

## Osnovni podatki o modelu

Datoteka: OŠ ŽALEC MEDETAŽA PZI 1.twp  
Datum preračuna: 18.6.2021

Način preračuna: 3D model

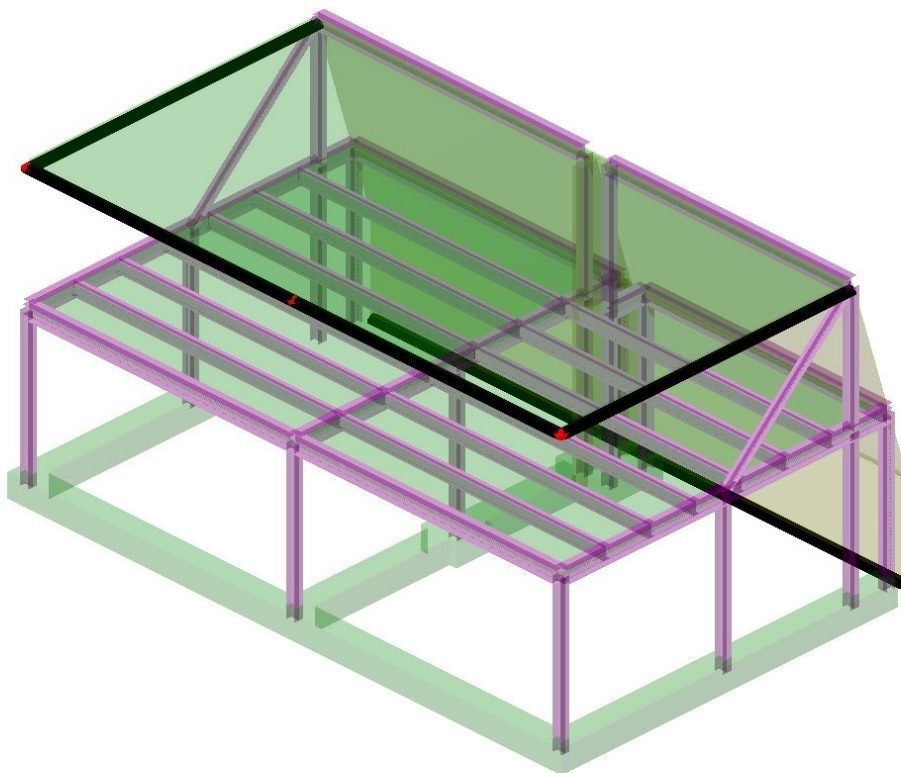
- ☒ Teorija I-ga reda      ☐ Modalna analiza      ☐ Stabilitnost  
☐ Teorija II-ga reda      ☐ Seizmični preračun      ☐ Faze gradnje  
☐ Nelinearen preračun

### Velikost modela

Število vozlišč:	529
Število ploskovnih elementov:	466
Število grednih elementov	182
Število robnih elementov	1287
Število osnovnih obtežnih primerov:	3
Število kombinacij obtežb:	8

### Enote mer

Dolžina:	m [cm,mm]
Sila:	kN
Temperatura:	Celsius



Izometrija

## Vhodni podatki - Konstrukcija

### Shema nivojev

Naziv	z [m]	h [m]
STREHA	7.30	3.30
ETAŽA	4.00	4.00

TEMELJ	0.00
--------	------

### Tabele materialov

No	Naziv materiala	E[kN/m <sup>2</sup> ]	$\mu$	$\gamma$ [kN/m <sup>3</sup> ]	$\alpha$ [1/C]	Em[kN/m <sup>2</sup> ]	$\mu$ m
1	C 25/30	3.100e+7	0.20	25.00	1.000e-5	3.100e+7	0.20
2	Jeklo	2.100e+8	0.30	78.50	1.000e-5	2.100e+8	0.30

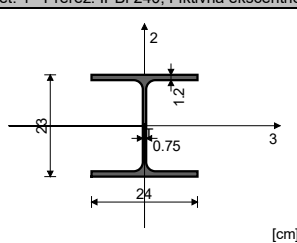
### Seti plošč

No	d[m]	e[m]	Material	Tip preračuna	Ortotropija	E2[kN/m <sup>2</sup> ]	G[kN/m <sup>2</sup> ]	$\alpha$
<1>	0.120	0.060	1	Tanka plošča	Izotropna			
<2>	0.600	0.300	1	Tanka plošča	Izotropna			
<3>	0.120	0.060	1	Tanka plošča	Izotropna			
ST: Em x 0.05, E x 0.05, $\gamma$ x 1; SE: Em x 0.05, E x 0.05, $\gamma$ x 1;								
<4>	0.200	0.100	1	Tanka plošča	Izotropna			
ST: Em x 0.1, E x 0.1, $\gamma$ x 1; SE: Em x 0.1, E x 0.1, $\gamma$ x 1;								

### Seti gred

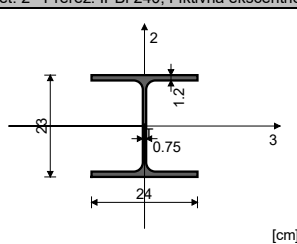
#### Set: 1 Prerez: IPBI 240, Fiktivna ekscentričnost

Mat.	A1	A2	A3	I1	I2	I3
2 - Jeklo	7.680e-3	2.514e-3	5.166e-3	4.170e-7	2.770e-5	7.760e-5



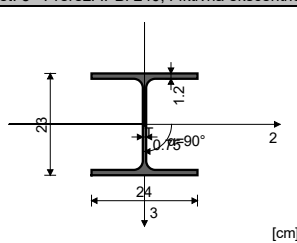
#### Set: 2 Prerez: IPBI 240, Fiktivna ekscentričnost

Mat.	A1	A2	A3	I1	I2	I3
2 - Jeklo	7.680e-3	2.514e-3	5.166e-3	4.170e-7	2.770e-5	7.760e-5



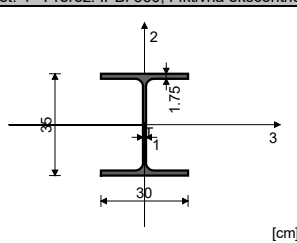
#### Set: 3 Prerez: IPBI 240, Fiktivna ekscentričnost

Mat.	A1	A2	A3	I1	I2	I3
2 - Jeklo	7.680e-3	5.166e-3	2.514e-3	4.170e-7	7.760e-5	2.770e-5

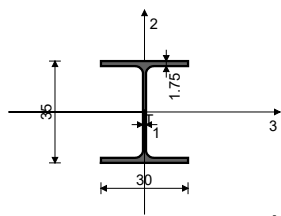


#### Set: 4 Prerez: IPBI 360, Fiktivna ekscentričnost

Mat.	A1	A2	A3	I1	I2	I3
2 - Jeklo	1.430e-2	4.920e-3	9.380e-3	1.490e-6	7.890e-5	3.309e-4



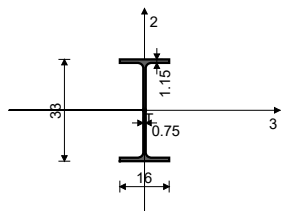
Set: 5 Prerez: IPBI 360, Fiktivna ekscentričnost



[cm]

Mat.	A1	A2	A3	I1	I2	I3
2 - Jeklo	1.430e-2	4.920e-3	9.380e-3	1.490e-6	7.890e-5	3.309e-4

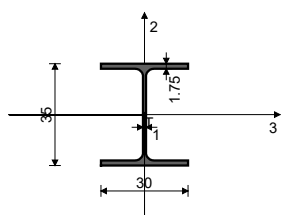
Set: 6 Prerez: IPE 330, Fiktivna ekscentričnost



[cm]

Mat.	A1	A2	A3	I1	I2	I3
2 - Jeklo	6.260e-3	3.080e-3	3.180e-3	2.830e-7	7.880e-6	1.177e-4

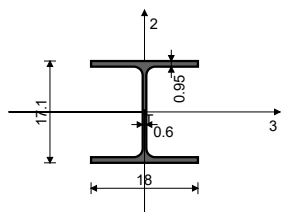
Set: 7 Prerez: IPBI 360, Fiktivna ekscentričnost



