B	:	3
			C	:	4
			D	:	17
			E	:	5
			F	:	2
	Generate LC	☒LC s1,a		:	LC3
	Create load type	◉ Member loads			
	Load distribution type	◉ Combined			
	Remove influence from	Single members		:	1,2,3,4,5,6,7,8,9,10, 11,12,13,14,15,16,17, 18,19,20,21,34,37,40, 43,46,59,60,61,67,70, 73,76,79,92,93,94, 100,103,106,109,112, 125,126,127,133,134, 180,183,186,189,192, 205,206,207,213,216, 219,222,225,238,239, 240,246,249,252,255, 258,271,272,273,279
	Generate snow loads on members No.			:	135-179,280-324
	Parameters		A_R	:	177.239 m²
			α_1	:	15.0 °
			α_2	:	15.0 °
			S_k	:	1.51 kN/m²
		Side with α_1	μ_1	:	0.800
			s_1	:	1.21 kN/m²
		Side with α_2	μ_1	:	0.800
			s_1	:	1.21 kN/m²
	Generated total loads	ΣP_{Areas}		:	207.162 kN
		ΣP		:	207.162 kN
	Total moment to the origin	ΣM_{Areas}		:	2366.460 kNm
		ΣM		:	2366.460 kNm
	Cells selected for generating	Σ number of cells		:	16
		Σ cell area		:	171.200 m²

LC3: SNOW



LOCAL DEFORMATIONS u_z



RF-TIMBER Pro
CA1
slemenska lega

Project: Model: 01-SS2_Sv.Tomaz_ostresje - zahodni del Date: 3. 04. 2024

1.1.1 GENERAL DATA

Members to design:		3,5,7-9,11,13,133
Design according to Standard:		SIST EN 1995-1-1/A101:2006-03
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 RC3	SLS - Characteristic / Rare SLS - Quasi-permanent

1.2 MATERIALS

Matl. No.	Description	Factor Category	Comment
1	Poplar and Softwood Timber C24 | SIST EN 338-16	Solid Timber	

1.3.1 CROSS-SECTIONS

Sect. No.	Matl. No.	Cross-section Description [mm]	Max Design Ratio	Comment
2	1	T-Rectangle 160/180	0.28	vmesne lege

