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PROJEKT KONSTRUKCIJE

RAZINA RAZRADE PROJEKTA

IZVEDBENI PROJEKT KONSTRUKCIJE

STRUKOVNA ODREDNICA PROJEKTA

GRAĐEVINSKI PROJEKT

NAZIV GRAĐEVINE

DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA

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Split, listopad 2025.

Ovjera revidenta čelične konstrukcije:

Pregledao ovlašteni revident za:
kontrolu projekata s obzirom na mehaničku otpornost i stabilnost metalnih i spregnutih konstrukcija

Redni broj: R 105

dr.sc. Davor Skejić, dipl.ing.građ.
ovlašteni inženjer građevinarstva

Broj izvješća: R25-028/IP

Datum: 08. 12. 2025.

Potpis i pečat revidenta

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Lokacija : **VIR, k.č.4368, 4369, 4370, 4371/1, k.o. Vir**

I M E N O V A NJ E

projektanta : **IVO ORLANDINI mag. ing. aedif.**

za projekt : **IZVEDBENI PROJEKT KONSTRUKCIJE - GRAĐEVINSKI PROJEKT**

oznaka projekta: **TD_28-2025_IZV**

Imenovani projektant ima odgovarajuću stručnu spremu, položen stručni ispit i potrebno radno iskustvo na projektiranju te je upisan u IMENIK OVLAŠTENIH INŽENJERA GRAĐEVINARSTVA, br. G 5712.

Direktor :
IVO ORLANDINI mag. ing. aedif.

U Splitu, listopad 2025. god.

Popis primijenjenih zakona i propisa:

- Zakon o gradnji (NN br. 153/13; 20/17; 39/19, 125/19)
- Zakon o građevnim proizvodima (NN br. 76/13, 30/14, 130/17, 39/19, 118/20)
- Zakon o zaštiti od požara (NN br. 92/10; 114/22)
- Zakon o zaštiti na radu RH (NN br. 71/14, 118/14, 154/14, 94/18, 96/18)
- Zakon o zaštiti okoliša (NN br. 80/13, 153/13, 78/15, 12/18, 118/18)
- Pravilnik o tehničkim dopuštenjima za građevne proizvode (NN br. 103/08)
- Pravilnik o obveznom sadržaju i opremanju projekata građevina (NN br. 118/19)
- Tehnički propis za građevinske konstrukcije (NN 17/17; 75/20; 7/22)
- Tehnički propis o građevnim proizvodima

(NN 33/10;87/10;146/10;81/11;100/11;130/12;81/13;136/14;119/15)

- HRN EN 1990:2011, Eurokod: Osnove projektiranja konstrukcija (EN1990:2002+A1:2005+A1:2005/AC:2010), sa pripadajućim Nacionalnim dodacima

- HRN EN 1992-1-1:2013, Eurokod 2: Projektiranje betonskih konstrukcija - Dio 1-1: Opća pravila i pravila za zgrade (EN 1992-1-1:2004+AC:2010), sa pripadajućim Nacionalnim dodacima

- HRN EN 1993-1-1:2014, Eurokod 3: Projektiranje čeličnih konstrukcija - Dio 1 -1: Opća pravila i pravila za zgrade (EN 1993-1-1:2014/A1), s pripadajućim Nacionalnim dodacima

- Eurokod 7: Geotehničko projektiranje - 1. dio: Opća pravila (EN 1997-1:2004/A1:2013), s pripadajućim Nacionalnim dodacima

- HRN EN 1998-1:2011, Eurokod 8: Projektiranje potresne otpornosti konstrukcija - 1. dio: Opća pravila, potresna djelovanja i pravila za zgrade (EN 1998-1:2004+AC:2009), s pripadajućim Nacionalnim dodacima

Projektant:

IVO ORLANDINI mag. ing. aedif.

U Splitu, listopad 2025. god.

1. Opis konstrukcije

Betonska konstrukcija

Riječ je o pretežito armirano-betonskoj monolitnoj konstrukciji osim krova dvorane gdje nosivi sustav formiraju čelični rešetkasti nosači preko kojih se postavlja armirano-betonska ploča u trapeznom limu.

Vertikalni armirano-betonski elementi su AB zidovi debljine 25cm (vanjski zidovi dvorane) i 20cm (ostali zidovi). Međukatne AB ploče su debljine 20cm, a ploče i podesti stubišta su debljine 18cm. U horizontalnom nosivom sustavu sudjeluju i AB grede različitih poprečnih presjeka (dimenzije greda: 20x50cm, 30x70cm, 30x80cm, 20x80cm, 20x140cm, 20x160cm).

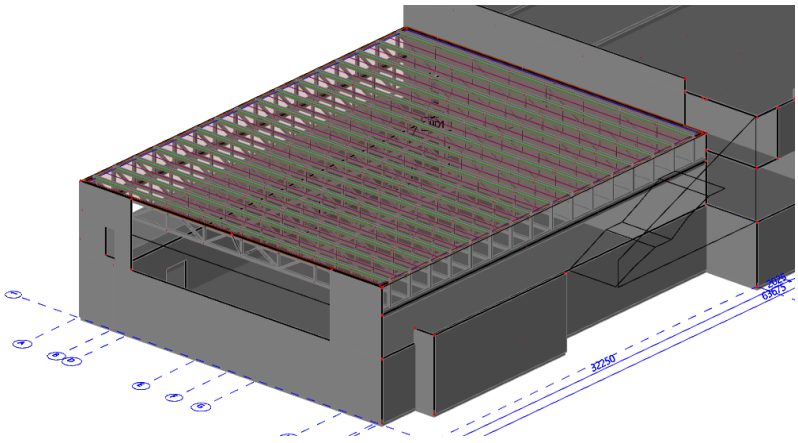
Građevina se temelji na temeljnoj ploči debljine 50cm.

Svi armirano-betonski elementi se izvode od klase betona C30/37, te se armiraju armaturnim šipkama klase B500B, te mrežama klase B500A.

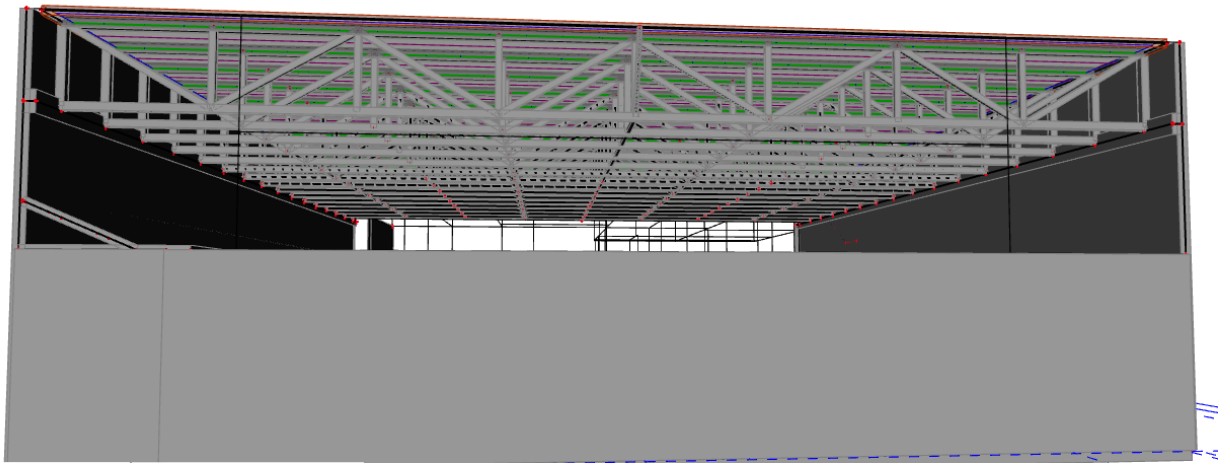
Napomena: konstrukcija je proračunata u konačnoj fazi kao zatvoreni sustav, te je potrebno vertikalno pridržavanje međukatnih ploča do ostvarenja pune krutosti betonskih presjeka!

Čelična konstrukcija

Krovna konstrukcija školske sportske dvorane se izvodi od rešetkastih čeličnih nosača raspona L=25.25m preko kojih se postavlja armirano-betonska ploča u trapeznom limu. Na krovu iznad dvorane je planirana gradnja vanjskog igrališta na lijevanoj gumenoj podlozi. Rešetke su na međusobnom osnom razmaku od 2.0m. Trapezni lim se koristit tipa kao COFRAPLUS 60. (visina vala lima 6cm + 9cm puni presjek AB ploče iznad).



Slika 1. Aksonometrijski prikaz krova sportske dvorane



Slika 2. Prikaz krova sportske dvorane – bočni pogled

Čelična rešetka se sastoji od gornjeg pojasa HEA 240, donjeg pojasa 180x180x8mm, te kosih ispuna 140x140x8mm. Donji pojas je dodatno stabiliziran bočnim ukrutama 100x100x5mm u sredini raspona rešetke, te je s obe strane u razini gornjeg pojasa rešetke na osloncu postavljena također bočna ukruta 100x100x5mm u svrhu stabilizacije rešetke u fazi montaže. Čelični rešetkasti nosači se oslanjaju na armirano-betonske konzole rubnih AB zidova sportske dvorane. Na jednom rubu je predviđen klizni ležaj u smjeru rešetke da se omogući deformacija konstrukcije uslijed vanjskih utjecaja, npr. temperaturnih i seizmičkih sila. Spojevi čelične konstrukcije će biti dodatno razrađeni u sklopu izvedbenog projekta. Čelični rešetkasti nosač je potrebno izvesti sa nadvišenjem (kontra-progib) u visini 3.5 cm da bi se nakon prihvata početnog opterećenja vratio u ravninu.

Svi čelični elementi rešetke su projektirani od klase čelika S355JR.

Vanjsko evakuacijsko stubište na sjeverozapadnom pročelju građevine je također čelično. Stubište vodi s kote terena na krov građevine sa vanjskim igralištem. Stubište je širine 120cm. Krakovi stubišta su čelični cijevni profili 160x80x4mm. U razini podesta se postavljaju horizontalni nosači 80x80x4mm, te su stupovi stubišta dimenzija presjeka 100x100x4mm. Postavljaju se po 4 stupa na svakom podestu stubišta. Svaka dva susjedna stupa u ravnini su bočno stabilizirani vjetrovnim spregom promjera Ø14mm. Stupovi vanjskog čeličnog stubišta se temelje na dvije ploče dimenzija 170x230x50cm, te se početak krakova stubišta temelji na traci dimenzija 60x170x50cm.

Svi čelični elementi vanjskog stubišta se izvode od klase čelika S235J0.

1. OPIS MATERIJALA

1.1. Svojstva materijala

Za izradu betonske konstrukcije se koristi beton klase **C 30/37**, te armaturne šipke klase **B500B** i mreže klase **B500A**.

Za izradu čelične konstrukcije se koriste klase čelika:

A) Krovni rešetkasti nosači - **S355JR**.

Gornja pojasnica rešetke (HEA 240) je predviđena kao vrućevaljani profil sukladno normi HRN EN 10025-2:2019.

Kvadratni cijevni šuplji profili (donja pojasnica rešetke i ispune) su predviđeni kao hladno-oblikovani sukladno normi HRN EN 10219-1:2008, te HRN EN 10219-2:2019.

Granica popuštanja: f_y= 355 MPa

Vlačna čvrstoća: f_u= 470-630 Mpa

B) Vanjsko evakuacijsko stubište – **S235J0**.

Kvadratni cijevni šuplji profili stubišta su predviđeni kao hladno-oblikovani sukladno normi HRN EN 10219-1:2008, te HRN EN 10219-2:2019.

Granica popuštanja: f_y= 235 MPa

Vlačna čvrstoća: f_u= 360-510 Mpa

C) Vijci i matice

Vijčane spojeve izraditi sukladno normi HRN EN 15048-1:2016.

U projektu se koriste vijci klase 8.8 i 10.9 promjera M12 do M24. Vijci i matice sukladno normi HRN EN 1515-3:2008.

2. KATEGORIZACIJA ČELIČNE KONSTRUKCIJE

2.1. Klasa izvedbe

Sukladno normi HRN EN 1090-2:2018 definira se zahtijevana klasa izvedbe za čelične krovne rešetkaste nosače **EXC3**, te za vanjsko čelično stubište **EXC2.**

Da bi se zadovoljili zahtjevi propisani normom EN 1090 - 2 potrebno je prilikom zavarivanja uključiti i obaviti sve djelatnosti i upute koji definiraju zavarivanje na specifičan način. EXC3 sadrži sveobuhvatne zahtjeve kvalitete.

Zavarivanje se izvodi sukladno specifikaciji postupka zavarivanja. Zavarivači moraju biti osposobljeni u skladu s normom HRN EN ISO 9606-1, a operateri u skladu s HRN EN ISO 1418.

2.2. Klasa posljedica otkazivanja

Konstrukcija se svrstava u kategoriju **CC2**.

(CC2 - Srednji rizik - srednje značajne posljedice za gubitak ljudskih života, te značajne ekonomske i društvene posljedice (stambeni i uredski prostori,javne zgrade kod kojih su posljedice rušenja srednje kategorije)

2.3. Klasa namjene

Konstrukcija se svrstava u kategoriju **SC2**.

(SC2 - Konstrukcije i sastavni dijelovi sa spojevima projektiranim za seizmičke aktivnosti u području sa srednjim ili visokim aktivnostima i u DCM ili DCH (prema EN 1998-1)

2.4. Klasa izrade

Konstrukcija čeličnih rešetkastih krovnih nosača se svrstava u klasu proizvodnje **PC2**, a vanjskog evakuacijskog čeličnog stubišta u klasu proizvodnje **PC1**.

(PC1 – konstrukcije s komponentima koje nisu zavarivane ili zavarene

komponente izrađene od čelika klase ispod S355

PC2 – konstrukcije sa zavarenim komponentama izrađenim od čelika klase

S355 i višim, komponente koje su termički tretirane ili toplo oblikovane te

komponente od kružnih šupljih presjeka rešetkastih nosača.)

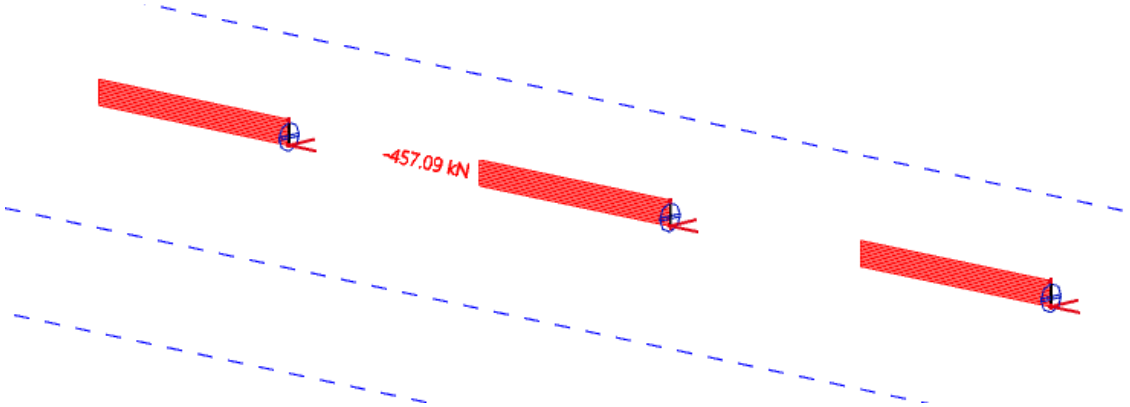
2.5. Antikorozivna zaštita

Predvđena je antikorozivna zaštita pocinčavanjem.

Ukupna debljina sistema premaza sukladno namjeni klasu korozivnosti C2 (čelični rešetkasti nosači krova sportske dvorane), odnosno klasu korozivnosti C3 (vanjsko evakuacijsko stubipte) prema ISO 12944-2 i trajnost>25 godina prema ISO 12944-1. Antikorozivna zaštita se vrši cinčanjem elemenata. Vruće pocinčavanje izraditi za zahtijevane klase korozivnosti i sukladno normi HRN EN ISO 1461:2022.

2.6. PRORAČUN KRATKE KONZOLE

Čelični rešetkasti nosači krova dvorane se obostrano oslanjaju na kratke konzole na rubnim AB zidovima dvorane. Kratke konzole su dimenzija 50 x 35 cm (visina x širina) i izvode se kontinuirano duž rubnih AB zidova. Čelični rešetkasti nosači se postavljaju na osnom razmaku 2.0m



Slika 1: *Maksimalna vertikalna sila na osloncu rešetkastog nosača (kN)*

PRORAČUN KRATKE KONZOLE

Napomena: Element se proračunava kao kratka konzola ako vrijedi da je $a_c \leq h_c$

MATERIJALI

Beton:

Klasa betona **C30/37**

f_{ck} = 30.0 MPa

f_{cd}= 20.00 MPa

Armatura:

Tip armature: **B500B**

f_{yk}= 500.0 MPa

f_{yd}= 434.78 MPa

Koeficijenti sigurnosti materijala:

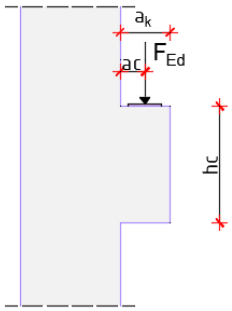
γ_c= 1.5

γ_s= 1.15

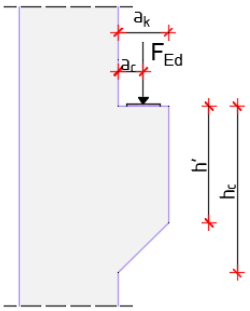
$$f_{cd} = \frac{f_{ck}}{\gamma_c} \qquad f_{yd} = \frac{f_{yk}}{\gamma_s}$$

GEOMETRIJSKE KARAKTERISTIKE KRATKE KONZOLE

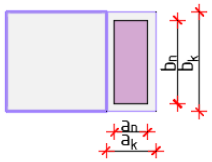
Pogled



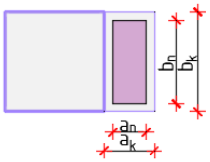
Pogled



Tlocrt



Tlocrt



Napomena: Slika je shematska!

Dimenzije konzole:

a_k= 35.0 cm

b_k= 100.0 cm

h'= 20.0 cm

h_c= 50.0 cm

a_c= 17.5 cm

d_1= 3.5 cm

d= 46.5 cm

z= 37.2 cm

c-zaštitni sloj

$$d_1 = c + \frac{\emptyset}{2}$$

$$d = h_c - d_1$$

$$z = 0.8d$$

Dimenzije oslonca:

a_n= 25.0 cm

b_n= 25.0 cm

a_c= 17.5 cm	≤	**0.5**h_c= 25.0 cm

REZNE SILE

F_{Ed}= 457.09 kN

PRORAČUN

Tlačna naprezanja u tlačnim čvorovima gdje spone nisu sidrene u čvoru:

$$\sigma_{1Rd,max} = k_1 \cdot \nu' \cdot f_{cd}$$ **k_1=** 1

Tlačna naprezanja u tlačno-vlačnim čvorovima s usidrenim sponama u jednom smjeru:

$$\sigma_{2Rd,max} = k_2 \cdot \nu' \cdot f_{cd}$$ **k_2=** 0.85

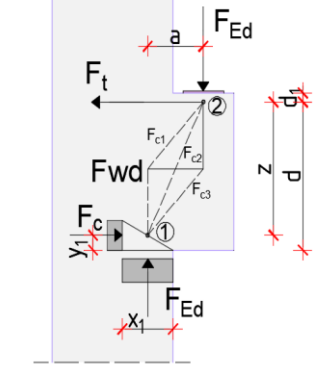
Tlačna naprezanja u tlačno-vlačnim čvorovima s usidrenim sponama u više smjerova:

$$\sigma_{3Rd,max} = k_3 \cdot \nu' \cdot f_{cd}$$ k_3= 0.75

$$\nu' = (1 - \frac{f_{ck}}{250})$$ **ν'=** 0.88

$\sigma_{1Rd,max}$= 17.6 MPa
$\sigma_{2Rd,max}$= 15.0 MPa
$\sigma_{3Rd,max}$= 13.2 MPa

Pogled



Proračun glavne armature:

$$x_1 = \frac{F_{Ed}}{\sigma_{1Rd,max} \cdot b}$$ **x_1=** 26 mm

x_1/2= 13 mm

$$y_1 = 0.2 \cdot d$$ **y_1=** 93 mm

Položaj čvora 1 je na približno $x_1/2$ i y_1 od vanjskog lica stup

$$a = \frac{x_1}{2} + a_c$$ **a=** 188 mm

$$F_{Ed} \cdot a = F_c \cdot z \rightarrow F_c = F_t = \frac{F_{Ed} \cdot a}{z}$$

F_c= 230.98 kN

Provjera naprezanja u točki ①

$$\sigma_1 = \frac{F_c}{b \cdot (2y_1)} \leq \sigma_{1Rd,max}$$

σ_1= 1.24 MPa ≤ **$\sigma_{1Rd,max}$=** 17.60 MPa

Potrebna površina glavne armature:

$$A_{s1} = \frac{F_t}{f_{yd}}$$ **A_{s1}=** 5.31 cm^2

Odabrano: **10 Ø14**

A_{s1}= **15.39** cm^2 1

Proračun horizontalne armature:

$$F_{wd} = \frac{2 \cdot \frac{z}{a} - 1}{3 + \frac{F_{Ed}}{F_c}} \cdot F_c$$ **F_{wd}=** 137.22 kN

Potrebna površina horizontalne armature:

$$A_{s2} = \frac{F_{wd}}{f_{yd}} \qquad A_{s2} \geq k_1 \cdot A_{s1}$$ **k_1=** 0.25

A_{s2}= 3.16 cm^2 > 1.33 cm^2

Odabrano: **6 Ø12**

m= **4** (reznost)

A_{s2}= **27.13** cm^2 2

Provjera naprezanja u točki ②

$$\sigma_2 = \frac{F_{Ed}}{a_n \cdot b_n} \leq \sigma_{2Rd,max}$$

σ_1= 7.31 MPa ≤ **$\sigma_{1Rd,max}$=** 14.96 MPa

Proračun vertikalne armature:

Maksimalna poprečna sila koju mogu preuzeti tlačne dijagonale:

$F_{Ed} \leq V_{Rd,max}$ $V_{Rd,max} = 0.5 \cdot \nu \cdot b \cdot d_c \cdot f_{cd}$ $\nu = 0.6 \cdot \left[1 - \frac{f_{ck}}{250}\right]$

v= 0.528

F_{Ed}= 457.09 kN	≤	$V_{Rd,max}$= 2455.20 kN

Poprečna sila koju presjek može preuzeti bez poprečne armature:

$V_{Rd,c} = \left[c_{Rdc} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{\frac{1}{3}} + k_1 \cdot \sigma_{cp}\right] \cdot b \cdot d_c$ $V_{Rd,c} \geq [\nu_{min} + k_1 \cdot \sigma_{cp}] \cdot$

$c_{Rd,c} = \frac{0.18}{\gamma_c}$ $c_{Rd,c}$= 0.12 $k = 1 + \sqrt{\frac{200}{d}} \leq 2$ **k=**

$\rho_l = \frac{\sum A_{s1}}{A_c}$ ρ_l= 0.0033 **k_1=**

$\sigma_{cp} = \frac{N_{Ed}}{A_c}$ **σ_{cp}=**

$\nu_{min} = 0.035 \cdot k^{3/2} \cdot f_{ck}^{1/2}$ ν_{min}= 0.408

F_{Ed}= 457.09 kN	>	$V_{Rd,c}$= 198.57 kN

Ako su zadovoljeni uvjeti 1) i 2) treba predvidjeti računske zatvorene vertikalne spone!

1) $a_c > 0.5 \cdot h_c$ a_c= 17.5 cm ≤ 25.0 cm

2) $F_{Ed} > V_{Rd,c}$ F_v= 457.09 kN > 198.57 kN

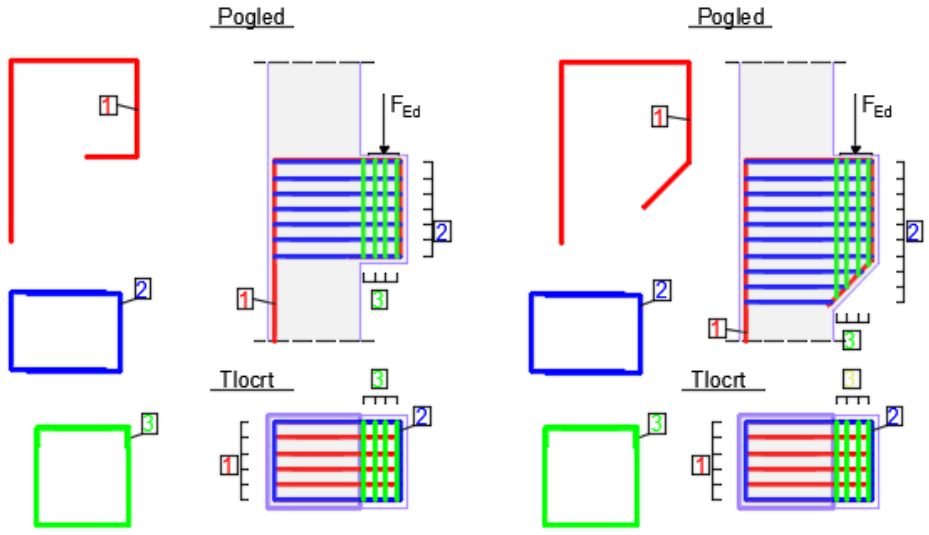
$A_{s3} \geq k_2 \cdot \frac{F_{Ed}}{f_{yd}}$ k_2= 0.5

Konstruktivna armatura!

Odabrano: **4 Ø10**

m= **2** (reznost)

A_{s3}= 6.28 > cm^2 3



Napomena: Slika je shematska!

3. Prilog: Proračun spojeva čelične konstrukcije

3.1. DETALJ "A" - SPOJ ČELIČNE REŠETKE I AB KONZOLE

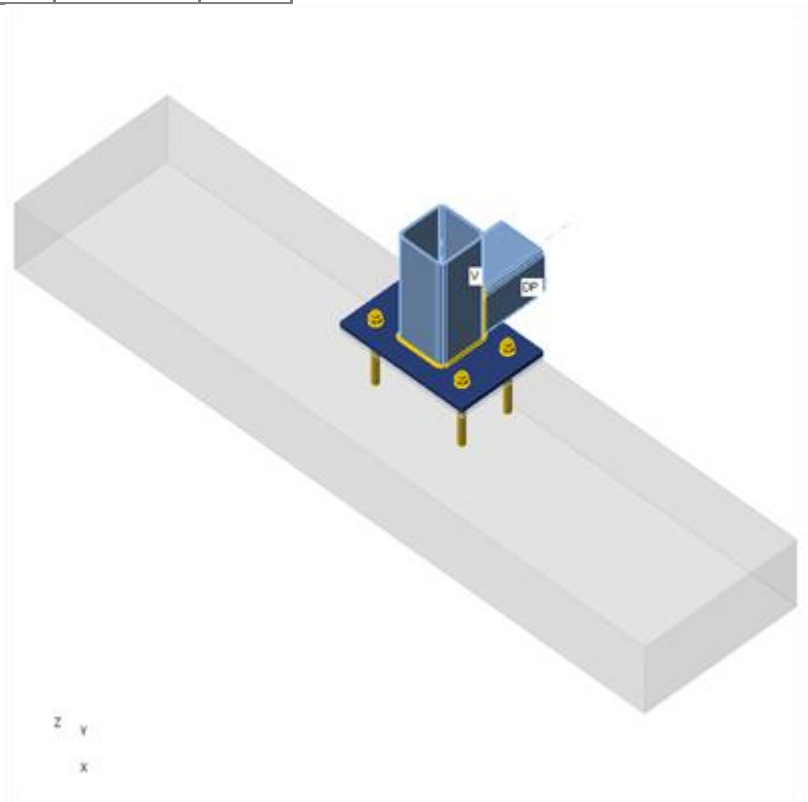
Members

Geometry

Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
V	1 - CFRHS180X180X8(RHS180x180)	0.0	-90.0	90.0	0	0	0
DP	1 - CFRHS180X180X8(RHS180x180)	90.0	0.0	0.0	0	0	90

Supports and forces

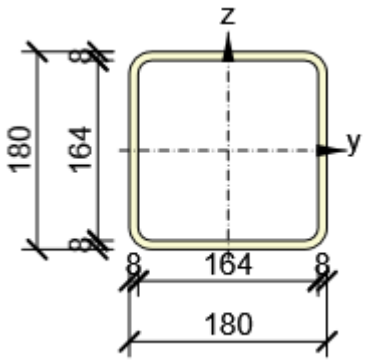
Name	Support	Forces in	X [mm]
V / begin		Position	0
DP / end		Position	0



Cross-sections

Name	Material
1 - CFRHS180X180X8(RHS180x180)	S 355

Cross-sections

Name	Material	Drawing
1 - CFRHS180X180X8(RHS180x180)	S 355	

Anchors

Name	Diameter [mm]	f_y [MPa]	f_u [MPa]	Gross area [mm^2]
M24 10.9	24	900.0	1000.0	452

Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Set(1)	V / Begin	116.2	-0.1	6.0	-0.4	3.9	0.2
	DP / End	6.0	-0.3	-2.4	0.0	3.9	-1.8
ULS-Set(2)	V / Begin	449.2	-0.4	23.4	-1.7	14.8	0.7
	DP / End	23.4	-1.1	-7.8	0.0	14.8	-6.8
ULS-Set(3)	V / Begin	449.2	-0.4	23.4	-1.7	14.8	0.7
	DP / End	23.4	-1.1	-7.8	0.0	14.8	-6.8
ULS-Set(4)	V / Begin	116.2	-0.1	6.0	-0.4	3.9	0.3
	DP / End	6.0	-0.3	-2.4	0.0	3.9	-1.8
ULS-Set(5)	V / Begin	449.2	-0.4	23.4	-1.7	14.8	0.7
	DP / End	23.4	-1.1	-7.8	0.0	14.8	-6.8
ULS-Set(6)	V / Begin	116.2	-0.1	6.0	-0.4	3.9	0.3
	DP / End	6.0	-0.3	-2.4	0.0	3.9	-1.8
ULS-Set(7)	V / Begin	392.0	-0.3	20.4	-1.5	12.9	0.6
	DP / End	20.4	-1.0	-6.7	0.0	12.9	-5.9
ULS-Set(8)	V / Begin	173.4	-0.2	9.0	-0.6	5.8	0.4
	DP / End	9.0	-0.4	-3.5	0.0	5.8	-2.7
ULS-Set(9)	V / Begin	392.0	-0.3	20.4	-1.5	12.9	0.6
	DP / End	20.4	-1.0	-6.7	0.0	12.9	-5.9
ULS-Set(10)	V / Begin	449.2	-0.4	23.4	-1.7	14.8	0.7
	DP / End	23.4	-1.1	-7.8	0.0	14.8	-6.8

ULS-Set(11)	V / Begin	116.2	-0.1	6.0	-0.4	3.9	0.3
	DP / End	6.0	-0.3	-2.4	0.0	3.9	-1.8
ULS-Set(12)	V / Begin	392.0	-0.3	20.4	-1.5	12.9	0.6
	DP / End	20.4	-1.0	-6.7	0.0	12.9	-5.9
ULS-Set(13)	V / Begin	220.7	-0.2	11.4	-0.8	7.4	0.4
	DP / End	11.4	-0.6	-4.2	0.0	7.4	-3.3

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Set(1)	0.2	0.0	-118.6	-0.5	-0.2	-1.4
ULS-Set(2)	0.7	0.0	-457.0	-2.1	-0.6	-5.1
ULS-Set(3)	0.7	0.0	-457.0	-2.1	-0.6	-5.1
ULS-Set(4)	0.2	0.0	-118.6	-0.5	-0.2	-1.4
ULS-Set(5)	0.7	0.0	-457.0	-2.1	-0.6	-5.1
ULS-Set(6)	0.2	0.0	-118.6	-0.5	-0.2	-1.4
ULS-Set(7)	0.7	0.0	-398.7	-1.8	-0.5	-4.4
ULS-Set(8)	0.3	0.0	-176.9	-0.8	-0.3	-2.0
ULS-Set(9)	0.7	0.0	-398.7	-1.8	-0.5	-4.4
ULS-Set(10)	0.7	0.0	-457.0	-2.1	-0.6	-5.1
ULS-Set(11)	0.2	0.0	-118.6	-0.5	-0.2	-1.4
ULS-Set(12)	0.7	0.0	-398.7	-1.8	-0.5	-4.4
ULS-Set(13)	0.3	0.0	-224.9	-1.0	-0.4	-2.5

Foundation block

Item	Value	Unit
CB 1		
Dimensions	2480 x 600	mm
Depth	260	mm
Anchor	M24 10.9	
Anchoring length	200	mm
Shear force transfer	Anchors	
Mortar joint	20	mm

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0.0 < 5.0%	OK
Loc. deformation	0.1 < 3%	OK
Anchors	19.2 < 100%	OK
Welds	98.0 < 100%	OK
Concrete block	40.1 < 100%	OK
Buckling	Not calculated	

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ε_{Pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
V	8.0	ULS-Set(3)	192.5	0.0	0.0	OK
DP	8.0	ULS-Set(3)	310.9	0.0	0.0	OK
BP1	20.0	ULS-Set(3)	97.2	0.0	0.0	OK

Design data

Material	f_y [MPa]	ε_{lim} [%]
S 355	355.0	5.0

Symbol explanation

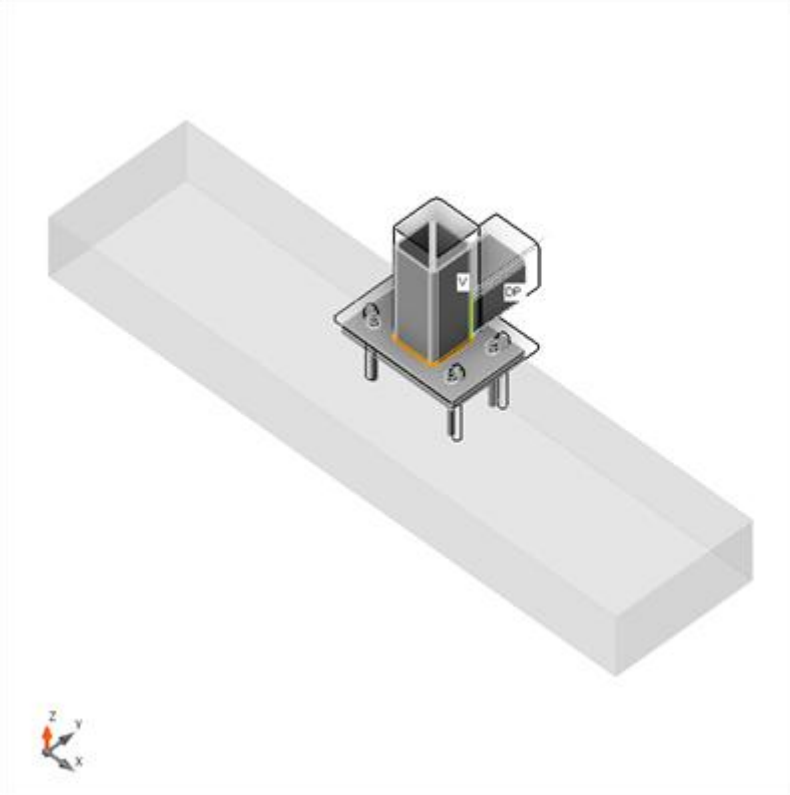
t_p Plate thickness
σ_{Ed} Equivalent stress
ε_{Pl} Plastic strain
$\sigma_{c,Ed}$ Contact stress
f_y Yield strength
ε_{lim} Limit of plastic strain

Loc. deformation

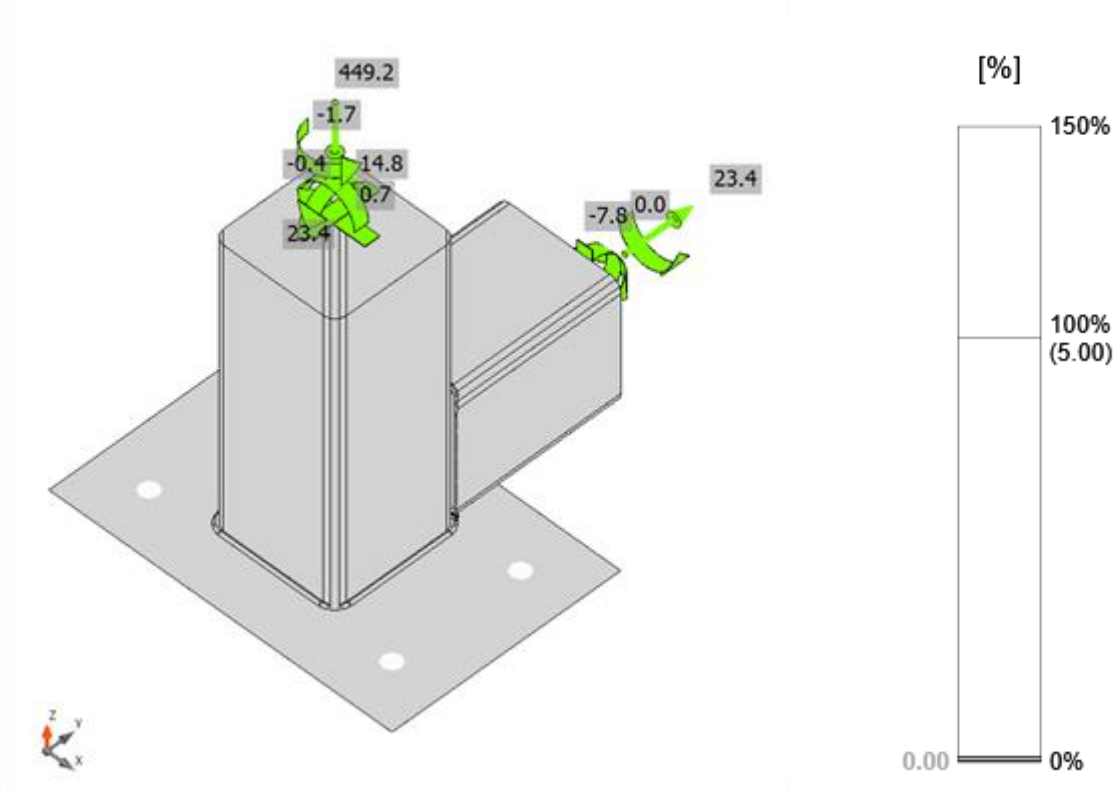
Name	d_0 [mm]	Loads	δ [mm]	δ_{lim} [mm]	δ/d_0 [%]	Check status
V	180	ULS-Set(2)	0	5	0.1	OK
DP	180	ULS-Set(13)	0	5	0.0	OK

Symbol explanation

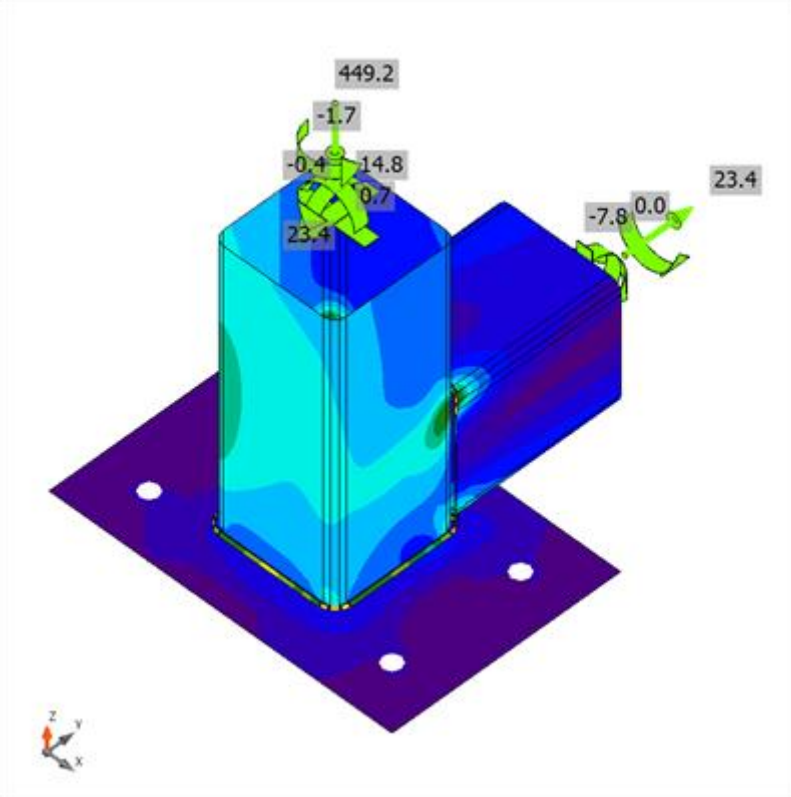
d_0 Cross-section size
δ Local cross-section deformation
δ_{lim} Allowed deformation



Overall check, ULS-Set(3)

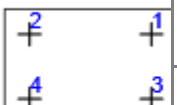


Strain check, ULS-Set(3)



Equivalent stress, ULS-Set(3)

Anchors

Shape	Item	Loads	N_{Ed} [kN]	V_{Ed} [kN]	$N_{Rd,c}$ [kN]	$V_{Rd,s}$ [kN]	$V_{Rd,cp}$ [kN]	$V_{Rd,cp}$ [kN]	Ut_t [%]	Ut_s [%]	Ut_{ts} [%]	Detailing	Status
	A1	ULS-Set(2)	2.0	6.4	70.6	35.3	40.9	175.9	11.7	18.1	5.4	OK	OK
	A2	ULS-Set(2)	2.6	6.6	70.6	35.2	0.0	175.9	11.7	18.7	4.0	OK	OK
	A3	ULS-Set(2)	2.2	6.8	70.6	35.3	40.9	175.9	11.7	19.2	5.4	OK	OK
	A4	ULS-Set(2)	1.5	6.7	70.6	35.4	0.0	175.9	11.7	18.8	4.0	OK	OK

Design data

Grade	$N_{Rd,s}$ [kN]
M24 10.9 - 1	214.3

Symbol explanation

N_{Ed}	Tension force
V_{Ed}	Resultant of bolt shear forces Vy and Vz in shear planes
$N_{Rd,c}$	Design resistance in case of concrete cone failure under tension load - EN 1992-4 – 7.2.1.4
$V_{Rd,s}$	Design shear resistance of a fastener in case of steel failure - EN 1992-4 – 7.2.2.3.2
$V_{Rd,c}$	Design resistance in case of concrete cone failure under shear load - EN 1992-4 – 7.2.2.5
$V_{Rd,cp}$	Design resistance in case of concrete pryout failure - EN 1992-4 – 7.2.2.4
Ut_t	Utilization in tension
Ut_s	Utilization in shear
Ut_{ts}	Utilization in tension and shear
$N_{Rd,s}$	Design tensile resistance of a fastener in case of steel failure - EN 1992-4 – 7.2.1.3

Welds

Item	Edge	T_w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ε_{Pl} [%]	$\sigma_\perp$ [MPa]	$\tau_\perp$ [MPa]	$\tau_\parallel$ [MPa]	Ut [%]	Ut_c [%]	Detailing	Status
V-arc 12	DP	◢ 5.0	662	ULS-Set(3)	388.2	0.0	131.5	-95.1	188.2	89.1	50.5	OK	OK
BP 1	V	◢ 5.0	656	ULS-Set(2)	426.8	0.0	-96.6	238.4	-28.0	98.0	71.2	OK	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9 σ [MPa]
S 355	490.0	0.90	435.6	352.8

Symbol explanation

T_w	Throat thickness a
L	Length
$\sigma_{w,Ed}$	Equivalent stress
ε_{Pl}	Strain
$\sigma_\perp$	Perpendicular stress
$\tau_\perp$	Shear stress perpendicular to weld axis
$\tau_\parallel$	Shear stress parallel to weld axis
Ut	Utilization
Ut_c	Weld capacity estimation
◢	Fillet weld
f_u	Ultimate strength of weld
β_w	Correlation factor EN 1993-1-8 – Tab. 4.1
$\sigma_{w,Rd}$	Equivalent stress resistance
0.9 σ	Perpendicular stress resistance: 0.9*fu/γM2

Concrete block

Item	Loads	c [mm]	A_{eff} [mm²]	σ [MPa]	k_j [-]	f_{jd} [MPa]	Ut [%]	Status

CB 1	ULS-Set(10)	57	79372	5.9	1.10	14.7	40.1	OK

Symbol explanation

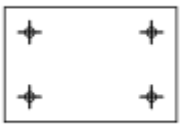
c	Bearing width
A_{eff}	Effective area
σ	Average stress in concrete
k_j	Concentration factor
f_{jd}	The ultimate bearing strength of the concrete block
Ut	Utilization

Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
CUT1				Fillet: 5.0	664		
BP1	P20.0x480-320 (S 355)		1	Fillet: 5.0	659	M24 10.9	4

Symbol explanation

Fillet weld throat thickness of weld

Welds

Type	Material	Throat thickness [mm]	Leg size [mm]	Length [mm]
Fillet	S 355	5.0	7.1	1324

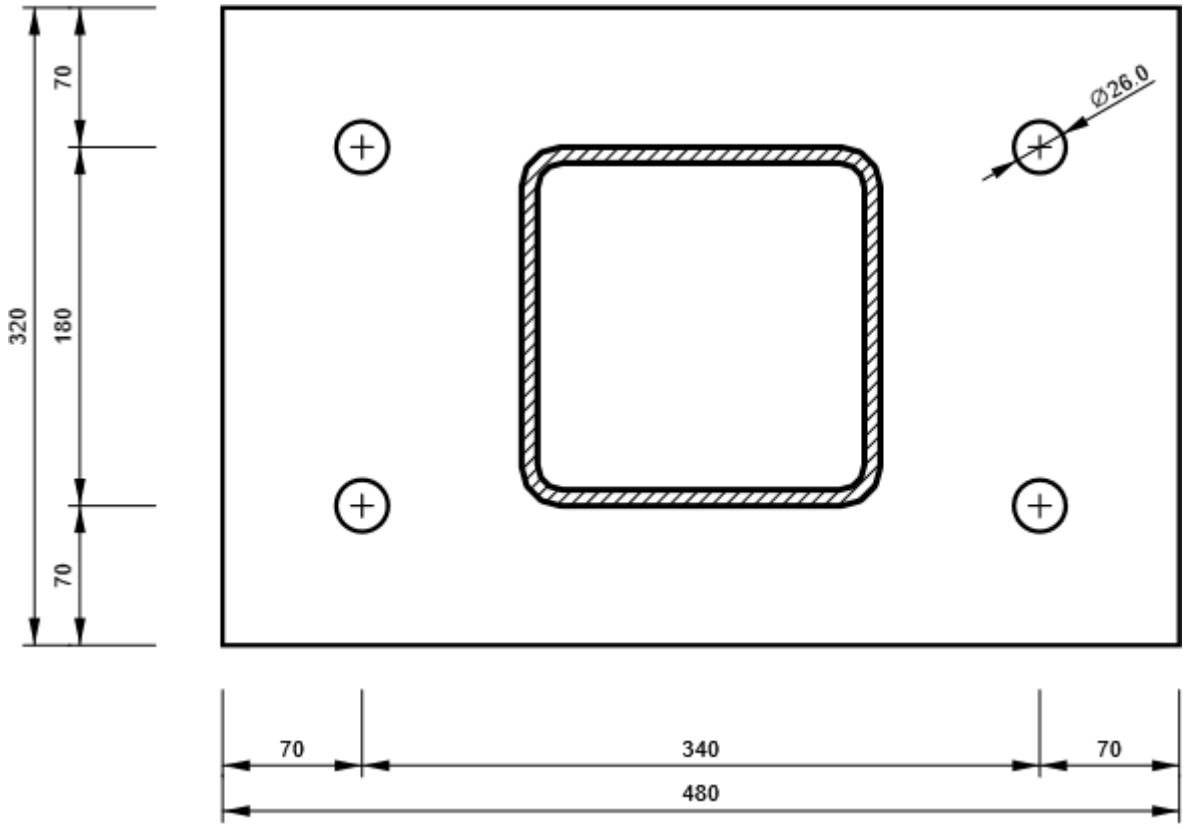
Anchors

Name	Length [mm]	Drill length [mm]	Count
M24 10.9	240	200	4

Drawing

BP1

P20.0x320-480 (S 355)

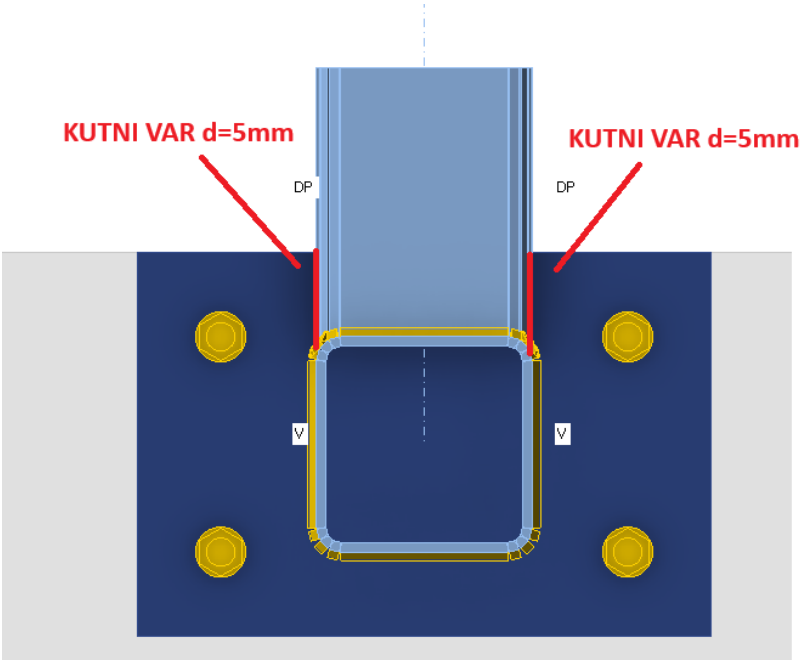


Code settings

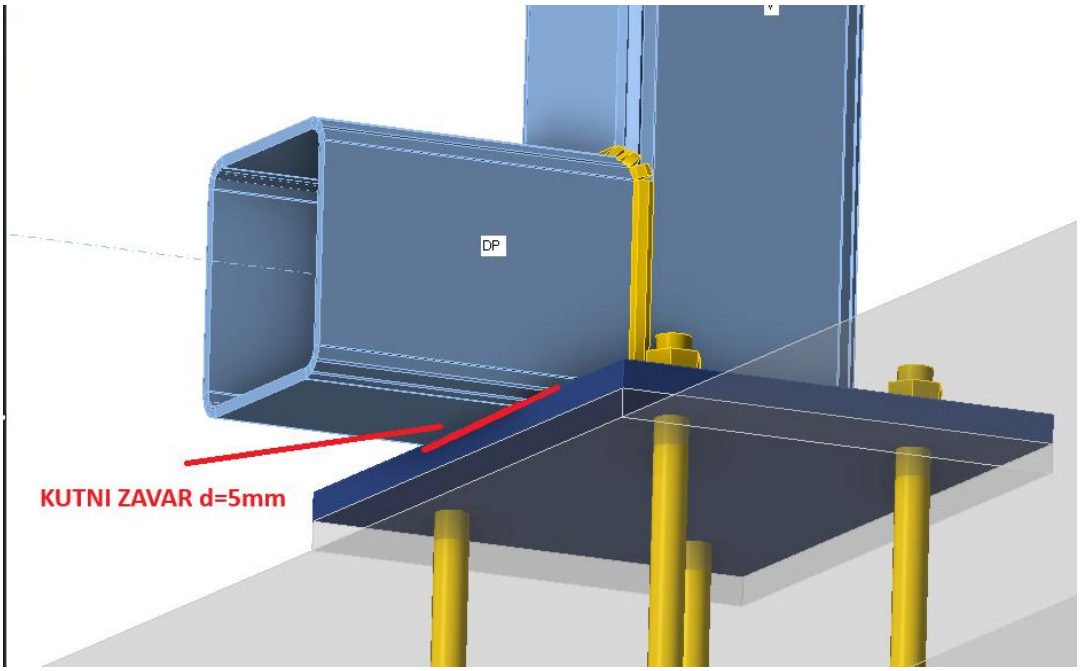
Item	Value	Unit	Reference
Safety factor γ_{M0}	1.00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1.10	-	EN 1993-1-1 – 6.1
Safety factor γ_{M2}	1.25	-	EN 1993-1-1 – 6.1, EN 1993-1-8 – Table 2.1
Safety factor γ_{M3}	1.25	-	EN 1993-1-8 – Table 2.1
Safety factor γ_{C}	1.50	-	EN 1992-1-1 – 2.4.2.4
Safety factor γ_{Inst}	1.20	-	EN 1992-4 – Table 4.1
Joint coefficient βj	0.67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0.10	-	
Friction coefficient - concrete	0.25	-	EN 1993-1-8
Friction coefficient in slip-resistance	0.30	-	EN 1993-1-8 – Table 3.7
Limit plastic strain	0.05	-	EN 1993-1-5
Detailing	Yes		
Distance between bolts [d0]	2.20	-	EN 1993-1-8 – Table 3.3
Distance between bolts and edge [d0]	1.20	-	EN 1993-1-8 – Table 3.3

Concrete breakout resistance check	Both		
Use calculated αb in bearing check.	Yes		EN 1993-1-8 – Table 3.4
Cracked concrete	Yes		EN 1992-4
Local deformation check	Yes		
Local deformation limit	0.03	-	CIDECT DG 1, 3 – 1.1
Geometrical nonlinearity (GMNA)	Yes		Analysis with large deformations for hollow section joints
Braced system	No		EN 1993-1-8 – 5.2.2.5

NAPOMENA: Donju pojasnicu rešetke je pozicionirana neposredno iznad vrha spojne pločice, te ju je potrebno zavariti na spojnu pločicu sa svih strana, sukladno shematskom prikazu ispod



Slika 2: *Shematski prikaz zavara DP na spojnu pločicu – tlocrt*



Slika 3. Shematski prikaz zavara DP na spojnu pločicu – aksonometrijski pogled na donju stranu spoja

3.2. DETALJ "B" - SPOJ KOSE ISPUNE I DONJE POJASNICE REŠETKE

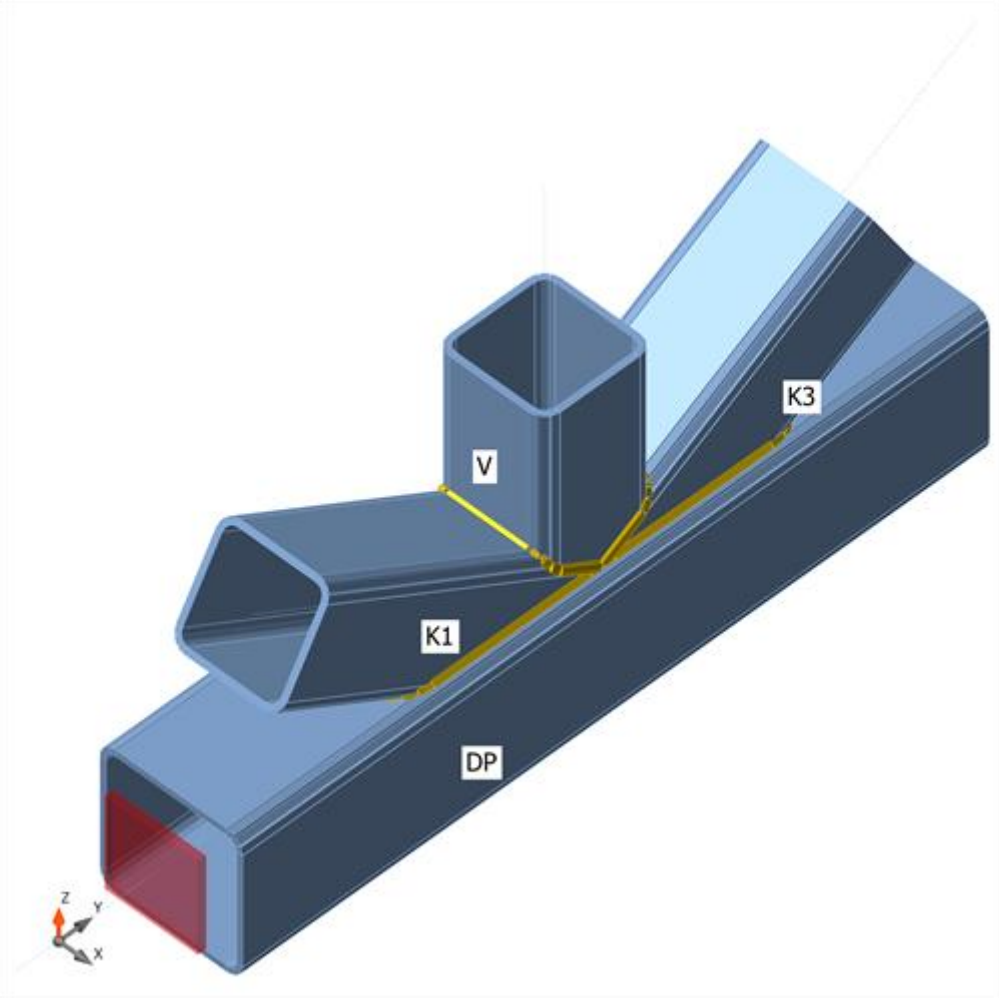
Members

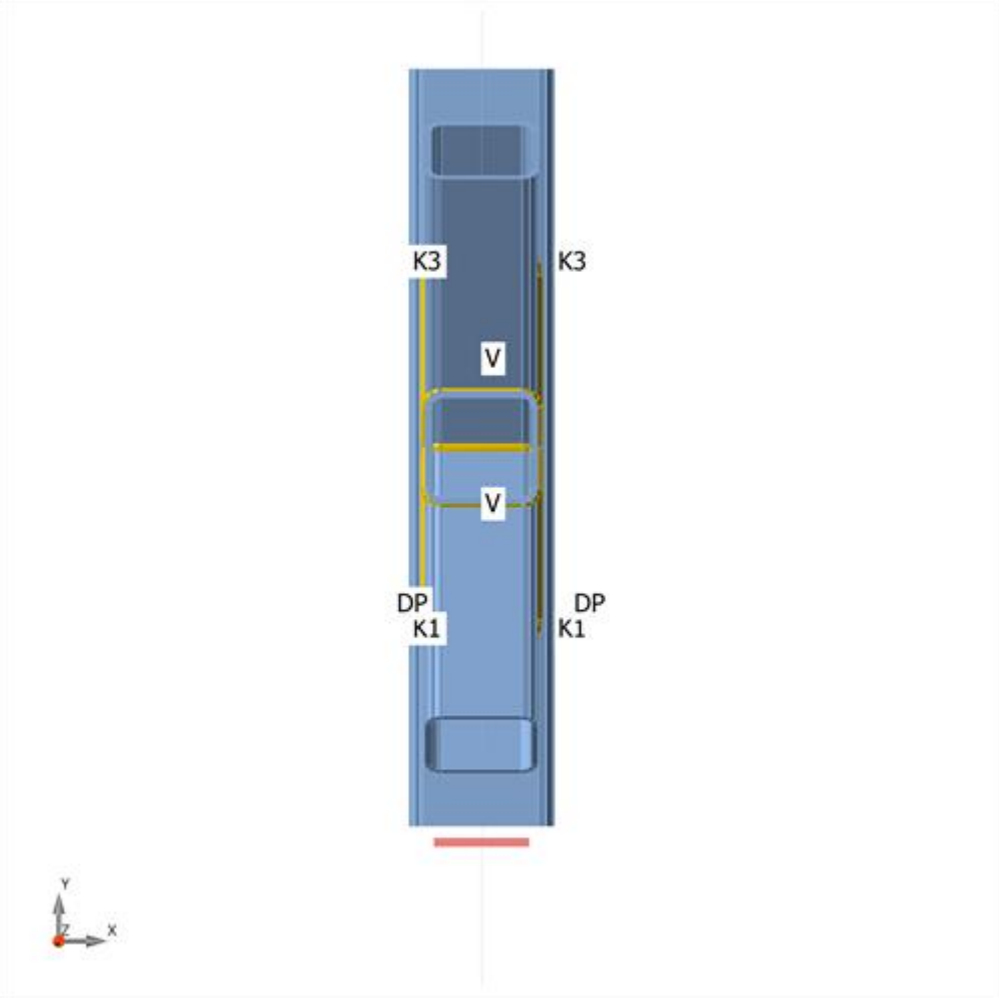
Geometry

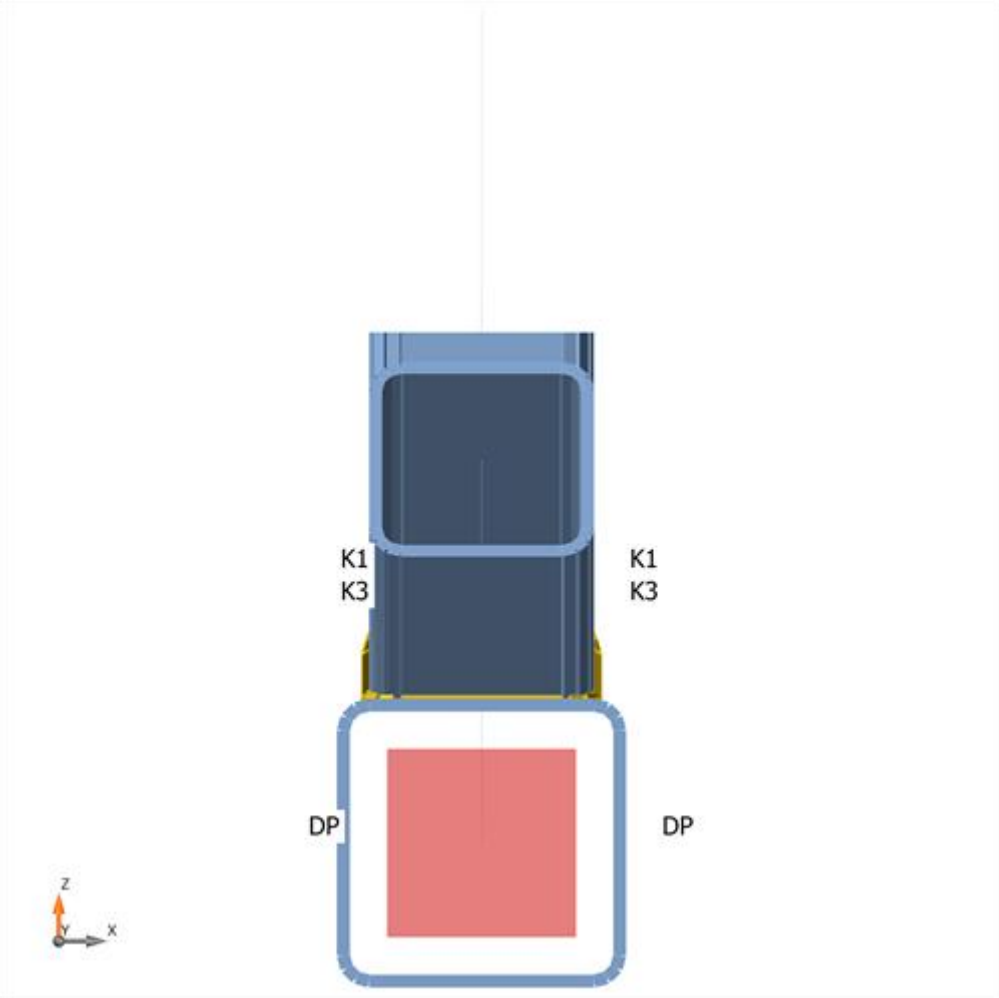
Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
K1	1 - CFRHS140X140X8(RHS140x140)	90.0	-30.3	0.0	0	0	20
K3	1 - CFRHS140X140X8(RHS140x140)	90.0	30.3	0.0	0	0	20
DP	2 - CFRHS180X180X8(RHS180x180)	90.0	0.0	0.0	0	0	0
V	1 - CFRHS140X140X8(RHS140x140)	0.0	90.0	0.0	0	0	0

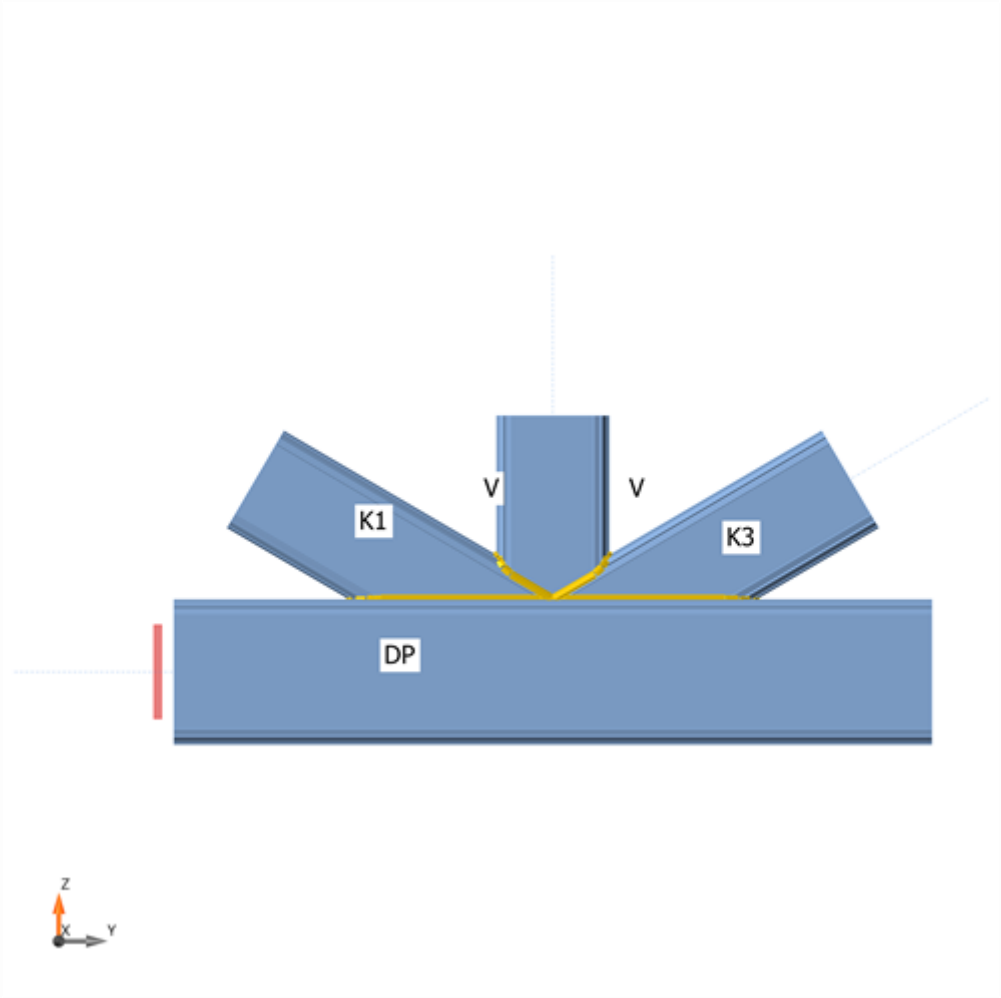
Supports and forces

Name	Support	Forces in	X [mm]
K1 / begin		Position	0
K3 / end		Position	0
DP / begin	N-Vy-Vz-Mx-My-Mz	Position	0
DP / end		Position	0
V / end		Position	0


K3
V
K1
DP
Z
Y
X


K3
K3
V
V
DP
K1
DP
K1
Y
X

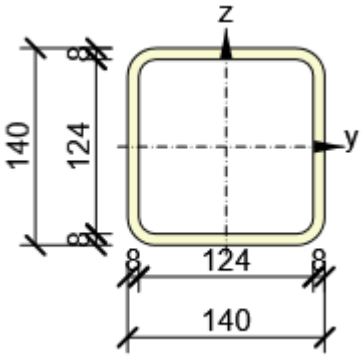

K1
K3
K1
K3
DP
DP
z
y
x

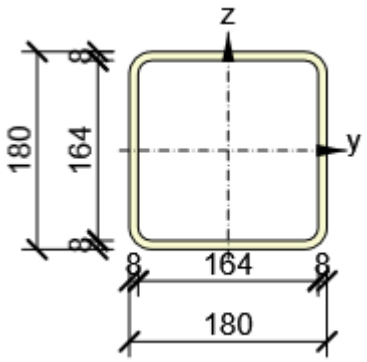


Cross-sections

Name	Material
1 - CFRHS140X140X8(RHS140x140)	S 355
2 - CFRHS180X180X8(RHS180x180)	S 355

Cross-sections

Name	Material	Drawing
1 - CFRHS140X140X8(RHS140x140)	S 355	

2 - CFRHS180X180X8(RHS180x180)	S 355	

Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Set(2)	K1 / Begin	101.0	0.0	0.0	0.0	0.0	0.0
	K3 / End	344.2	0.0	0.0	0.0	0.0	0.0
	DP / Begin	-1551.9	-1.1	-2.8	0.0	4.6	-3.8
	DP / End	1167.7	1.1	-1.7	0.0	-4.6	3.8
	V / End	-117.3	0.0	0.0	0.0	0.0	0.0

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Set(2)	0.0	0.0	1.1	-8.9	0.0	0.0

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0.1 < 5.0%	OK
Loc. deformation	0.2 < 3%	OK
Welds	98.2 < 100%	OK
Buckling	Not calculated	
GMNA	Calculated	

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ε_{Pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
K1	8.0	ULS-Set(2)	287.8	0.0	0.0	OK
K3	8.0	ULS-Set(2)	355.2	0.1	0.0	OK
DP	8.0	ULS-Set(2)	355.2	0.1	0.0	OK
V	8.0	ULS-Set(2)	186.3	0.0	0.0	OK

Design data

Material	f_y [MPa]	ε_{lim} [%]
S 355	355.0	5.0

Symbol explanation

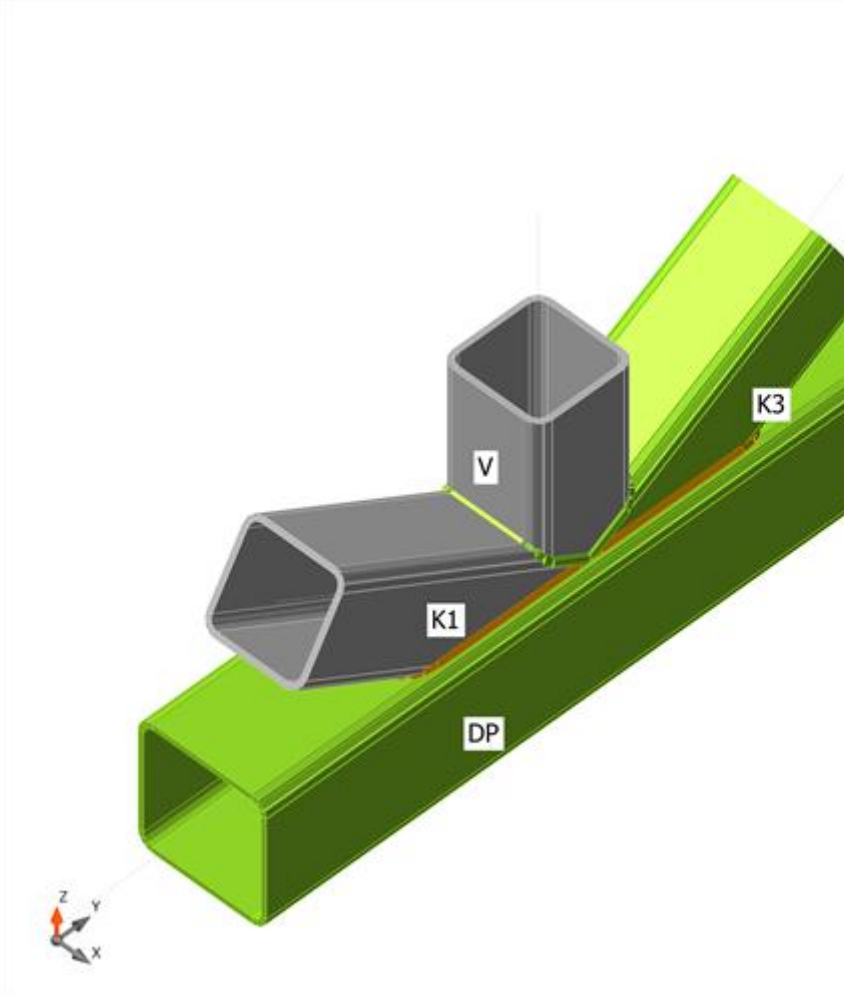
t_p Plate thickness
σ_{Ed} Equivalent stress
ε_{Pl} Plastic strain
$\sigma_{c,Ed}$ Contact stress
f_y Yield strength
ε_{lim} Limit of plastic strain

Loc. deformation

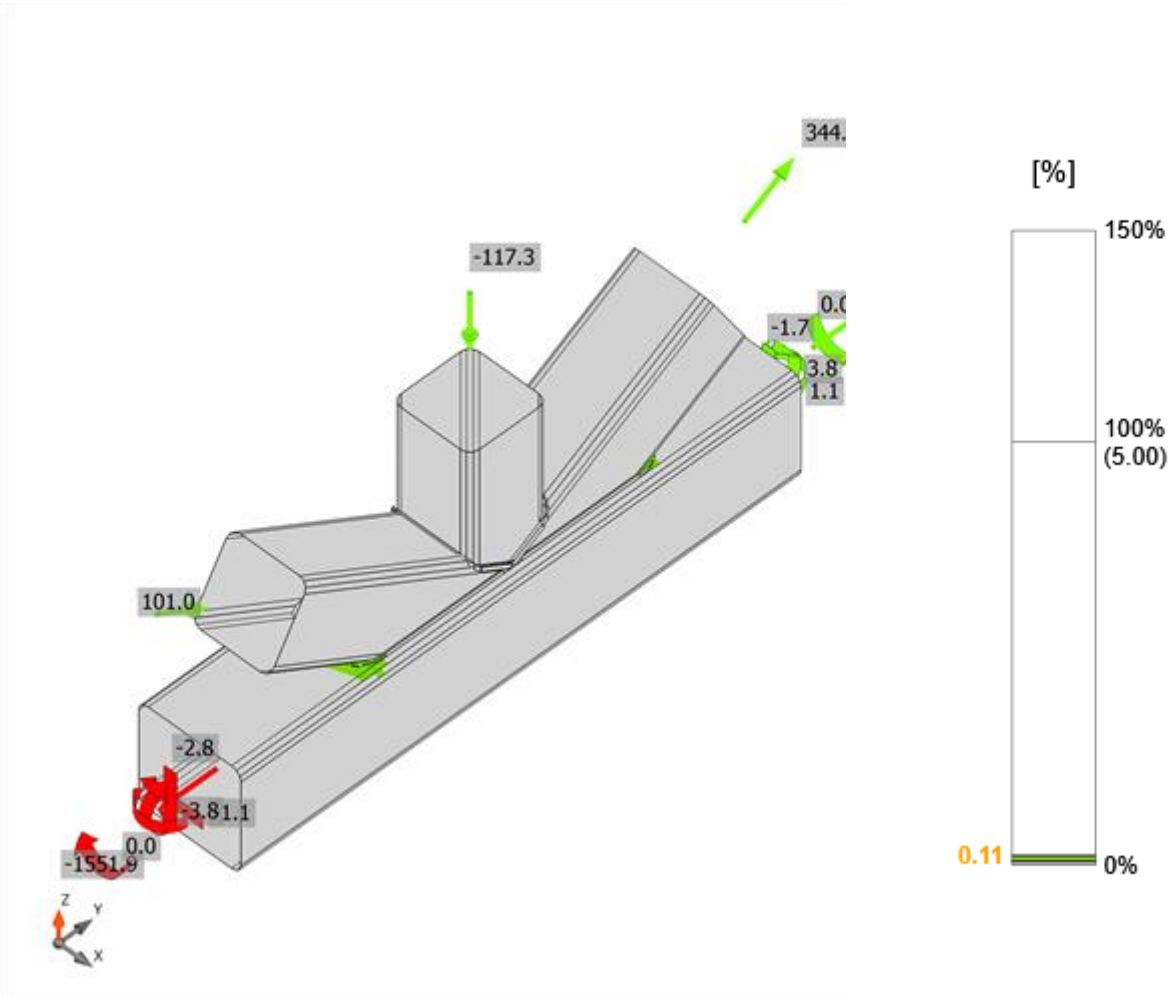
Name	d_0 [mm]	Loads	δ [mm]	δ_{lim} [mm]	δ/d_0 [%]	Check status
K1	140	ULS-Set(2)	0	4	0.0	OK
K3	140	ULS-Set(2)	0	4	0.0	OK
DP	180	ULS-Set(2)	0	5	0.2	OK
V	140	ULS-Set(2)	0	4	0.0	OK

Symbol explanation

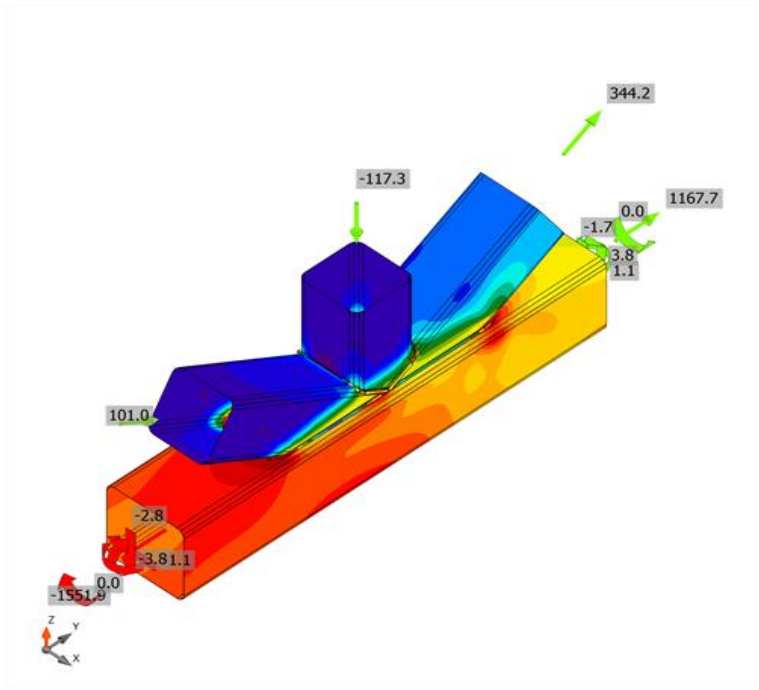
d_0 Cross-section size
δ Local cross-section deformation
δ_{lim} Allowed deformation



Overall check, ULS-Set(2)



Strain check, ULS-Set(2)



Equivalent stress, ULS-Set(2)

Welds

Item	Edge	T_w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ε_{Pl} [%]	$\sigma_{\perp}$ [MPa]	$\tau_{\perp}$ [MPa]	$\tau_{\parallel}$ [MPa]	Ut [%]	Ut_c [%]	Detailing	Status
DP-w 3	K1	◢ 4.0	582	ULS-Set(2)	427.8	0.6	66.6	24.0	242.8	98.2	72.8	OK	OK
K3-arc 8	V	◢ 4.0	278	ULS-Set(2)	329.3	0.0	131.5	52.1	-166.3	75.6	46.4	OK	OK
DP-w 3	K3	◢ 4.0	745	ULS-Set(2)	427.6	0.4	329.8	45.0	-150.5	98.2	60.1	OK	OK
K1-arc 8	V	◢ 4.0	277	ULS-Set(2)	277.2	0.0	35.7	-13.4	158.1	63.6	41.8	OK	OK
K3-arc 8	K1	◢ 4.0	143	ULS-Set(2)	209.1	0.0	166.3	-33.0	-65.3	48.0	29.6	OK	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9 σ [MPa]
S 355	490.0	0.90	435.6	352.8

Symbol explanation

T_w	Throat thickness a
L	Length
$\sigma_{w,Ed}$	Equivalent stress
ε_{Pl}	Strain
$\sigma_{\perp}$	Perpendicular stress
$\tau_{\perp}$	Shear stress perpendicular to weld axis
$\tau_{\parallel}$	Shear stress parallel to weld axis
Ut	Utilization
Ut_c	Weld capacity estimation
◢	Fillet weld
f_u	Ultimate strength of weld
β_w	Correlation factor EN 1993-1-8 – Tab. 4.1
$\sigma_{w,Rd}$	Equivalent stress resistance
0.9 σ	Perpendicular stress resistance: 0.9*fu/γM2

Buckling

Buckling analysis was not calculated.

Code settings

Item	Value	Unit	Reference
Safety factor γ_{M0}	1.00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1.10	-	EN 1993-1-1 – 6.1
Safety factor γ_{M2}	1.25	-	EN 1993-1-1 – 6.1, EN 1993-1-8 – Table 2.1
Safety factor γ_{M3}	1.25	-	EN 1993-1-8 – Table 2.1
Safety factor γ_C	1.50	-	EN 1992-1-1 – 2.4.2.4
Safety factor γ_{Inst}	1.20	-	EN 1992-4 – Table 4.1
Joint coefficient βj	0.67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0.10	-	
Friction coefficient - concrete	0.25	-	EN 1993-1-8
Friction coefficient in slip-resistance	0.30	-	EN 1993-1-8 – Table 3.7
Limit plastic strain	0.05	-	EN 1993-1-5
Detailing	Yes		
Distance between bolts [d0]	2.20	-	EN 1993-1-8 – Table 3.3
Distance between bolts and edge [d0]	1.20	-	EN 1993-1-8 – Table 3.3
Concrete breakout resistance check	Both		
Cracked concrete	Yes		EN 1992-4
Local deformation check	Yes		
Local deformation limit	0.03	-	CIDECT DG 1, 3 – 1.1
Geometrical nonlinearity (GMNA)	Yes		Analysis with large deformations for hollow section joints
Braced system	No		EN 1993-1-8 – 5.2.2.5

3.3. DETALJ "C" - SPOJ KOSE ISPUNE I GORNJE POJASNICE REŠETKE

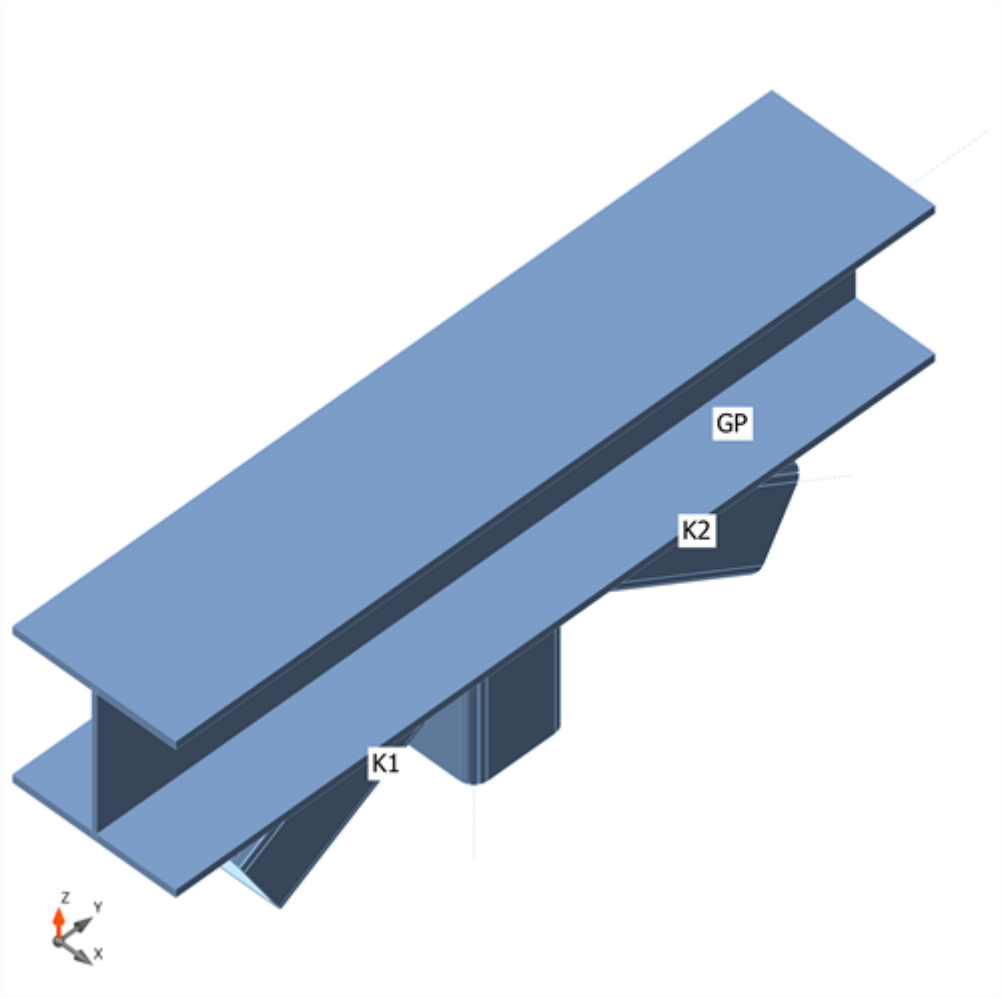
Members

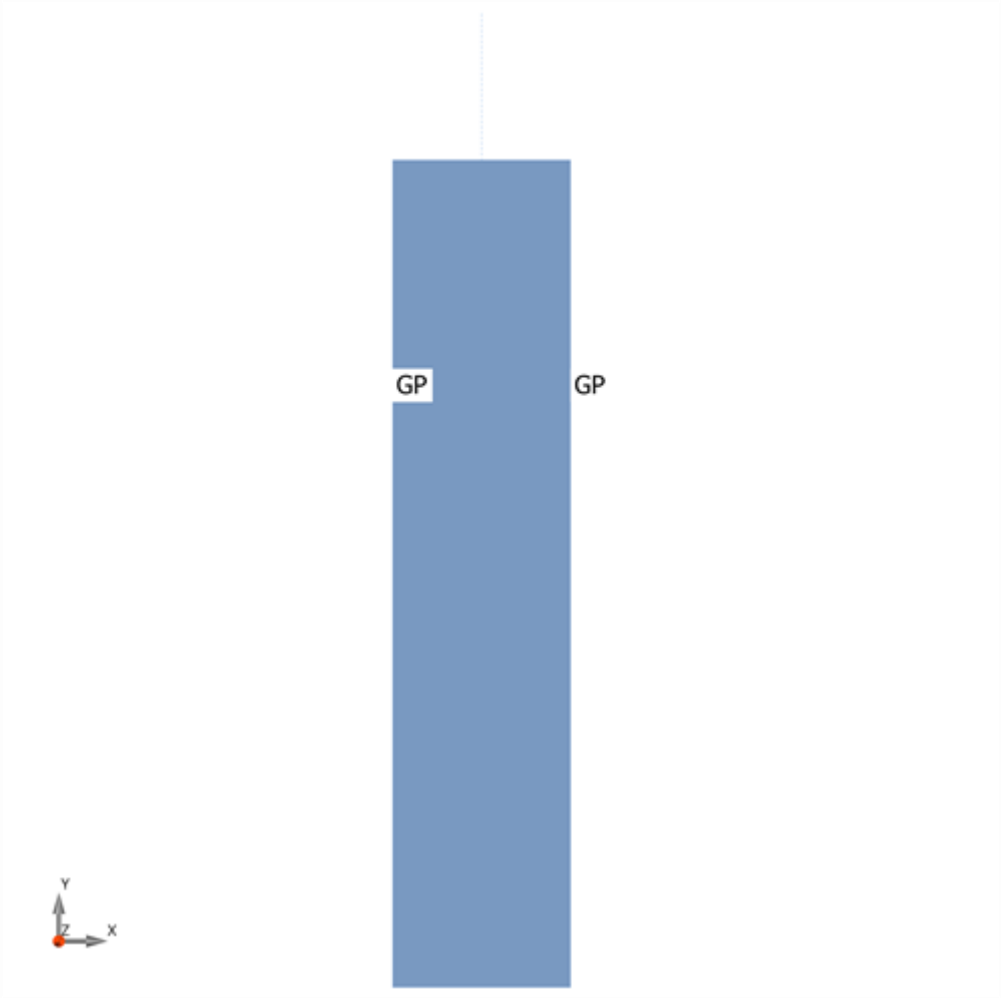
Geometry

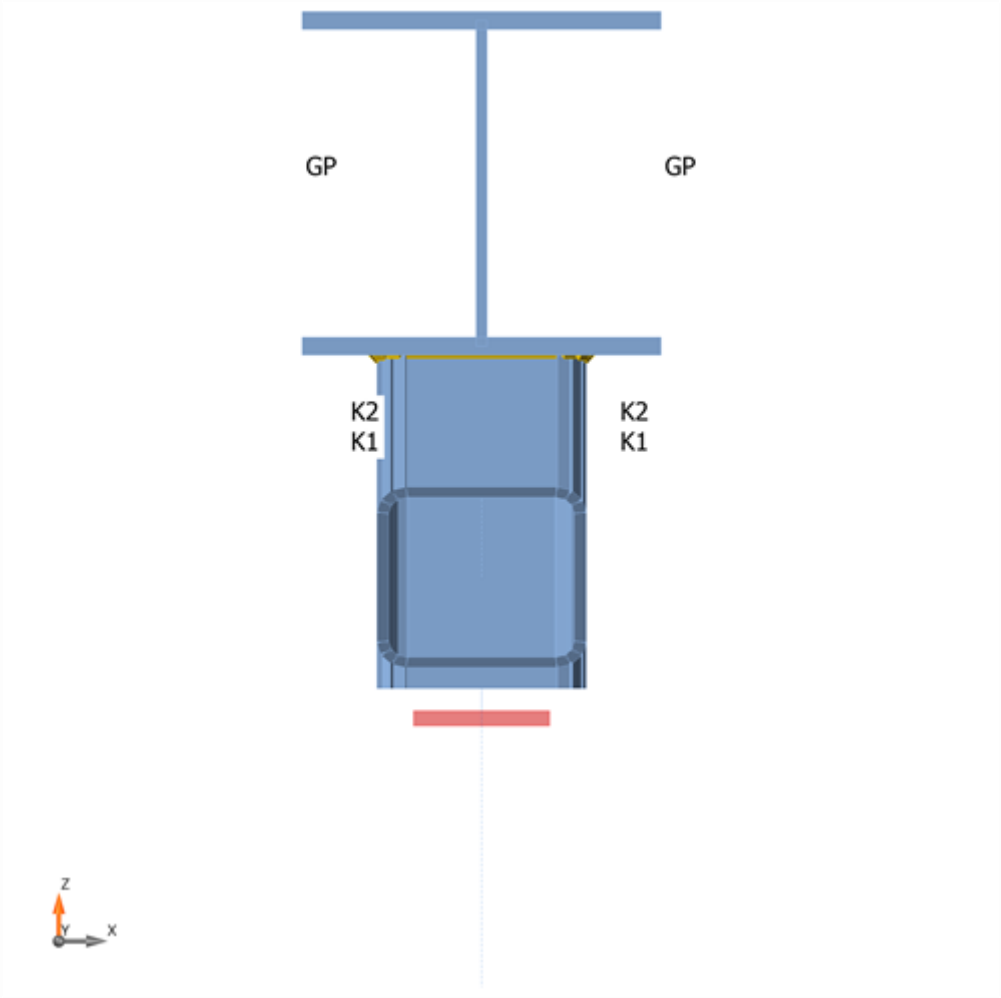
Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
V	1 - CFRHS140X140X8(RHS140x140)	0.0	-90.0	0.0	0	0	0
K1	1 - CFRHS140X140X8(RHS140x140)	90.0	30.3	0.0	0	0	-35
K2	1 - CFRHS140X140X8(RHS140x140)	90.0	-30.3	0.0	0	0	-35
GP	2 - HEA240	-90.0	0.0	0.0	0	0	0