[cm]

Mat.	A1	A2	A3	I1	I2	I3
2 - Jeklo	1.430e-2	4.920e-3	9.380e-3	1.490e-6	7.890e-5	3.309e-4

Set: 9 Prerez: IPBI 180, Fiktivna ekscentričnost



[cm]

Mat.	A1	A2	A3	I1	I2	I3
2 - Jeklo	4.530e-3	1.452e-3	3.078e-3	1.490e-7	9.250e-6	2.510e-5

Seti površinskih podpora

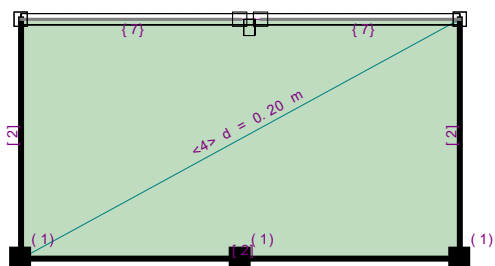
Set	K,R1	K,R2	K,R3
1	7.500e+3	7.500e+3	7.500e+3

Seti linijskih podpora

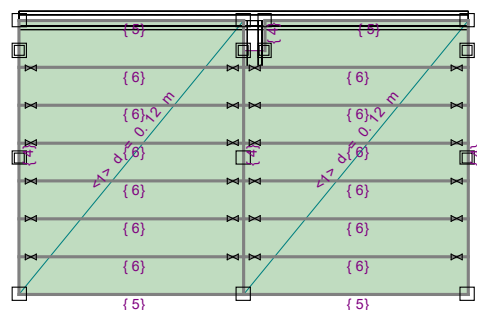
Set	K,R1	K,R2	K,R3	K,M1	Tla [m]
1	7.500e+3	7.500e+3	7.500e+3		0.600
2	1.500e+4	1.500e+4	1.500e+4		

Seti točkovnih podpora

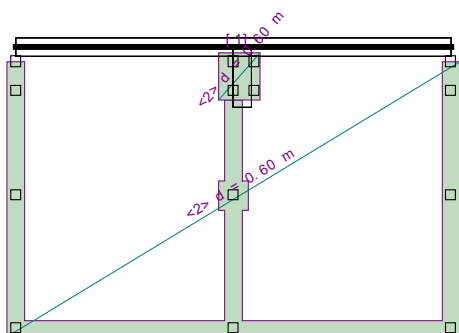
Set	K,R1	K,R2	K,R3	K,M1	K,M2	K,M3
1	1.000e+10	1.000e+10	1.000e+10			



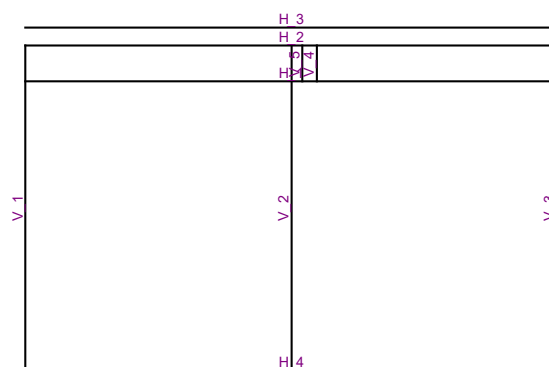
Nivo: STREHA [7.30 m]



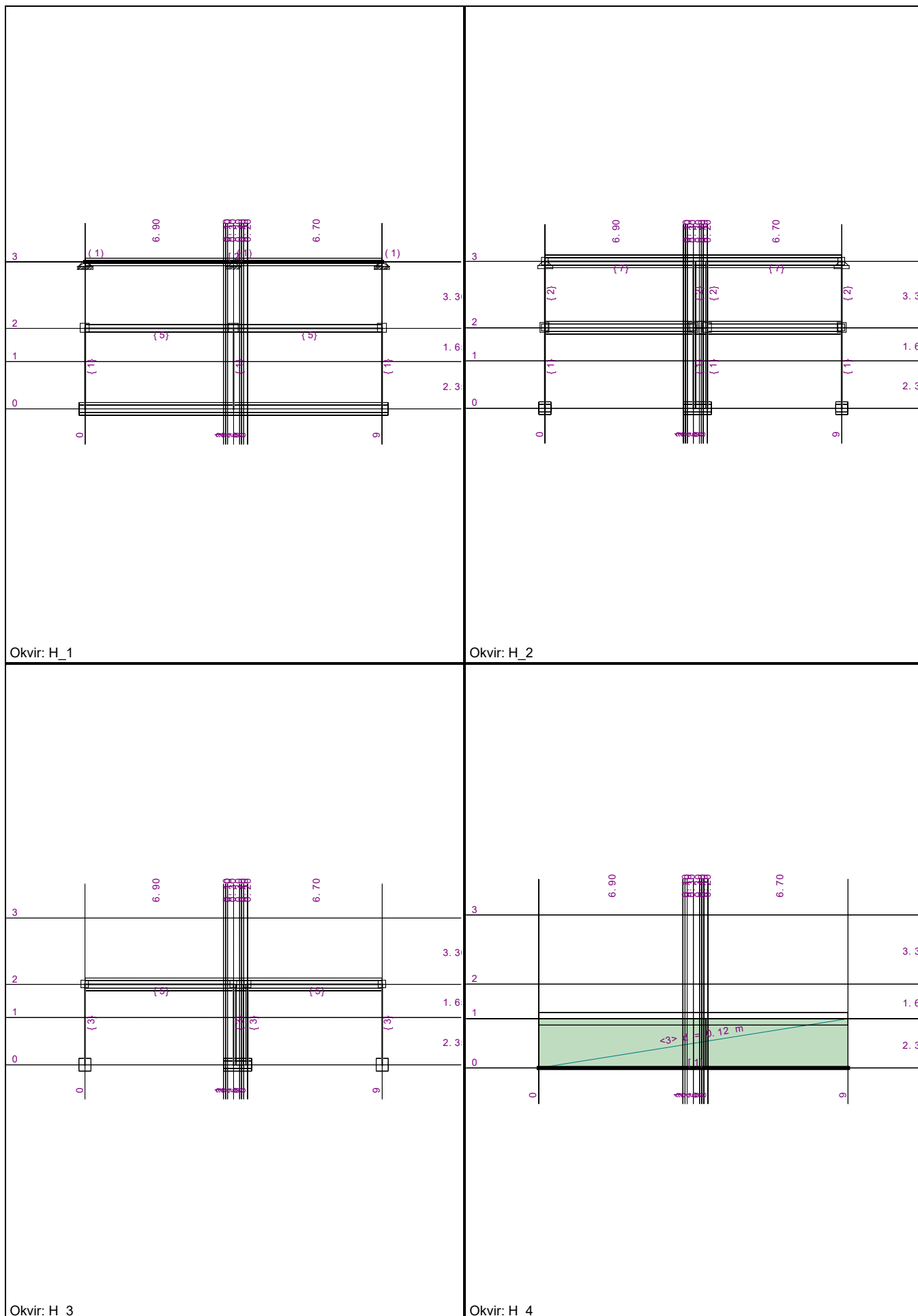
Nivo: ETAŽA [4.00 m]