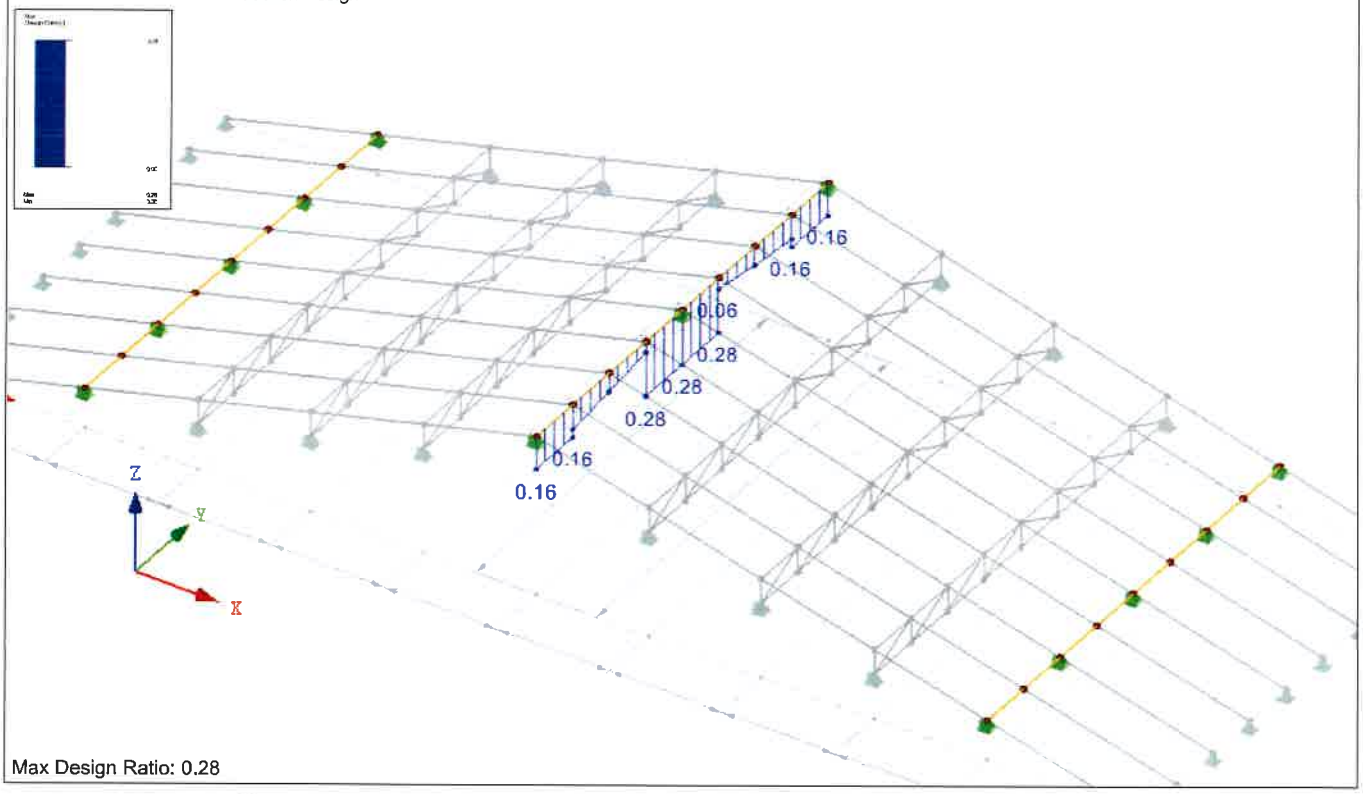
1.5 EFFECTIVE LENGTHS - MEMBERS

Member No.	Buckling Possible	Buckling About Axis y Possible	$k_{cr,y}$	$L_{cr,y}$ [m]	Buckling About Axis z Possible	$k_{cr,z}$	$L_{cr,z}$ [m]	Lateral-Torsional Buckling Possible	Define L_{cr} / M_{cr}	L_{cr} [m] / M_{cr} [kNm]
3	☒	☒	1.000	1.000	☒	1.000	1.000	☒	As member length	1.000
5	☒	☒	1.000	1.000	☒	1.000	1.000	☒	As member length	1.000
7	☒	☒	1.000	1.000	☒	1.000	1.000	☒	As member length	1.000
8	☒	☒	1.000	1.000	☒	1.000	1.000	☒	As member length	1.000
9	☒	☒	1.000	1.000	☒	1.000	1.000	☒	As member length	1.000
11	☒	☒	1.000	1.000	☒	1.000	1.000	☒	As member length	1.000
13	☒	☒	1.000	1.000	☒	1.000	1.000	☒	As member length	1.000
133	☒	☒	1.000	1.000	☒	1.000	1.000	☒	As member length	1.000

DESIGN: ULTIMATE LIMIT STATE - CROSS-SECTION DESIGN

RF-TIMBER Pro CA1
Ultimate Limit State - Cross-Section Design

Isometric



Max Design Ratio: 0.28

RF-TIMBER Pro
CA2
spirovci

1.1.1 GENERAL DATA

Members to design:			135-179
Design according to Standard:			SIST EN 1995-1-1/A101:2006-03
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 RC3	SLS - Characteristic / Rare SLS - Quasi-permanent

1.2 MATERIALS

Matl. No.	Description	Factor Category	Comment
1	Poplar and Softwood Timber C24 | SIST EN 338-16	Solid Timber	

1.3.1 CROSS-SECTIONS

Sect. No.	Matl. No.	Cross-section Description [mm]	Max Design Ratio	Comment
1	1	T-Rectangle 100/120	0.87	spirovci