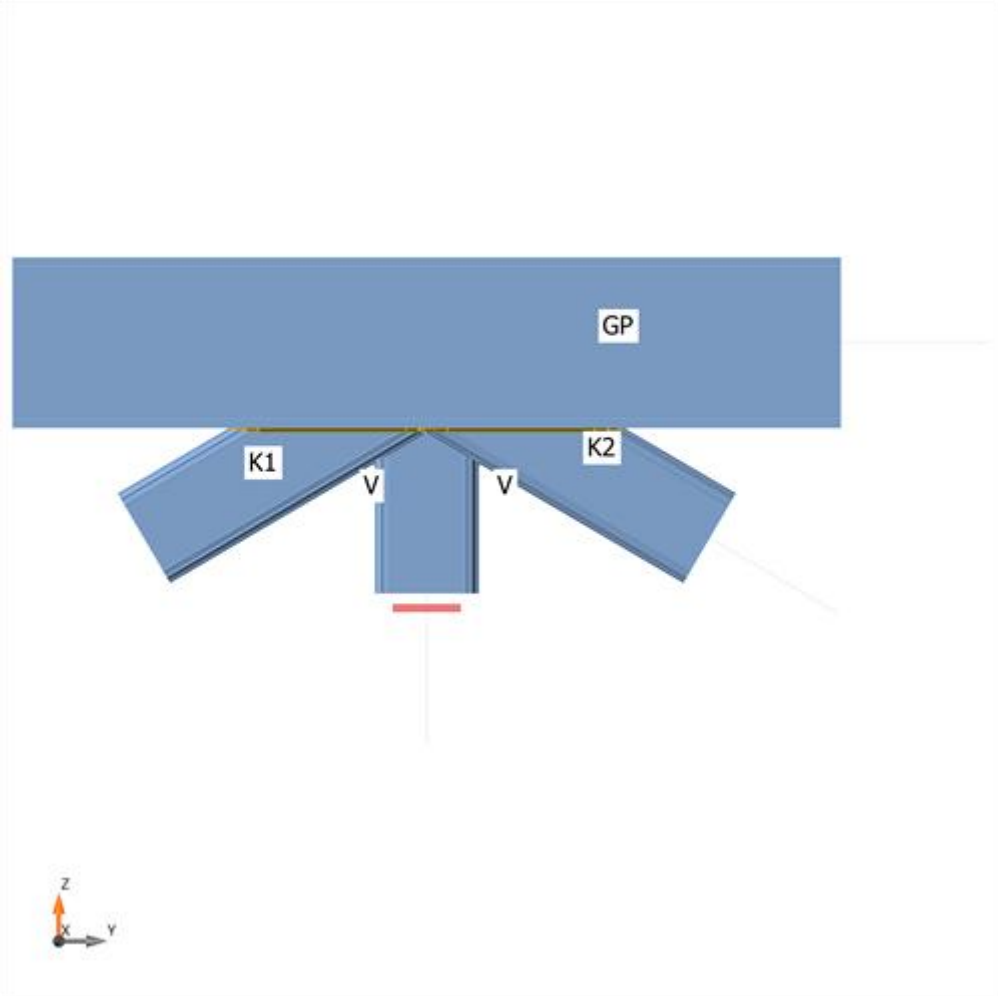
Supports and forces

Name	Support	Forces in	X [mm]
V / end	N-Vy-Vz-Mx-My-Mz	Position	0
K1 / begin		Position	0
K2 / end		Position	0
GP / begin		Position	0
GP / end		Position	0


GP
K2
K1
Z
Y
X


GP
GP
Y
X
Z

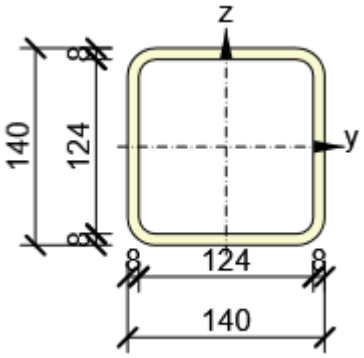

GP
GP
K2
K1
K2
K1
Z
Y
X

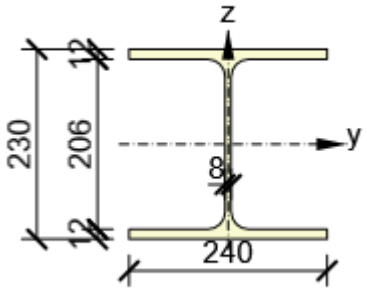


Cross-sections

Name	Material
1 - CFRHS140X140X8(RHS140x140)	S 355
2 - HEA240	S 355

Cross-sections

Name	Material	Drawing
1 - CFRHS140X140X8(RHS140x140)	S 355	

2 - HEA240	S 355	

Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Set(1)	V / End	1.4	0.0	0.0	0.0	0.0	0.0
	K1 / Begin	38.6	0.0	0.0	0.0	0.0	0.0
	K2 / End	-38.6	0.0	0.0	0.0	0.0	0.0
	GP / Begin	565.2	0.0	-16.9	0.0	1.6	0.0
	GP / End	-565.2	0.0	-16.9	0.0	-1.6	0.0
ULS-Set(2)	V / End	-1.2	0.0	0.0	0.0	0.0	0.0
	K1 / Begin	87.5	0.0	0.0	0.0	0.0	0.0
	K2 / End	-87.5	0.0	0.0	0.0	0.0	0.0
	GP / Begin	1278.6	0.0	-41.2	0.0	2.0	0.0
	GP / End	-1278.6	0.0	-41.2	0.0	-2.0	0.0
ULS-Set(3)	V / End	1.0	0.0	0.0	0.0	0.0	0.0
	K1 / Begin	49.1	0.0	0.0	0.0	0.0	0.0
	K2 / End	-49.1	0.0	0.0	0.0	0.0	0.0
	GP / Begin	719.3	0.0	-22.0	0.0	1.8	0.0
	GP / End	-719.3	0.0	-22.0	0.0	-1.8	0.0
ULS-Set(4)	V / End	1.1	0.0	0.0	0.0	0.0	0.0
	K1 / Begin	25.8	0.0	0.0	0.0	0.0	0.0
	K2 / End	-25.8	0.0	0.0	0.0	0.0	0.0
	GP / Begin	378.7	0.0	-11.2	0.0	1.2	0.0
	GP / End	-378.7	0.0	-11.2	0.0	-1.2	0.0
ULS-Set(5)	V / End	-1.0	0.0	0.0	0.0	0.0	0.0
	K1 / Begin	100.2	0.0	0.0	0.0	0.0	0.0
	K2 / End	-100.2	0.0	0.0	0.0	0.0	0.0
	GP / Begin	1465.0	0.0	-46.9	0.0	2.4	0.0
	GP / End	-1465.0	0.0	-46.9	0.0	-2.4	0.0
ULS-Set(6)	V / End	-1.0	0.0	0.0	0.0	0.0	0.0
	K1 / Begin	100.2	0.0	0.0	0.0	0.0	0.0
	K2 / End	-100.2	0.0	0.0	0.0	0.0	0.0
	GP / Begin	1465.0	0.0	-46.9	0.0	2.4	0.0
	GP / End	-1465.0	0.0	-46.9	0.0	-2.4	0.0
ULS-Set(7)	V / End	-0.9	0.0	0.0	0.0	0.0	0.0
	K1 / Begin	98.6	0.0	0.0	0.0	0.0	0.0

	K2 / End	-98.6	0.0	0.0	0.0	0.0	0.0
	GP / Begin	1440.8	0.0	-46.1	0.0	2.4	0.0
	GP / End	-1440.8	0.0	-46.1	0.0	-2.4	0.0
ULS-Set(8)	V / End	1.1	0.0	0.0	0.0	0.0	0.0
	K1 / Begin	25.8	0.0	0.0	0.0	0.0	0.0
	K2 / End	-25.8	0.0	0.0	0.0	0.0	0.0
	GP / Begin	378.7	0.0	-11.2	0.0	1.2	0.0
	GP / End	-378.7	0.0	-11.2	0.0	-1.2	0.0

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Set(1)	0.0	0.0	3.8	0.0	0.0	0.0
ULS-Set(2)	0.0	0.0	7.3	0.0	0.0	0.0
ULS-Set(3)	0.0	0.0	4.6	0.0	0.0	0.0
ULS-Set(4)	0.0	0.0	2.6	0.0	0.0	0.0
ULS-Set(5)	0.0	0.0	8.5	0.0	0.0	0.0
ULS-Set(6)	0.0	0.0	8.5	0.0	0.0	0.0
ULS-Set(7)	0.0	0.0	8.3	0.0	0.0	0.0
ULS-Set(8)	0.0	0.0	2.6	0.0	0.0	0.0

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0.0 < 5.0%	OK
Loc. deformation	0.1 < 3%	OK
Welds	98.0 < 100%	OK
Buckling	Not calculated	
GMNA	Calculated	

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ε_{Pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
V	8.0	ULS-Set(6)	168.8	0.0	0.0	OK
K1	8.0	ULS-Set(6)	200.9	0.0	0.0	OK
K2	8.0	ULS-Set(6)	285.2	0.0	0.0	OK
GP-bfl 1	12.0	ULS-Set(6)	277.2	0.0	0.0	OK
GP-tfl 1	12.0	ULS-Set(6)	241.7	0.0	0.0	OK
GP-w 1	7.5	ULS-Set(6)	240.1	0.0	0.0	OK

Design data

Material	f_y [MPa]	ε_{lim} [%]
S 355	355.0	5.0

Symbol explanation

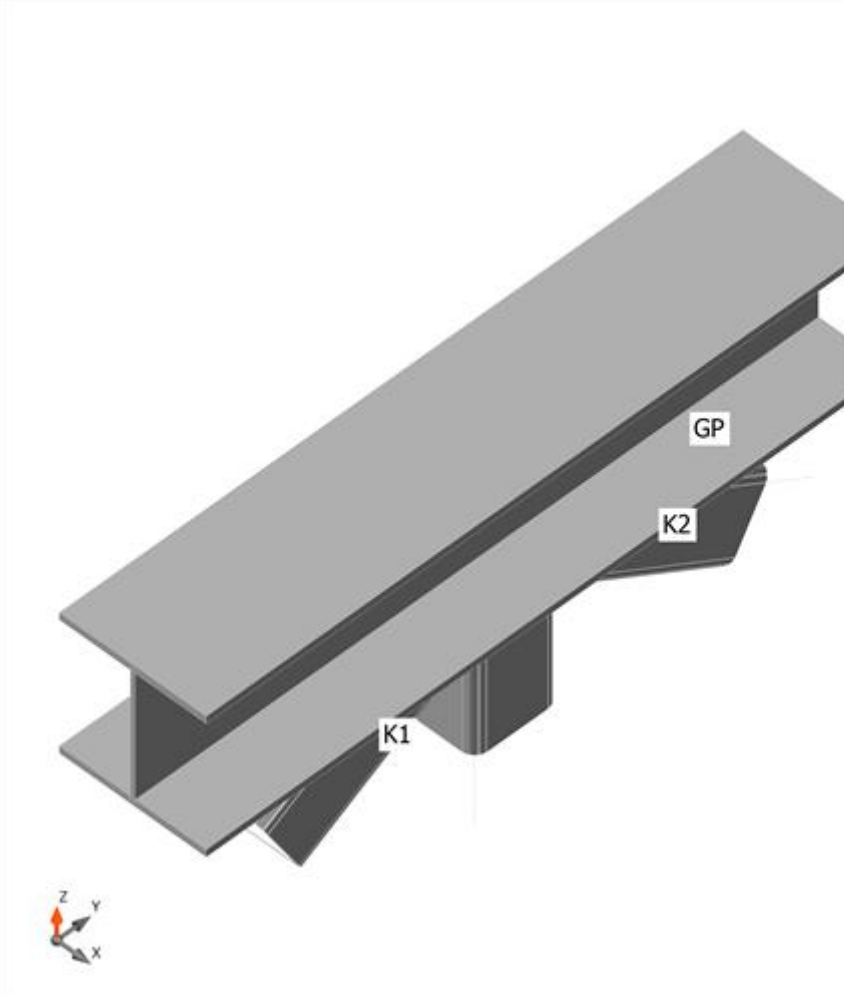
t_p Plate thickness
σ_{Ed} Equivalent stress
ε_{Pl} Plastic strain
$\sigma_{c,Ed}$ Contact stress
f_y Yield strength
ε_{lim} Limit of plastic strain

Loc. deformation

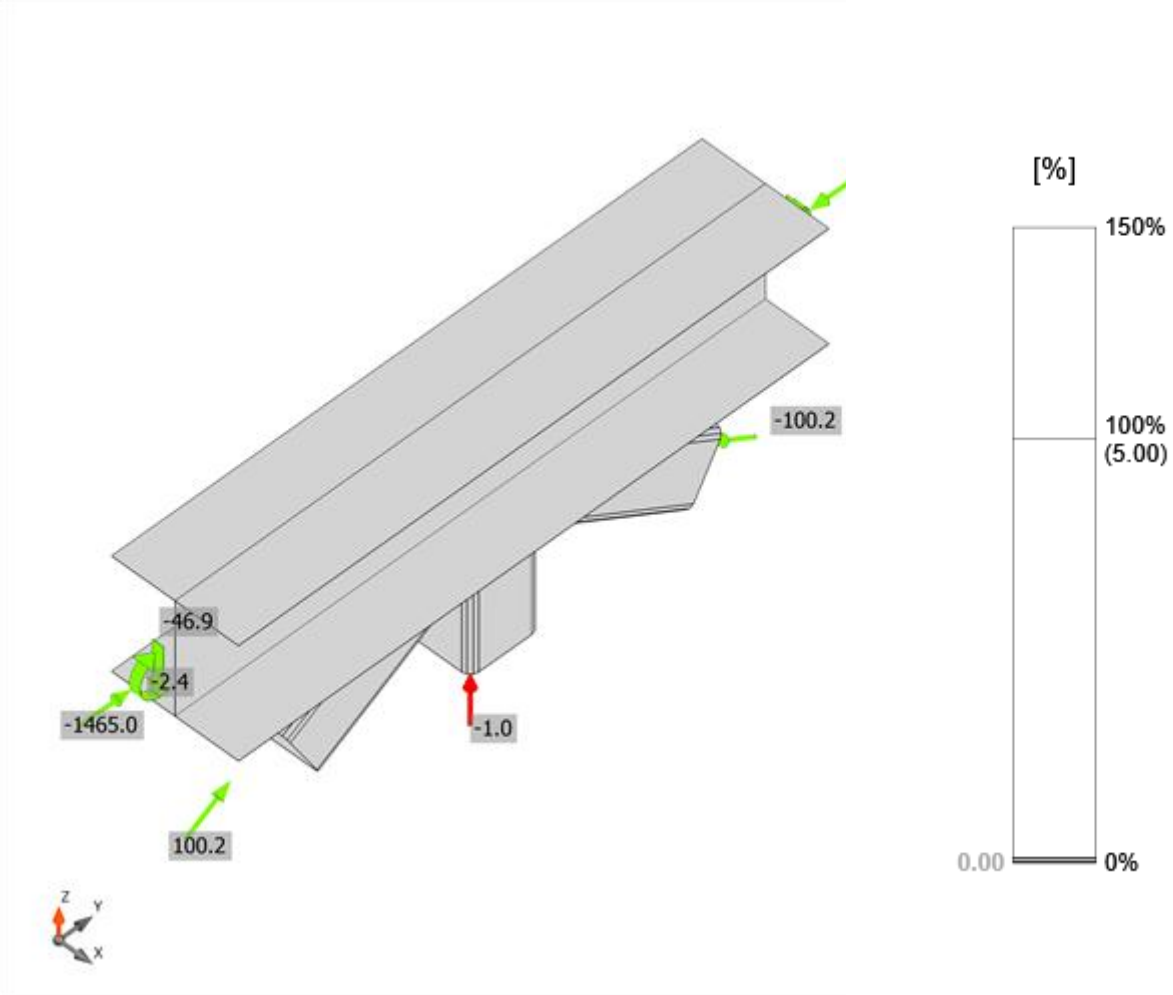
Name	d_0 [mm]	Loads	δ [mm]	δ_{lim} [mm]	δ/d_0 [%]	Check status
V	140	ULS-Set(6)	0	4	0.1	OK
K1	140	ULS-Set(8)	0	4	0.0	OK
K2	140	ULS-Set(8)	0	4	0.0	OK

Symbol explanation

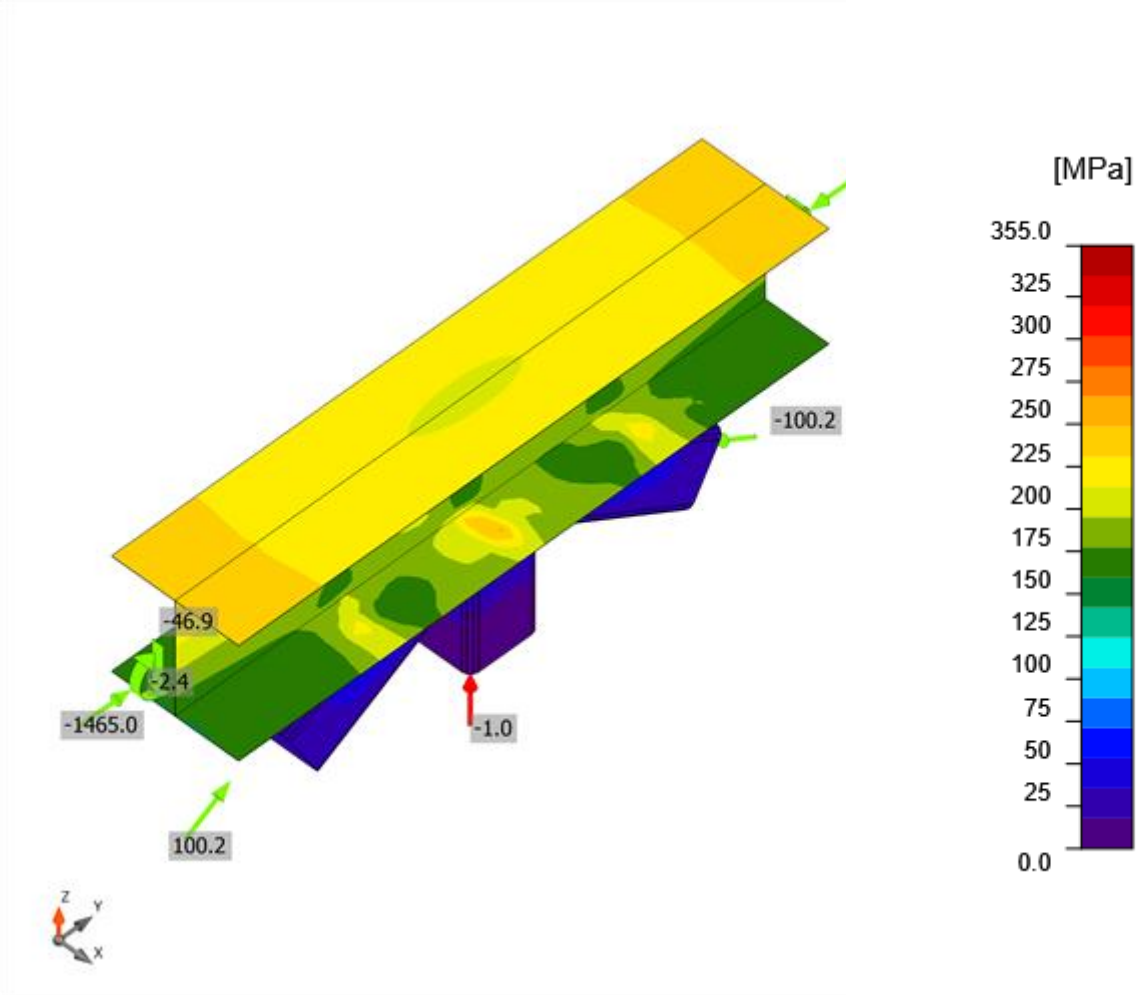
d_0 Cross-section size
δ Local cross-section deformation
δ_{lim} Allowed deformation



Overall check, ULS-Set(6)



Strain check, ULS-Set(6)



Equivalent stress, ULS-Set(6)

Welds

Item	Edge	T_w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ε_{Pl} [%]	$\sigma_{\perp}$ [MPa]	$\tau_{\perp}$ [MPa]	$\tau_{\parallel}$ [MPa]	Ut [%]	Ut_c [%]	Detailing	Status
GP-bfl 1	K1	◢ 4.0	603	ULS-Set(6)	426.9	0.0	-18.6	53.9	240.3	98.0	60.6	OK	OK
GP-bfl 1	K2	◢ 4.0	744	ULS-Set(6)	309.9	0.0	-191.3	140.7	0.0	71.2	42.5	OK	OK
K1-w 1	V	◢ 4.0	99	ULS-Set(2)	426.9	0.0	-87.8	-223.9	89.7	98.0	60.4	OK	OK
K2-w 1	V	◢ 4.0	99	ULS-Set(2)	330.1	0.0	-290.3	67.7	-60.4	82.3	48.2	OK	OK
K2-w 1	K1	◢ 4.0	99	ULS-Set(6)	377.9	0.0	-287.2	139.4	26.4	86.8	63.1	OK	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9 σ [MPa]
S 355	490.0	0.90	435.6	352.8

Symbol explanation

T_w	Throat thickness a
L	Length
$\sigma_{w,Ed}$	Equivalent stress
ε_{Pl}	Strain
$\sigma_{\perp}$	Perpendicular stress
$\tau_{\perp}$	Shear stress perpendicular to weld axis
$\tau_{\parallel}$	Shear stress parallel to weld axis
Ut	Utilization
Ut_c	Weld capacity estimation
◢	Fillet weld
f_u	Ultimate strength of weld
β_w	Correlation factor EN 1993-1-8 – Tab. 4.1
$\sigma_{w,Rd}$	Equivalent stress resistance
0.9 σ	Perpendicular stress resistance: 0.9*fu/γM2

Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
CUT1							
CUT2				Fillet: 4.0	606		
CUT3				Fillet: 4.0	748		
CUT4				Fillet: 4.0	100		
CUT5				Fillet: 4.0	100		
CUT6				Fillet: 4.0	100		

Symbol explanation

Fillet weld	throat thickness of weld

Welds

Type	Material	Throat thickness [mm]	Leg size [mm]	Length [mm]
Fillet	S 355	4.0	5.7	1654

Code settings

Item	Value	Unit	Reference
Safety factor γ_{M0}	1.00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1.10	-	EN 1993-1-1 – 6.1
Safety factor γ_{M2}	1.25	-	EN 1993-1-1 – 6.1, EN 1993-1-8 – Table 2.1
Safety factor γ_{M3}	1.25	-	EN 1993-1-8 – Table 2.1
Safety factor γ_{C}	1.50	-	EN 1992-1-1 – 2.4.2.4
Safety factor γ_{Inst}	1.20	-	EN 1992-4 – Table 4.1
Joint coefficient βj	0.67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0.10	-	
Friction coefficient - concrete	0.25	-	EN 1993-1-8
Friction coefficient in slip-resistance	0.30	-	EN 1993-1-8 – Table 3.7
Limit plastic strain	0.05	-	EN 1993-1-5
Detailing	Yes		
Distance between bolts [d0]	2.20	-	EN 1993-1-8 – Table 3.3
Distance between bolts and edge [d0]	1.20	-	EN 1993-1-8 – Table 3.3
Concrete breakout resistance check	Both		
Cracked concrete	Yes		EN 1992-4
Local deformation check	Yes		
Local deformation limit	0.03	-	CIDECT DG 1, 3 – 1.1
Geometrical nonlinearity (GMNA)	Yes		Analysis with large deformations for hollow section joints
Braced system	No		EN 1993-1-8 – 5.2.2.5

3.4. DETALJ "D" - SPOJ NASTAVKA GORNJE POJASNICE REŠETKE

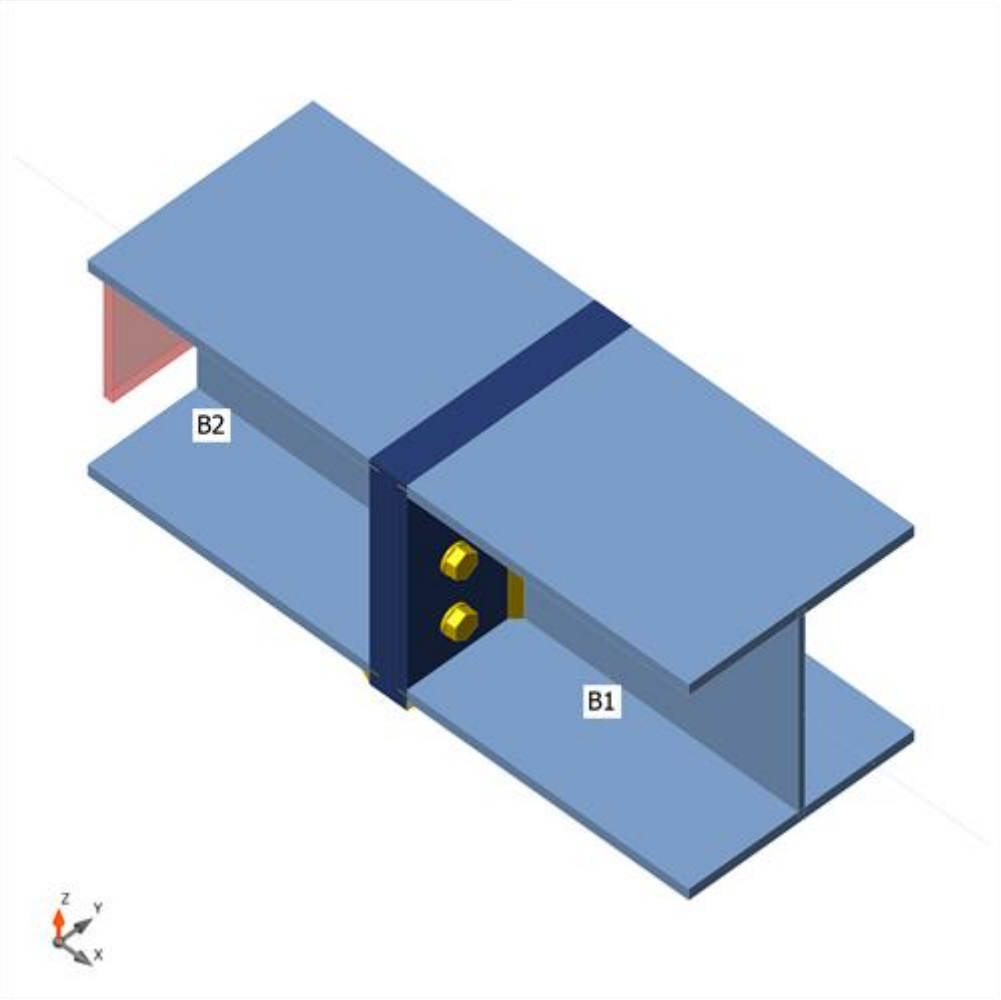
Members

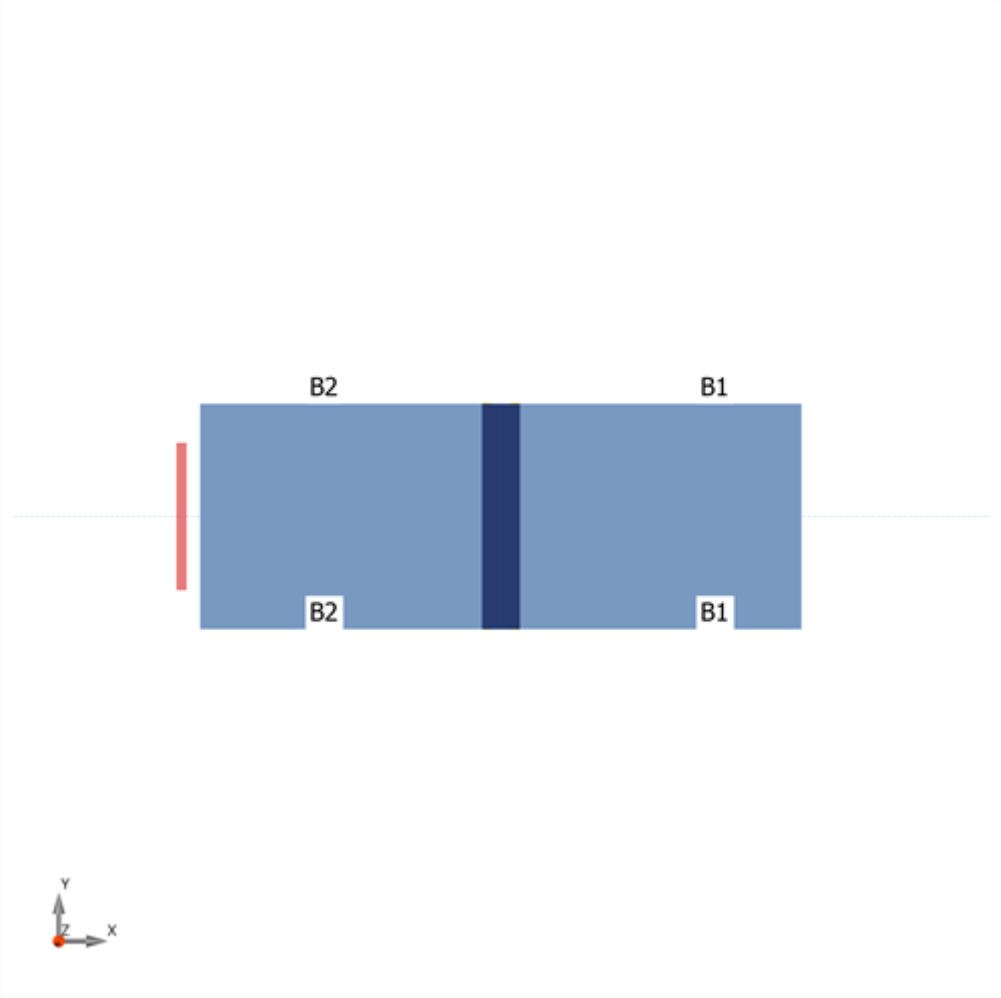
Geometry

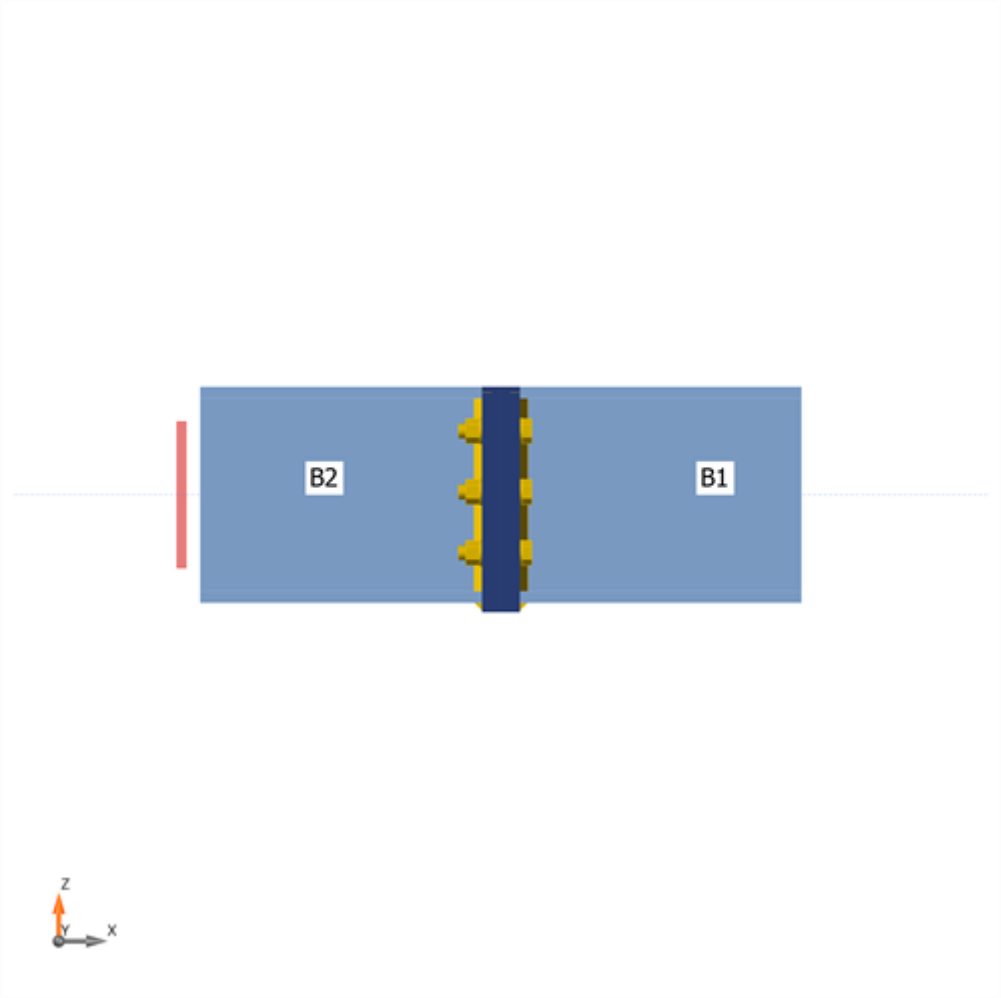
Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
B1	2 - HEA240	0.0	0.0	0.0	0	0	0
B2	2 - HEA240	180.0	0.0	0.0	0	0	0

Supports and forces

Name	Support	Forces in	X [mm]
B1 / end		Node	0
B2 / end	N-Vy-Vz-Mx-My-Mz	Node	0




B2
B1
B2
B1
Y
Z
X


B2
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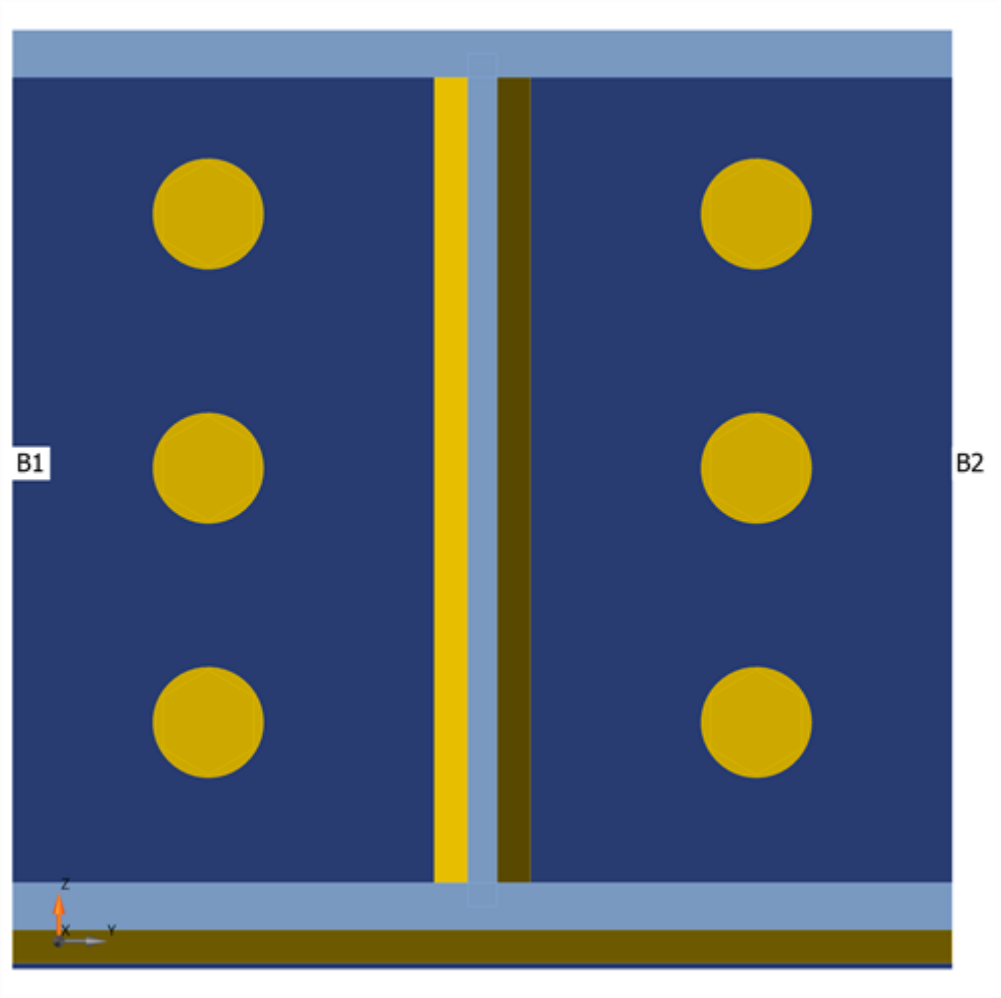
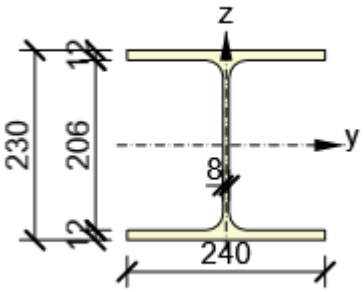


Cross-sections

Name	Material
2 - HEA240	S 355

Cross-sections

Name	Material	Drawing
2 - HEA240	S 355	

Bolts

Name	Diameter [mm]	f_y [MPa]	f_u [MPa]	Gross area [mm^2]
M16 8.8	16	640.0	800.0	201

Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE1	B1 / End	-1465.0	0.0	-27.0	0.0	-14.0	0.0
	B2 / End	-1465.0	0.0	-27.0	0.0	-14.0	0.0

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE1	0.0	0.0	-54.0	0.0	0.0	0.0

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0.0 < 5.0%	OK
Bolts	12.1 < 100%	OK
Welds	98.5 < 100%	OK
Buckling	Not calculated	

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ε_{Pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
B1-bfl 1	12.0	LE1	210.3	0.0	0.0	OK
B1-tfl 1	12.0	LE1	250.3	0.0	0.0	OK
B1-w 1	7.5	LE1	282.8	0.0	0.0	OK
B2-bfl 1	12.0	LE1	211.7	0.0	0.0	OK
B2-tfl 1	12.0	LE1	236.1	0.0	0.0	OK
B2-w 1	7.5	LE1	301.1	0.0	0.0	OK
PP1a	20.0	LE1	73.6	0.0	217.3	OK
PP1b	20.0	LE1	75.8	0.0	217.3	OK

Design data

Material	f_y [MPa]	ε_{lim} [%]
S 355	355.0	5.0

Symbol explanation

t_p	Plate thickness
σ_{Ed}	Equivalent stress
ε_{Pl}	Plastic strain
$\sigma_{c,Ed}$	Contact stress
f_y	Yield strength
ε_{lim}	Limit of plastic strain

Detailed result for B2-w 1

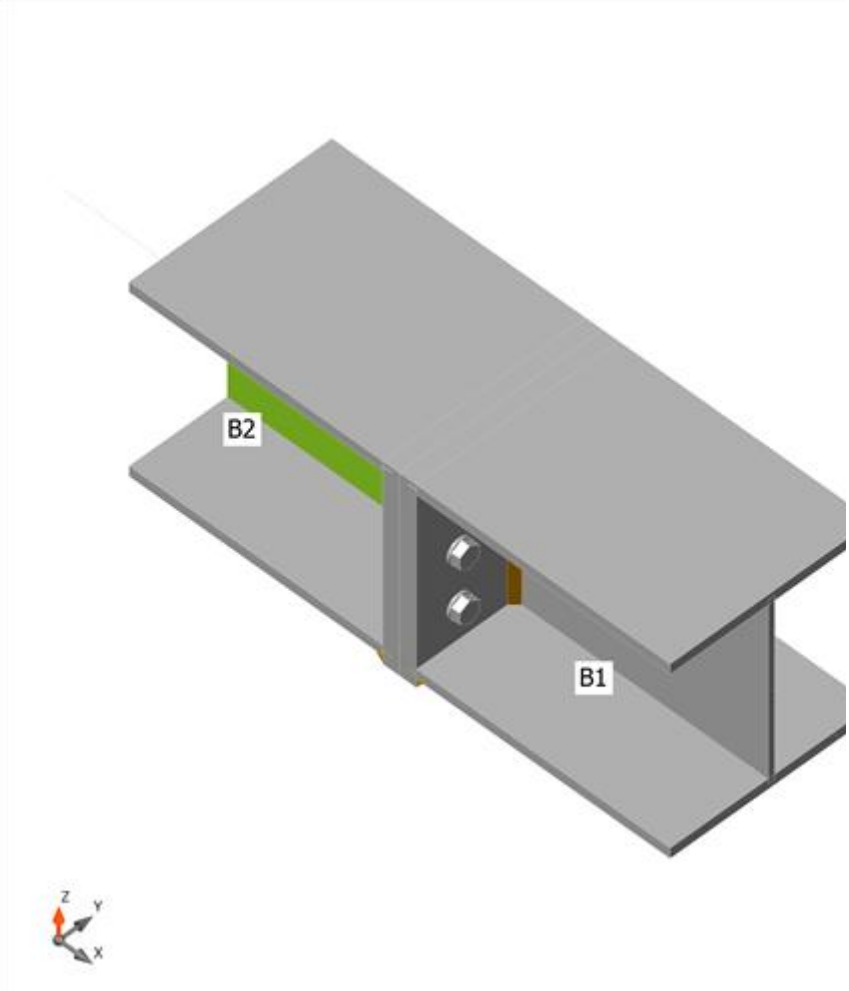
Design values used in the analysis

$f_{yd} = \frac{f_{yk}}{\gamma_{M0}} =$ 355.0 MPa

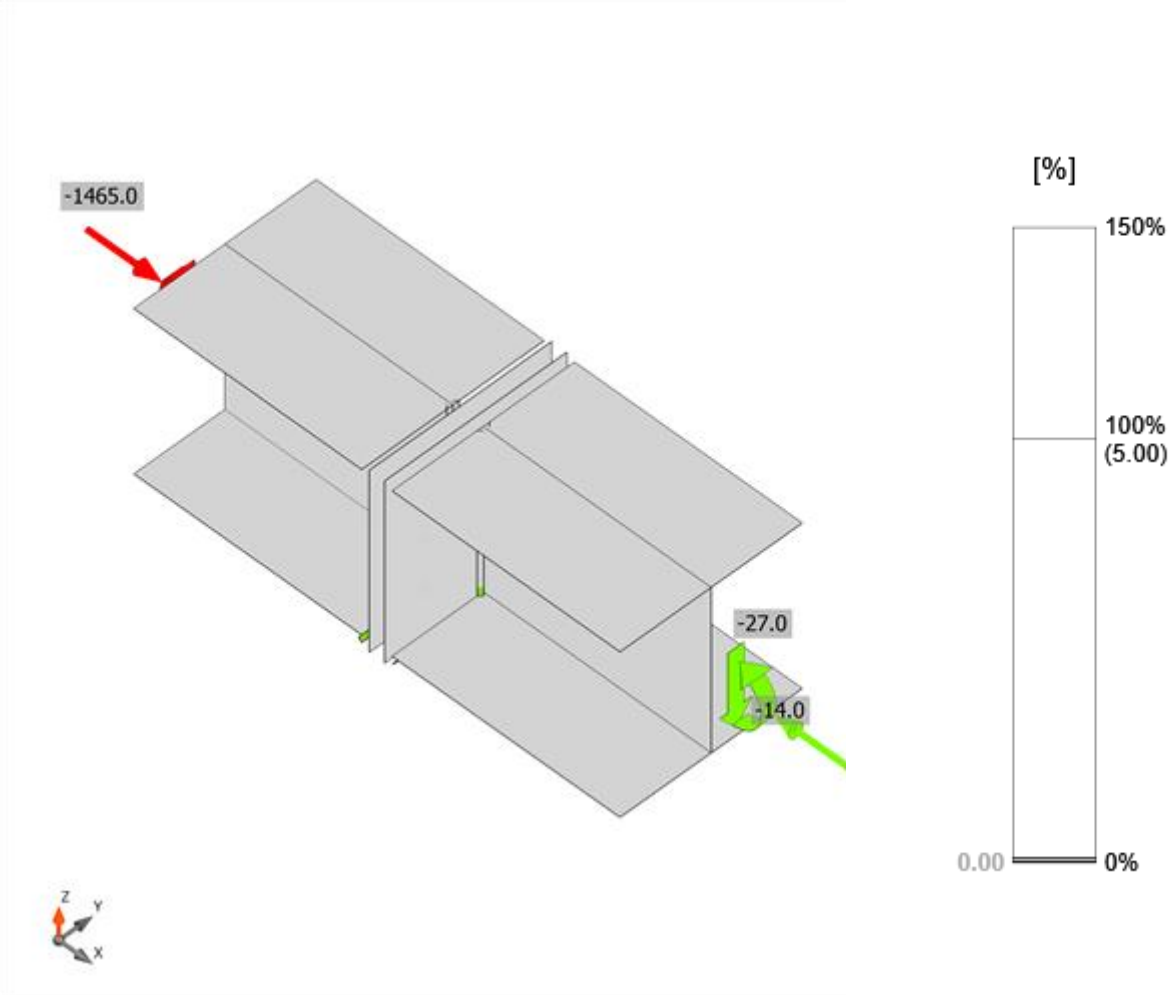
Where:

$f_{yk} =$ 355.0 MPa – characteristic yield strength

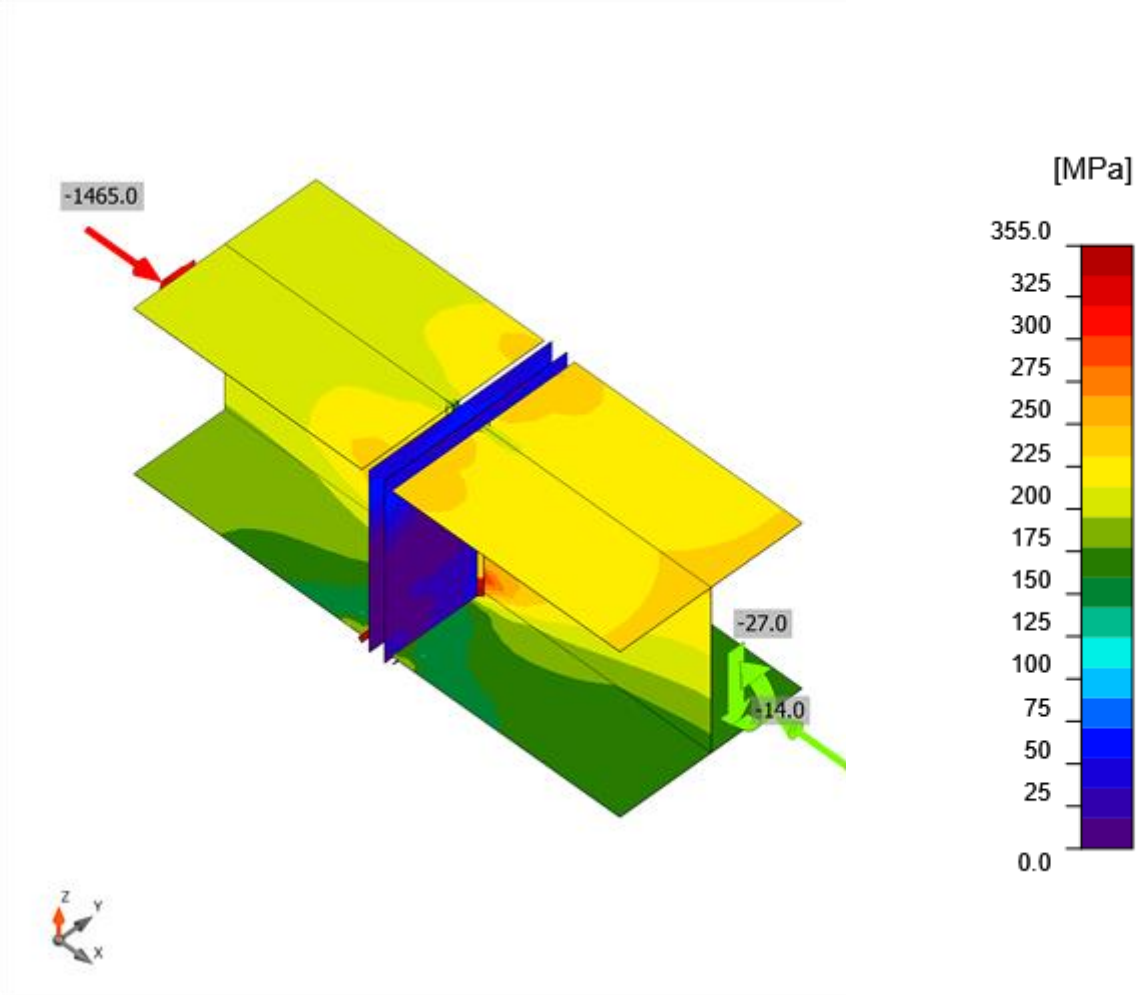
$\gamma_{M0} =$ 1.00 – partial safety factor for steel material EN 1993-1-1 – 6.1



Overall check, LE1

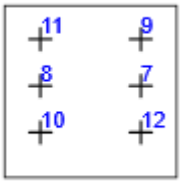


Strain check, LE1



Equivalent stress, LE1

Bolts

Shape	Item	Grade	Loads	$F_{t,Ed}$ [kN]	$F_{v,Ed}$ [kN]	$F_{b,Rd}$ [kN]	Ut_t [%]	Ut_s [%]	Ut_{ts} [%]	Detailing	Status
	B7	M16 8.8 - 1	LE1	5.8	4.5	299.1	6.4	7.5	12.1	OK	OK
	B8	M16 8.8 - 1	LE1	5.7	4.5	299.1	6.4	7.5	12.0	OK	OK
	B9	M16 8.8 - 1	LE1	5.0	4.5	272.9	5.5	7.5	11.5	OK	OK
	B10	M16 8.8 - 1	LE1	1.9	4.5	299.1	2.1	7.4	8.9	OK	OK
	B11	M16 8.8 - 1	LE1	4.9	4.5	272.9	5.4	7.5	11.3	OK	OK
	B12	M16 8.8 - 1	LE1	1.9	4.5	299.1	2.1	7.4	8.9	OK	OK

Design data

Grade	$F_{t,Rd}$	$B_{p,Rd}$	$F_{v,Rd}$

	[kN]	[kN]	[kN]
M16 8.8 - 1	90.4	375.0	60.3

Symbol explanation

$F_{t,Ed}$	Tension force
$F_{v,Ed}$	Resultant of bolt shear forces Vy and Vz in shear planes
$F_{b,Rd}$	Plate bearing resistance EN 1993-1-8 – Tab. 3.4
Ut_t	Utilization in tension
Ut_s	Utilization in shear
Ut_{ts}	Interaction of tension and shear EN 1993-1-8 – Tab. 3.4
$F_{t,Rd}$	Bolt tension resistance EN 1993-1-8 – Tab. 3.4
$B_{p,Rd}$	Punching shear resistance EN 1993-1-8 – Tab. 3.4
$F_{v,Rd}$	Bolt shear resistance EN 1993-1-8 – Tab. 3.4

Detailed result for B7

Tension resistance check (EN 1993-1-8 – Table 3.4)

$$F_{t,Rd} = \frac{k_2 f_{ub} A_s}{\gamma_{M2}} = 90.4 \text{ kN} \geq F_{t,Ed} = 5.8 \text{ kN}$$

Where:

$k_2 = 0.90$ – Factor

$f_{ub} = 800.0$ MPa – Ultimate tensile strength of the bolt

$A_s = 157$ mm^2 – Tensile stress area of the bolt

$\gamma_{M2} = 1.25$ – Safety factor

Punching resistance check (EN 1993-1-8 – Table 3.4)

$$B_{p,Rd} = \frac{0.6 \pi d_m t_p f_u}{\gamma_{M2}} = 375.0 \text{ kN} \geq F_{t,Ed} = 5.8 \text{ kN}$$

Where:

$d_m = 25.4$ mm – The mean of the across points and across flats dimensions of the bolt head or the nut, whichever is smaller

$t_p = 20.0$ mm – Plate thickness

$f_u = 490.0$ MPa – Ultimate strength

$\gamma_{M2} = 1.25$ – Safety factor

Shear resistance check (EN 1993-1-8 – Table 3.4)

$$F_{v,Rd} = \frac{\beta_p \alpha_v f_{ub} A}{\gamma_{M2}} = 60.3 \text{ kN} \geq F_{v,Ed} = 4.5 \text{ kN}$$

Where:

$\beta_p = 1.00$ – Reduction factor for packing

$\alpha_v = 0.60$ – Reduction factor for shear stress

$f_{ub} = 800.0$ MPa – Ultimate tensile strength of the bolt

$A = 157$ mm^2 – Tensile stress area of the bolt

$\gamma_{M2} = 1.25$ – Safety factor

Bearing resistance check (EN 1993-1-8 – Table 3.4)

$F_{b,Rd} = \frac{k_1 \alpha_b f_u d t}{\gamma_{M2}} =$ 299.1 kN ≥ $F_{b,Ed} =$ 4.5 kN

Where:

$k_1 = \min(2.8\frac{e_2}{d_0} - 1.7, 1.4\frac{p_2}{d_0} - 1.7, 2.5) = 2.50$ – Factor for edge distance and bolt spacing perpendicular to the direction of load transfer

$\alpha_b = \min(\frac{e_1}{3d_0}, \frac{p_1}{3d_0} - \frac{1}{4}, \frac{f_{ub}}{f_u}, 1) = 0.95$ – Factor for end distance and bolt spacing in direction of load transfer

$e_2 = 50$ mm – Distance to the plate edge perpendicular to the shear force

$p_2 = 140$ mm – Distance between bolts perpendicular to the shear force

$d_0 = 18.0$ mm – Bolt hole diameter

$e_1 = 112$ mm – Distance to the plate edge in the direction of the shear force

$p_1 = 65$ mm – Distance between bolts in the direction of the shear force

$f_{ub} = 800.0$ MPa – Ultimate tensile strength of the bolt

$f_u = 490.0$ MPa – Ultimate strength of the plate

$d = 16.0$ mm – Nominal diameter of the fastener

$t = 20.0$ mm – Thickness of the plate

$\gamma_{M2} = 1.25$ – Safety factor

Utilization in tension

$\frac{F_{t,Ed}}{\min(F_{t,Rd}; B_{p,Rd})} =$ 0.06 ≤ 1.0

Where:

$F_{t,Ed} = 5.8$ kN – Tensile force

$F_{t,Rd} = 90.4$ kN – Tension resistance

$B_{p,Rd} = 375.0$ kN – Punching resistance

Utilization in shear

$\max(\frac{F_{v,Ed}}{F_{v,Rd}}; \frac{F_{b,Ed}}{F_{b,Rd}}) =$ 0.08 ≤ 1.0

Where:

$F_{v,Ed} = 4.5$ kN – Shear force (in decisive shear plane)

$F_{v,Rd} = 60.3$ kN – Shear resistance

$F_{b,Ed} = 4.5$ kN – Bearing force (for decisive plate)

$F_{b,Rd} = 299.1$ kN – Bearing resistance

Interaction of tension and shear (EN 1993-1-8 – Table 3.4)

$$\frac{F_{v,Ed}}{F_{v,Rd}} + \frac{F_{t,Ed}}{1.4\,F_{t,Rd}} = \quad 0.12 \quad \leq \quad 1.0$$

Where:

$F_{v,Ed} = 4.5$ kN – Shear force (in decisive shear plane)

$F_{v,Rd} = 60.3$ kN – Shear resistance

$F_{t,Ed} = 5.8$ kN – Tensile force

$F_{t,Rd} = 90.4$ kN – Tension resistance

Welds

Item	Edge	T_w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ε_{Pl} [%]	$\sigma_{\perp}$ [MPa]	$\tau_{\perp}$ [MPa]	$\tau_{\parallel}$ [MPa]	Ut [%]	Ut_c [%]	Detailing	Status
PP1a	B1-w 1	◢ 6.0 ◣	217	LE1	427.2	0.2	-209.7	-209.8	-46.5	98.1	68.1	OK	OK
		◢ 6.0 ◣	217	LE1	427.2	0.2	-209.9	209.8	46.3	98.1	68.0	OK	OK
PP1b	B2-w 1	◢ 6.0 ◣	217	LE1	427.3	0.3	-211.2	-211.6	-35.0	98.1	70.6	OK	OK
		◢ 6.0 ◣	217	LE1	427.3	0.3	-211.6	211.5	34.9	98.1	70.5	OK	OK
PP1a	B1-bfl 1	◢ 6.0	238	LE1	428.3	0.9	-214.1	213.7	14.1	98.3	92.3	OK	OK
PP1b	B2-bfl 1	◢ 6.0	238	LE1	429.1	1.3	-213.8	213.8	20.4	98.5	93.0	OK	OK
PP1a	B1-tfl 1	-	240	-	-	-	-	-	-	-	-	OK	OK
PP1b	B2-tfl 1	-	240	-	-	-	-	-	-	-	-	OK	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9 σ [MPa]
S 355	490.0	0.90	435.6	352.8

Symbol explanation

T_w	Throat thickness a
L	Length
$\sigma_{w,Ed}$	Equivalent stress
ε_{Pl}	Strain
$\sigma_{\perp}$	Perpendicular stress

$\tau_{\perp}$	Shear stress perpendicular to weld axis
$\tau_{\parallel}$	Shear stress parallel to weld axis
Ut	Utilization
Ut_c	Weld capacity estimation
◢	Fillet weld
f_u	Ultimate strength of weld
β_w	Correlation factor EN 1993-1-8 – Tab. 4.1
$\sigma_{w,Rd}$	Equivalent stress resistance
0.9 σ	Perpendicular stress resistance: 0.9*fu/γM2

Detailed result for PP1b / B2-bfl 1

Weld resistance check (EN 1993-1-8 – Cl. 4.5.3.2)

$\sigma_{w,Rd} = f_u/(\beta_w \gamma_{M2}) =$ 435.6 MPa ≥ $\sigma_{w,Ed} = [\sigma_{\perp}^2 + 3(\tau_{\perp}^2 + \tau_{\parallel}^2)]^{0.5} =$ 429.1 MPa

$\sigma_{\perp,Rd} = 0.9 f_u / \gamma_{M2} =$ 352.8 MPa ≥ $|\sigma_{\perp}| =$ 222.3 MPa

where:

$f_u =$ 490.0 MPa – Ultimate strength

$\beta_w =$ 0.90 – Correlation factor EN 1993-1-8 – Tab. 4.1

$\gamma_{M2} =$ 1.25 – Safety factor

Stress utilization

$U_t = \max(\frac{\sigma_{w,Ed}}{\sigma_{w,Rd}} ; \frac{|\sigma_{\perp}|}{\sigma_{\perp,Rd}}) =$ 0.99 ≤ 1.0

Where:

$\sigma_{w,Ed} =$ 429.1 MPa – Maximum normal stress transverse to the axis of the weld

$\sigma_{w,Rd} =$ 435.6 MPa – Equivalent stress resistance

$\sigma_{\perp} =$ -222.3 MPa – Normal stress perpendicular to the throat

$\sigma_{\perp,Rd} =$ 352.8 MPa – Perpendicular stress resistance

Detailing check

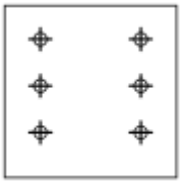
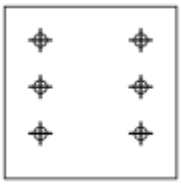
- Weld is too small. Throat thickness should be greater or equal to 11.0 mm where rupture of the weld is to be avoided for ductility purposes. (FprEN 1993-1-8:2023 – 6.9(4))

Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
PP1	P20.0x240-240 (S 355)		1	Double fillet: 6.0	436	M16 8.8	6
	P20.0x240-240 (S 355)		1				

Symbol explanation

Fillet weld throat thickness of weld

Welds

Type	Material	Throat thickness [mm]	Leg size [mm]	Effective throat [mm]	Length [mm]
Double fillet	S 355	6.0	8.5	-	436
Fillet	S 355	6.0	8.5	-	480
CJP	S 355	-	-	12.0	480

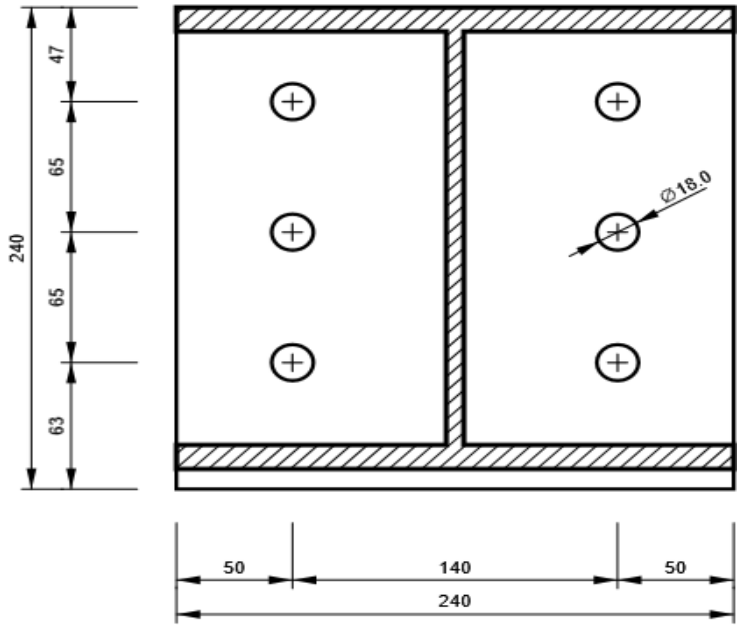
Bolts

Name	Grip length [mm]	Count
M16 8.8	40	6

Drawing

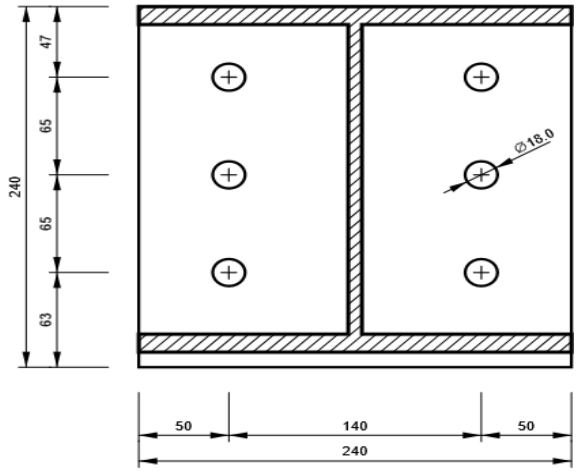
PP1 - PP1a

P20.0x240-240 (S 355)



PP1 - PP1b

P20.0x240-240 (S 355)



Code settings

Item	Value	Unit	Reference
Safety factor γ_{M0}	1.00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1.10	-	EN 1993-1-1 – 6.1
Safety factor γ_{M2}	1.25	-	EN 1993-1-1 – 6.1, EN 1993-1-8 – Table 2.1
Safety factor γ_{M3}	1.25	-	EN 1993-1-8 – Table 2.1

Safety factor γ_C	1.50	-	EN 1992-1-1 – 2.4.2.4
Safety factor γ_{Inst}	1.20	-	EN 1992-4 – Table 4.1
Joint coefficient βj	0.67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0.10	-	
Friction coefficient - concrete	0.25	-	EN 1993-1-8
Friction coefficient in slip-resistance	0.30	-	EN 1993-1-8 – Table 3.7
Limit plastic strain	0.05	-	EN 1993-1-5
Detailing	Yes		
Distance between bolts [d0]	2.20	-	EN 1993-1-8 – Table 3.3
Distance between bolts and edge [d0]	1.20	-	EN 1993-1-8 – Table 3.3
Concrete breakout resistance check	Both		
Cracked concrete	Yes		EN 1992-4
Local deformation check	Yes		
Local deformation limit	0.03	-	CIDECT DG 1, 3 – 1.1
Geometrical nonlinearity (GMNA)	Yes		Analysis with large deformations for hollow section joints
Braced system	No		EN 1993-1-8 – 5.2.2.5

3.5. DETALJ "E" - SPOJ NASTAVKA KOSNIKA REŠETKE

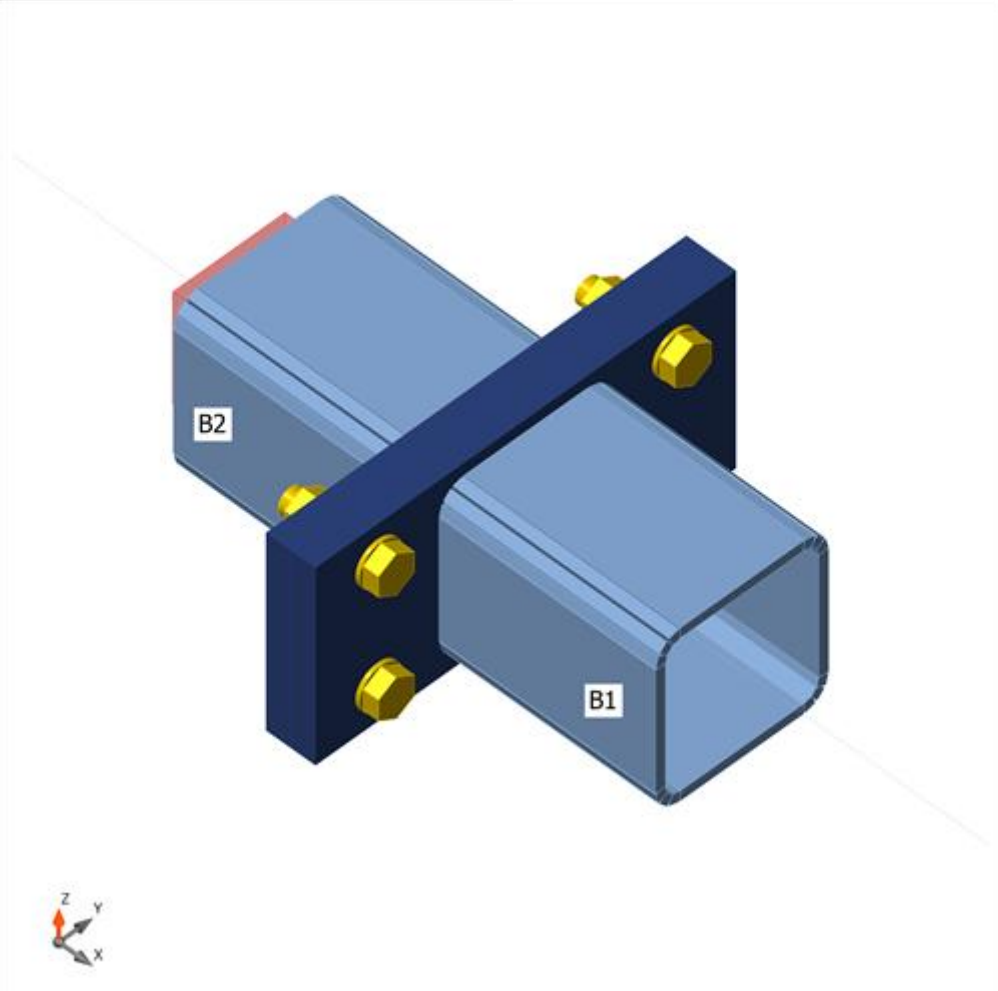
Members

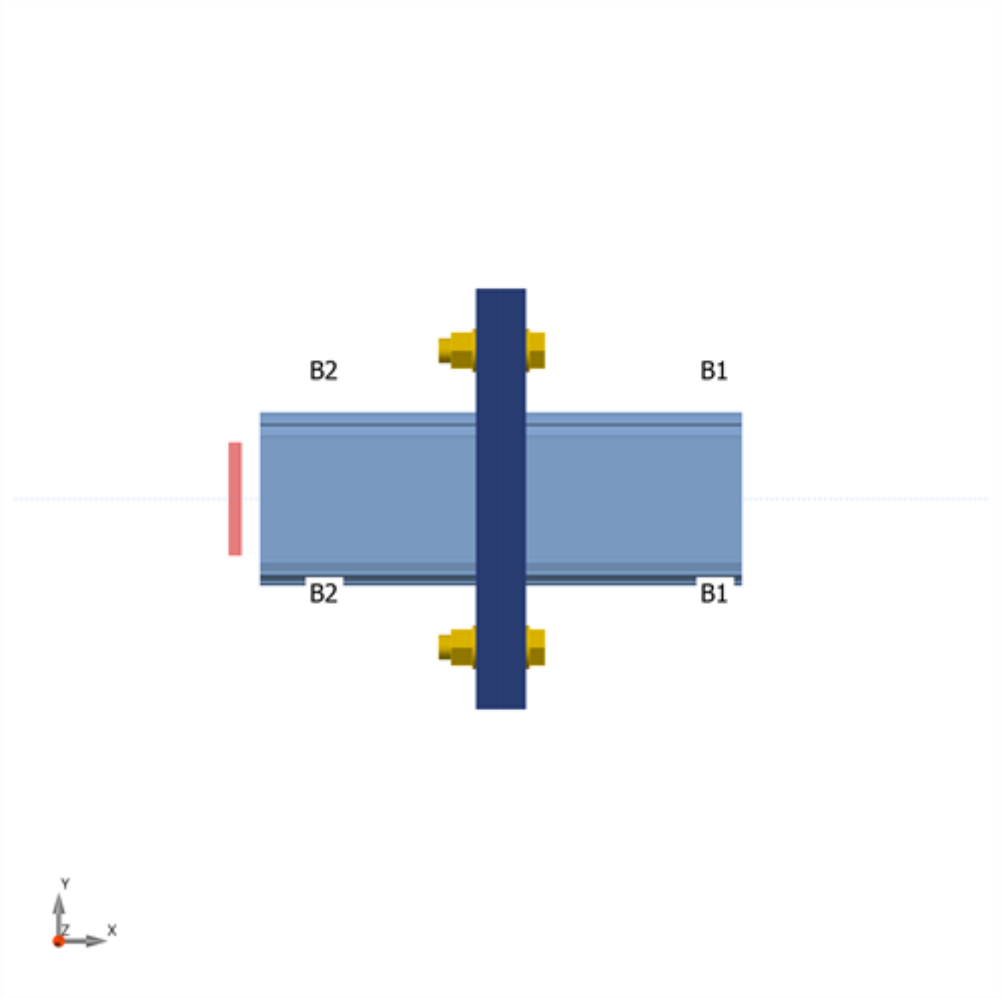
Geometry

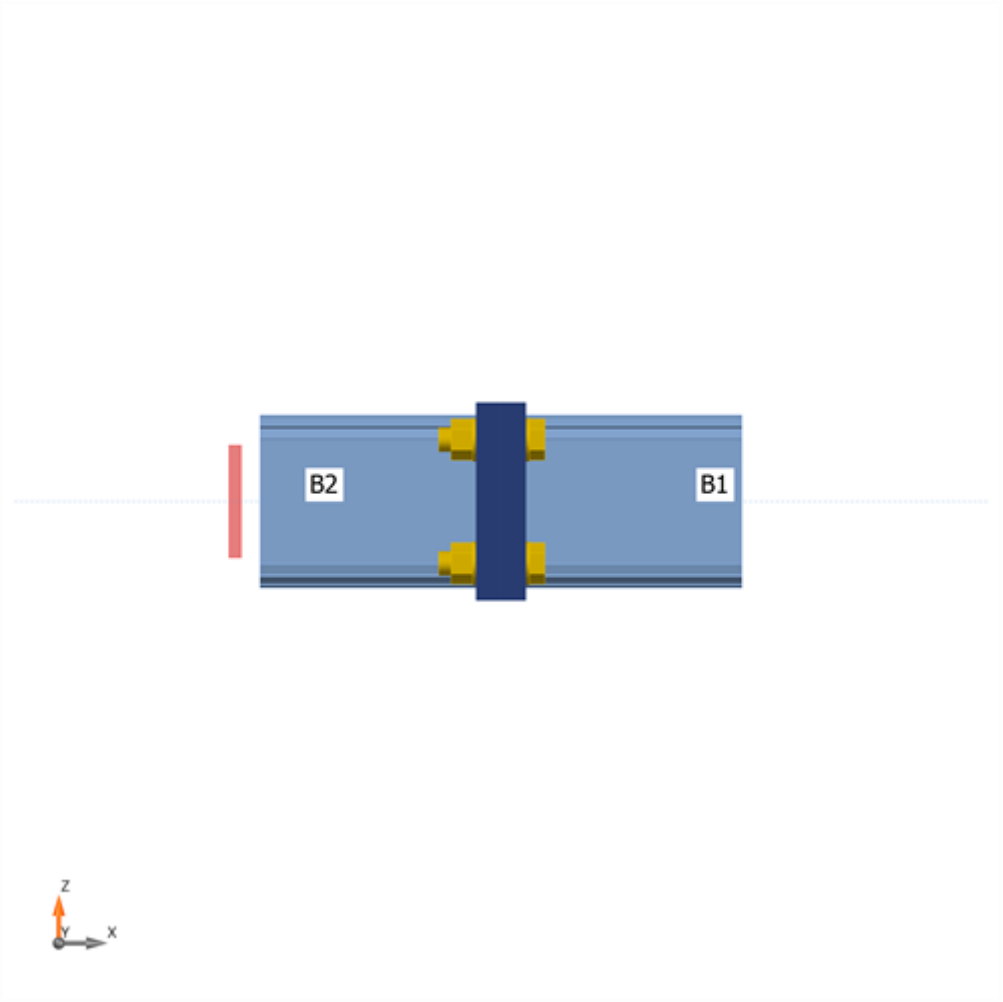
Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
B1	1 - SHS140/140/8.0	0.0	0.0	0.0	0	0	0
B2	1 - SHS140/140/8.0	180.0	0.0	0.0	0	0	0

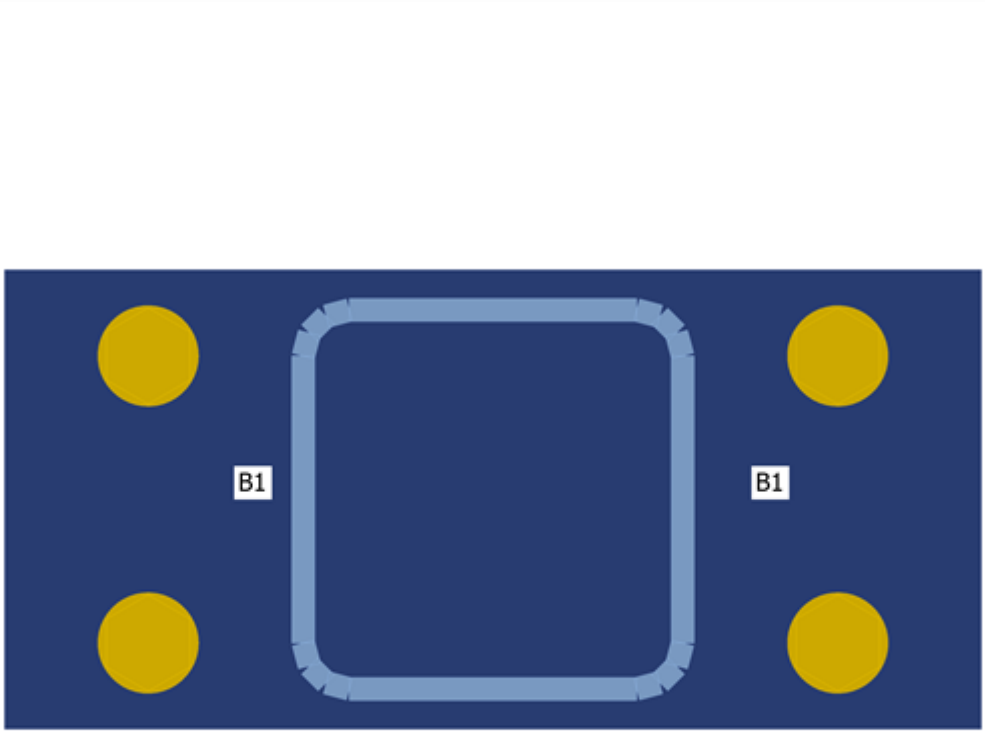
Supports and forces

Name	Support	Forces in	X [mm]
B1 / end		Node	0
B2 / end	N-Vy-Vz-Mx-My-Mz	Node	0




B2
B1
B2
B1
Y
Z
X

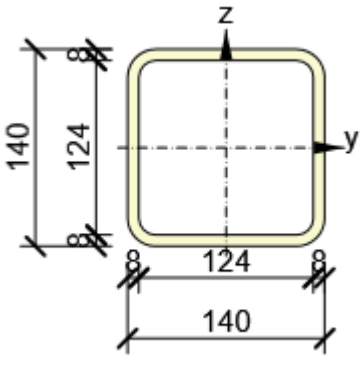

B2
B1
Z
Y
X



Cross-sections

Name	Material
1 - SHS140/140/8.0	S 355

Cross-sections

Name	Material	Drawing
1 - SHS140/140/8.0	S 355	

Bolts

Name	Diameter [mm]	f_y [MPa]	f_u [MPa]	Gross area [mm^2]
M20 8.8	20	640.0	800.0	314

Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE1	B1 / End	344.0	0.0	0.0	0.0	0.0	0.0
	B2 / End	344.0	0.0	0.0	0.0	0.0	0.0

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE1	0.0	0.0	0.0	0.0	0.0	0.0

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0.6 < 5.0%	OK
Loc. deformation	0.1 < 3%	OK
Bolts	86.2 < 100%	OK
Welds	0.0 < 100%	OK
Buckling	Not calculated	
GMNA	Calculated	

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ε_{Pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
B1	8.0	LE1	356.2	0.6	0.0	OK
B2	8.0	LE1	356.2	0.6	0.0	OK
PP1a	20.0	LE1	355.1	0.1	110.0	OK
PP1b	20.0	LE1	355.1	0.1	110.0	OK

Design data

Material	f_y [MPa]	ε_{lim} [%]
S 355	355.0	5.0

Symbol explanation

t_p Plate thickness
σ_{Ed} Equivalent stress

ε_{Pl} Plastic strain
$\sigma_{c,Ed}$ Contact stress
f_y Yield strength
ε_{lim} Limit of plastic strain

Detailed result for B1

Design values used in the analysis

$$f_{yd} = \frac{f_{yk}}{\gamma_{M0}} = \quad 355.0 \quad \text{MPa}$$

Where:

$f_{yk} = 355.0$ MPa – characteristic yield strength

$\gamma_{M0} = 1.00$ – partial safety factor for steel material EN 1993-1-1 – 6.1

Loc. deformation

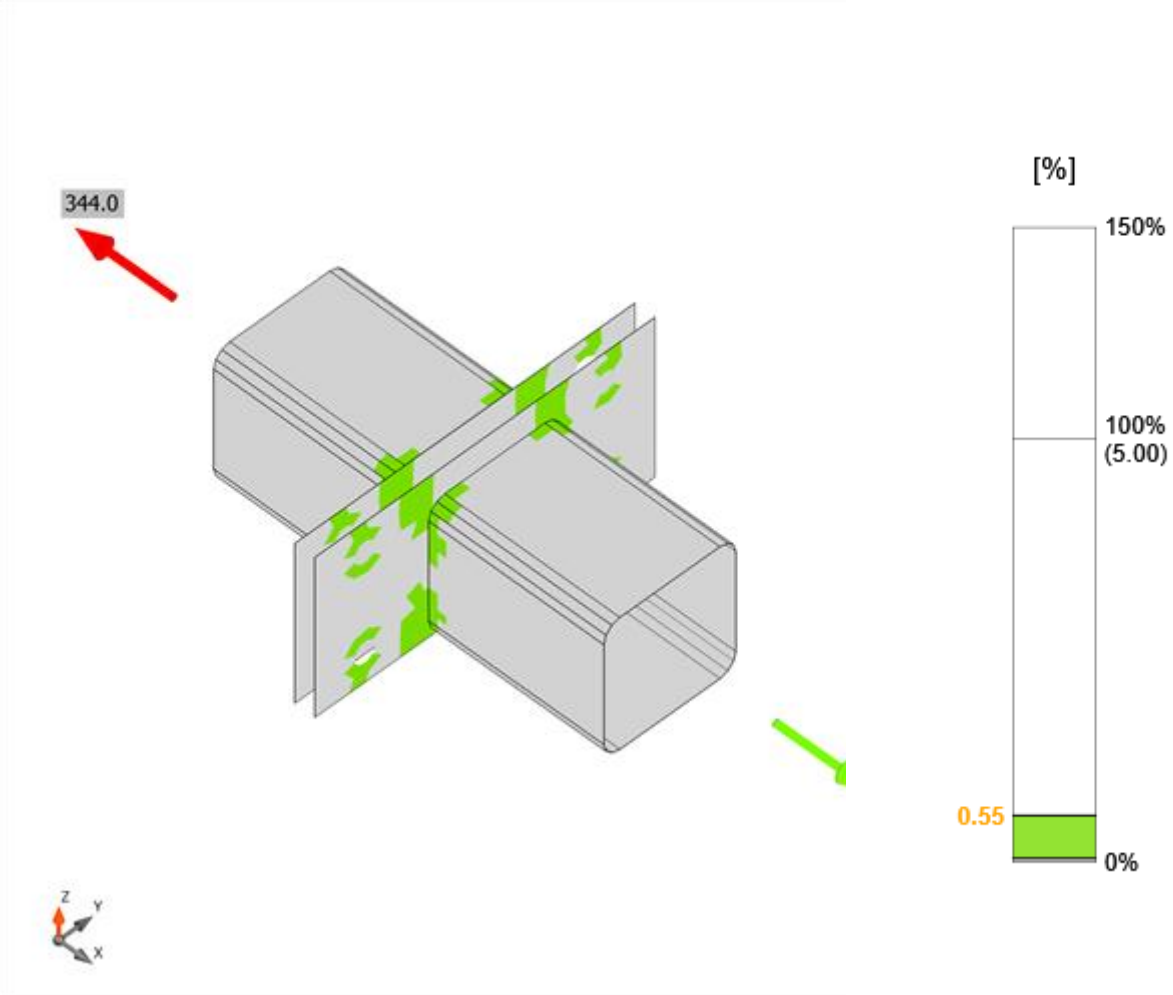
Name	d_0 [mm]	Loads	δ [mm]	δ_{lim} [mm]	δ/d_0 [%]	Check status
B1	140	LE1	0	4	0.1	OK
B2	140	LE1	0	4	0.1	OK

Symbol explanation

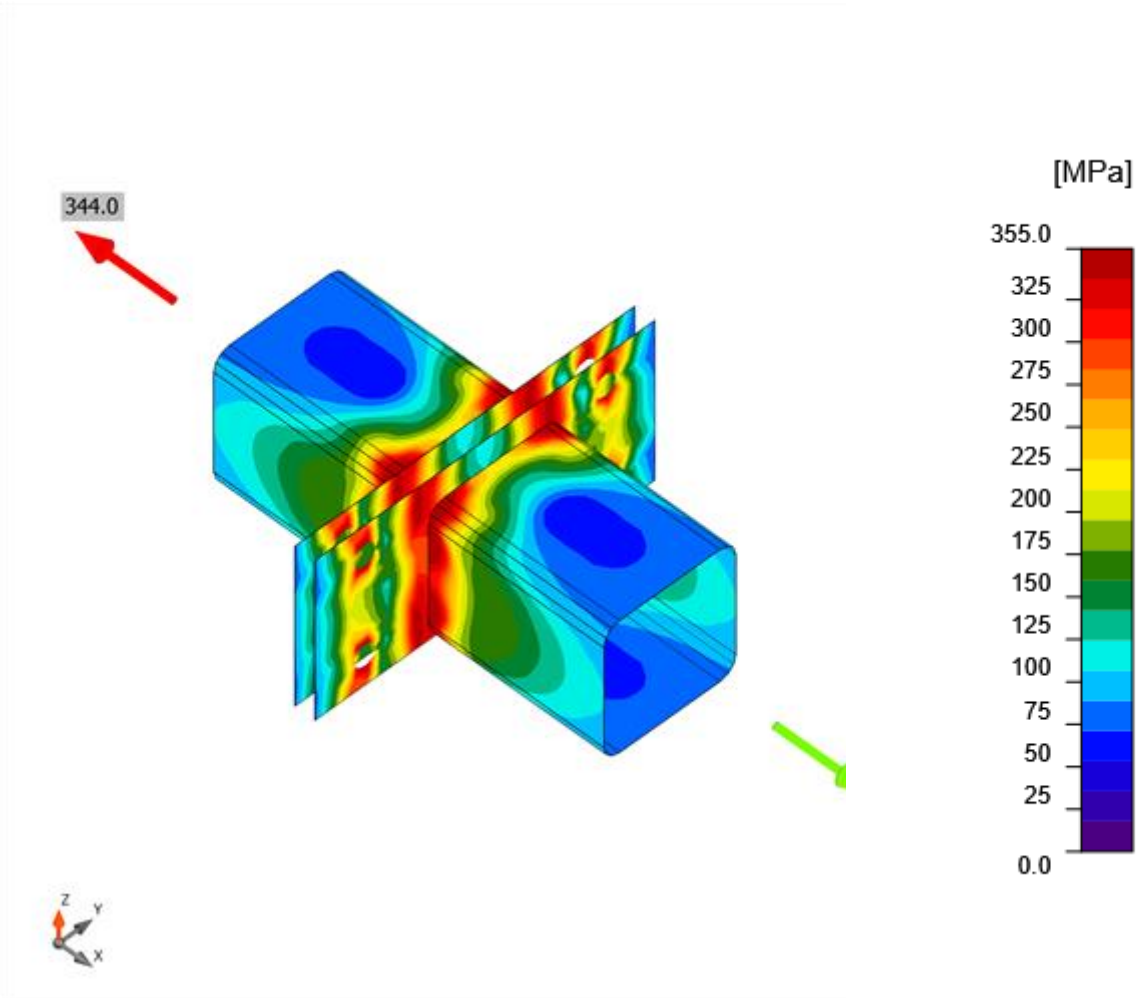
d_0 Cross-section size
δ Local cross-section deformation
δ_{lim} Allowed deformation



Overall check, LE1

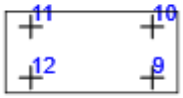


Strain check, LE1



Equivalent stress, LE1

Bolts

Shape	Item	Grade	Loads	$F_{t,Ed}$ [kN]	$F_{v,Ed}$ [kN]	$F_{b,Rd}$ [kN]	Ut_t [%]	Ut_s [%]	Ut_{ts} [%]	Status
	B9	M20 8.8 - 1	LE1	121.5	0.0	151.0	86.1	0.0	61.5	OK
	B10	M20 8.8 - 1	LE1	121.4	0.0	229.4	86.1	0.0	61.5	OK
	B11	M20 8.8 - 1	LE1	121.6	0.0	163.7	86.2	0.0	61.5	OK
	B12	M20 8.8 - 1	LE1	121.6	0.0	251.6	86.2	0.0	61.6	OK

Design data

Grade	$F_{t,Rd}$ [kN]	$B_{p,Rd}$ [kN]	$F_{v,Rd}$ [kN]
M20 8.8 - 1	141.1	469.4	94.1

Symbol explanation

$F_{t,Ed}$ Tension force

$F_{v,Ed}$	Resultant of bolt shear forces Vy and Vz in shear planes
$F_{b,Rd}$	Plate bearing resistance EN 1993-1-8 – Tab. 3.4
Ut_t	Utilization in tension
Ut_s	Utilization in shear
Ut_{ts}	Interaction of tension and shear EN 1993-1-8 – Tab. 3.4
$F_{t,Rd}$	Bolt tension resistance EN 1993-1-8 – Tab. 3.4
$B_{p,Rd}$	Punching shear resistance EN 1993-1-8 – Tab. 3.4
$F_{v,Rd}$	Bolt shear resistance EN 1993-1-8 – Tab. 3.4

Detailed result for B12

Tension resistance check (EN 1993-1-8 – Table 3.4)

$F_{t,Rd} = \frac{k_2 f_{ub} A_s}{\gamma_{M2}} =$ 141.1 kN ≥ $F_{t,Ed} =$ 121.6 kN

Where:

$k_2 =$ 0.90 – Factor

$f_{ub} =$ 800.0 MPa – Ultimate tensile strength of the bolt

$A_s =$ 245 mm^2 – Tensile stress area of the bolt

$\gamma_{M2} =$ 1.25 – Safety factor

Punching resistance check (EN 1993-1-8 – Table 3.4)

$B_{p,Rd} = \frac{0.6 \pi d_m t_p f_u}{\gamma_{M2}} =$ 469.4 kN ≥ $F_{t,Ed} =$ 121.6 kN

Where:

$d_m =$ 31.8 mm – The mean of the across points and across flats dimensions of the bolt head or the nut, whichever is smaller

$t_p =$ 20.0 mm – Plate thickness

$f_u =$ 490.0 MPa – Ultimate strength

$\gamma_{M2} =$ 1.25 – Safety factor

Shear resistance check (EN 1993-1-8 – Table 3.4)

$F_{v,Rd} = \frac{\beta_p \alpha_v f_{ub} A}{\gamma_{M2}} =$ 94.1 kN ≥ $F_{v,Ed} =$ 0.0 kN

Where:

$\beta_p =$ 1.00 – Reduction factor for packing

$\alpha_v =$ 0.60 – Reduction factor for shear stress

$f_{ub} =$ 800.0 MPa – Ultimate tensile strength of the bolt

$A =$ 245 mm^2 – Tensile stress area of the bolt

$\gamma_{M2} =$ 1.25 – Safety factor

Bearing resistance check (EN 1993-1-8 – Table 3.4)

$F_{b,Rd} = \frac{k_1 \alpha_b f_u dt}{\gamma_{M2}} =$ 251.6 kN ≥ $F_{b,Ed} =$ 0.0 kN

Where:

$k_1 = \min(2.8\frac{e_2}{d_0} - 1.7, 1.4\frac{p_2}{d_0} - 1.7, 2.5) = 2.12$ – Factor for edge distance and bolt spacing perpendicular to the direction of load transfer

$\alpha_b = \min(\frac{e_1}{3d_0}, \frac{p_1}{3d_0} - \frac{1}{4}, \frac{f_{ub}}{f_u}, 1) = 0.76$ – Factor for end distance and bolt spacing in direction of load transfer

$e_2 = 30$ mm – Distance to the plate edge perpendicular to the shear force

$p_2 = 100$ mm – Distance between bolts perpendicular to the shear force

$d_0 = 22.0$ mm – Bolt hole diameter

$e_1 = 50$ mm – Distance to the plate edge in the direction of the shear force

$p_1 = \infty$ mm – Distance between bolts in the direction of the shear force

$f_{ub} = 800.0$ MPa – Ultimate tensile strength of the bolt

$f_u = 490.0$ MPa – Ultimate strength of the plate

$d = 20.0$ mm – Nominal diameter of the fastener

$t = 20.0$ mm – Thickness of the plate

$\gamma_{M2} = 1.25$ – Safety factor

Utilization in tension

$\frac{F_{t,Ed}}{\min(F_{t,Rd}; B_{p,Rd})} = 0.86 \leq 1.0$

Where:

$F_{t,Ed} = 121.6$ kN – Tensile force

$F_{t,Rd} = 141.1$ kN – Tension resistance

$B_{p,Rd} = 469.4$ kN – Punching resistance

Utilization in shear

$\max(\frac{F_{v,Ed}}{F_{v,Rd}}; \frac{F_{b,Ed}}{F_{b,Rd}}) = 0.00 \leq 1.0$

Where:

$F_{v,Ed} = 0.0$ kN – Shear force (in decisive shear plane)

$F_{v,Rd} = 94.1$ kN – Shear resistance

$F_{b,Ed} = 0.0$ kN – Bearing force (for decisive plate)

$F_{b,Rd} = 251.6$ kN – Bearing resistance

Interaction of tension and shear (EN 1993-1-8 – Table 3.4)

$\frac{F_{v,Ed}}{F_{v,Rd}} + \frac{F_{t,Ed}}{1.4\,F_{t,Rd}} = 0.62 \leq 1.0$

Where:

$F_{v,Ed} = 0.0$ kN – Shear force (in decisive shear plane)

$F_{v,Rd}$ = 94.1 kN – Shear resistance

$F_{t,Ed}$ = 121.6 kN – Tensile force

$F_{t,Rd}$ = 141.1 kN – Tension resistance

Welds

Item	Edge	T_w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ε_{Pl} [%]	$\sigma_{\perp}$ [MPa]	$\tau_{\perp}$ [MPa]	$\tau_{\parallel}$ [MPa]	Ut [%]	Ut_c [%]	Status
PP1a	B1-w 1	-	499	-	-	-	-	-	-	-	-	OK
PP1b	B2-w 1	-	499	-	-	-	-	-	-	-	-	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9 σ [MPa]
S 355	0.0	-	-	-

Symbol explanation

T_w	Throat thickness a
L	Length
$\sigma_{w,Ed}$	Equivalent stress
ε_{Pl}	Strain
$\sigma_{\perp}$	Perpendicular stress
$\tau_{\perp}$	Shear stress perpendicular to weld axis
$\tau_{\parallel}$	Shear stress parallel to weld axis
Ut	Utilization
Ut_c	Weld capacity estimation
f_u	Ultimate strength of weld
β_w	Correlation factor EN 1993-1-8 – Tab. 4.1
$\sigma_{w,Rd}$	Equivalent stress resistance
0.9 σ	Perpendicular stress resistance: 0.9*fu/γM2

Detailed result for PP1a / B1-w 1

CJP welds are not checked. Their resistance is assumed to be the same as that of the connected plate.

Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates	Shape	Nr.	Welds	Length	Bolts	Nr.

	[mm]			[mm]	[mm]		
PP1	P20.0x340-160 (S 355)		1	CJP: 8.0	999	M20 8.8	4
	P20.0x340-160 (S 355)		1				

Symbol explanation

CJP weld plate thickness

Welds

Type	Material	Effective throat [mm]	Length [mm]
CJP	S 355	8.0	999

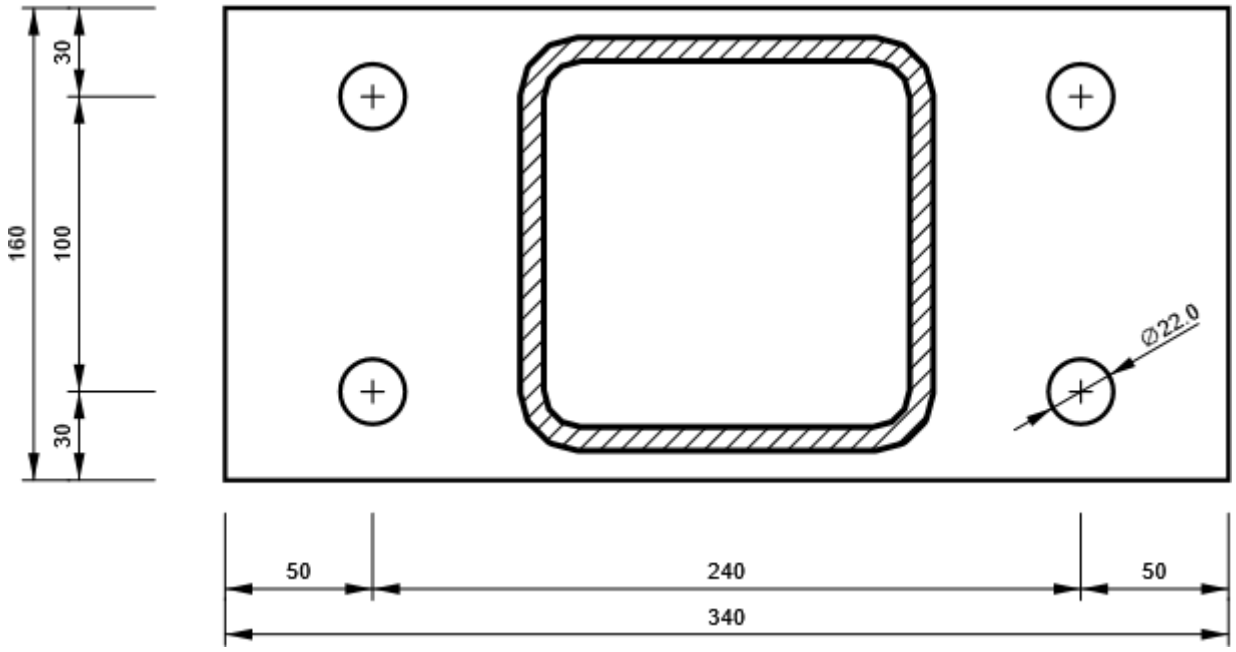
Bolts

Name	Grip length [mm]	Count
M20 8.8	40	4

Drawing

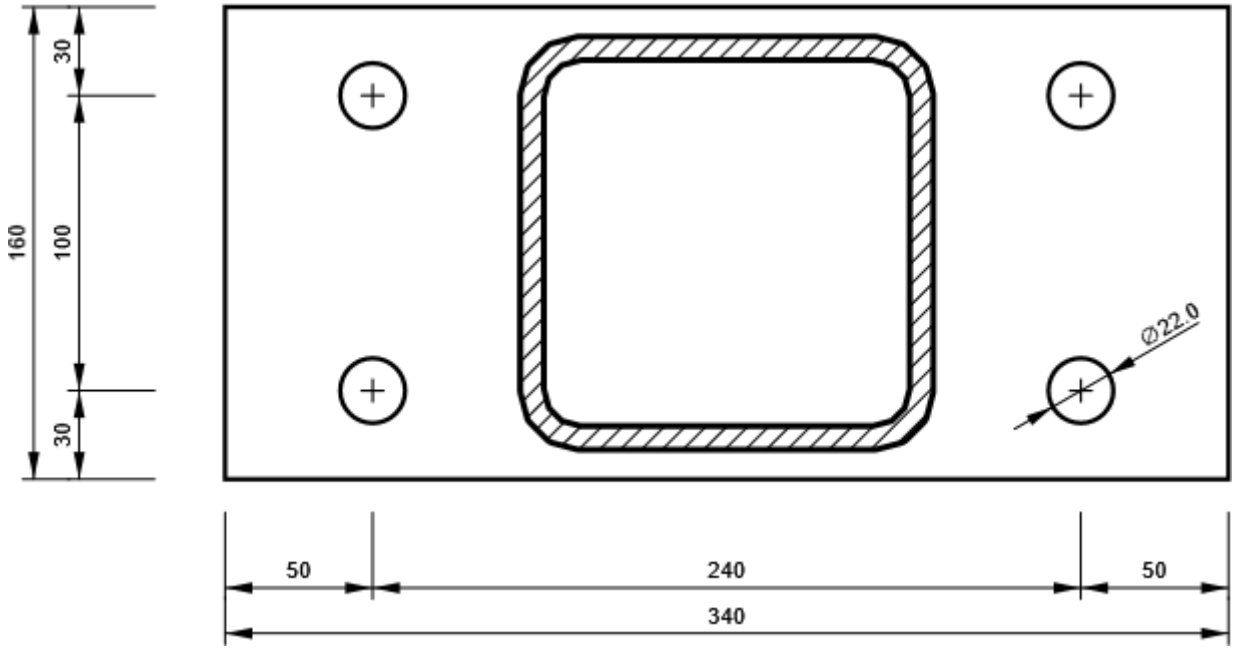
PP1 - PP1a

P20.0x160-340 (S 355)



PP1 - PP1b

P20.0x160-340 (S 355)



Code settings

Item	Value	Unit	Reference
Safety factor γ_{M0}	1.00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1.10	-	EN 1993-1-1 – 6.1
Safety factor γ_{M2}	1.25	-	EN 1993-1-1 – 6.1, EN 1993-1-8 – Table 2.1
Safety factor γ_{M3}	1.25	-	EN 1993-1-8 – Table 2.1
Safety factor γ_{C}	1.50	-	EN 1992-1-1 – 2.4.2.4
Safety factor γ_{Inst}	1.20	-	EN 1992-4 – Table 4.1
Joint coefficient βj	0.67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0.10	-	
Friction coefficient - concrete	0.25	-	EN 1993-1-8
Friction coefficient in slip-resistance	0.30	-	EN 1993-1-8 – Table 3.7
Limit plastic strain	0.05	-	EN 1993-1-5
Detailing	No		
Distance between bolts [d0]	2.20	-	EN 1993-1-8 – Table 3.3
Distance between bolts and edge [d0]	1.20	-	EN 1993-1-8 – Table 3.3
Concrete breakout resistance check	Both		
Cracked concrete	Yes		EN 1992-4
Local deformation check	Yes		
Local deformation limit	0.03	-	CIDECT DG 1, 3 – 1.1
Geometrical nonlinearity (GMNA)	Yes		Analysis with large deformations for hollow section joints
Braced system	No		EN 1993-1-8 – 5.2.2.5

3.6. DETALJ "F" - SPOJ NASTAVKA DONJE POJASNICE REŠETKE

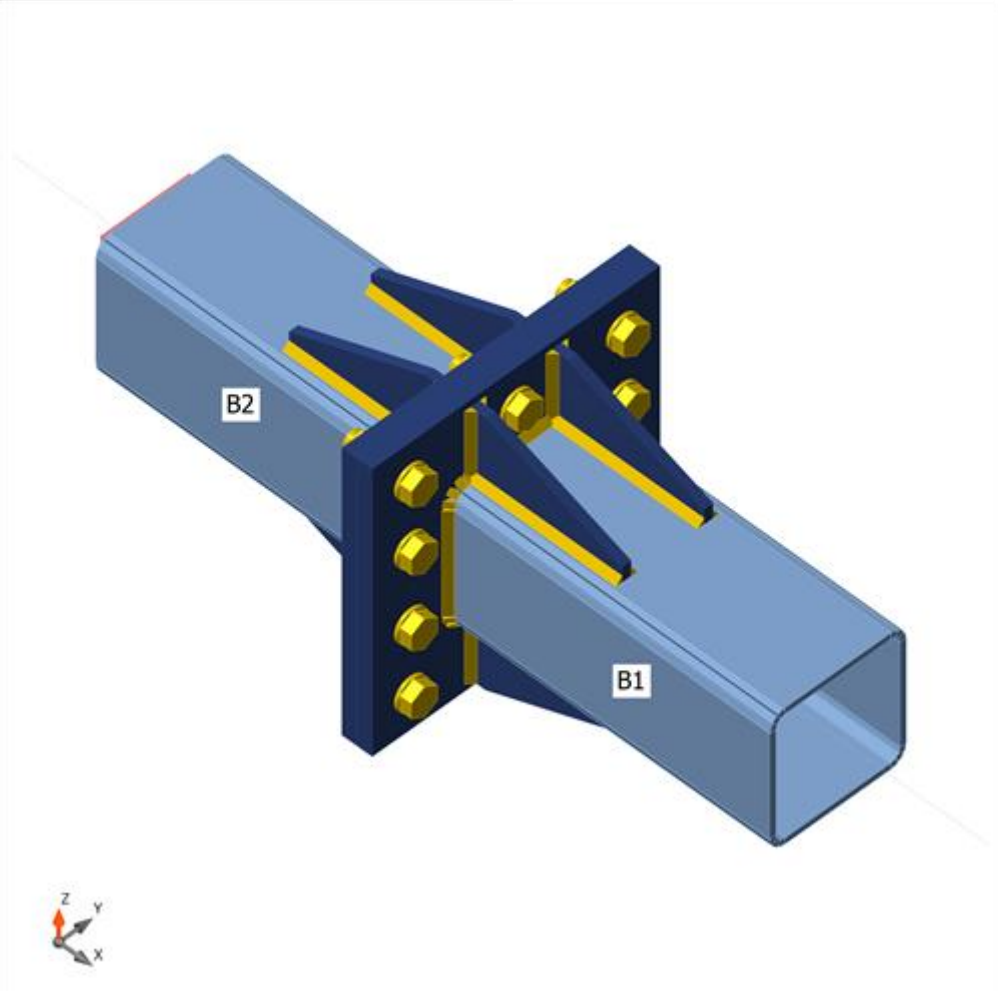
Members

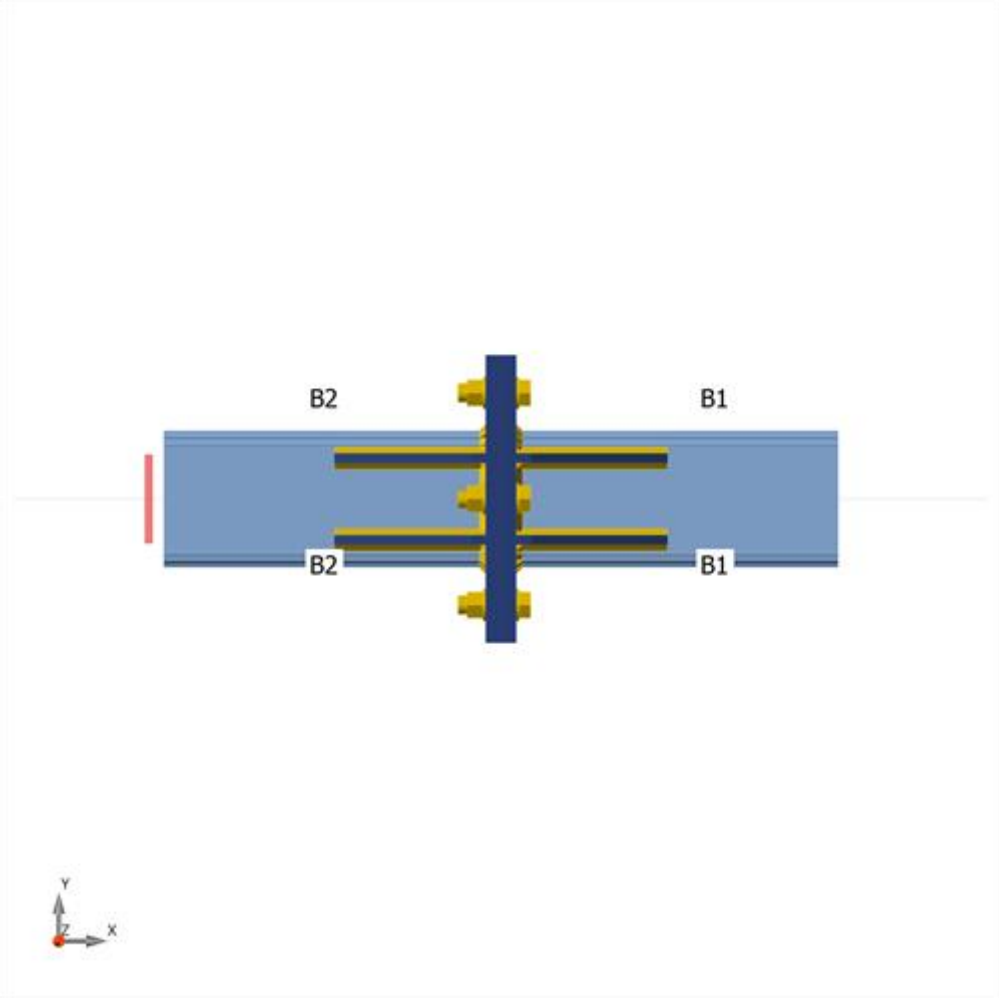
Geometry

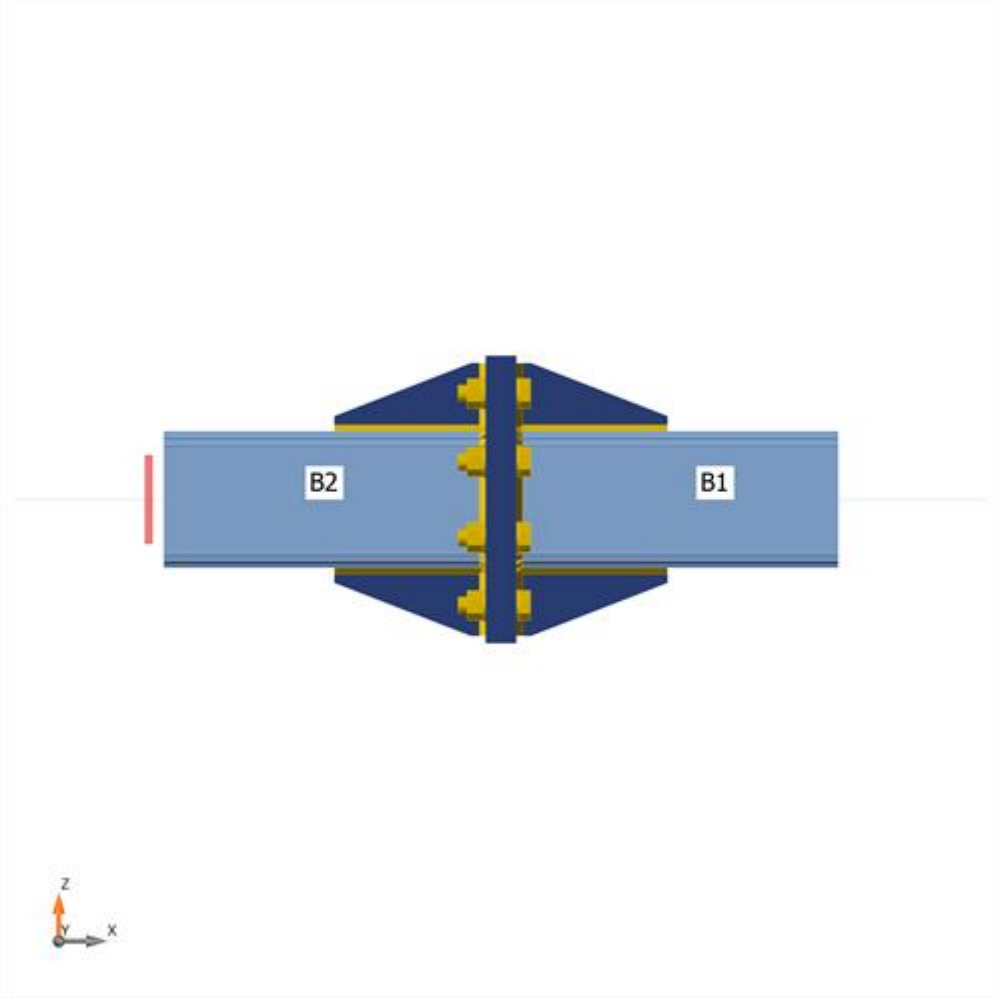
Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
B1	1 - SHS180/180/8.0	0.0	0.0	0.0	0	0	0
B2	1 - SHS180/180/8.0	180.0	0.0	0.0	0	0	0

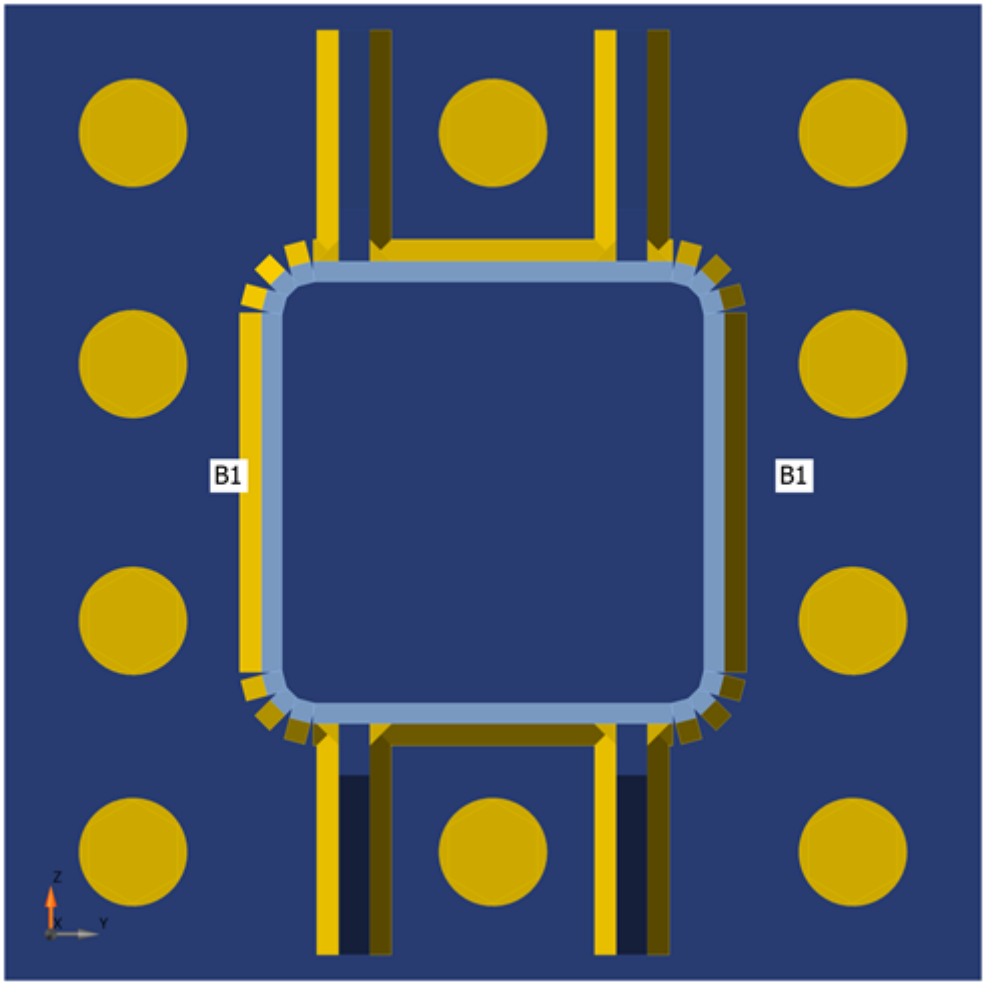
Supports and forces

Name	Support	Forces in	X [mm]
B1 / end		Node	0
B2 / end	N-Vy-Vz-Mx-My-Mz	Node	0




B2
B1
B2
B1
Y
Z
X

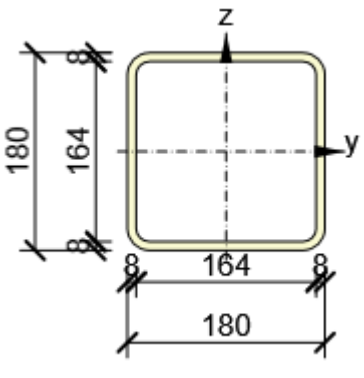

B2
B1
z
y
x



Cross-sections

Name	Material
1 - SHS180/180/8.0	S 355

Cross-sections

Name	Material	Drawing
1 - SHS180/180/8.0	S 355	

Bolts

Name	Diameter [mm]	f_y [MPa]	f_u [MPa]	Gross area [mm^2]
M24 10.9	24	900.0	1000.0	452

Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE1	B1 / End	1166.0	0.0	1.0	0.0	-7.0	0.0
	B2 / End	1166.0	0.0	1.0	0.0	-7.0	0.0

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE1	0.0	0.0	2.0	0.0	0.0	0.0

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0.3 < 5.0%	OK
Loc. deformation	0.5 < 3%	OK
Bolts	97.3 < 100%	OK
Welds	98.4 < 100%	OK
Buckling	Not calculated	
GMNA	Calculated	

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ε_{Pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
B1	8.0	LE1	355.7	0.3	0.0	OK
B2	8.0	LE1	355.7	0.3	0.0	OK
PP1a	20.0	LE1	355.4	0.2	57.6	OK
PP1b	20.0	LE1	355.4	0.2	57.6	OK
RIB1a	12.0	LE1	292.2	0.0	0.0	OK
RIB1b	12.0	LE1	292.3	0.0	0.0	OK
RIB2a	12.0	LE1	292.1	0.0	0.0	OK
RIB2b	12.0	LE1	291.9	0.0	0.0	OK
RIB3a	12.0	LE1	275.3	0.0	0.0	OK
RIB3b	12.0	LE1	275.4	0.0	0.0	OK
RIB4a	12.0	LE1	275.6	0.0	0.0	OK
RIB4b	12.0	LE1	275.5	0.0	0.0	OK

Design data

Material	f_y [MPa]	ε_{lim} [%]
S 355	355.0	5.0

Symbol explanation

t_p Plate thickness
σ_{Ed} Equivalent stress
ε_{Pl} Plastic strain
$\sigma_{c,Ed}$ Contact stress
f_y Yield strength
ε_{lim} Limit of plastic strain

Detailed result for B1

Design values used in the analysis

$f_{yd} = \frac{f_{yk}}{\gamma_{M0}} =$ 355.0 MPa

Where:

$f_{yk} =$ 355.0 MPa – characteristic yield strength

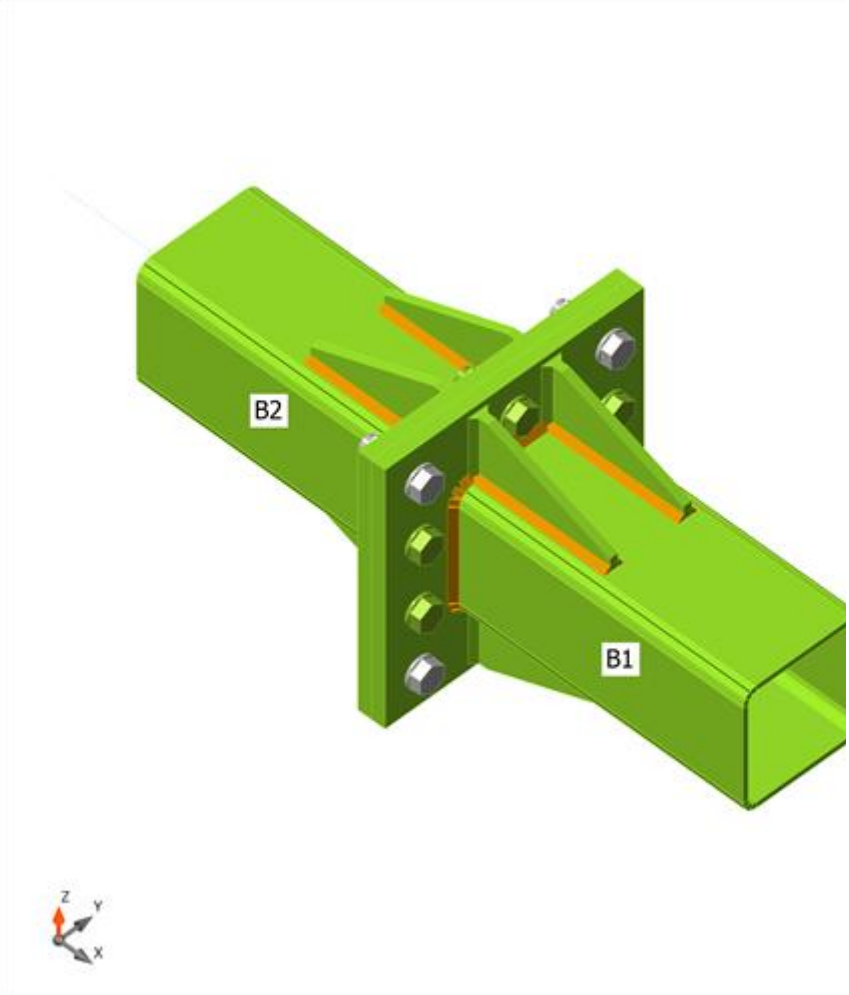
$\gamma_{M0} =$ 1.00 – partial safety factor for steel material EN 1993-1-1 – 6.1

Loc. deformation

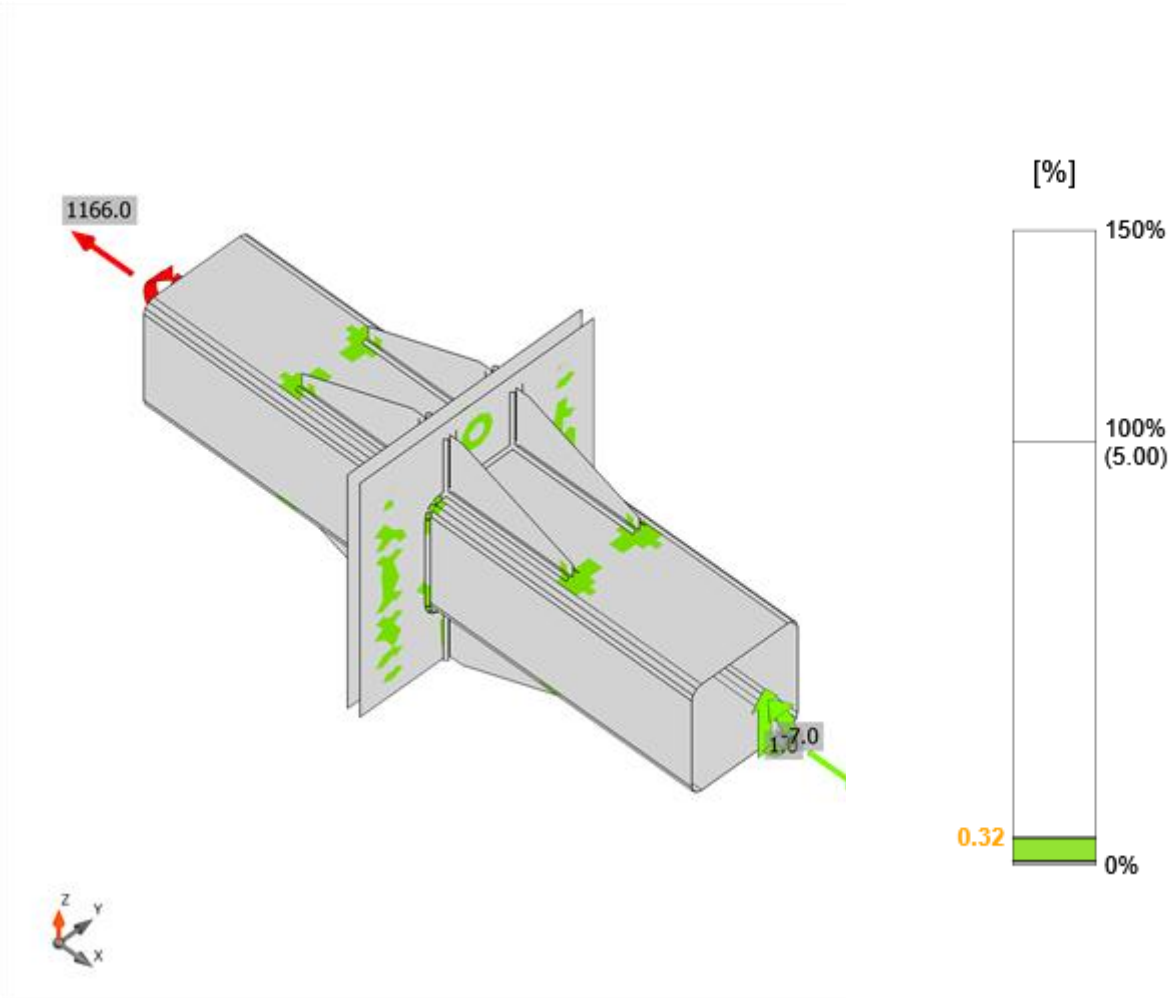
Name	d_0 [mm]	Loads	δ [mm]	δ_{lim} [mm]	δ/d_0 [%]	Check status
B1	180	LE1	1	5	0.5	OK
B2	180	LE1	1	5	0.5	OK

Symbol explanation

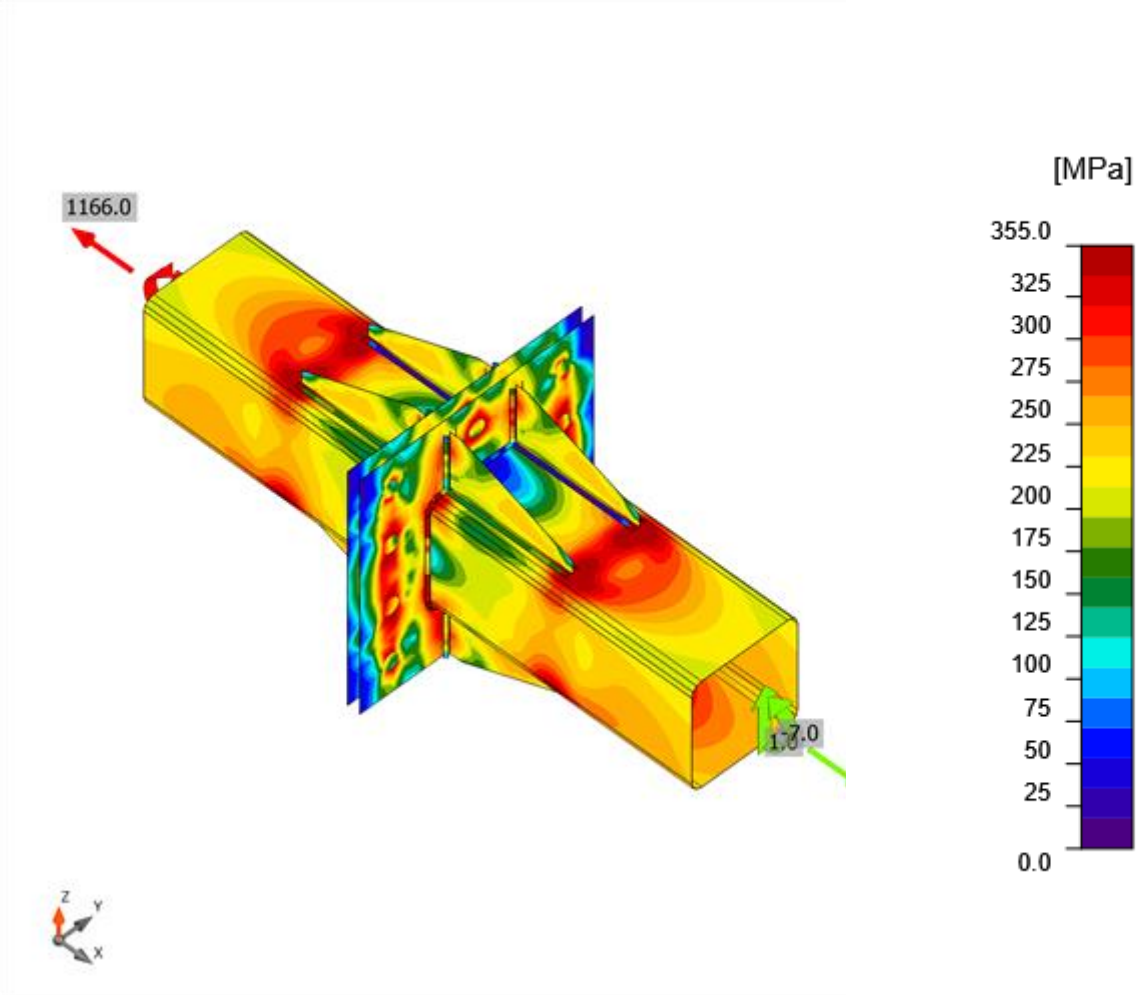
d_0 Cross-section size
δ Local cross-section deformation
δ_{lim} Allowed deformation



Overall check, LE1

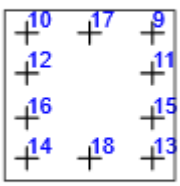


Strain check, LE1



Equivalent stress, LE1

Bolts

Shape	Item	Grade	Loads	$F_{t,Ed}$ [kN]	$F_{v,Ed}$ [kN]	$F_{b,Rd}$ [kN]	Ut_t [%]	Ut_s [%]	Ut_{ts} [%]	Detailing	Status
	B9	M24 10.9 - 1	LE1	93.7	0.1	301.5	36.9	0.1	26.4	OK	OK
	B10	M24 10.9 - 1	LE1	94.4	0.1	301.5	37.1	0.1	26.6	OK	OK
	B11	M24 10.9 - 1	LE1	191.1	0.1	425.2	75.2	0.1	53.8	OK	OK
	B12	M24 10.9 - 1	LE1	190.6	0.1	425.2	75.0	0.1	53.6	OK	OK
	B13	M24 10.9 - 1	LE1	120.0	0.1	301.5	47.2	0.1	33.8	OK	OK

	B14	M24 10.9 - 1	LE1	120.0	0.1	301.5	47.2	0.1	33.8	OK	OK
	B15	M24 10.9 - 1	LE1	201.9	0.1	425.2	79.4	0.1	56.8	OK	OK
	B16	M24 10.9 - 1	LE1	201.3	0.1	425.2	79.2	0.1	56.7	OK	OK
	B17	M24 10.9 - 1	LE1	238.2	0.1	301.5	93.7	0.1	67.0	OK	OK
	B18	M24 10.9 - 1	LE1	247.2	0.1	301.5	97.3	0.1	69.6	OK	OK

Design data

Grade	$F_{t,Rd}$ [kN]	$B_{p,Rd}$ [kN]	$F_{v,Rd}$ [kN]
M24 10.9 - 1	254.2	561.4	141.2

Symbol explanation

$F_{t,Ed}$	Tension force
$F_{v,Ed}$	Resultant of bolt shear forces Vy and Vz in shear planes
$F_{b,Rd}$	Plate bearing resistance EN 1993-1-8 – Tab. 3.4
Ut_t	Utilization in tension
Ut_s	Utilization in shear
Ut_{ts}	Interaction of tension and shear EN 1993-1-8 – Tab. 3.4
$F_{t,Rd}$	Bolt tension resistance EN 1993-1-8 – Tab. 3.4
$B_{p,Rd}$	Punching shear resistance EN 1993-1-8 – Tab. 3.4
$F_{v,Rd}$	Bolt shear resistance EN 1993-1-8 – Tab. 3.4

Detailed result for B18

Tension resistance check (EN 1993-1-8 – Table 3.4)

$$F_{t,Rd} = \frac{k_2 f_{ub} A_s}{\gamma_{M2}} = 254.2 \text{ kN} \geq F_{t,Ed} = 247.2 \text{ kN}$$

Where:

$k_2 = 0.90$ – Factor

$f_{ub} = 1000.0$ MPa – Ultimate tensile strength of the bolt

$A_s = 353$ mm^2 – Tensile stress area of the bolt

$\gamma_{M2} = 1.25$ – Safety factor

Punching resistance check (EN 1993-1-8 – Table 3.4)

$$B_{p,Rd} = \frac{0.6 \pi d_m t_p f_u}{\gamma_{M2}} = 561.4 \text{ kN} \geq F_{t,Ed} = 247.2 \text{ kN}$$

Where:

d_m = 38.0 mm – The mean of the across points and across flats dimensions of the bolt head or the nut, whichever is smaller

t_p = 20.0 mm – Plate thickness

f_u = 490.0 MPa – Ultimate strength

γ_{M2} = 1.25 – Safety factor

Shear resistance check (EN 1993-1-8 – Table 3.4)

$F_{v,Rd} = \frac{\beta_p \alpha_v f_{ub} A}{\gamma_{M2}} =$ 141.2 kN ≥ $F_{v,Ed} =$ 0.1 kN

Where:

β_p = 1.00 – Reduction factor for packing

α_v = 0.50 – Reduction factor for shear stress

f_{ub} = 1000.0 MPa – Ultimate tensile strength of the bolt

A = 353 mm^2 – Tensile stress area of the bolt

γ_{M2} = 1.25 – Safety factor

Bearing resistance check (EN 1993-1-8 – Table 3.4)

$F_{b,Rd} = \frac{k_1 \alpha_b f_u d t}{\gamma_{M2}} =$ 301.5 kN ≥ $F_{b,Ed} =$ 0.1 kN

Where:

$k_1 = \min(2.8\frac{e_2}{d_0} - 1.7, 1.4\frac{p_2}{d_0} - 1.7, 2.5) =$ 2.50 – Factor for edge distance and bolt spacing perpendicular to the direction of load transfer