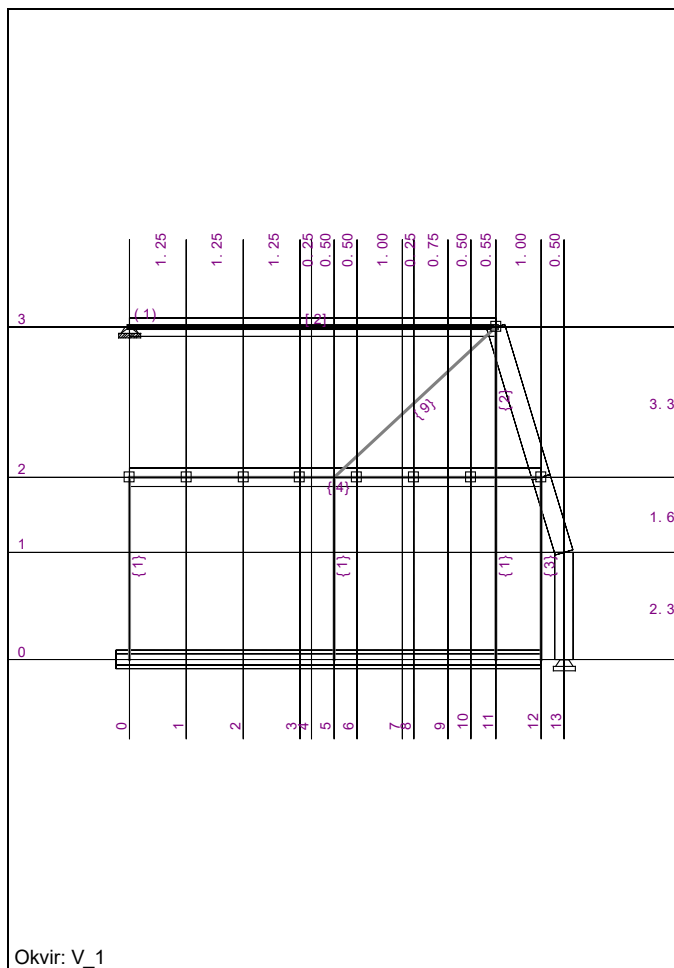


Nivo: TEMELJ [0.00 m]