2.4 DESIGN BY MEMBER

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
135	**Cross-section No. 1 - T-Rectangle 100/120**					
	2.236	CO2	0.00	≤ 1	101)	Cross-section resistance - Tension along the grain acc. to 6.1.2
	0.000	CO2	0.00	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	2.795	CO2	0.18	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.000	CO2	0.01	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.839	CO2	0.23	≤ 1	151)	Cross-section resistance - Uniaxial bending acc. to 6.1.6
	1.118	CO2	0.25	≤ 1	153)	Cross-section resistance - Biaxial bending acc. to 6.1.6
	2.236	CO2	0.02	≤ 1	162)	Cross-section resistance - Uniaxial bending about z-axis and tension acc. to 6.2.3
	2.795	CO2	0.33	≤ 1	163)	Cross-section resistance - Biaxial bending and tension acc. to 6.2.3
	0.000	CO2	0.01	≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4
	0.559	CO2	0.19	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.000	CO2	0.01	≤ 1	326)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about y-axis
	0.559	CO2	0.19	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	1.118	CO4	0.33	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	1.118	CO6	0.35	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	1.957	CO4	0.01	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	1.957	CO6	0.02	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
136	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.15	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.000	CO2	0.01	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	2.071	CO2	0.03	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	1.479	CO2	0.10	≤ 1	153)	Cross-section resistance - Biaxial bending acc. to 6.1.6
	0.000	CO2	0.34	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.000	CO2	0.34	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	1.479	CO4	0.05	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	1.479	CO6	0.05	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	1.479	CO4	0.01	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	1.479	CO6	0.01	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
137	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.00	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	0.000	CO2	0.11	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	2.071	CO2	0.00	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	2.071	CO2	0.01	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	1.183	CO1	0.15	≤ 1	151)	Cross-section resistance - Uniaxial bending acc. to 6.1.6
	0.887	CO2	0.21	≤ 1	153)	Cross-section resistance - Biaxial bending acc. to 6.1.6
	0.000	CO2	0.02	≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4

2.4 DESIGN BY MEMBER

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
	0.592	CO2	0.18	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.000	CO2	0.02	≤ 1	326)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about y-axis
	0.592	CO2	0.18	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	1.183	CO4	0.25	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	1.183	CO6	0.27	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	0.592	CO4	0.00	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	0.592	CO6	0.00	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
138	**Cross-section No. 1 - T-Rectangle 100/120**					
	2.071	CO2	0.14	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.000	CO2	0.00	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	2.071	CO2	0.01	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.296	CO2	0.07	≤ 1	151)	Cross-section resistance - Uniaxial bending acc. to 6.1.6
	0.887	CO2	0.12	≤ 1	153)	Cross-section resistance - Biaxial bending acc. to 6.1.6
	2.071	CO2	0.23	≤ 1	163)	Cross-section resistance - Biaxial bending and tension acc. to 6.2.3
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	0.887	CO4	0.12	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	0.887	CO6	0.12	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	1.183	CO4	0.02	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	1.183	CO6	0.02	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
139	**Cross-section No. 1 - T-Rectangle 100/120**					
	2.071	CO2	0.01	≤ 1	101)	Cross-section resistance - Tension along the grain acc. to 6.1.2
	0.000	CO2	0.14	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	2.071	CO2	0.03	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	2.071	CO2	0.04	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.887	CO1	0.06	≤ 1	151)	Cross-section resistance - Uniaxial bending acc. to 6.1.6
	0.000	CO2	0.29	≤ 1	153)	Cross-section resistance - Biaxial bending acc. to 6.1.6
	2.071	CO2	0.15	≤ 1	162)	Cross-section resistance - Uniaxial bending about z-axis and tension acc. to 6.2.3
	1.479	CO2	0.17	≤ 1	163)	Cross-section resistance - Biaxial bending and tension acc. to 6.2.3
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	1.183	CO4	0.11	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	1.183	CO6	0.12	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	1.479	CO4	0.05	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	1.479	CO6	0.05	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
140	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.06	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	2.795	CO2	0.36	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	2.795	CO2	0.65	≤ 1	171)	Cross-section resistance - Uniaxial bending about y-axis and compression acc. to 6.2.4
	0.000	CO2	0.12	≤ 1	301)	Compression member with axial compression acc. to 6.3.2 - Buckling about y-axis
	2.795	CO2	0.74	≤ 1	321)	Member with bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	1.118	CO4	0.63	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	1.118	CO6	0.68	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	1.118	CO4	0.00	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	1.118	CO6	0.00	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
141	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.29	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.887	CO2	0.01	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	2.071	CO2	0.05	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.000	CO2	0.70	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.000	CO2	0.77	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	1.479	CO4	0.08	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	1.479	CO6	0.08	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - I