$\alpha_b = \min(\frac{e_1}{3d_0}, \frac{p_1}{3d_0} - \frac{1}{4}, \frac{f_{ub}}{f_u}, 1) =$ 0.64 – Factor for end distance and bolt spacing in direction of load transfer

e_2 = 190 mm – Distance to the plate edge perpendicular to the shear force

p_2 = 140 mm – Distance between bolts perpendicular to the shear force

d_0 = 26.0 mm – Bolt hole diameter

e_1 = 50 mm – Distance to the plate edge in the direction of the shear force

p_1 = ∞ mm – Distance between bolts in the direction of the shear force

f_{ub} = 1000.0 MPa – Ultimate tensile strength of the bolt

f_u = 490.0 MPa – Ultimate strength of the plate

d = 24.0 mm – Nominal diameter of the fastener

t = 20.0 mm – Thickness of the plate

γ_{M2} = 1.25 – Safety factor

Utilization in tension

$\frac{F_{t,Ed}}{\min(F_{t,Rd}; B_{p,Rd})} =$ 0.97 ≤ 1.0

Where:

$F_{t,Ed} = 247.2$ kN – Tensile force

$F_{t,Rd} = 254.2$ kN – Tension resistance

$B_{p,Rd} = 561.4$ kN – Punching resistance

Utilization in shear

$\max(\frac{F_{v,Ed}}{F_{v,Rd}}; \frac{F_{b,Ed}}{F_{b,Rd}}) = 0.00 \leq 1.0$

Where:

$F_{v,Ed} = 0.1$ kN – Shear force (in decisive shear plane)

$F_{v,Rd} = 141.2$ kN – Shear resistance

$F_{b,Ed} = 0.1$ kN – Bearing force (for decisive plate)

$F_{b,Rd} = 301.5$ kN – Bearing resistance

Interaction of tension and shear (EN 1993-1-8 – Table 3.4)

$\frac{F_{v,Ed}}{F_{v,Rd}} + \frac{F_{t,Ed}}{1.4\,F_{t,Rd}} = 0.70 \leq 1.0$

Where:

$F_{v,Ed} = 0.1$ kN – Shear force (in decisive shear plane)

$F_{v,Rd} = 141.2$ kN – Shear resistance

$F_{t,Ed} = 247.2$ kN – Tensile force

$F_{t,Rd} = 254.2$ kN – Tension resistance

Detailing check

- Ductility, rotation capacity: Plate PP1a is too thick. Thickness should be lesser or equal to 14.5 mm. (EN 1993-1-8 – Equation 6.32)

Welds

Item	Edge	T_w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ε_{Pl} [%]	$\sigma_{\perp}$ [MPa]	$\tau_{\perp}$ [MPa]	$\tau_{\parallel}$ [MPa]	Ut [%]	Ut_c [%]	Detailing	Status
PP1a	RIB1a	◢ 6.0 ◣	89	LE1	311.2	0.0	164.7	128.5	-82.0	71.4	52.9	OK	OK
		◢ 6.0 ◣	89	LE1	234.1	0.0	87.7	-123.9	18.4	53.7	38.4	OK	OK
B1-w 1	RIB1a	◢ 6.0 ◣	199	LE1	426.9	0.0	90.0	90.4	223.3	98.0	58.7	OK	OK

		◢ 6.0 ◣	199	LE1	427.2	0.2	103.2	-102.8	-216.2	98.1	73.3	OK	OK
PP1a	RIB1b	◢ 6.0 ◣	89	LE1	249.4	0.0	83.5	124.8	-53.3	57.3	39.1	OK	OK
		◢ 6.0 ◣	89	LE1	328.9	0.0	151.4	-126.4	111.6	75.5	53.7	OK	OK
B1-w 1	RIB1b	◢ 6.0 ◣	199	LE1	427.2	0.2	103.3	102.8	216.1	98.1	72.8	OK	OK
		◢ 6.0 ◣	199	LE1	426.9	0.0	90.2	-90.6	-223.2	98.0	58.7	OK	OK
PP1b	RIB2a	◢ 6.0 ◣	89	LE1	329.0	0.0	151.4	126.5	-111.5	75.5	53.7	OK	OK
		◢ 6.0 ◣	89	LE1	249.5	0.0	83.5	-124.8	53.4	57.3	39.2	OK	OK
B2-w 1	RIB2a	◢ 6.0 ◣	199	LE1	426.9	0.0	90.7	91.0	223.0	98.0	58.7	OK	OK
		◢ 6.0 ◣	199	LE1	427.2	0.2	103.5	-103.0	-216.0	98.1	72.8	OK	OK
PP1b	RIB2b	◢ 6.0 ◣	89	LE1	234.1	0.0	87.6	124.0	-18.4	53.7	38.4	OK	OK
		◢ 6.0 ◣	89	LE1	311.4	0.0	164.8	-128.6	82.0	71.5	53.0	OK	OK
B2-w 1	RIB2b	◢ 6.0 ◣	199	LE1	427.2	0.2	103.3	103.0	216.0	98.1	73.3	OK	OK
		◢ 6.0 ◣	199	LE1	426.9	0.0	90.4	-90.7	-223.1	98.0	58.7	OK	OK
PP1a	RIB3a	◢ 6.0 ◣	89	LE1	320.1	0.0	169.0	125.7	-93.9	73.5	52.4	OK	OK
		◢ 6.0 ◣	89	LE1	210.3	0.0	66.2	-109.0	37.6	48.3	32.9	OK	OK
B1-w 3	RIB3a	◢ 6.0 ◣	199	LE1	381.1	0.0	81.6	91.7	194.4	87.5	51.6	OK	OK
		◢ 6.0 ◣	199	LE1	426.9	0.1	109.7	-101.4	-215.5	98.0	69.2	OK	OK
PP1a	RIB3b	◢ 6.0 ◣	89	LE1	205.1	0.0	72.1	110.4	9.4	47.1	31.8	OK	OK

		◢ 6.0 ◣	89	LE1	310.8	0.0	160.0	-124.2	90.9	71.4	51.1	OK	OK
B1-w 3	RIB3b	◢ 6.0 ◣	199	LE1	426.9	0.1	109.7	101.4	215.6	98.0	69.4	OK	OK
		◢ 6.0 ◣	199	LE1	380.9	0.0	81.5	-91.6	-194.3	87.5	51.6	OK	OK
PP1b	RIB4a	◢ 6.0 ◣	89	LE1	310.8	0.0	159.9	124.1	-90.9	71.4	51.2	OK	OK
		◢ 6.0 ◣	89	LE1	205.2	0.0	72.1	-110.5	-9.5	47.1	31.8	OK	OK
B2-w 3	RIB4a	◢ 6.0 ◣	199	LE1	381.7	0.0	81.5	91.6	194.8	87.6	51.7	OK	OK
		◢ 6.0 ◣	199	LE1	426.9	0.1	109.6	-101.4	-215.6	98.0	69.4	OK	OK
PP1b	RIB4b	◢ 6.0 ◣	89	LE1	210.3	0.0	66.1	109.0	-37.5	48.3	32.9	OK	OK
		◢ 6.0 ◣	89	LE1	320.0	0.0	168.9	-125.7	93.9	73.5	52.4	OK	OK
B2-w 3	RIB4b	◢ 6.0 ◣	199	LE1	426.9	0.1	109.6	101.4	215.6	98.0	69.2	OK	OK
		◢ 6.0 ◣	199	LE1	381.8	0.0	81.6	-91.7	-194.9	87.7	51.7	OK	OK
PP1a	B1	◢ 6.0	657	LE1	428.5	0.9	314.1	-167.6	14.6	98.4	77.7	OK	OK
PP1b	B2	◢ 6.0	657	LE1	428.5	0.9	314.3	-167.5	-14.1	98.4	78.3	OK	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9 σ [MPa]
S 355	490.0	0.90	435.6	352.8

Symbol explanation

T_w	Throat thickness a
L	Length
$\sigma_{w,Ed}$	Equivalent stress
ε_{Pl}	Strain
$\sigma_\perp$	Perpendicular stress
$\tau_\perp$	Shear stress perpendicular to weld axis
$\tau_\parallel$	Shear stress parallel to weld axis

Ut	Utilization
Ut_c	Weld capacity estimation
◢	Fillet weld
f_u	Ultimate strength of weld
β_w	Correlation factor EN 1993-1-8 – Tab. 4.1
$\sigma_{w,Rd}$	Equivalent stress resistance
0.9 σ	Perpendicular stress resistance: 0.9*fu/γM2

Detailed result for PP1b / B2

Weld resistance check (EN 1993-1-8 – Cl. 4.5.3.2)

$\sigma_{w,Rd} = f_u/(\beta_w \gamma_{M2}) =$ 435.6 MPa ≥ $\sigma_{w,Ed} = [\sigma_\perp^2 + 3(\tau_\perp^2 + \tau_\parallel^2)]^{0.5} =$ 428.5 MPa

$\sigma_{\perp,Rd} = 0.9 f_u / \gamma_{M2} =$ 352.8 MPa ≥ $|\sigma_\perp| =$ 314.3 MPa

where:

$f_u =$ 490.0 MPa – Ultimate strength

$\beta_w =$ 0.90 – Correlation factor EN 1993-1-8 – Tab. 4.1

$\gamma_{M2} =$ 1.25 – Safety factor

Stress utilization

$U_t = \max(\frac{\sigma_{w,Ed}}{\sigma_{w,Rd}} ; \frac{|\sigma_\perp|}{\sigma_{\perp,Rd}}) =$ 0.98 ≤ 1.0

Where:

$\sigma_{w,Ed} =$ 428.5 MPa – Maximum normal stress transverse to the axis of the weld

$\sigma_{w,Rd} =$ 435.6 MPa – Equivalent stress resistance

$\sigma_\perp =$ 314.3 MPa – Normal stress perpendicular to the throat

$\sigma_{\perp,Rd} =$ 352.8 MPa – Perpendicular stress resistance

Detailing check

- Weld is too small. Throat thickness should be greater or equal to 7.3 mm where rupture of the weld is to be avoided for ductility purposes. (FprEN 1993-1-8:2023 – 6.9(4))

Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.

PP1	P20.0x380-380 (S 355)		1	Fillet: 6.0	1319	M24 10.9	10
	P20.0x380-380 (S 355)		1				
RIB1	P12.0x90-200 (S 355)		2	Double fillet: 6.0	580		
RIB2	P12.0x90-200 (S 355)		2	Double fillet: 6.0	580		
RIB3	P12.0x90-200 (S 355)		2	Double fillet: 6.0	580		
RIB4	P12.0x90-200 (S 355)		2	Double fillet: 6.0	580		

Symbol explanation

Fillet weld throat thickness of weld

Welds

Type	Material	Throat thickness [mm]	Leg size [mm]	Length [mm]
Fillet	S 355	6.0	8.5	1319
Double fillet	S 355	6.0	8.5	2320

Bolts

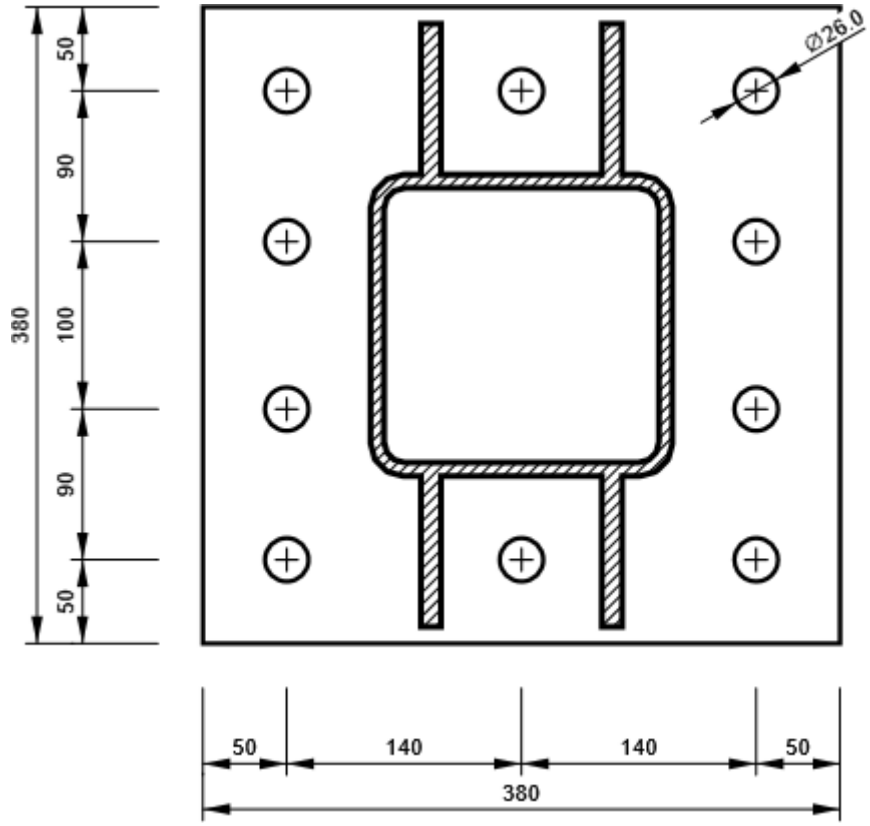
Name	Grip length [mm]	Count

M24 10.9	40	10

Drawing

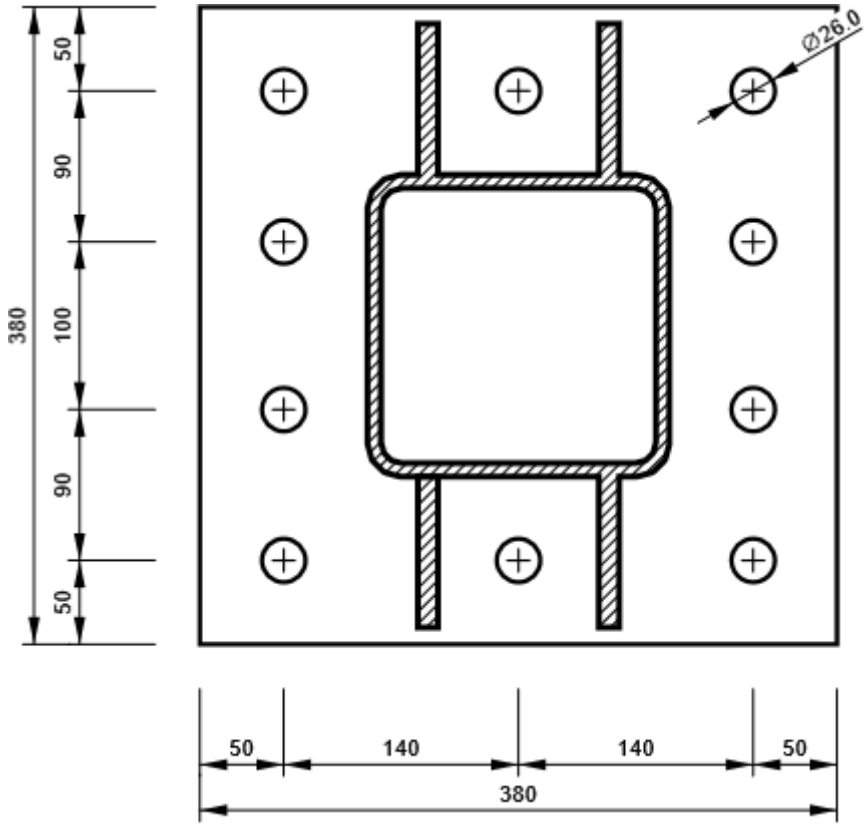
PP1 - PP1a

P20.0x380-380 (S 355)



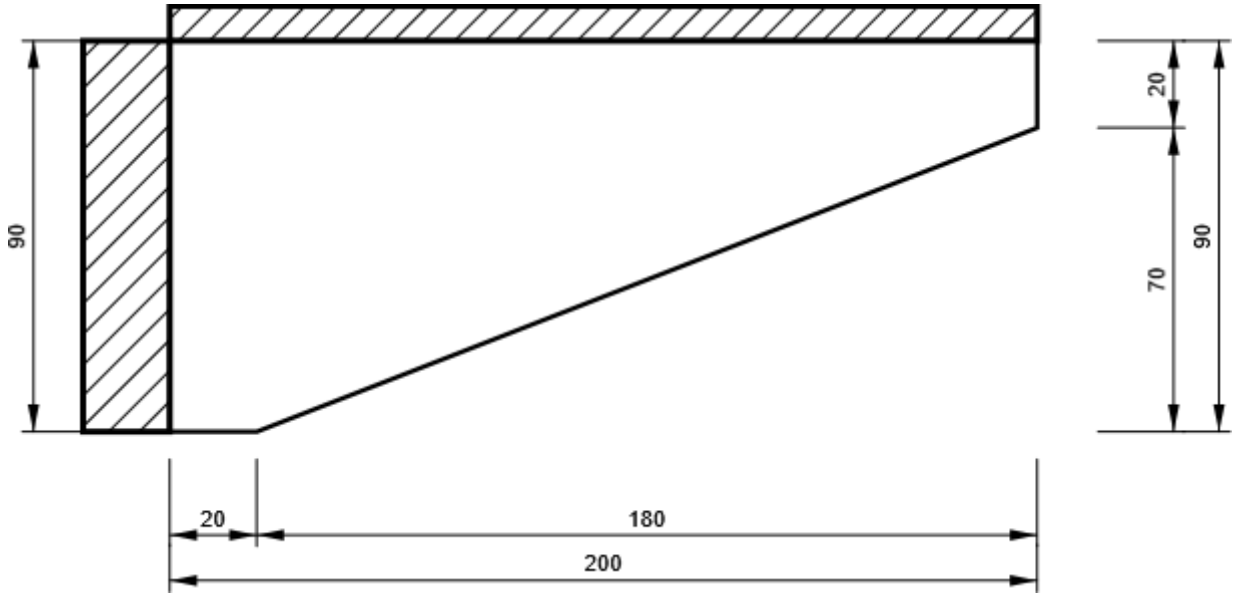
PP1 - PP1b

P20.0x380-380 (S 355)



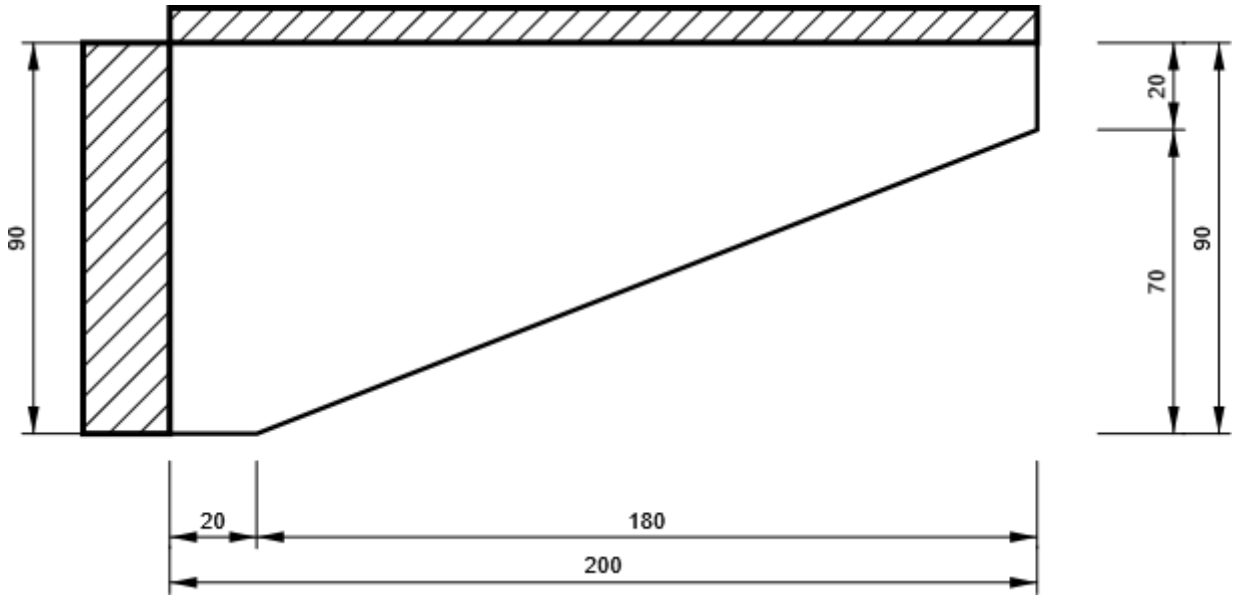
RIB1

P12.0x200-90 (S 355)



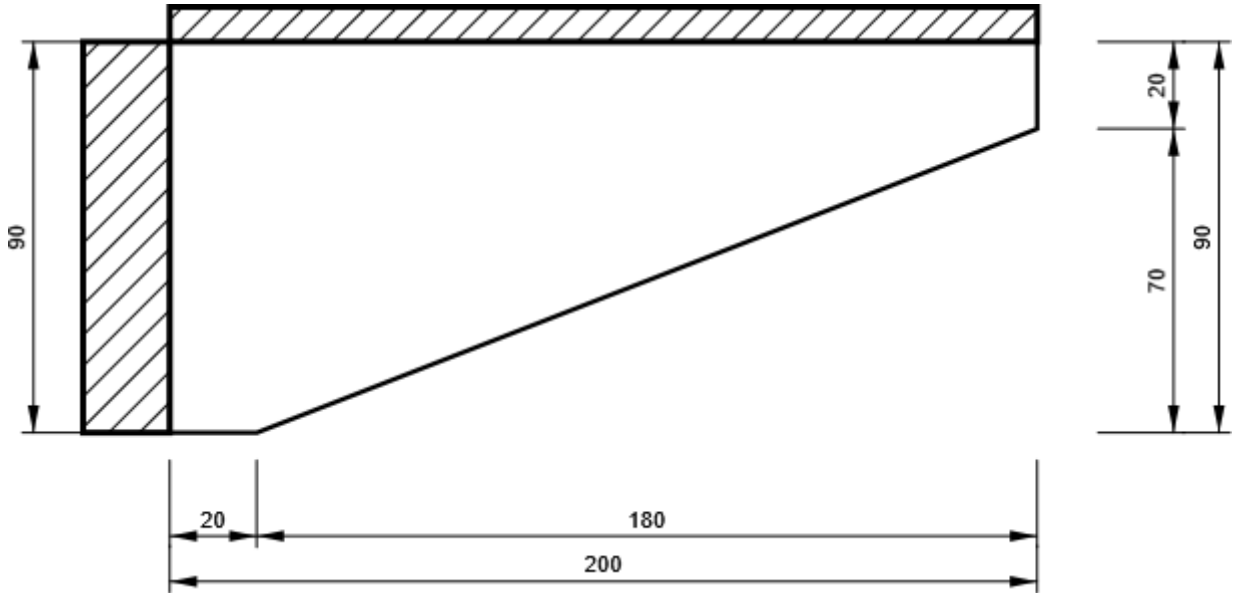
RIB2

P12.0x200-90 (S 355)



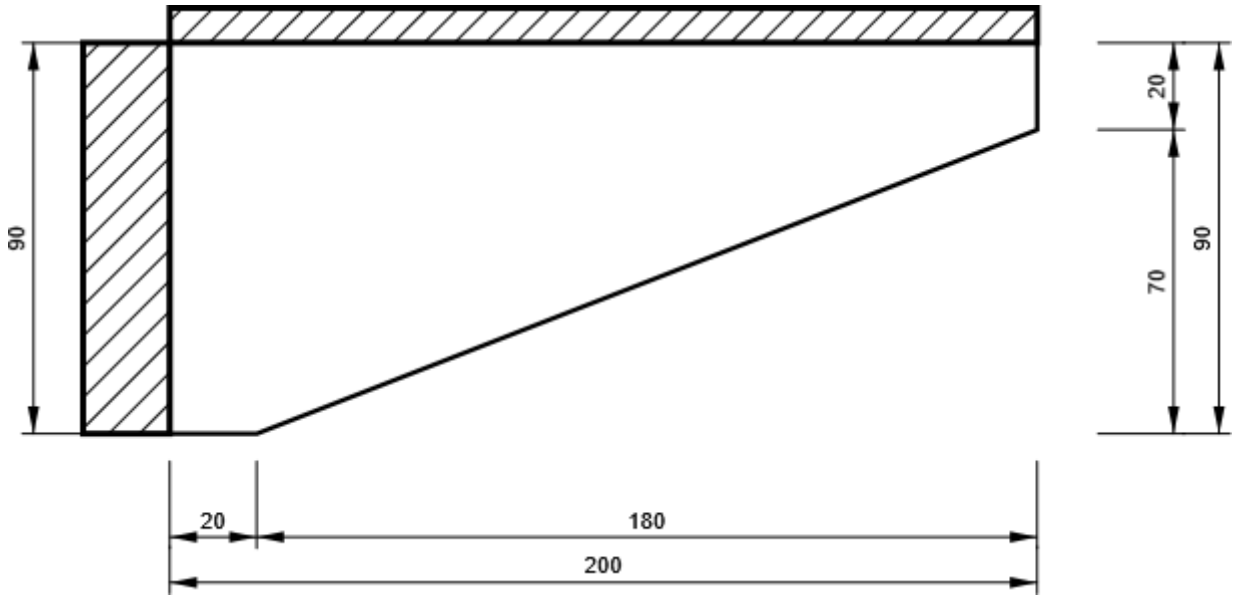
RIB3

P12.0x200-90 (S 355)



RIB4

P12.0x200-90 (S 355)



Code settings

Item	Value	Unit	Reference
Safety factor γ_{M0}	1.00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1.10	-	EN 1993-1-1 – 6.1
Safety factor γ_{M2}	1.25	-	EN 1993-1-1 – 6.1, EN 1993-1-8 – Table 2.1
Safety factor γ_{M3}	1.25	-	EN 1993-1-8 – Table 2.1
Safety factor γ_{C}	1.50	-	EN 1992-1-1 – 2.4.2.4
Safety factor γ_{Inst}	1.20	-	EN 1992-4 – Table 4.1
Joint coefficient βj	0.67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0.10	-	
Friction coefficient - concrete	0.25	-	EN 1993-1-8
Friction coefficient in slip-resistance	0.30	-	EN 1993-1-8 – Table 3.7
Limit plastic strain	0.05	-	EN 1993-1-5
Detailing	Yes		
Distance between bolts [d0]	2.20	-	EN 1993-1-8 – Table 3.3
Distance between bolts and edge [d0]	1.20	-	EN 1993-1-8 – Table 3.3
Concrete breakout resistance check	Both		
Cracked concrete	Yes		EN 1992-4
Local deformation check	Yes		
Local deformation limit	0.03	-	CIDECT DG 1, 3 – 1.1
Geometrical nonlinearity (GMNA)	Yes		Analysis with large deformations for hollow section joints
Braced system	No		EN 1993-1-8 – 5.2.2.5

3.7. DETALJ "G" - SPOJ NASTAVKA BOČNE UKRUTE DONJE POJASNICE REŠETKE

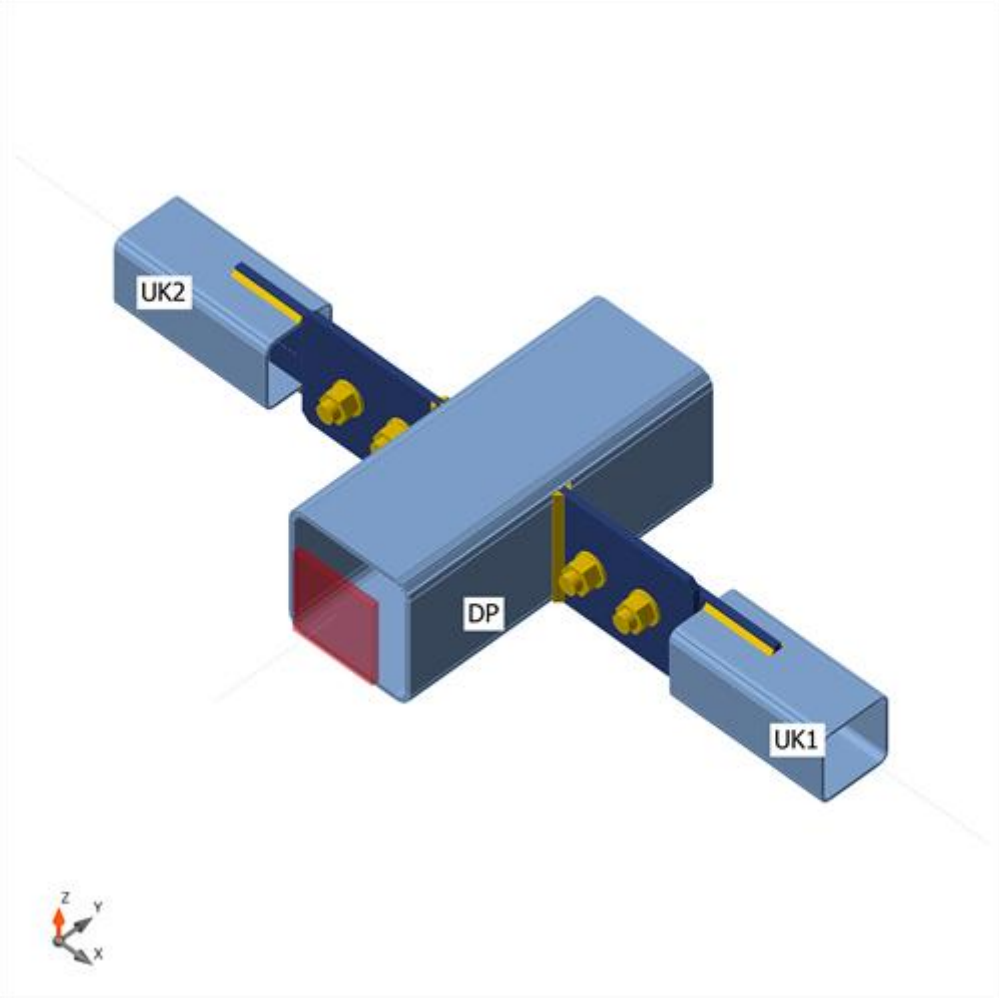
Members

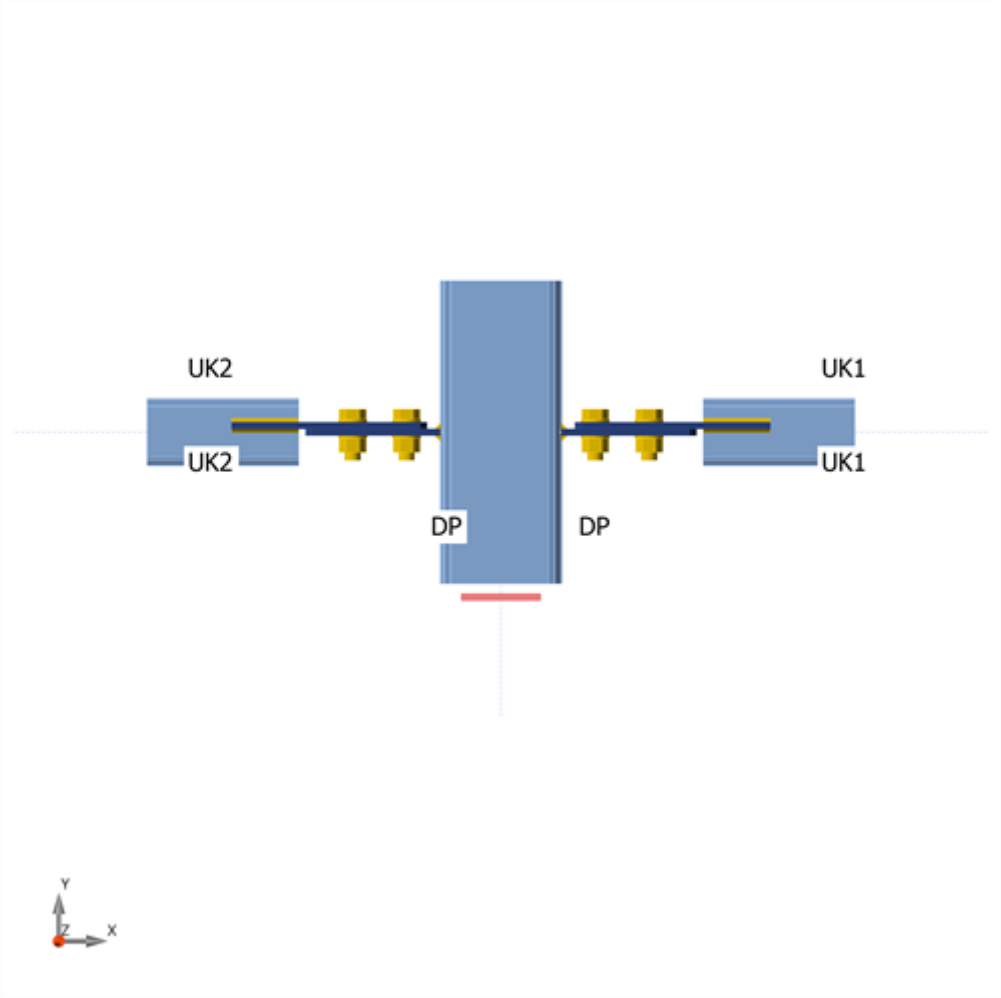
Geometry

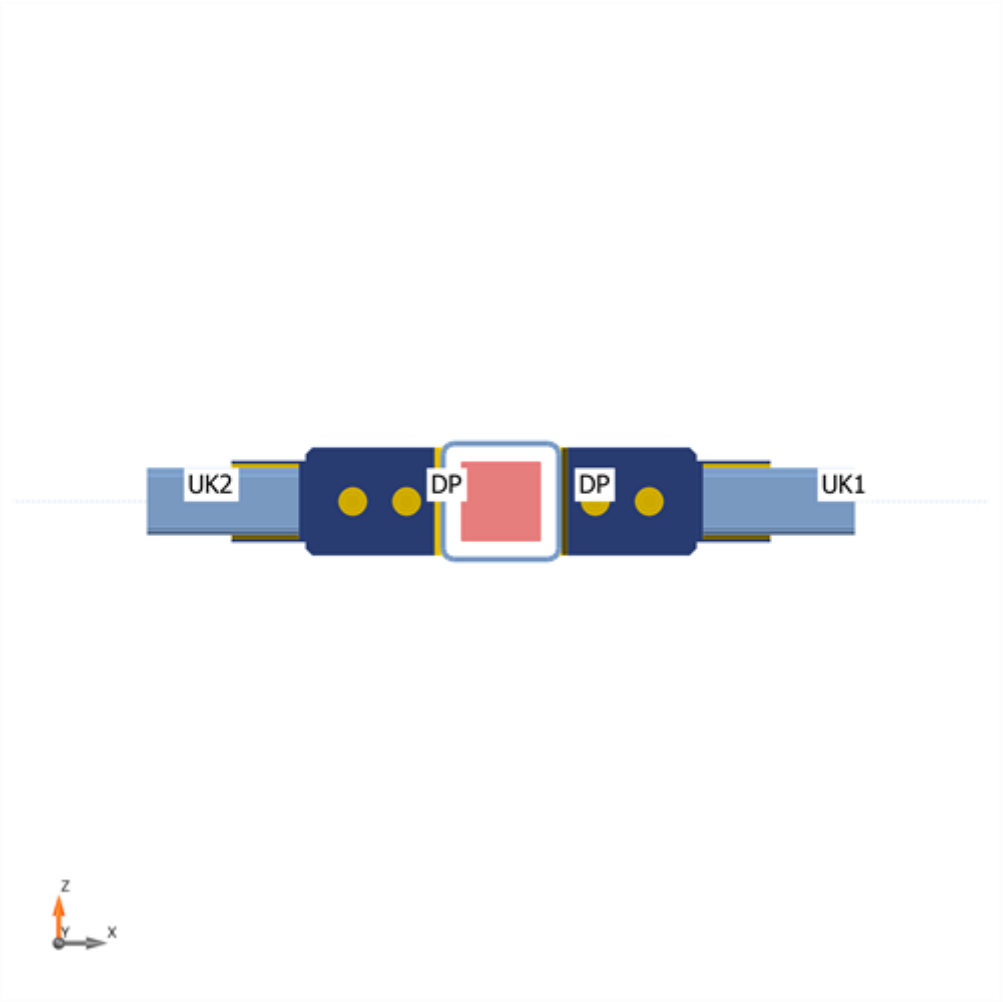
Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
DP	73 - DP(SHS180/180/8.0)	90.0	0.0	0.0	0	0	0
UK1	109 - UK(SHS100/100/5.0)	0.0	0.0	0.0	300	0	0
UK2	109 - UK(SHS100/100/5.0)	180.0	0.0	0.0	300	0	0

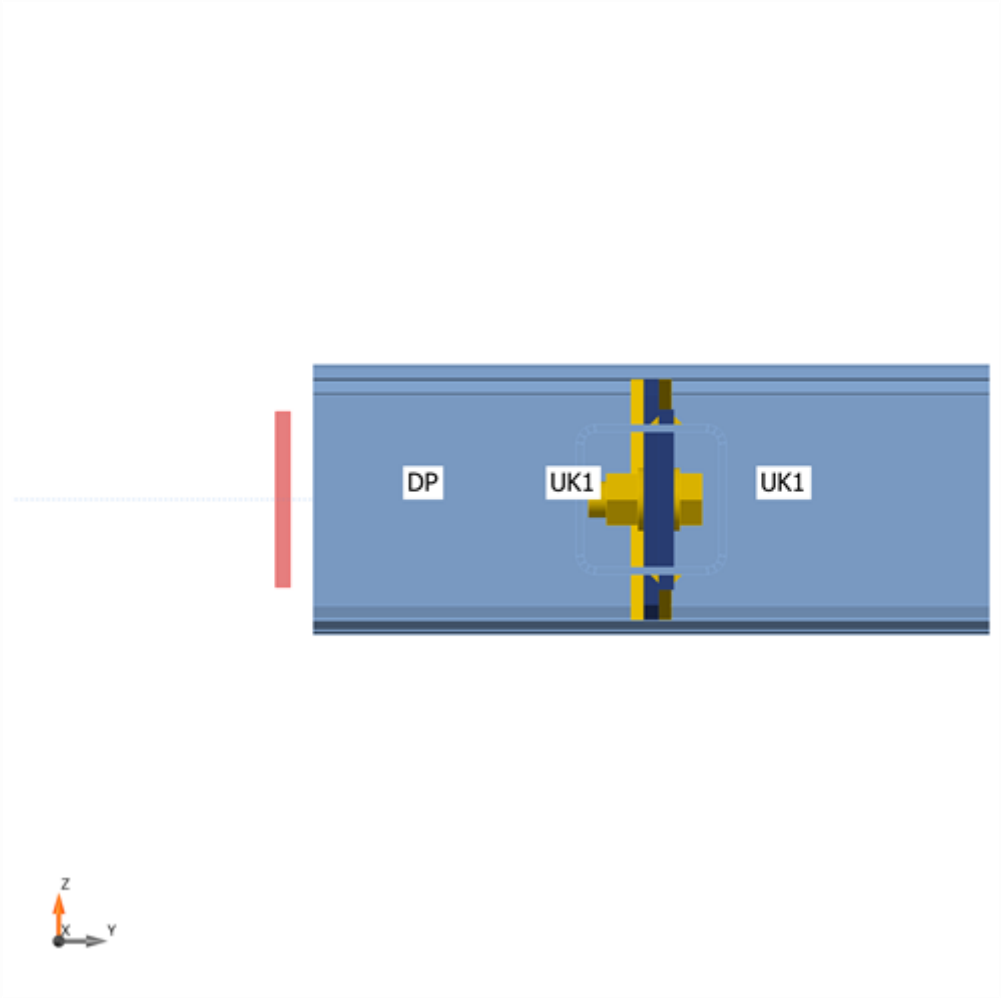
Supports and forces

Name	Support	Forces in	X [mm]
DP / begin	N-Vy-Vz-Mx-My-Mz	Node	0
DP / end		Node	0
UK1 / end		Position	220
UK2 / end		Position	220


UK2
DP
UK1
Z
Y
X


UK2
UK2
UK1
UK1
DP
DP
Y
Z
X

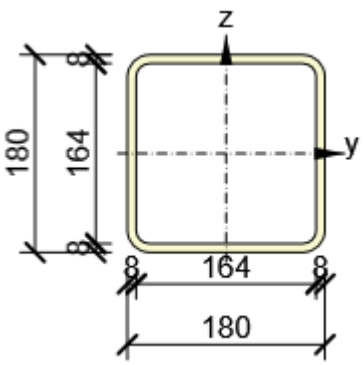

UK2
DP
DP
UK1
Z
Y
X

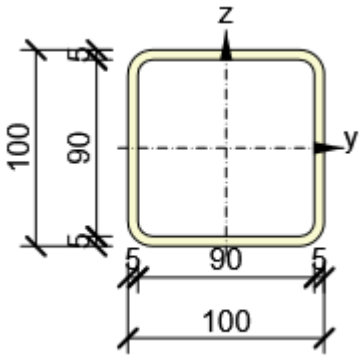


Cross-sections

Name	Material
73 - DP(SHS180/180/8.0)	S 355
109 - UK(SHS100/100/5.0)	S 355

Cross-sections

Name	Material	Drawing
73 - DP(SHS180/180/8.0)	S 355	

109 - UK(SHS100/100/5.0)	S 355	

Bolts

Name	Diameter [mm]	f_y [MPa]	f_u [MPa]	Gross area [mm^2]
M24 8.8	24	640.0	800.0	452

Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE1	DP / Begin	0.0	0.0	0.0	0.0	0.0	0.0
	DP / End	0.0	0.0	0.0	0.0	0.0	0.0
	UK1 / End	172.0	0.0	0.0	0.0	0.0	0.0
	UK2 / End	172.0	0.0	0.0	0.0	0.0	0.0

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE1	0.0	0.0	0.0	0.0	0.0	0.0

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	1.9 < 5.0%	OK
Bolts	92.8 < 100%	OK
Welds	99.6 < 100%	OK
Buckling	Not calculated	
GMNA	Calculated	

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ε_{Pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
DP	8.0	LE1	357.0	1.0	0.0	OK

UK1	5.0	LE1	234.7	0.0	0.0	OK
UK2	5.0	LE1	235.8	0.0	0.0	OK
SP1	10.0	LE1	359.0	1.9	60.8	OK
SP2	10.0	LE1	355.7	0.3	52.7	OK
SP3	10.0	LE1	359.0	1.9	60.8	OK
SP4	10.0	LE1	355.7	0.3	52.8	OK

Design data

Material	**f_y [MPa]**	**ε_{lim} [%]**
S 355	355.0	5.0

Symbol explanation

t_p Plate thickness
σ_{Ed} Equivalent stress
ε_{Pl} Plastic strain
$\sigma_{c,Ed}$ Contact stress
f_y Yield strength
ε_{lim} Limit of plastic strain