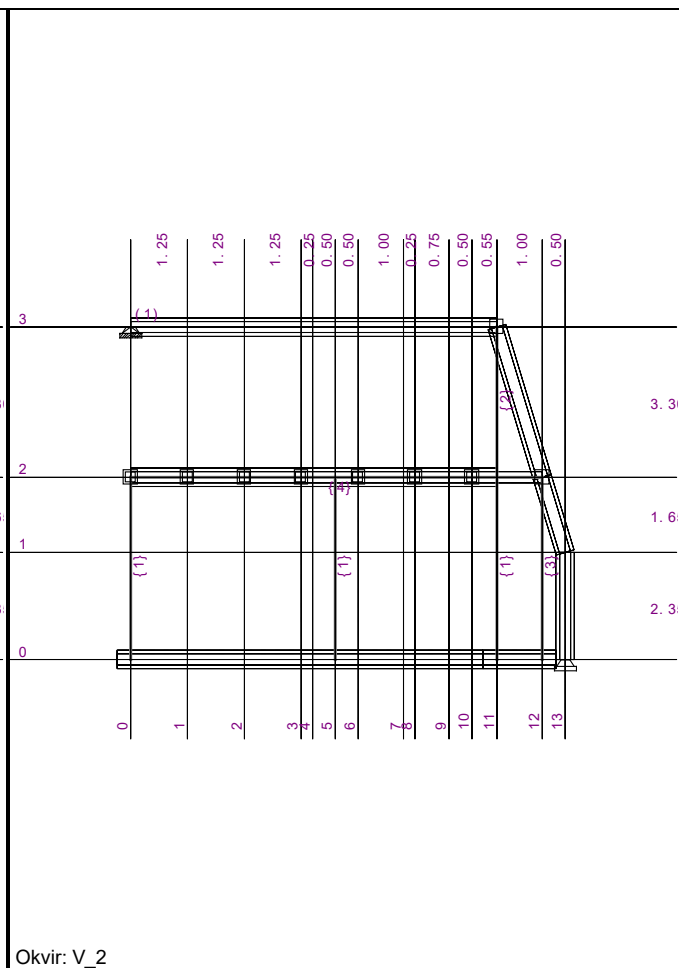


Dispozicija okvirjev

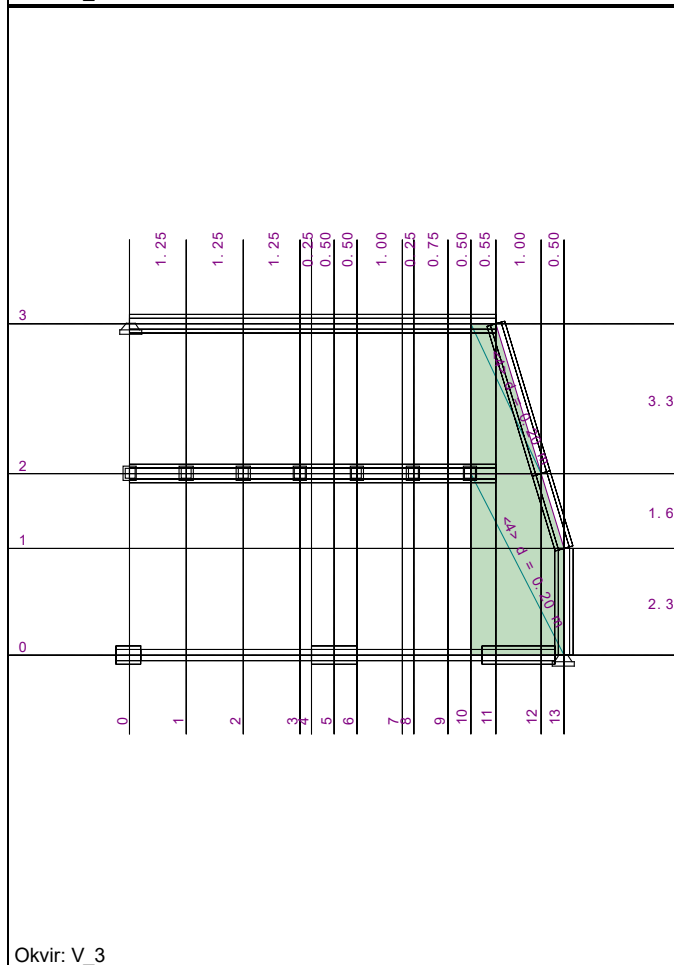




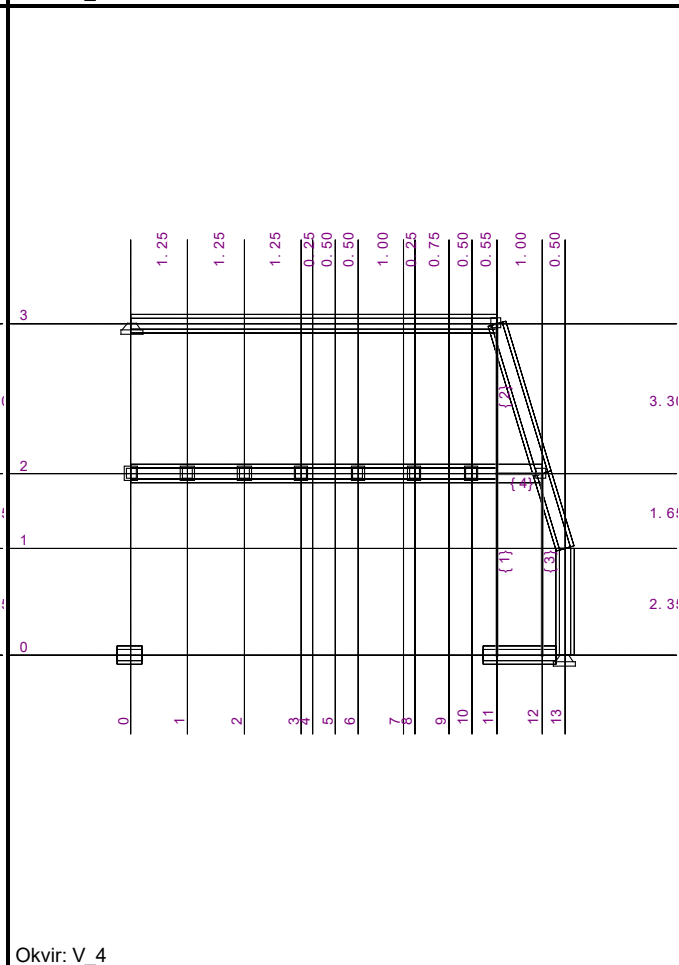
Okvir: V\_1



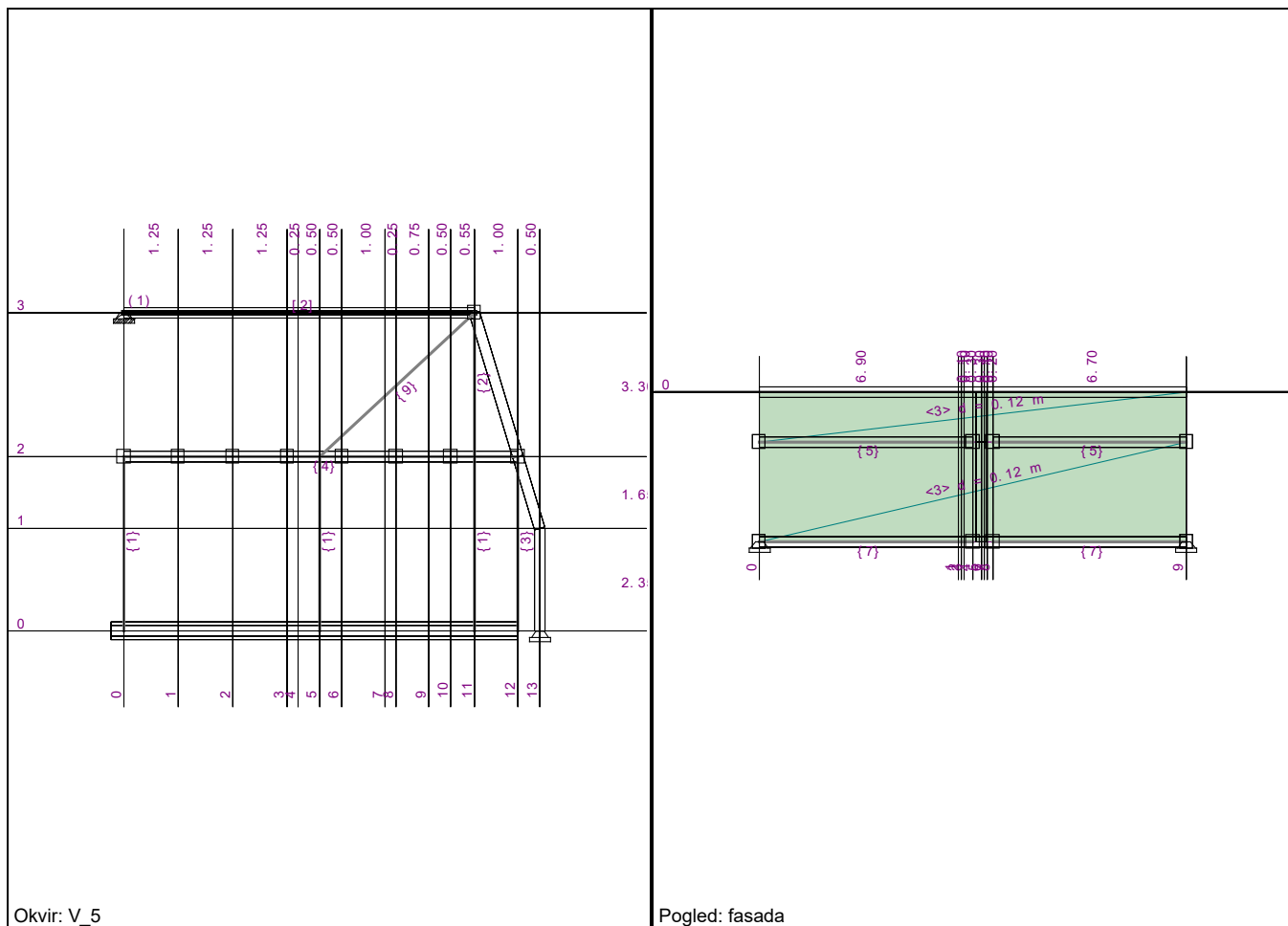
Okvir: V\_2



Okvir: V\_3



Okvir: V\_4

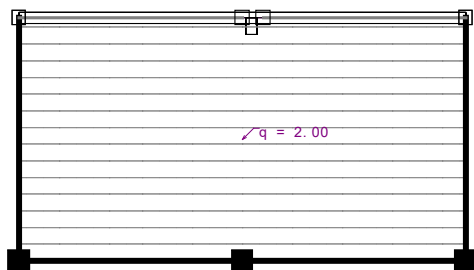


## Vhodni podatki - Obtežba

### Lista obtežnih primerov

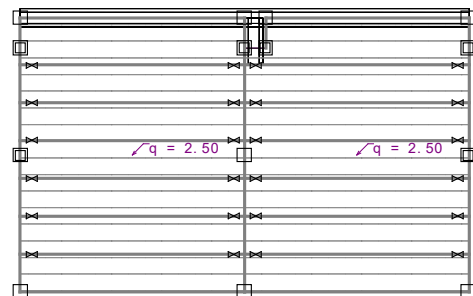
LC	Naziv	pX [kN]	pY [kN]	pZ [kN]
1	LASTNA TEŽA (g)	0.00	0.00	-1945.63
2	STALNA TEŽA	0.00	0.00	-571.38
3	KORISTNA TEŽA	0.00	0.00	-681.89
4	Komb.: 1.35xI+1.35xII+1.5xIII	0.00	0.00	-4420.79
5	Komb.: I+1.35xII+1.5xIII	0.00	0.00	-3739.82
6	Komb.: 1.35xI+II+1.5xIII	0.00	0.00	-4220.80
7	Komb.: I+II+1.5xIII	0.00	0.00	-3539.83
8	Komb.: 1.35xI+1.35xII	0.00	0.00	-3397.96
9	Komb.: I+1.35xII	0.00	0.00	-2716.99
10	Komb.: 1.35xI+II	0.00	0.00	-3197.98
11	Komb.: I+II	0.00	0.00	-2517.01

Obt. 2: STALNA TEŽA



Nivo: STREHA [7.30 m]

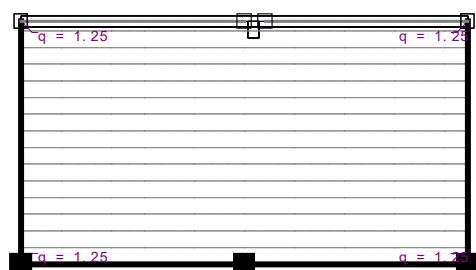
Obt. 2: STALNA TEŽA



Nivo: ETAŽA [4.00 m]

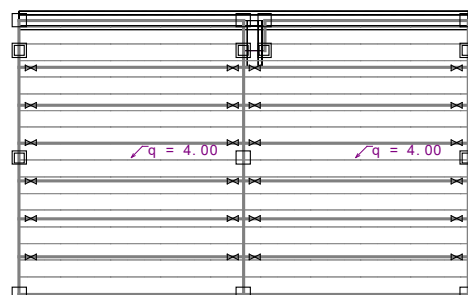


Obt. 3: KORISTNA TEŽA



Nivo: STREHA [7.30 m]

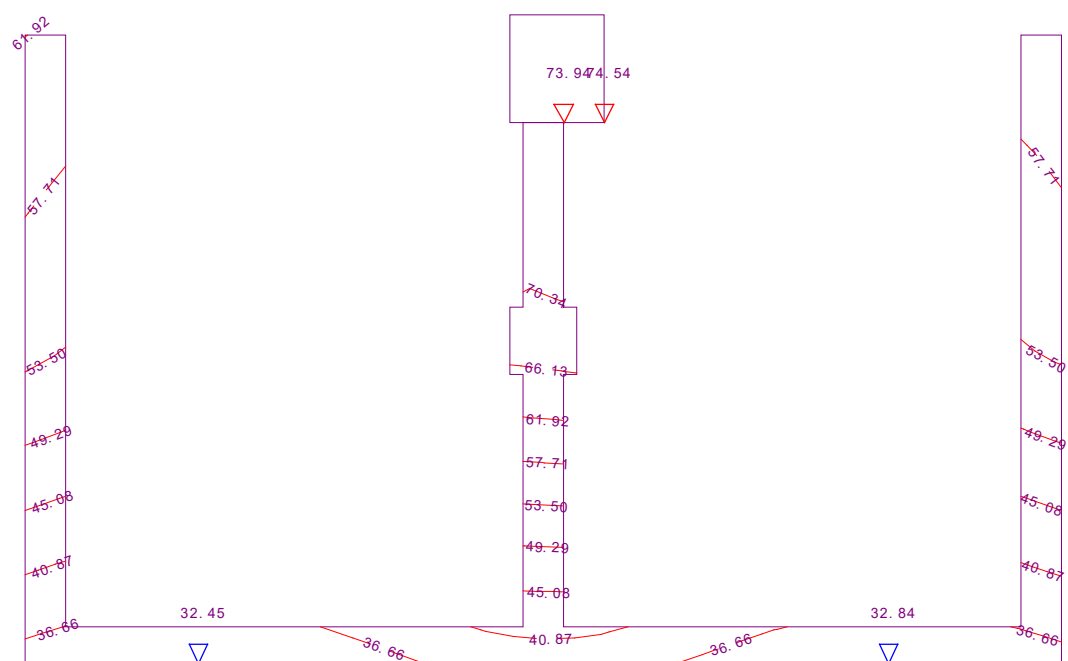
Obt. 3: KORISTNA TEŽA



Nivo: ETAŽA [4.00 m]