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Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
						Inner span, z-direction
	0.592	CO4	0.02	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	0.592	CO6	0.02	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
142	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.04	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	2.071	CO2	0.23	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.000	CO2	0.01	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	2.071	CO2	0.01	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.592	CO2	0.33	≤ 1	171)	Cross-section resistance - Uniaxial bending about y-axis and compression acc. to 6.2.4
	0.000	CO2	0.02	≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4
	0.887	CO2	0.39	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.592	CO2	0.39	≤ 1	321)	Member with bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO2	0.07	≤ 1	326)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about y-axis
	0.887	CO2	0.45	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	0.887	CO4	0.44	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	0.887	CO6	0.48	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	1.479	CO4	0.02	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	1.479	CO6	0.02	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
143	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.04	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	2.071	CO2	0.26	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.000	CO2	0.01	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	0.000	CO2	0.01	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	1.183	CO1	0.15	≤ 1	171)	Cross-section resistance - Uniaxial bending about y-axis and compression acc. to 6.2.4
	0.000	CO2	0.04	≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4
	2.071	CO2	0.34	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	1.183	CO1	0.19	≤ 1	321)	Member with bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO2	0.08	≤ 1	326)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about y-axis
	2.071	CO2	0.38	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	0.887	CO4	0.28	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	0.887	CO6	0.30	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	0.592	CO4	0.01	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	0.592	CO6	0.01	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
144	**Cross-section No. 1 - T-Rectangle 100/120**					
	2.071	CO2	0.03	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	0.000	CO2	0.26	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	1.571	CO2	0.03	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	2.071	CO2	0.06	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	2.071	CO2	0.14	≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4
	0.000	CO2	0.41	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	2.071	CO2	0.17	≤ 1	326)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO2	0.47	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	1.183	CO4	0.28	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	1.183	CO6	0.30	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	1.571	CO4	0.03	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	1.571	CO6	0.04	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
145	**Cross-section No. 1 - T-Rectangle 100/120**					
	2.236	CO1	0.00	≤ 1	101)	Cross-section resistance - Tension along the grain acc. to 6.1.2

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Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
	0.000	CO2	0.01	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	2.795	CO2	0.36	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.000	CO2	0.00	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	1.118	CO2	0.44	≤ 1	151)	Cross-section resistance - Uniaxial bending acc. to 6.1.6
	1.957	CO1	0.09	≤ 1	161)	Cross-section resistance - Uniaxial bending about y-axis and tension acc. to 6.2.3
	2.795	CO2	0.74	≤ 1	163)	Cross-section resistance - Biaxial bending and tension acc. to 6.2.3
	0.839	CO2	0.42	≤ 1	171)	Cross-section resistance - Uniaxial bending about y-axis and compression acc. to 6.2.4
	0.000	CO2	0.01	≤ 1	301)	Compression member with axial compression acc. to 6.3.2 - Buckling about y-axis
	0.839	CO2	0.43	≤ 1	321)	Member with bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	1.118	CO4	0.54	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	1.118	CO6	0.58	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	1.957	CO4	0.00	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	1.957	CO6	0.00	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
146	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.30	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.887	CO2	0.01	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	0.000	CO2	0.04	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.000	CO2	0.77	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.000	CO2	0.87	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	0.296	CO4	0.08	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	0.296	CO6	0.09	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	0.592	CO4	0.02	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	0.592	CO6	0.02	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
147	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.07	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	2.071	CO2	0.23	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.000	CO2	0.00	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	2.071	CO2	0.01	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.592	CO2	0.35	≤ 1	171)	Cross-section resistance - Uniaxial bending about y-axis and compression acc. to 6.2.4
	0.000	CO2	0.01	≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4
	0.887	CO2	0.41	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.592	CO2	0.44	≤ 1	321)	Member with bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO2	0.11	≤ 1	326)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about y-axis
	0.887	CO2	0.50	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	0.887	CO4	0.47	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	0.887	CO6	0.51	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	1.183	CO4	0.01	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	1.183	CO6	0.01	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
148	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.07	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	2.071	CO2	0.25	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.000	CO2	0.01	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	0.000	CO2	0.01	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.000	CO2	0.04	≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4
	0.887	CO2	0.33	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.000	CO2	0.12	≤ 1	326)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about y-axis
	0.887	CO2	0.42	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	0.887	CO4	0.35	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner s