Detailed result for SP1

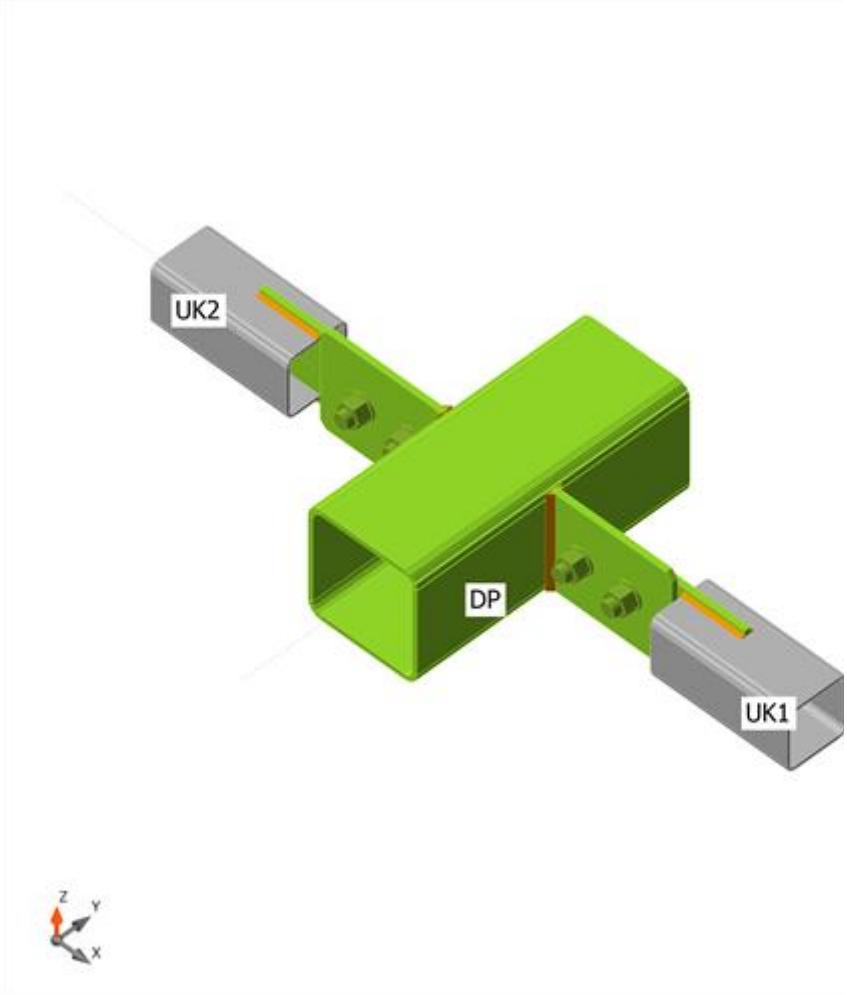
Design values used in the analysis

$f_{yd} = \frac{f_{yk}}{\gamma_{M0}} =$ 355.0 MPa

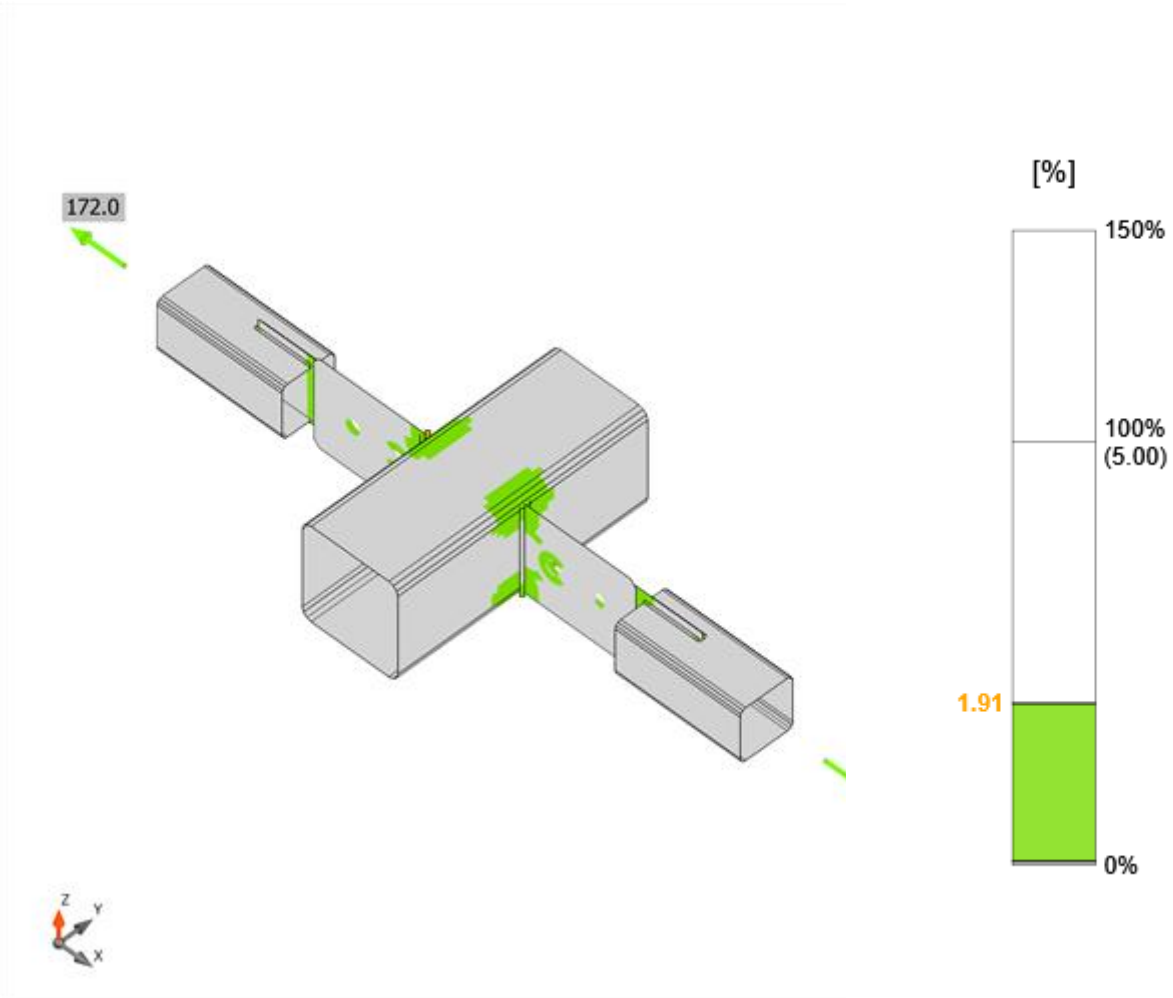
Where:

$f_{yk} =$ 355.0 MPa – characteristic yield strength

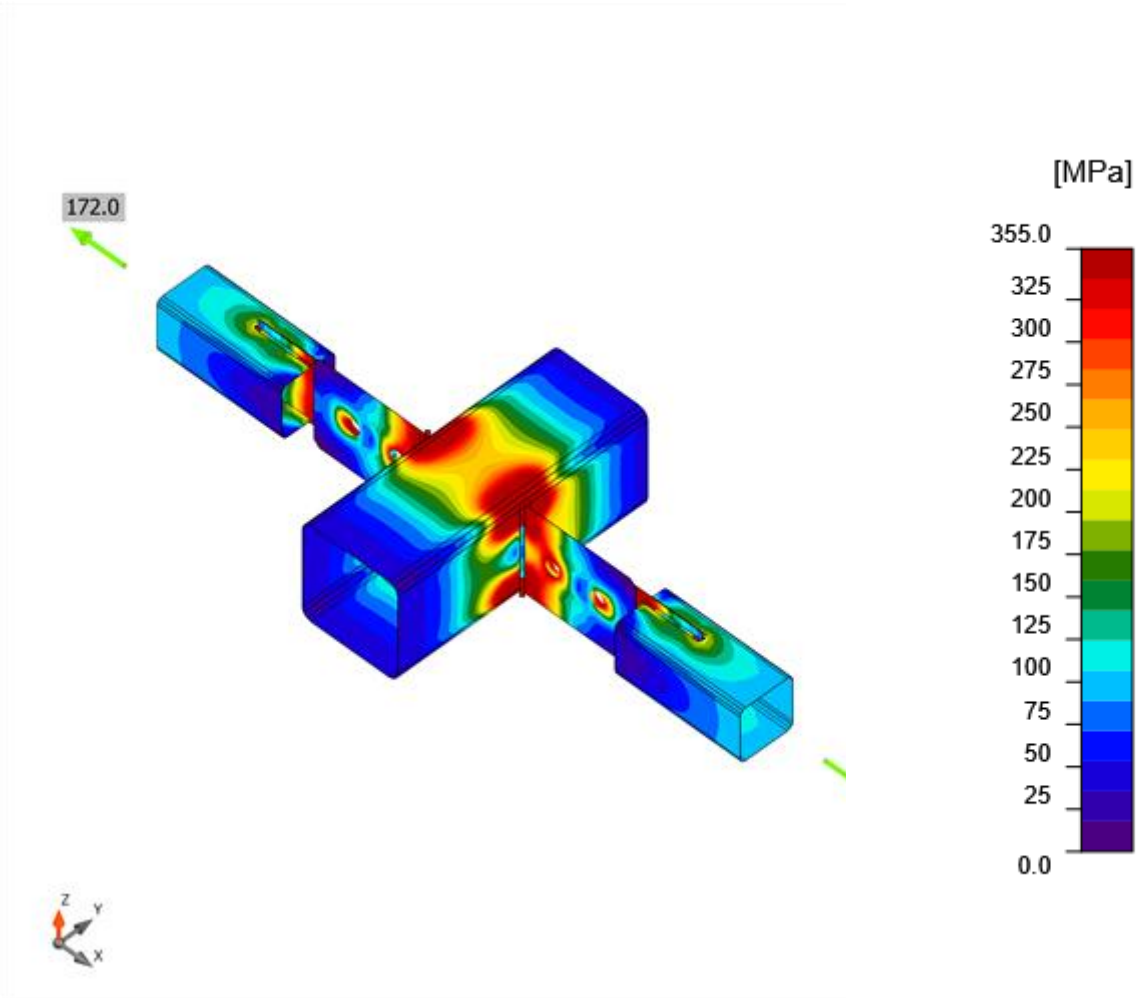
$\gamma_{M0} =$ 1.00 – partial safety factor for steel material EN 1993-1-1 – 6.1



Overall check, LE1

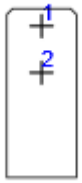
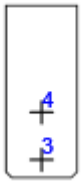


Strain check, LE1



Equivalent stress, LE1

Bolts

Shape	Item	Grade	Loads	$F_{t,Ed}$ [kN]	$F_{v,Ed}$ [kN]	$F_{b,Rd}$ [kN]	Ut_t [%]	Ut_s [%]	Ut_{ts} [%]	Status
	B1	M24 8.8 - 1	LE1	25.1	83.9	90.5	12.3	92.8	70.7	OK
	B2	M24 8.8 - 1	LE1	35.3	88.1	182.4	17.4	65.0	77.4	OK
	B3	M24 8.8 - 1	LE1	25.1	83.9	90.5	12.3	92.8	70.7	OK
	B4	M24 8.8 - 1	LE1	35.4	88.1	182.4	17.4	65.0	77.4	OK

Design data

Grade	$F_{t,Rd}$	$B_{p,Rd}$	$F_{v,Rd}$

	[kN]	[kN]	[kN]
M24 8.8 - 1	203.3	280.7	135.6

Symbol explanation

$F_{t,Ed}$	Tension force
$F_{v,Ed}$	Resultant of bolt shear forces Vy and Vz in shear planes
$F_{b,Rd}$	Plate bearing resistance EN 1993-1-8 – Tab. 3.4
Ut_t	Utilization in tension
Ut_s	Utilization in shear
Ut_{ts}	Interaction of tension and shear EN 1993-1-8 – Tab. 3.4
$F_{t,Rd}$	Bolt tension resistance EN 1993-1-8 – Tab. 3.4
$B_{p,Rd}$	Punching shear resistance EN 1993-1-8 – Tab. 3.4
$F_{v,Rd}$	Bolt shear resistance EN 1993-1-8 – Tab. 3.4

Detailed result for B3

Tension resistance check (EN 1993-1-8 – Table 3.4)

$F_{t,Rd} = \frac{k_2 f_{ub} A_s}{\gamma_{M2}} =$ 203.3 kN ≥ $F_{t,Ed} =$ 25.1 kN

Where:

$k_2 =$ 0.90 – Factor

$f_{ub} =$ 800.0 MPa – Ultimate tensile strength of the bolt

$A_s =$ 353 mm^2 – Tensile stress area of the bolt

$\gamma_{M2} =$ 1.25 – Safety factor

Punching resistance check (EN 1993-1-8 – Table 3.4)

$B_{p,Rd} = \frac{0.6 \pi d_m t_p f_u}{\gamma_{M2}} =$ 280.7 kN ≥ $F_{t,Ed} =$ 25.1 kN

Where:

$d_m =$ 38.0 mm – The mean of the across points and across flats dimensions of the bolt head or the nut, whichever is smaller

$t_p =$ 10.0 mm – Plate thickness

$f_u =$ 490.0 MPa – Ultimate strength

$\gamma_{M2} =$ 1.25 – Safety factor

Shear resistance check (EN 1993-1-8 – Table 3.4)

$F_{v,Rd} = \frac{\beta_p \alpha_v f_{ub} A}{\gamma_{M2}} =$ 135.6 kN ≥ $F_{v,Ed} =$ 83.9 kN

Where:

$\beta_p =$ 1.00 – Reduction factor for packing

$\alpha_v =$ 0.60 – Reduction factor for shear stress

$f_{ub} =$ 800.0 MPa – Ultimate tensile strength of the bolt

$A =$ 353 mm^2 – Tensile stress area of the bolt

$\gamma_{M2} = 1.25$ – Safety factor

Bearing resistance check (EN 1993-1-8 – Table 3.4)

$F_{b,Rd} = \frac{k_1 \alpha_b f_u d t}{\gamma_{M2}} =$ 90.5 kN ≥ $F_{b,Ed} =$ 83.9 kN

Where:

$k_1 = \min(2.8\frac{e_2}{d_0} - 1.7, 1.4\frac{p_2}{d_0} - 1.7, 2.5) = 2.50$ – Factor for edge distance and bolt spacing perpendicular to the direction of load transfer

$\alpha_b = \min(\frac{e_1}{3d_0}, \frac{p_1}{3d_0} - \frac{1}{4}, \frac{f_{ub}}{f_u}, 1) = 0.38$ – Factor for end distance and bolt spacing in direction of load transfer

$e_2 = 58$ mm – Distance to the plate edge perpendicular to the shear force

$p_2 = \infty$ mm – Distance between bolts perpendicular to the shear force

$d_0 = 26.0$ mm – Bolt hole diameter

$e_1 = 30$ mm – Distance to the plate edge in the direction of the shear force

$p_1 = \infty$ mm – Distance between bolts in the direction of the shear force

$f_{ub} = 800.0$ MPa – Ultimate tensile strength of the bolt

$f_u = 490.0$ MPa – Ultimate strength of the plate

$d = 24.0$ mm – Nominal diameter of the fastener

$t = 10.0$ mm – Thickness of the plate

$\gamma_{M2} = 1.25$ – Safety factor

Utilization in tension

$\frac{F_{t,Ed}}{\min(F_{t,Rd}; B_{p,Rd})} =$ 0.12 ≤ 1.0

Where:

$F_{t,Ed} = 25.1$ kN – Tensile force

$F_{t,Rd} = 203.3$ kN – Tension resistance

$B_{p,Rd} = 280.7$ kN – Punching resistance

Utilization in shear

$\max(\frac{F_{v,Ed}}{F_{v,Rd}}; \frac{F_{b,Ed}}{F_{b,Rd}}) =$ 0.93 ≤ 1.0

Where:

$F_{v,Ed} = 83.9$ kN – Shear force (in decisive shear plane)

$F_{v,Rd} = 135.6$ kN – Shear resistance

$F_{b,Ed} = 83.9$ kN – Bearing force (for decisive plate)

$F_{b,Rd} = 90.5$ kN – Bearing resistance

Interaction of tension and shear (EN 1993-1-8 – Table 3.4)

$\frac{F_{v,Ed}}{F_{v,Rd}} + \frac{F_{t,Ed}}{1.4\,F_{t,Rd}} =$ 0.71 ≤ 1.0

Where:

$F_{v,Ed}$ = 83.9 kN – Shear force (in decisive shear plane)

$F_{v,Rd}$ = 135.6 kN – Shear resistance

$F_{t,Ed}$ = 25.1 kN – Tensile force

$F_{t,Rd}$ = 203.3 kN – Tension resistance

Welds

Item	Edge	T_w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ε_{Pl} [%]	$\sigma_\perp$ [MPa]	$\tau_\perp$ [MPa]	$\tau_\parallel$ [MPa]	Ut [%]	Ut_c [%]	Status
DP-w 4	SP1	◢ 6.0 ◣	159	LE1	433.8	4.0	177.2	-172.8	149.7	99.6	91.4	OK
		◢ 6.0 ◣	159	LE1	431.9	2.9	175.0	166.3	-156.0	99.2	91.2	OK
SP2	UK1-w 1	◢ 4.0	99	LE1	427.0	0.1	-35.6	12.4	-245.3	98.0	67.3	OK
SP2	UK1-w 1	◢ 4.0	100	LE1	428.8	1.1	133.6	-139.0	189.7	98.4	82.4	OK
SP2	UK1-w 3	◢ 4.0	100	LE1	428.8	1.1	132.3	-138.1	-190.7	98.4	84.4	OK
SP2	UK1-w 3	◢ 4.0	99	LE1	427.0	0.1	-35.8	12.4	245.3	98.0	76.0	OK
DP-w 2	SP3	◢ 6.0 ◣	159	LE1	433.6	3.9	176.1	-171.9	151.0	99.6	91.3	OK
		◢ 6.0 ◣	159	LE1	431.8	2.8	173.8	165.7	-156.9	99.1	91.0	OK
SP4	UK2-w 1	◢ 4.0	100	LE1	428.8	1.1	132.7	-138.1	-190.6	98.4	84.7	OK
SP4	UK2-w 1	◢ 4.0	99	LE1	427.0	0.1	-35.7	12.1	245.4	98.0	76.1	OK
SP4	UK2-w 3	◢ 4.0	99	LE1	427.0	0.1	-35.0	12.2	-245.4	98.0	67.2	OK
SP4	UK2-w 3	◢ 4.0	100	LE1	428.8	1.1	133.5	-139.3	189.5	98.4	82.1	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9 σ [MPa]
S 355	490.0	0.90	435.6	352.8

Symbol explanation

T_w	Throat thickness a
L	Length
$\sigma_{w,Ed}$	Equivalent stress
ε_{Pl}	Strain

$\sigma_{\perp}$	Perpendicular stress
$\tau_{\perp}$	Shear stress perpendicular to weld axis
$\tau_{\parallel}$	Shear stress parallel to weld axis
Ut	Utilization
Ut_c	Weld capacity estimation
◢	Fillet weld
f_u	Ultimate strength of weld
β_w	Correlation factor EN 1993-1-8 – Tab. 4.1
$\sigma_{w,Rd}$	Equivalent stress resistance
0.9 σ	Perpendicular stress resistance: 0.9*fu/γM2

Detailed result for DP-w 4 / SP1

Weld resistance check (EN 1993-1-8 – Cl. 4.5.3.2)

$\sigma_{w,Rd} = f_u/(\beta_w \gamma_{M2}) =$ 435.6 MPa ≥ $\sigma_{w,Ed} = [\sigma_{\perp}^2 + 3(\tau_{\perp}^2 + \tau_{\parallel}^2)]^{0.5} =$ 433.8 MPa

$\sigma_{\perp,Rd} = 0.9 f_u / \gamma_{M2} =$ 352.8 MPa ≥ $|\sigma_{\perp}| =$ 204.3 MPa

where:

$f_u =$ 490.0 MPa – Ultimate strength

$\beta_w =$ 0.90 – Correlation factor EN 1993-1-8 – Tab. 4.1

$\gamma_{M2} =$ 1.25 – Safety factor

Stress utilization

$U_t = \max(\frac{\sigma_{w,Ed}}{\sigma_{w,Rd}} ; \frac{|\sigma_{\perp}|}{\sigma_{\perp,Rd}}) =$ 1.00 ≤ 1.0

Where:

$\sigma_{w,Ed} =$ 433.8 MPa – Maximum normal stress transverse to the axis of the weld

$\sigma_{w,Rd} =$ 435.6 MPa – Equivalent stress resistance

$\sigma_{\perp} =$ 204.3 MPa – Normal stress perpendicular to the throat

$\sigma_{\perp,Rd} =$ 352.8 MPa – Perpendicular stress resistance

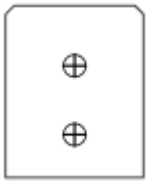
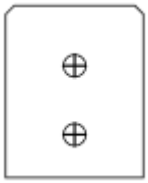
Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.

SP1	P10.0x160-200 (S 355)		1	Double fillet: 6.0	160	M24 8.8	2
SP2	P10.0x120-290 (S 355)		1			M24 8.8	2
CUT1				Fillet: 4.0	400		
SP3	P10.0x160-200 (S 355)		1	Double fillet: 6.0	160	M24 8.8	2
SP4	P10.0x120-290 (S 355)		1			M24 8.8	2
CUT3				Fillet: 4.0	400		

Symbol explanation

Fillet weld throat thickness of weld

Welds

Type	Material	Throat thickness [mm]	Leg size [mm]	Length [mm]
Double fillet	S 355	6.0	8.5	320
Fillet	S 355	4.0	5.7	800

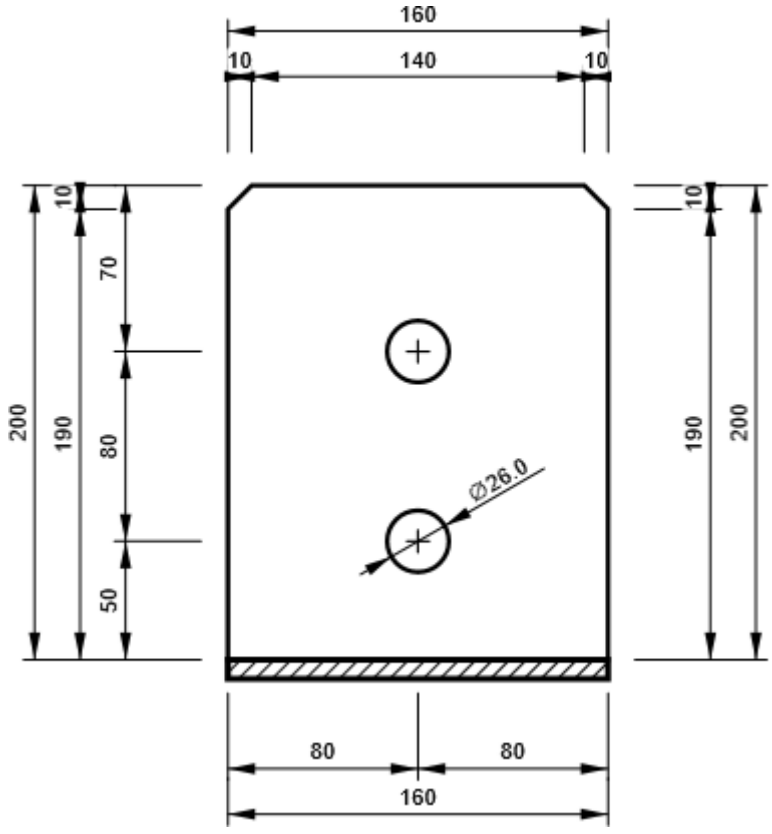
Bolts

Name	Grip length [mm]	Count
M24 8.8	20	4

Drawing

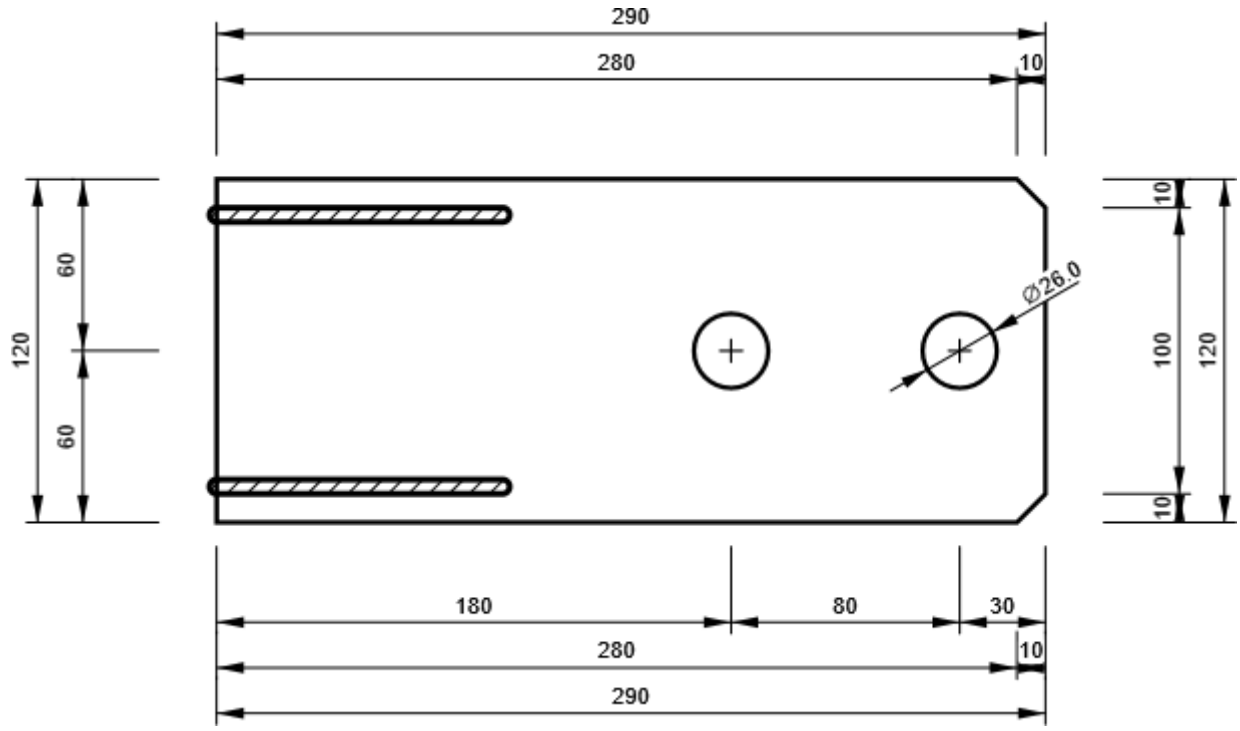
SP1

P10.0x200-160 (S 355)



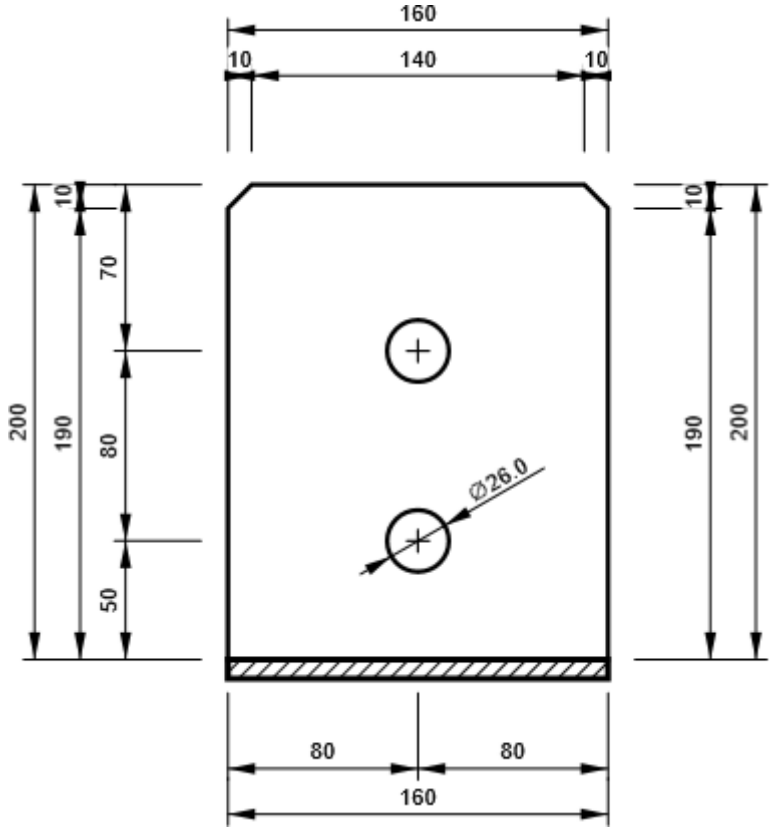
SP2

P10.0x290-120 (S 355)



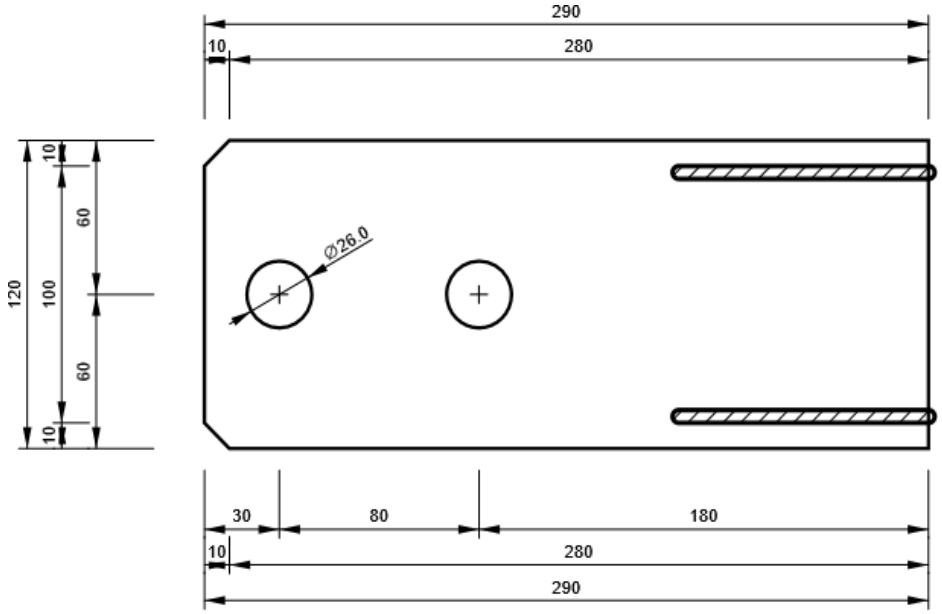
SP3

P10.0x200-160 (S 355)



SP4

P10.0x290-120 (S 355)



Code settings

Item	Value	Unit	Reference
Safety factor γ_{M0}	1.00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1.10	-	EN 1993-1-1 – 6.1
Safety factor γ_{M2}	1.25	-	EN 1993-1-1 – 6.1, EN 1993-1-8 – Table 2.1
Safety factor γ_{M3}	1.25	-	EN 1993-1-8 – Table 2.1
Safety factor γ_{C}	1.50	-	EN 1992-1-1 – 2.4.2.4
Safety factor γ_{Inst}	1.20	-	EN 1992-4 – Table 4.1
Joint coefficient βj	0.67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0.10	-	
Friction coefficient - concrete	0.25	-	EN 1993-1-8
Friction coefficient in slip-resistance	0.30	-	EN 1993-1-8 – Table 3.7
Limit plastic strain	0.05	-	EN 1993-1-5
Detailing	No		
Distance between bolts [d0]	2.20	-	EN 1993-1-8 – Table 3.3
Distance between bolts and edge [d0]	1.20	-	EN 1993-1-8 – Table 3.3
Concrete breakout resistance check	Both		
Cracked concrete	Yes		EN 1992-4
Local deformation check	No		
Local deformation limit	0.03	-	CIDECT DG 1, 3 – 1.1
Geometrical nonlinearity (GMNA)	Yes		Analysis with large deformations for hollow section joints
Braced system	No		EN 1993-1-8 – 5.2.2.5

3.8. DETALJ „H“ – SPOJ HORIZNOTANE I STUPA ČELIČNOG STUBIŠTA

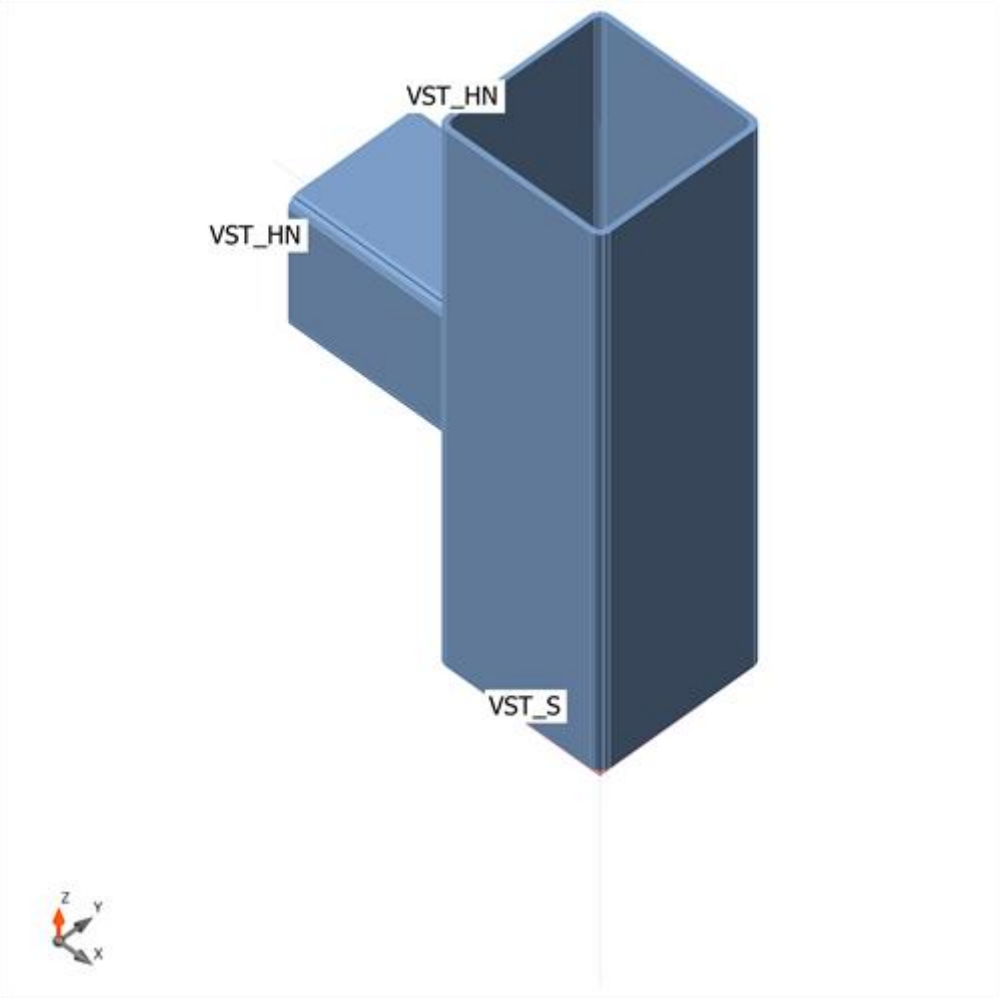
Members

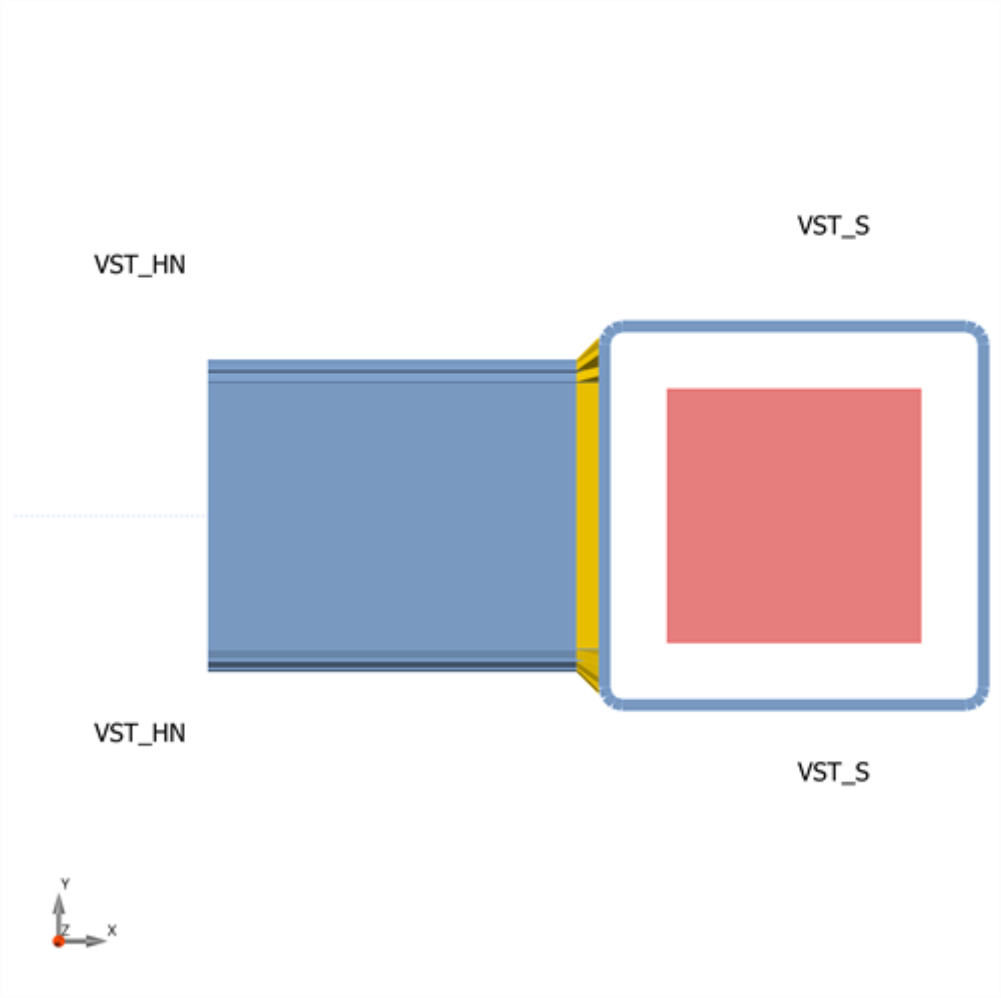
Geometry

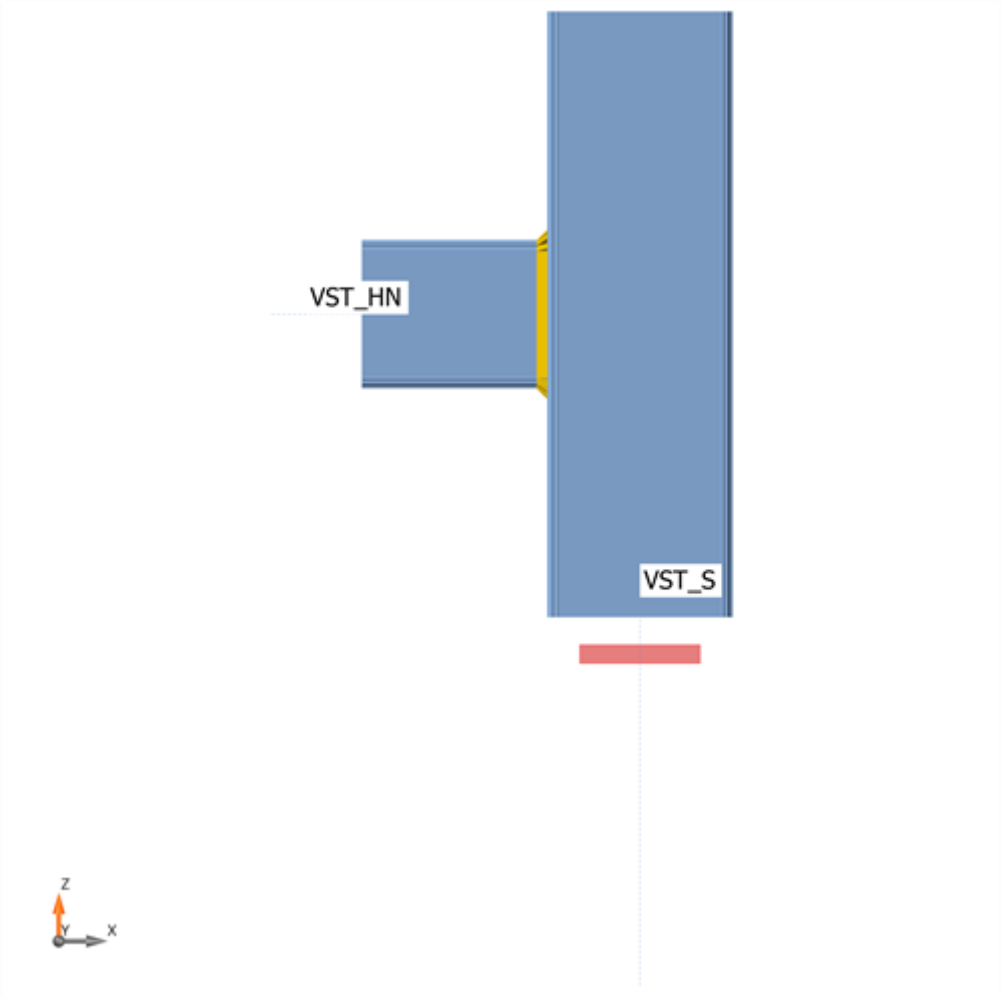
Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
VST_S	1 - CFRHS100X100X3(RHS100x100)	0.0	90.0	0.0	0	0	0
VST_HN	2 - CFRHS80X80X3(RHS80x80)	0.0	0.0	0.0	0	0	0

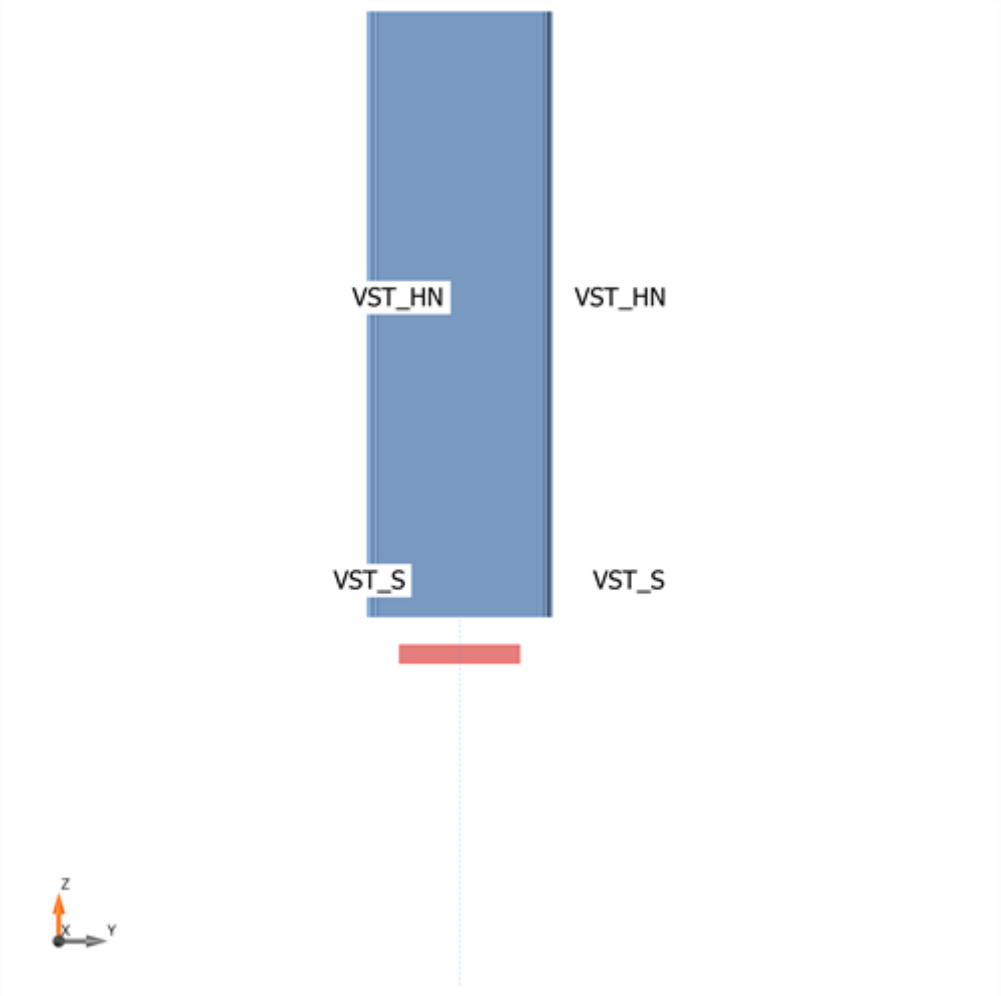
Supports and forces

Name	Support	Forces in	X [mm]
VST_S / begin	N-Vy-Vz-Mx-My-Mz	Position	0
VST_S / end		Position	0
VST_HN / begin		Position	0


VST_HN
VST_HN
VST_S
Z
Y
X


VST_S
VST_HN
VST_HN
VST_S
Y
Z
X

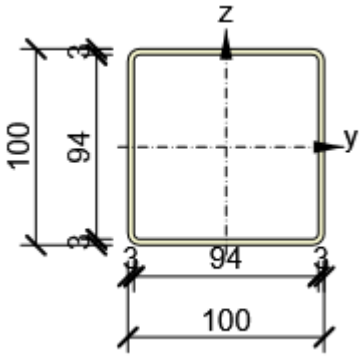

VST_HN
VST_S
Z
Y
X

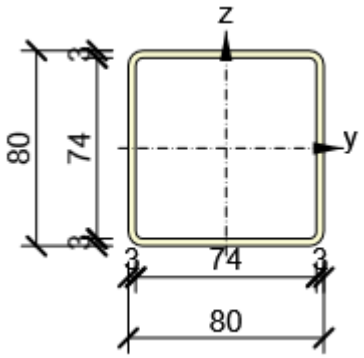


Cross-sections

Name	Material
1 - CFRHS100X100X3(RHS100x100)	S 235
2 - CFRHS80X80X3(RHS80x80)	S 235

Cross-sections

Name	Material	Drawing
1 - CFRHS100X100X3(RHS100x100)	S 235	

2 - CFRHS80X80X3(RHS80x80)	S 235	

Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE28	VST_S / Begin	12.7	0.0	0.1	0.2	0.3	0.1
	VST_S / End	-14.0	0.3	0.4	-0.4	-1.1	-0.2
	VST_HN / Begin	4.8	0.1	-6.6	0.0	0.0	0.1

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE28	4.3	0.4	-7.9	0.0	-0.8	-0.1

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0.0 < 5.0%	OK
Loc. deformation	0.1 < 3%	OK
Welds	80.0 < 100%	OK
Buckling	Not calculated	
GMNA	Calculated	

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ε_{Pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
VST_S	3.0	LE28	232.5	0.0	0.0	OK
VST_HN	3.0	LE28	190.8	0.0	0.0	OK