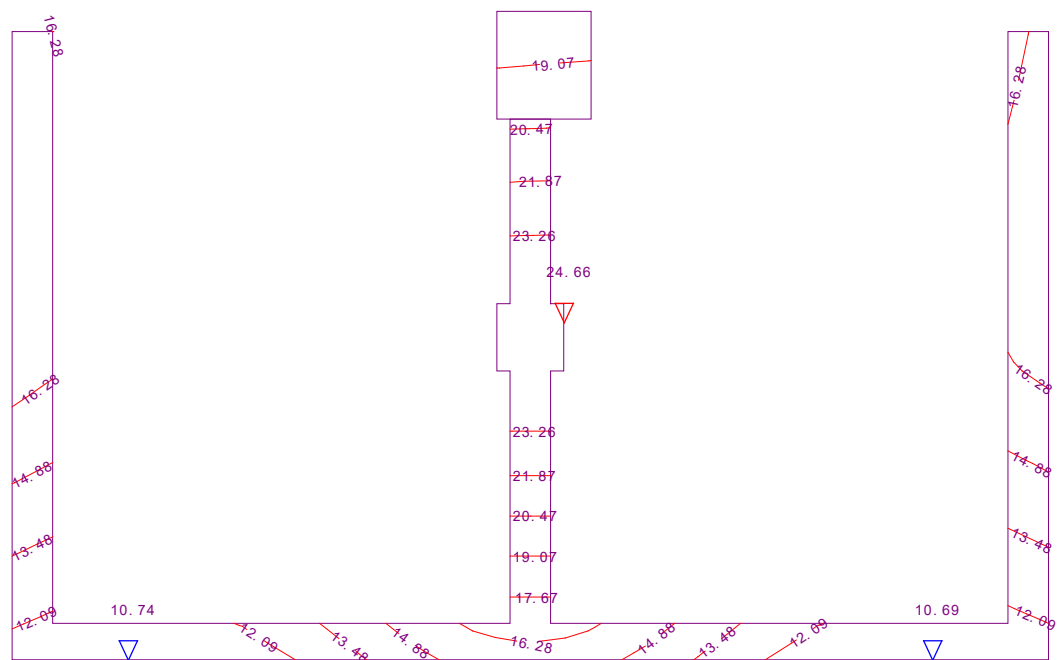
Obt. 11: I+II



Nivo: TEMELJ [0.00 m]

Vplivi v pov.podpori: max  $\sigma_{tal}$  = 74.54 / min  $\sigma_{tal}$  = 32.45 kN/m<sup>2</sup>

Obt. 3: KORISTNA TEŽA

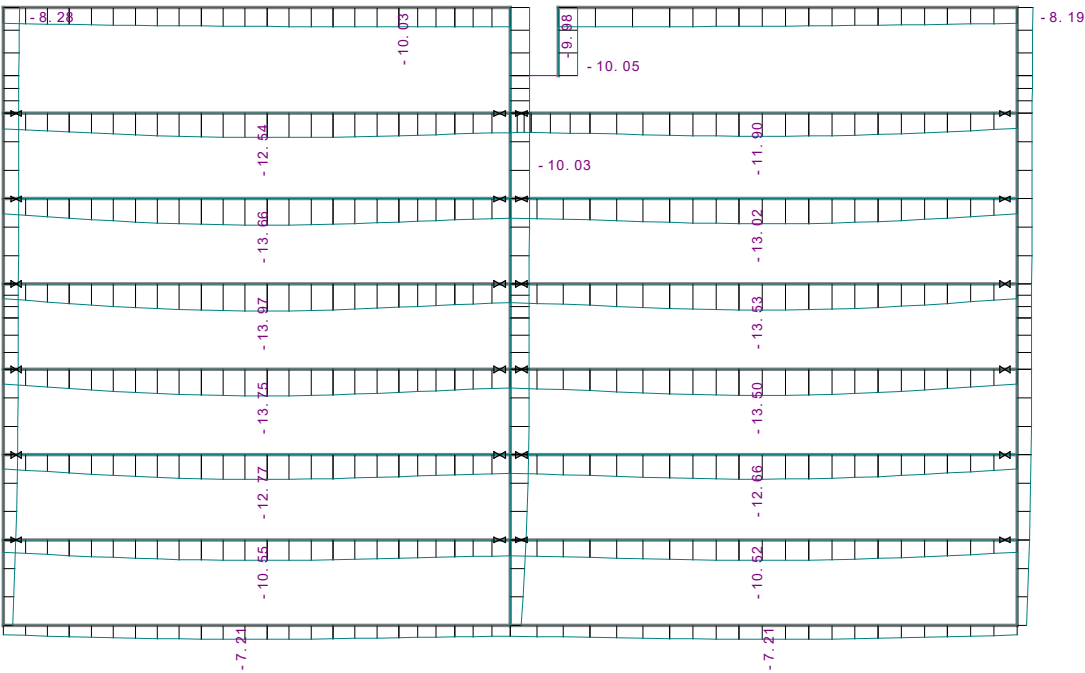


Nivo: TEMELJ [0.00 m]

Vplivi v pov.podpori: max  $\sigma_{tal}$  = 24.66 / min  $\sigma_{tal}$  = 10.69 kN/m<sup>2</sup>