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Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
						span, z-direction
	0.887	CO6	0.38	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	0.592	CO4	0.01	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	0.592	CO6	0.01	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
149	**Cross-section No. 1 - T-Rectangle 100/120**					
	2.071	CO2	0.06	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	0.000	CO2	0.25	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	1.479	CO2	0.02	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	2.071	CO2	0.06	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	2.071	CO2	0.08	≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4
	1.183	CO2	0.33	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	2.071	CO2	0.14	≤ 1	326)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about y-axis
	1.183	CO2	0.42	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	1.183	CO4	0.35	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	1.183	CO6	0.37	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	1.571	CO4	0.02	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	1.571	CO6	0.02	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
150	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.04	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	2.795	CO2	0.36	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	2.795	CO2	0.75	≤ 1	171)	Cross-section resistance - Uniaxial bending about y-axis and compression acc. to 6.2.4
	0.000	CO2	0.08	≤ 1	301)	Compression member with axial compression acc. to 6.3.2 - Buckling about y-axis
	2.795	CO2	0.80	≤ 1	321)	Member with bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	1.118	CO4	0.53	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	1.118	CO6	0.57	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	1.677	CO4	0.00	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	1.677	CO6	0.00	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
151	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.31	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.592	CO2	0.01	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	0.000	CO2	0.02	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.000	CO2	0.78	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.000	CO2	0.82	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO3	0.00	≤ 1	400)	Serviceability - Negligible deformations
	0.296	CO4	0.09	≤ 1	401)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, z-direction
	0.296	CO6	0.10	≤ 1	402)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, z-direction
	0.592	CO4	0.01	≤ 1	406)	Serviceability - Design situation Characteristic acc. to 7.2 - Inner span, y-direction
	0.592	CO6	0.01	≤ 1	407)	Serviceability - Design situation Quasi-permanent acc. to 7.2 - Inner span, y-direction
152	**Cross-section No. 1 - T-Rectangle 100/120**					
	0.000	CO2	0.03	≤ 1	102)	Cross-section resistance - Compression along the grain acc. to 6.1.4
	2.071	CO2	0.22	≤ 1	111)	Cross-section resistance - Shear due to shear force Vz acc. to 6.1.7
	0.000	CO2	0.00	≤ 1	112)	Cross-section resistance - Shear due to shear force Vy acc. to 6.1.7
	2.071	CO2	0.01	≤ 1	121)	Cross-section resistance - Shear due to torsion acc. to 6.1.8
	0.592	CO2	0.34	≤ 1	171)	Cross-section resistance - Uniaxial bending about y-axis and compression acc. to 6.2.4
	0.000	CO2	0.01	≤ 1	172)	Cross-section resistance - Uniaxial bending about z-axis and compression acc. to 6.2.4
	0.887	CO2	0.41	≤ 1	173)	Cross-section resistance - Biaxial bending and compression acc. to 6.2.4
	0.592	CO2	0.38	≤ 1	321)	Member with bending and compression acc. to 6.3.2 - Buckling about y-axis
	0.000	CO2	0.05	≤ 1	326)	Member with bending about z-axis and compression acc. to 6.3.2 - Buckling about y-axis
	0.887	CO2	0.45	≤ 1	331)	Member with biaxial bending and compression acc. to 6.3.2 - B