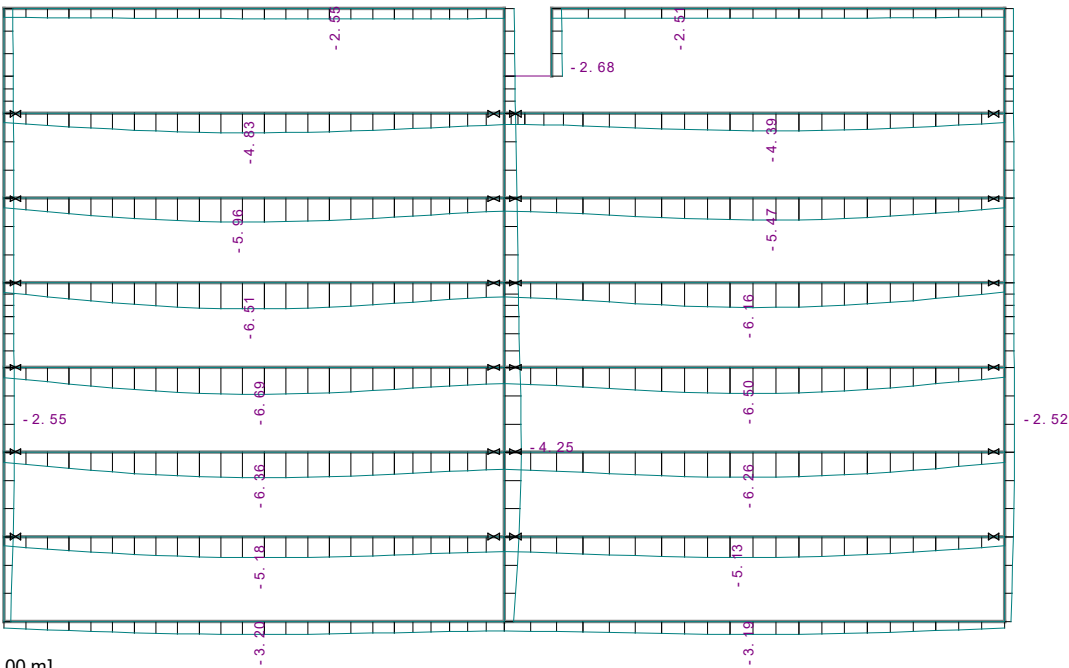
POVESI KONSTRUKCIJE

Obt. 11: I+II



Nivo: ETAŽA [4.00 m]  
Vplivi v gredi: max Zp= -4.91 / min Zp= -13.97 m / 1000

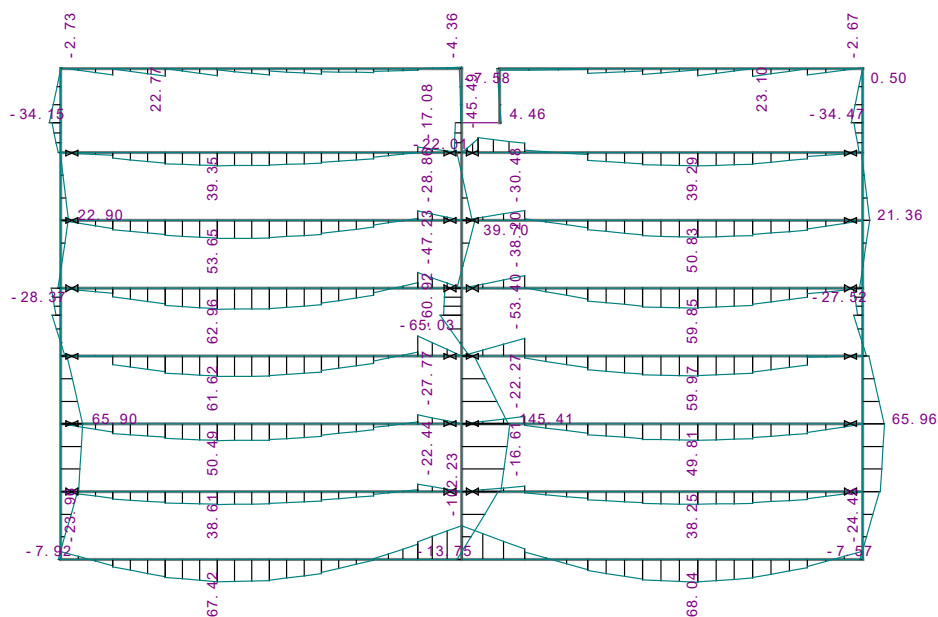
Obt. 3: KORISTNA TEŽA



Nivo: ETAŽA [4.00 m]  
Vplivi v gredi: max Zp= -1.61 / min Zp= -6.69 m / 1000

## NOTRANJE STATIČNE KOLIČINE

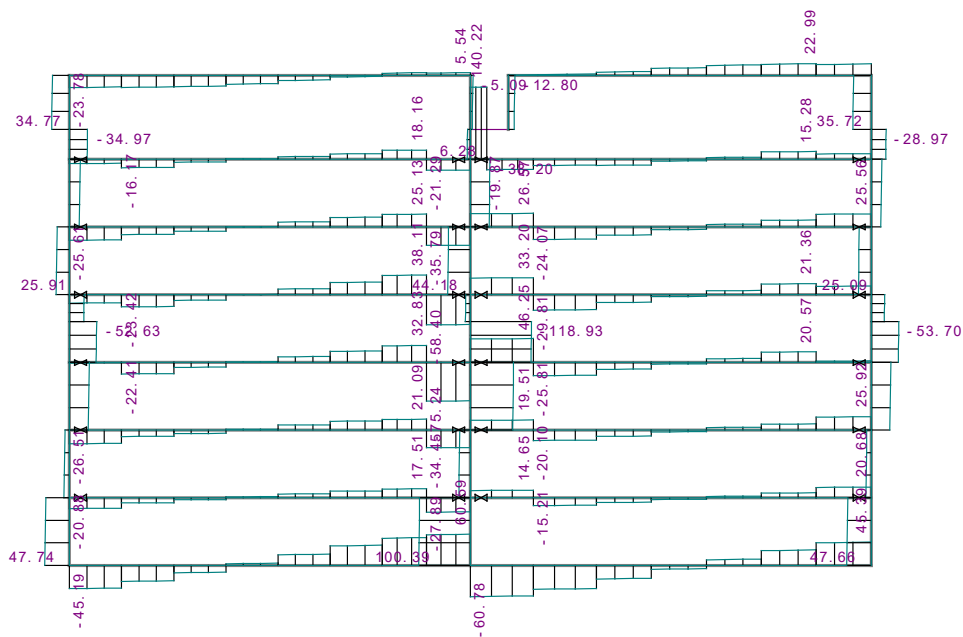
Obt. 4: 1.35xI+1.35xII+1.5xIII



Nivo: ETAŽA [4.00 m]

Vplivi v gredi: max M3= 145.41 / min M3= -102.23 kNm

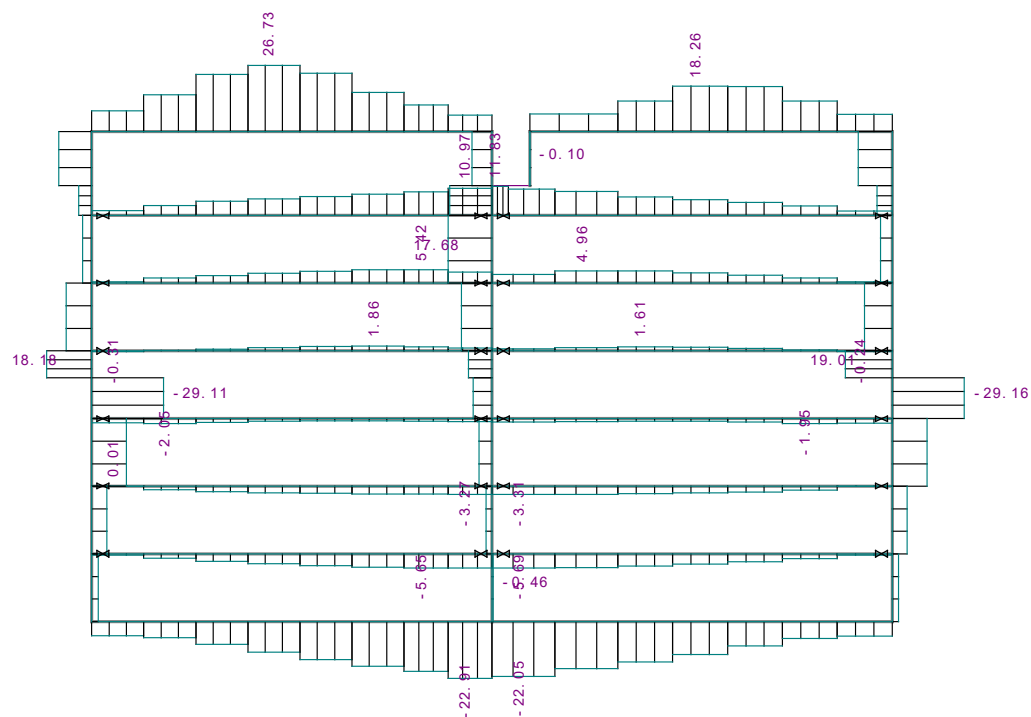
Obt. 4: 1.35xI+1.35xII+1.5xIII



Nivo: ETAŽA [4.00 m]

Vplivi v gredi: max T2= 140.22 / min T2= -118.93 kN

Obt. 4: 1.35xI+1.35xII+1.5xIII



Nivo: ETAŽA [4.00 m]

Vplivi v gredi: max N1= 26.73 / min N1= -29.16 kN

### Merodajna obtežba - EC 2 (EN 1992-1-1:2004)

#### Obtežni primeri

- I LASTNA TEŽA (g) - <Stalna>(dolgotrajno)
- II STALNA TEŽA - <Stalna>(dolgotrajno)
- III KORISTNA TEŽA - <Koristna - A>(kratkotrajno)

#### Materialni koeficienti varnosti

[SP] Stalne in prehodne kombinacije:  $\gamma_C = 1.50$ ,  $\gamma_S = 1.15$

[SE] Seizmične kombinacije:  $\gamma_C = 1.50$ ,  $\gamma_S = 1.15$

[IN] Nezgodne kombinacije:  $\gamma_C = 1.20$ ,  $\gamma_S = 1.00$

#### Kombinacije obtežb iz sheme kombinacij

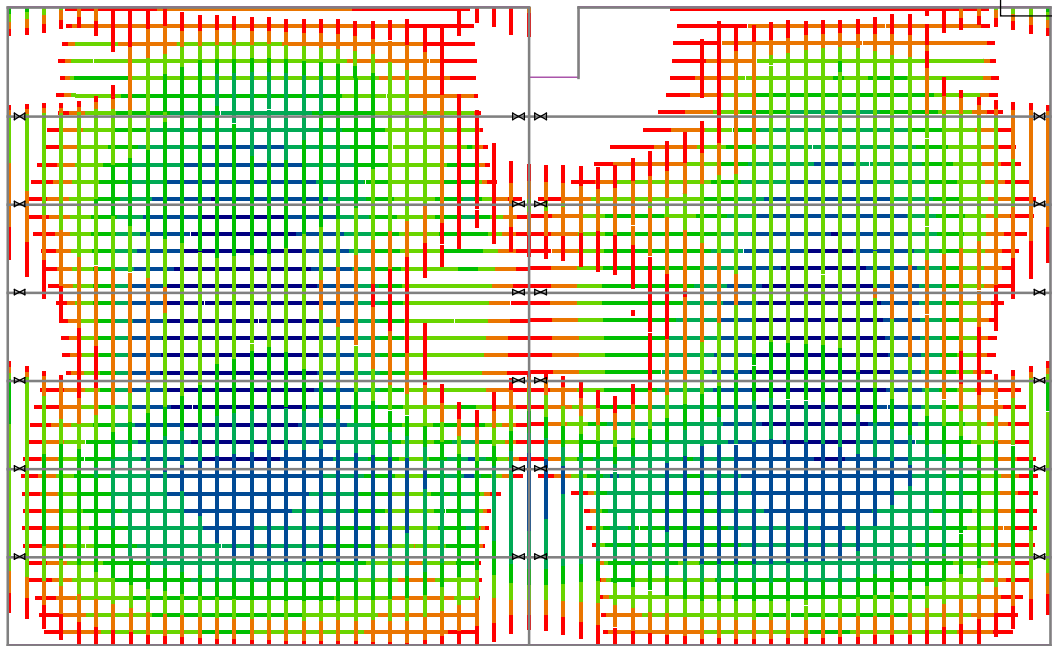
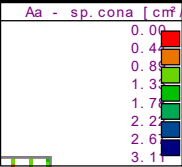
- 1. [SP]  $1.35 \times I + 1.35 \times II + 1.50 \times III$
- 2. [SP]  $I + 1.35 \times II + 1.50 \times III$
- 3. [SP]  $1.35 \times I + II + 1.50 \times III$
- 4. [SP]  $I + II + 1.50 \times III$
- 5. [SP]  $1.35 \times I + 1.35 \times II$
- 6. [SP]  $I + 1.35 \times II$
- 7. [SP]  $1.35 \times I + II$
- 8. [SP]  $I + II$

#### Uporabniško določene kombinacije obtežb

- 1. [SP]  $1.35 \times I + 1.35 \times II + 1.50 \times III$
- 2. [SP]  $I + 1.35 \times II + 1.50 \times III$
- 3. [SP]  $1.35 \times I + II + 1.50 \times III$
- 4. [SP]  $I + II + 1.50 \times III$
- 5. [SP]  $1.35 \times I + 1.35 \times II$
- 6. [SP]  $I + 1.35 \times II$
- 7. [SP]  $1.35 \times I + II$
- 8. [SP]  $I + II$

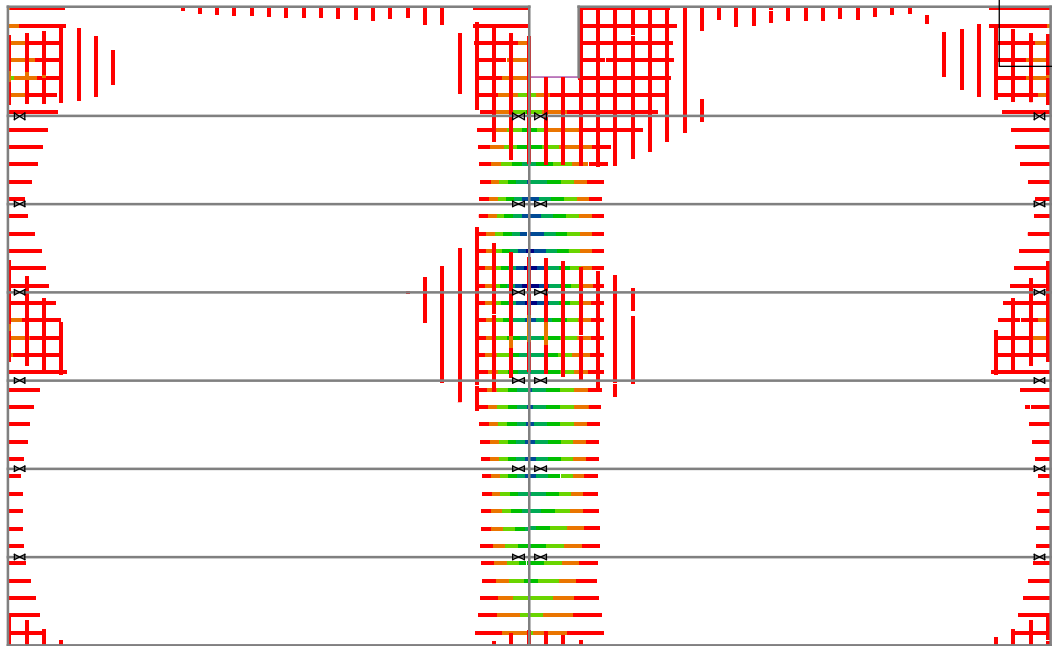
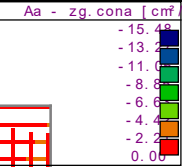
ETAŽA

Merodajna obtežba: Kompletna shema  
EC 2 (EN 1992-1-1:2004), C 25, S500N, a=2.00 cm



Nivo: ETAŽA [4.00 m]  
Aa - sp.cona - max Aa,s= 3.11 cm<sup>2</sup>/m

Merodajna obtežba: Kompletna shema  
EC 2 (EN 1992-1-1:2004), C 25, S500N, a=2.00 cm



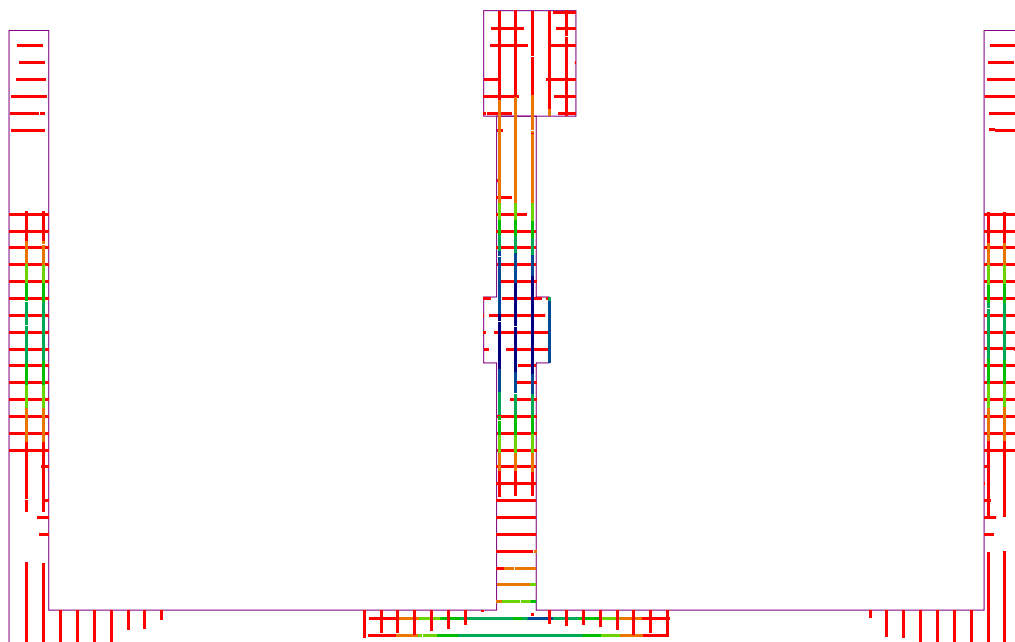
Nivo: ETAŽA [4.00 m]  
Aa - zg.cona - max Aa,z= -15.47 cm<sup>2</sup>/m

TEMELJI



Merodajna obtežba: Kompletna shema  
EC 2 (EN 1992-1-1:2004), C 25, S500N, a=3.00 cm

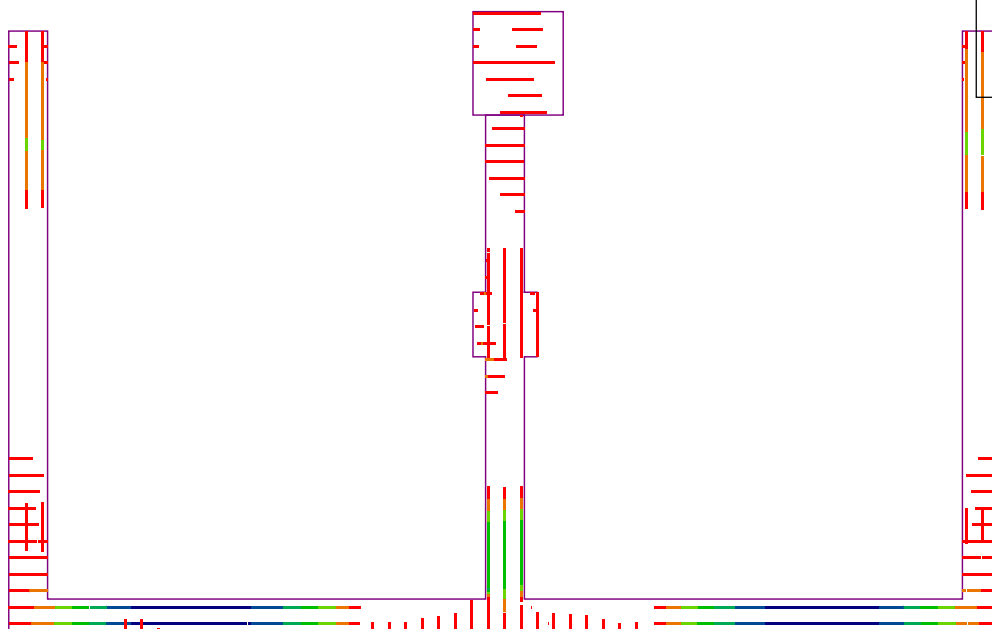
Aa - sp. cona [cm <sup>2</sup> ]
0.00
2.1
4.3
6.5
8.6
10.8
13.0
15.1



Nivo: TEMELJ [0.00 m]  
Aa - sp.cona - max Aa,s= 15.17 cm<sup>2</sup>/m

Merodajna obtežba: Kompletna shema  
EC 2 (EN 1992-1-1:2004), C 25, S500N, a=3.00 cm

Aa - zg. cona [cm <sup>2</sup> ]
-6.60
-5.6
-4.7
-3.7
-2.8
-1.8
-0.9
0.0



Nivo: TEMELJ [0.00 m]  
Aa - zg.cona - max Aa,z= -6.60 cm<sup>2</sup>/m

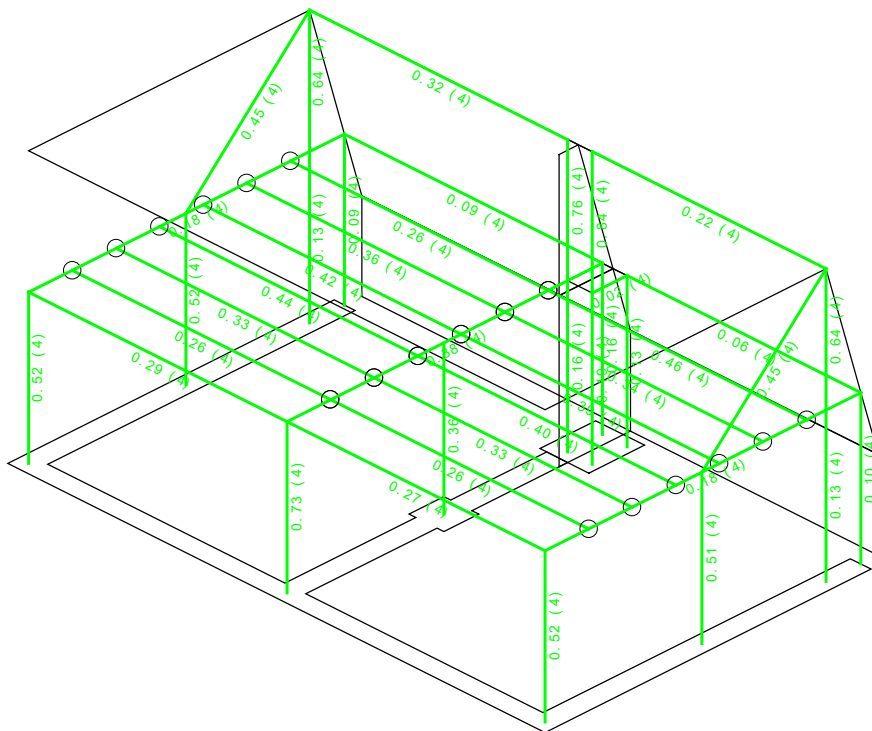
## Dimenzioniranje (jeklo)

### Merodajna optežba - EUROCODE 3 (ENV)

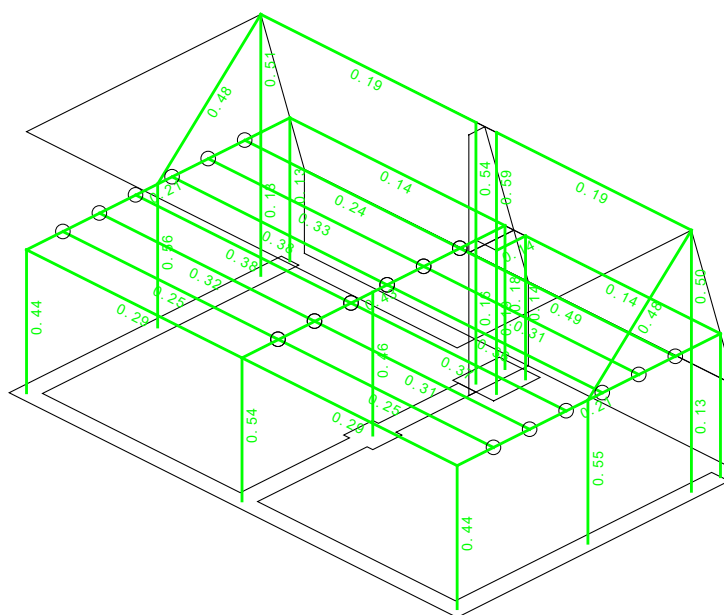
No	Obtežni primeri
1	LASTNA TEŽA (g)
2	STALNA TEŽA
3	KORISTNA TEŽA

7	I+II+1.5xIII	+
8	1.35xI+1.35xII	+
9	I+1.35xII	+
10	1.35xI+II	+
11	I+II	+

No	Kombinacije optežb	
4	1.35xI+1.35xII+1.5xIII	+
5	I+1.35xII+1.5xIII	+
6	1.35xI+II+1.5xIII	+



Izometrija  
Kontrola napetosti



Izometrija  
Kontrola stabilnosti