Design data

Material	f_y [MPa]	ε_{lim} [%]
S 235	235.0	5.0

Detailed result for VST_S

Design values used in the analysis

$f_{yd} = \frac{f_{yk}}{\gamma_{M0}} =$ 235.0 MPa

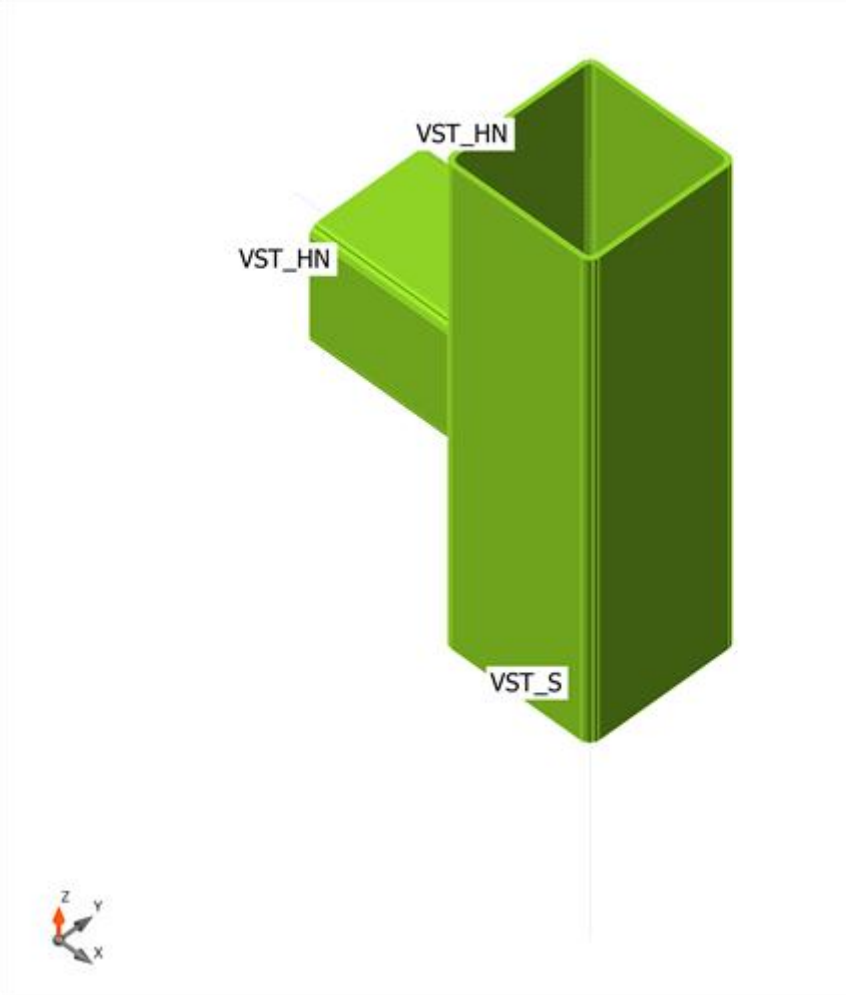
Where:

$f_{yk} =$ 235.0 MPa – characteristic yield strength

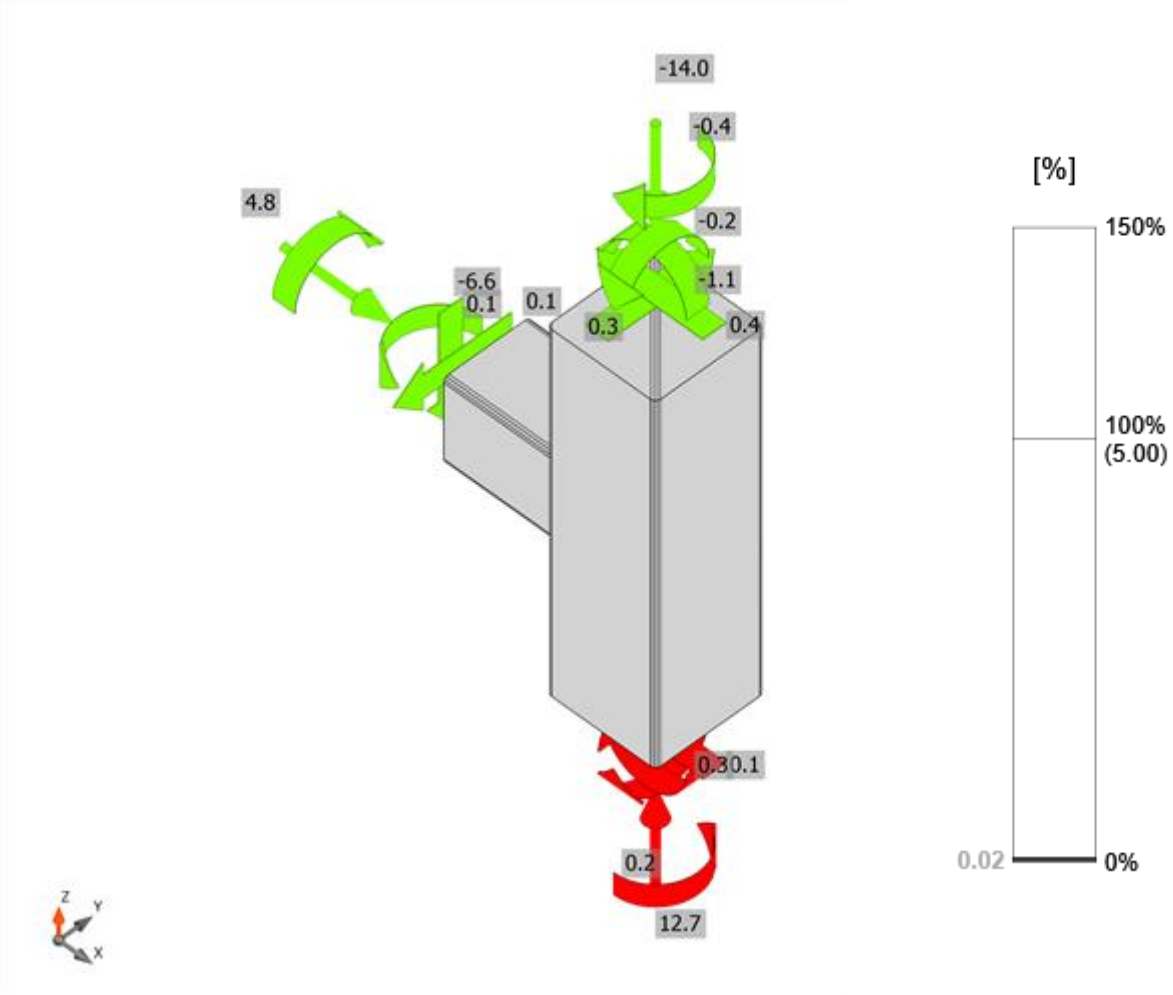
$\gamma_{M0} =$ 1.00 – partial safety factor for steel material EN 1993-1-1 – 6.1

Loc. deformation

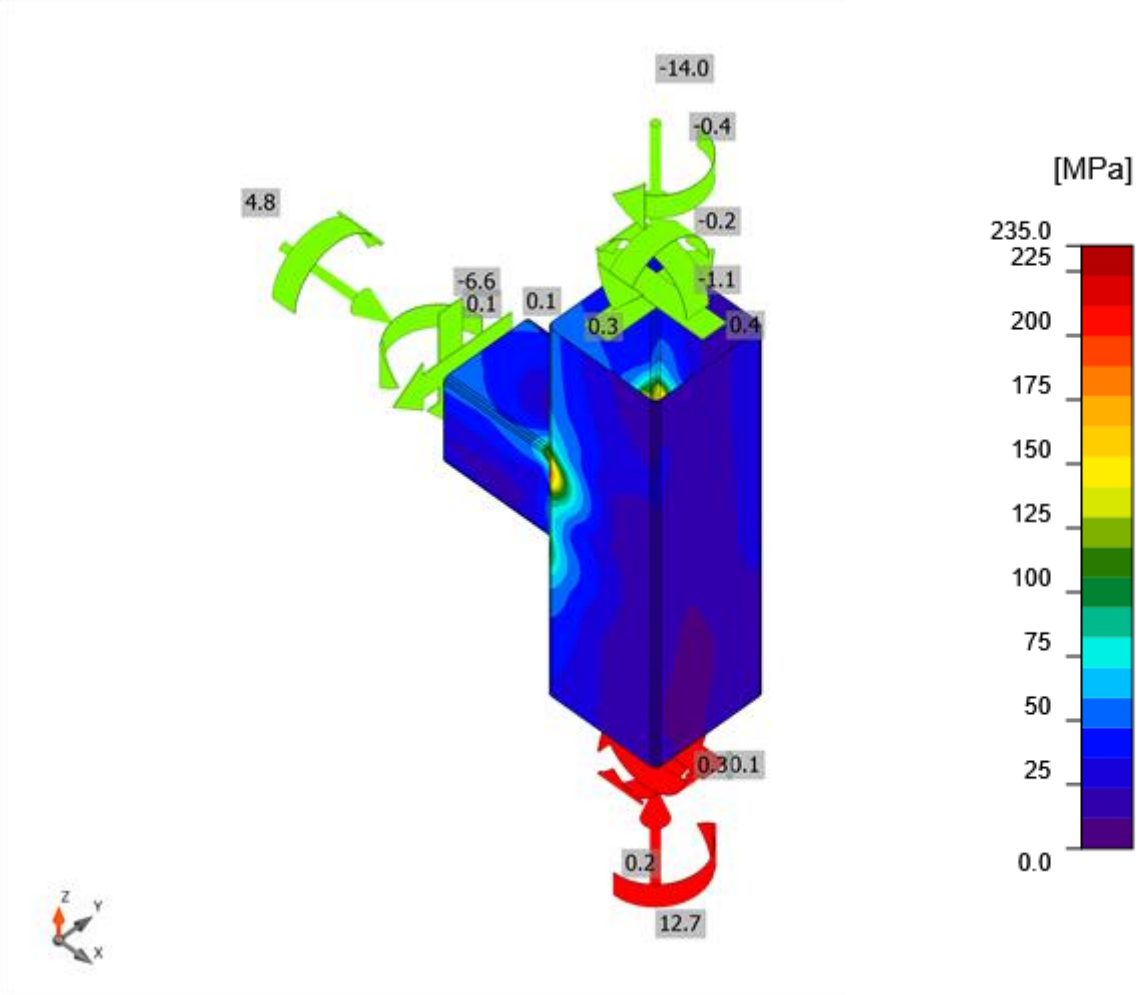
Name	d_0 [mm]	Loads	δ [mm]	δ_{lim} [mm]	δ/d_0 [%]	Check status
VST_S	100	LE28	0	3	0.1	OK
VST_HN	80	LE28	0	2	0.0	OK



Overall check, LE28



Strain check, LE28



Equivalent stress, LE28

Welds

Item	Edge	T_w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ε_{Pl} [%]	$\sigma_\perp$ [MPa]	$\tau_\perp$ [MPa]	$\tau_\parallel$ [MPa]	Ut [%]	Ut_c [%]	Detailing	Status
VST_S-w 3	VST_HN	◢ 4.0	298	LE28	225.7	0.0	-207.3	39.8	-32.8	80.0	36.5	OK	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9 σ [MPa]
S 235	360.0	0.80	360.0	259.2

Detailed result for VST_S-w 3 / VST_HN

Weld resistance check (EN 1993-1-8 – Cl. 4.5.3.2)

$\sigma_{w,Rd} = f_u/(\beta_w \gamma_{M2}) =$ 360.0 MPa ≥ $\sigma_{w,Ed} = [\sigma_\perp^2 + 3(\tau_\perp^2 + \tau_\parallel^2)]^{0.5} =$ 225.7 MPa

$\sigma_{\perp,Rd} = 0.9 f_u / \gamma_{M2} =$ 259.2 MPa ≥ $|\sigma_\perp| =$ 207.3 MPa

where:

$f_u =$ 360.0 MPa – Ultimate strength

$\beta_w =$ 0.80 – Correlation factor EN 1993-1-8 – Tab. 4.1

$\gamma_{M2} =$ 1.25 – Safety factor

Stress utilization

$U_t = \max(\frac{\sigma_{w,Ed}}{\sigma_{w,Rd}} ; \frac{|\sigma_\perp|}{\sigma_{\perp,Rd}}) =$ 0.80 ≤ 1.0

Where:

$\sigma_{w,Ed} =$ 225.7 MPa – Maximum normal stress transverse to the axis of the weld

$\sigma_{w,Rd} =$ 360.0 MPa – Equivalent stress resistance

$\sigma_\perp =$ -207.3 MPa – Normal stress perpendicular to the throat

$\sigma_{\perp,Rd} =$ 259.2 MPa – Perpendicular stress resistance

Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
CUT1				Fillet: 4.0	300		

Symbol explanation

Fillet weld throat thickness of weld

Welds

Type	Material	Throat thickness [mm]	Leg size [mm]	Length [mm]
Fillet	S 235	4.0	5.7	300

Code settings

Item	Value	Unit	Reference
Safety factor γ_{M0}	1.00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1.10	-	EN 1993-1-1 – 6.1
Safety factor γ_{M2}	1.25	-	EN 1993-1-1 – 6.1, EN 1993-1-8 – Table 2.1

Safety factor γ_{M3}	1.25	-	EN 1993-1-8 – Table 2.1
Safety factor γ_C	1.50	-	EN 1992-1-1 – 2.4.2.4
Safety factor γ_{Inst}	1.20	-	EN 1992-4 – Table 4.1
Joint coefficient βj	0.67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0.10	-	
Friction coefficient - concrete	0.25	-	EN 1993-1-8
Friction coefficient in slip-resistance	0.30	-	EN 1993-1-8 – Table 3.7
Limit plastic strain	0.05	-	EN 1993-1-5
Detailing	Yes		
Distance between bolts [d0]	2.20	-	EN 1993-1-8 – Table 3.3
Distance between bolts and edge [d0]	1.20	-	EN 1993-1-8 – Table 3.3
Concrete breakout resistance check	Both		
Cracked concrete	Yes		EN 1992-4
Local deformation check	Yes		
Local deformation limit	0.03	-	CIDECT DG 1, 3 – 1.1
Geometrical nonlinearity (GMNA)	Yes		Analysis with large deformations for hollow section joints
Braced system	No		EN 1993-1-8 – 5.2.2.5

3.9. DETALJ „I“ – NASTAVAK GLAVNOG NOSAČA ČELIČNOG STUBIŠTA

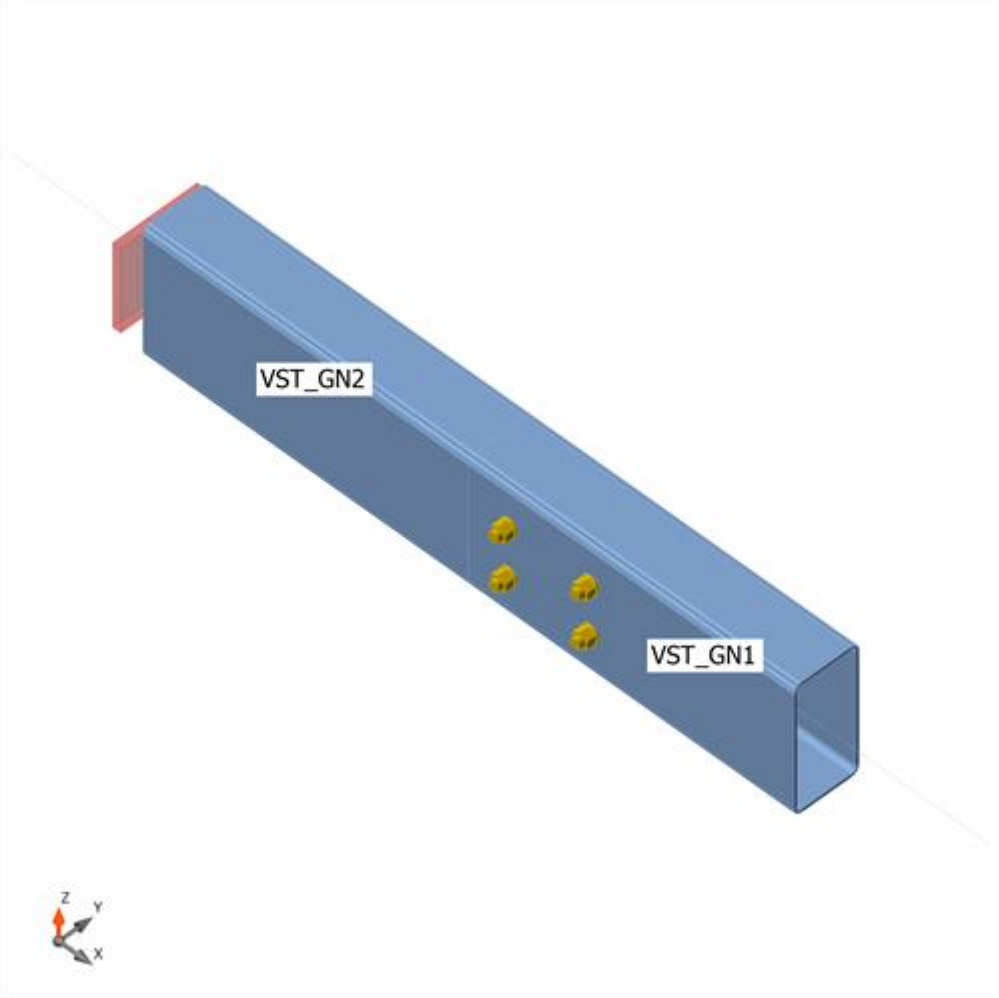
Members

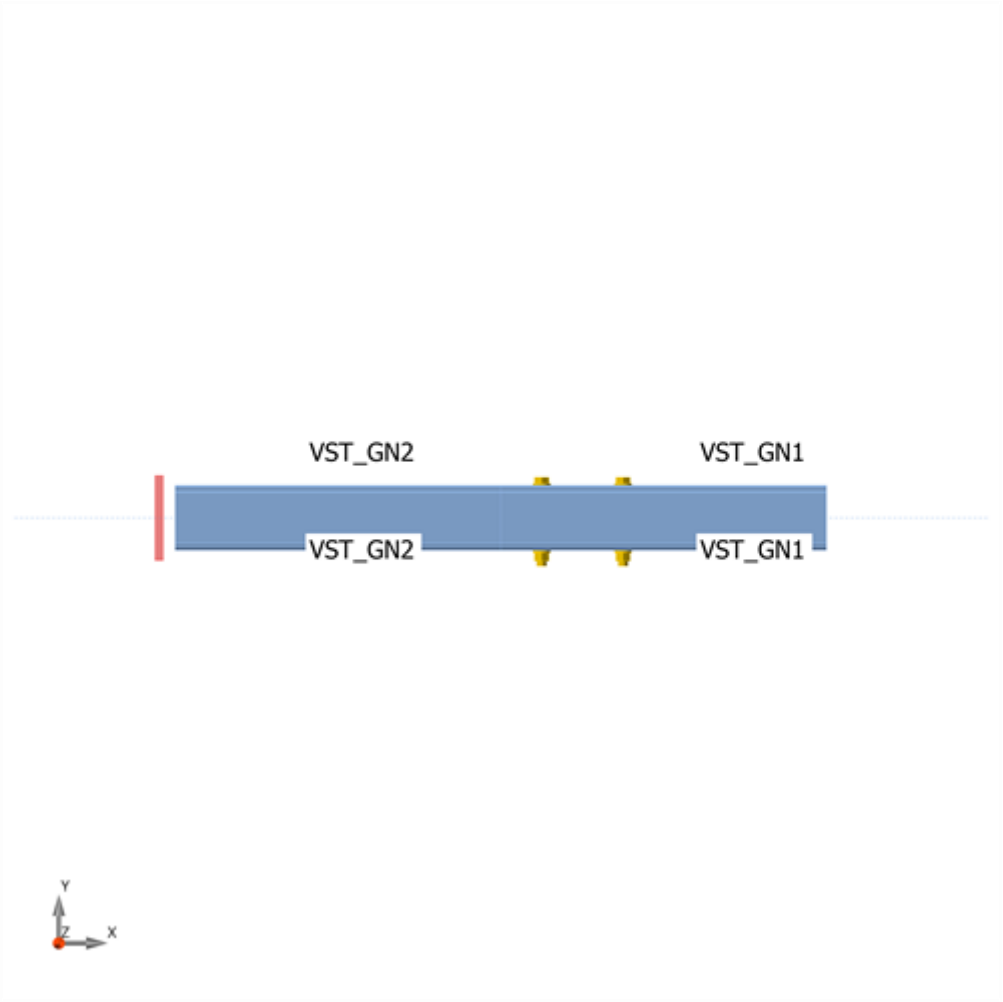
Geometry

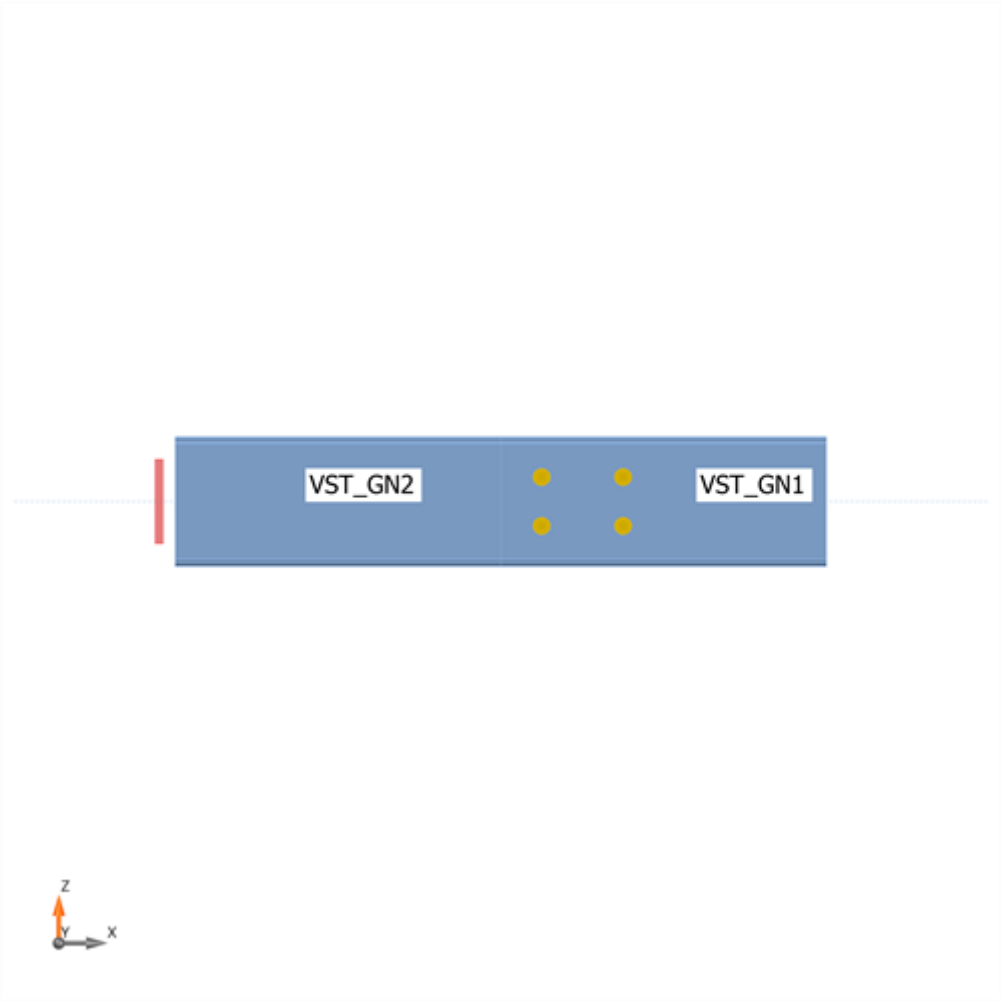
Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
VST_GN1	2 - Css 2(RHS160x80)	0.0	0.0	0.0	0	0	0
VST_GN2	2 - Css 2(RHS160x80)	180.0	0.0	0.0	0	0	0

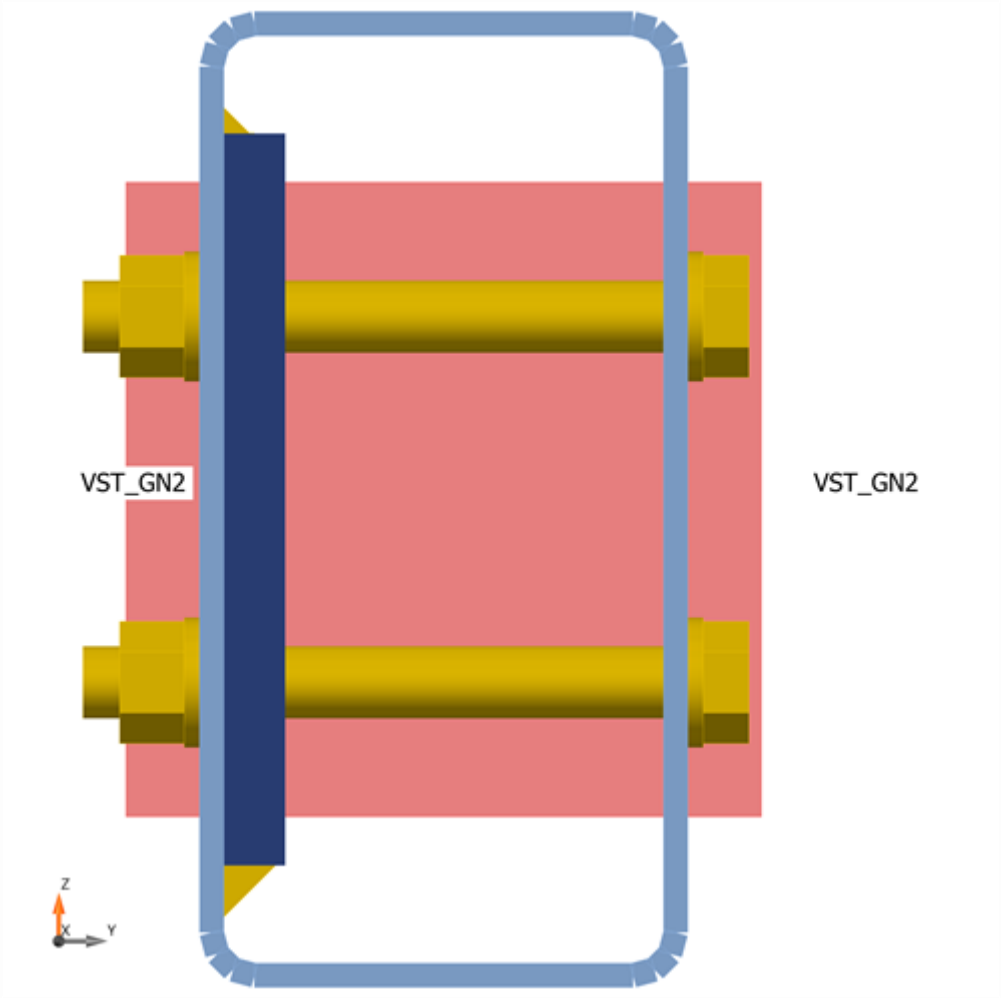
Supports and forces

Name	Support	Forces in	X [mm]
VST_GN1 / end		Node	0
VST_GN2 / end	N-Vy-Vz-Mx-My-Mz	Node	0


VST_GN2
VST_GN1
Z
Y
X


VST_GN2
VST_GN1
VST_GN2
VST_GN1
Y
Z
X

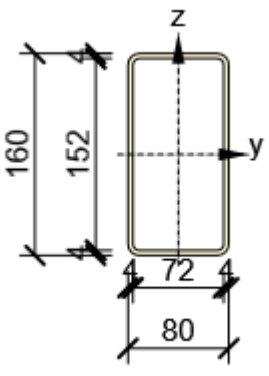

VST_GN2
VST_GN1
Z
Y
X



Cross-sections

Name	Material
2 - Css 2(RHS160x80)	S 235

Cross-sections

Name	Material	Drawing
2 - Css 2(RHS160x80)	S 235	

Bolts

Name	Diameter [mm]	f_y [MPa]	f_u [MPa]	Gross area [mm^2]
M12 8.8	12	640.0	800.0	113

Load effects (Equilibrium not required)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE1	VST_GN1 / End	6.0	0.0	2.5	0.0	6.0	0.0

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	2.0 < 5.0%	OK
Bolts	67.0 < 100%	OK
Welds	98.0 < 100%	OK
Buckling	Not calculated	
GMNA	Calculated	

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ε_{Pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
VST_GN1	4.0	LE1	239.3	2.0	0.0	OK
VST_GN2	4.0	LE1	235.2	0.1	0.0	OK
Operation 1	10.0	LE1	235.5	0.3	11.9	OK

Design data

Material	f_y [MPa]	ε_{lim} [%]
S 235	235.0	5.0

Symbol explanation

t_p	Plate thickness
σ_{Ed}	Equivalent stress
ε_{Pl}	Plastic strain
$\sigma_{c,Ed}$	Contact stress
f_y	Yield strength
ε_{lim}	Limit of plastic strain

Detailed result for VST_GN1

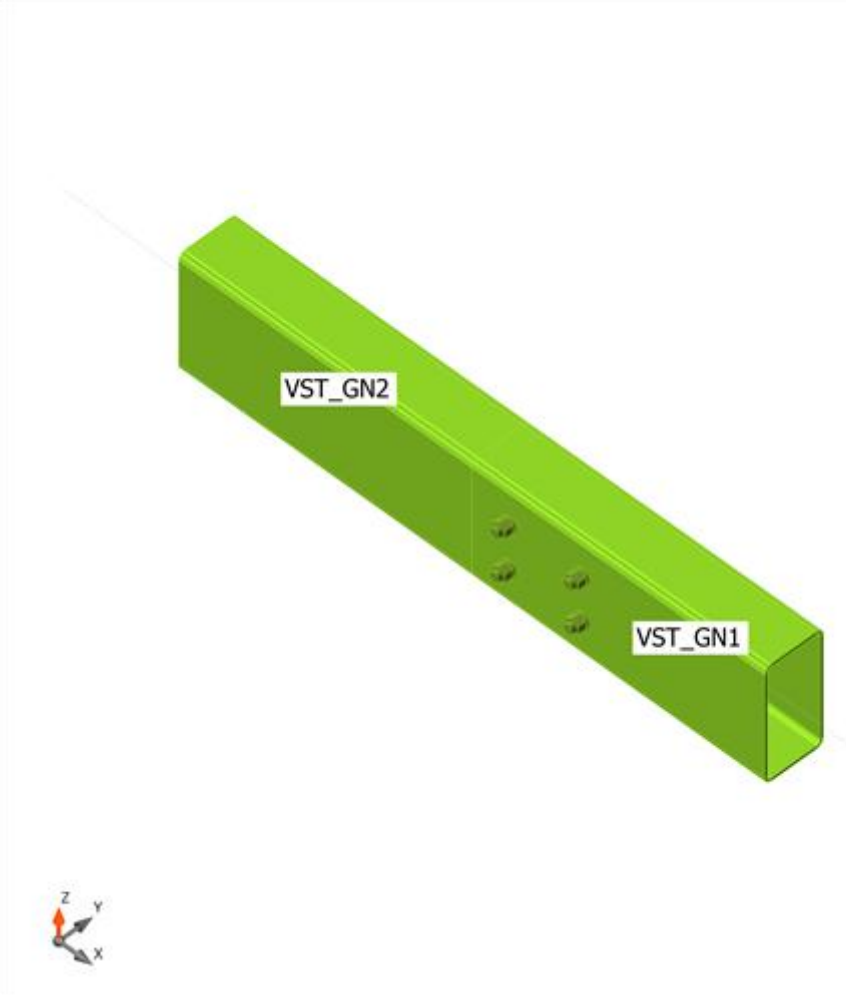
Design values used in the analysis

$f_{yd} = \frac{f_{yk}}{\gamma_{M0}} =$ 235.0 MPa

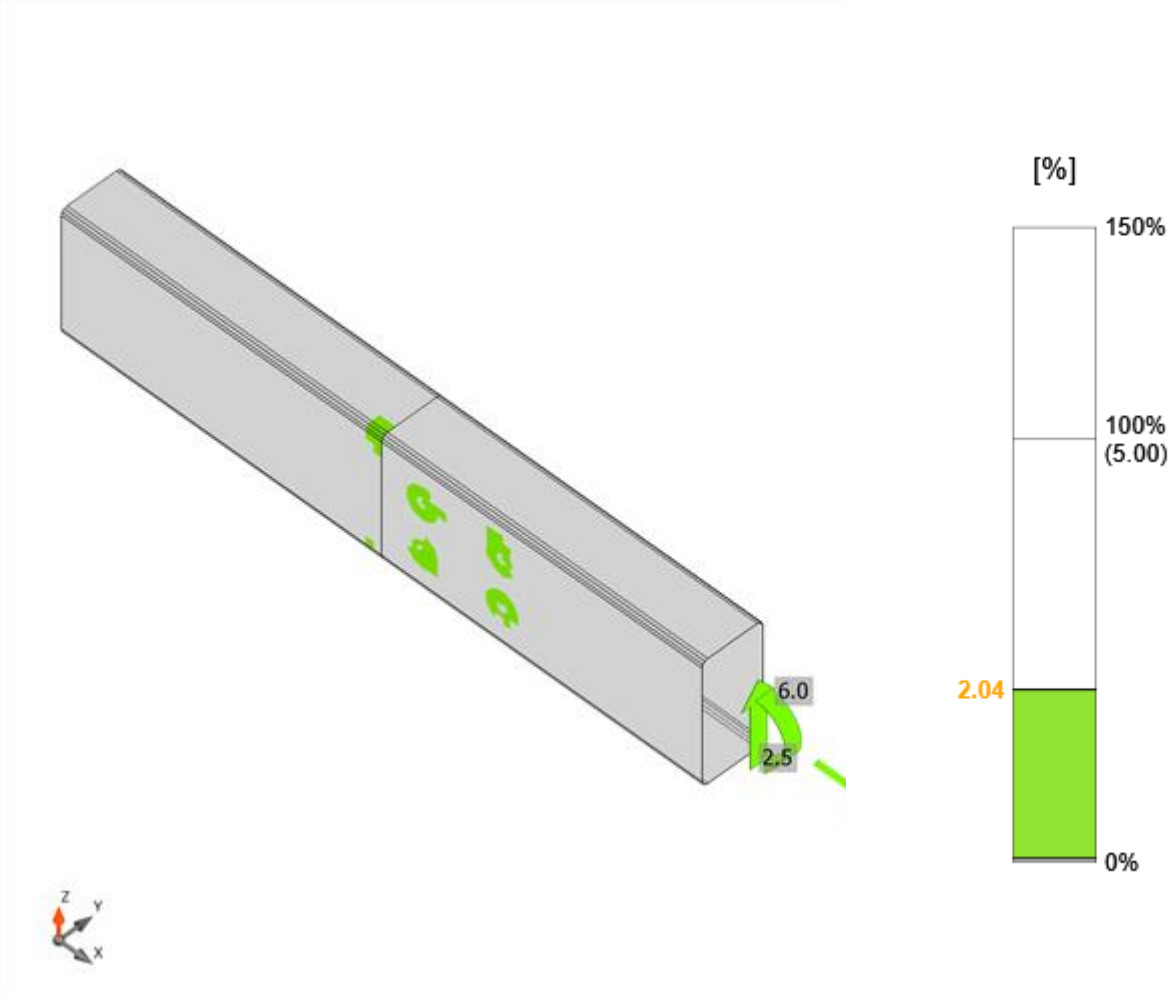
Where:

$f_{yk} =$ 235.0 MPa – characteristic yield strength

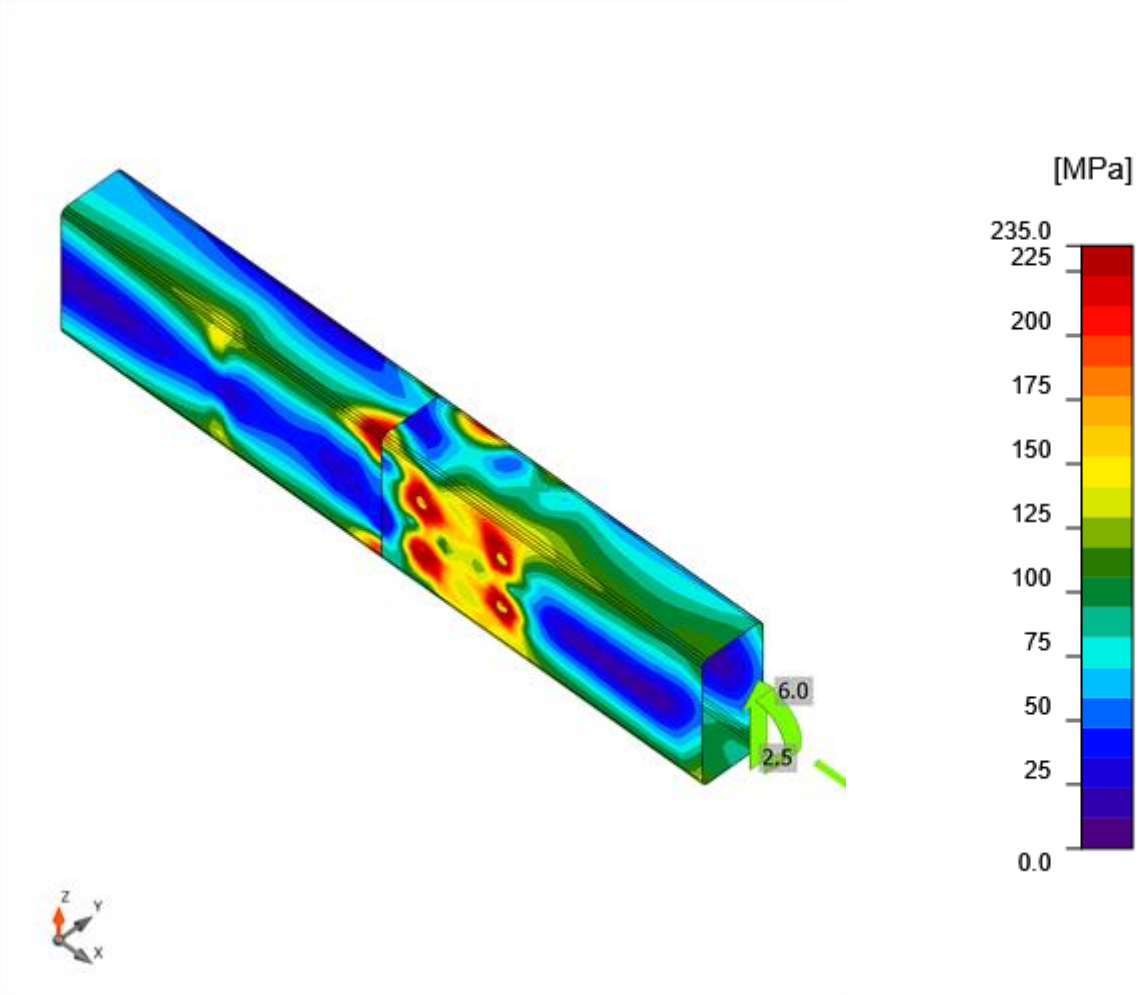
$\gamma_{M0} =$ 1.00 – partial safety factor for steel material EN 1993-1-1 – 6.1



Overall check, LE1

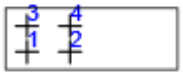


Strain check, LE1



Equivalent stress, LE1

Bolts

Shape	Item	Grade	Loads	$F_{t,Ed}$ [kN]	$F_{v,Ed}$ [kN]	$F_{b,Rd}$ [kN]	Ut_t [%]	Ut_s [%]	Ut_{ts} [%]	Status
	B1	M12 8.8 - 1	LE1	0.3	20.9	34.6	0.6	64.6	65.0	OK
	B2	M12 8.8 - 1	LE1	0.0	20.5	34.6	0.0	63.3	63.3	OK
	B3	M12 8.8 - 1	LE1	0.0	21.7	34.6	0.0	67.0	67.0	OK
	B4	M12 8.8 - 1	LE1	0.2	21.1	34.6	0.4	65.3	65.6	OK

Design data

Grade	$F_{t,Rd}$ [kN]	$B_{p,Rd}$ [kN]	$F_{v,Rd}$ [kN]
M12 8.8 - 1	48.6	41.3	32.4

Bolts: B1, B2, B3, B4 There is a gap between connected plates. Bending in bolts is not considered in this numerical model and plates are not clamped. Provided resistances of bolts in shear and plates in bearing may be incorrect.

Symbol explanation

$F_{t,Ed}$	Tension force
$F_{v,Ed}$	Resultant of bolt shear forces Vy and Vz in shear planes
$F_{b,Rd}$	Plate bearing resistance EN 1993-1-8 – Tab. 3.4
Ut_t	Utilization in tension
Ut_s	Utilization in shear
Ut_{ts}	Interaction of tension and shear EN 1993-1-8 – Tab. 3.4
$F_{t,Rd}$	Bolt tension resistance EN 1993-1-8 – Tab. 3.4
$B_{p,Rd}$	Punching shear resistance EN 1993-1-8 – Tab. 3.4
$F_{v,Rd}$	Bolt shear resistance EN 1993-1-8 – Tab. 3.4

Detailed result for B3

There is a gap between connected plates. Bending in bolts is not considered in this numerical model and plates are not clamped. Provided resistances of bolts in shear and plates in bearing may be incorrect.

Tension resistance check (EN 1993-1-8 – Table 3.4)

$$F_{t,Rd} = \frac{k_2 f_{ub} A_s}{\gamma_{M2}} = \quad 48.6 \text{ kN} \quad \geq \quad F_{t,Ed} = \quad 0.0 \text{ kN}$$

Where:

$k_2 = 0.90$ – Factor

$f_{ub} = 800.0$ MPa – Ultimate tensile strength of the bolt

$A_s = 84$ mm^2 – Tensile stress area of the bolt

$\gamma_{M2} = 1.25$ – Safety factor

Punching resistance check (EN 1993-1-8 – Table 3.4)

$$B_{p,Rd} = \frac{0.6 \pi d_m t_p f_u}{\gamma_{M2}} = \quad 41.3 \text{ kN} \quad \geq \quad F_{t,Ed} = \quad 0.0 \text{ kN}$$

Where:

$d_m = 19.0$ mm – The mean of the across points and across flats dimensions of the bolt head or the nut, whichever is smaller

$t_p = 4.0$ mm – Plate thickness

$f_u = 360.0$ MPa – Ultimate strength

$\gamma_{M2} = 1.25$ – Safety factor

Shear resistance check (EN 1993-1-8 – Table 3.4)

$$F_{v,Rd} = \frac{\beta_p \alpha_v f_{ub} A}{\gamma_{M2}} = \quad 32.4 \text{ kN} \quad \geq \quad F_{v,Ed} = \quad 21.7 \text{ kN}$$

Where:

$\beta_p = 1.00$ – Reduction factor for packing

$\alpha_v = 0.60$ – Reduction factor for shear stress

f_{ub} = 800.0 MPa – Ultimate tensile strength of the bolt

A = 84 mm^2 – Tensile stress area of the bolt

γ_{M2} = 1.25 – Safety factor

Bearing resistance check (EN 1993-1-8 – Table 3.4)

$F_{b,Rd} = \frac{k_1 \alpha_b f_u dt}{\gamma_{M2}} =$ 34.6 kN ≥ $F_{b,Ed} =$ 21.7 kN

Where:

$k_1 = \min(2.8\frac{e_2}{d_0} - 1.7, 1.4\frac{p_2}{d_0} - 1.7, 2.5) =$ 2.50 – Factor for edge distance and bolt spacing perpendicular to the direction of load transfer

$\alpha_b = \min(\frac{e_1}{3d_0}, \frac{p_1}{3d_0} - \frac{1}{4}, \frac{f_{ub}}{f_u}, 1) =$ 1.00 – Factor for end distance and bolt spacing in direction of load transfer

e_2 = 50 mm – Distance to the plate edge perpendicular to the shear force

p_2 = 117 mm – Distance between bolts perpendicular to the shear force

d_0 = 13.0 mm – Bolt hole diameter

e_1 = 55 mm – Distance to the plate edge in the direction of the shear force

p_1 = ∞ mm – Distance between bolts in the direction of the shear force

f_{ub} = 800.0 MPa – Ultimate tensile strength of the bolt

f_u = 360.0 MPa – Ultimate strength of the plate

d = 12.0 mm – Nominal diameter of the fastener

t = 4.0 mm – Thickness of the plate

γ_{M2} = 1.25 – Safety factor

Utilization in tension

$\frac{F_{t,Ed}}{\min(F_{t,Rd}; B_{p,Rd})} =$ 0.00 ≤ 1.0

Where:

$F_{t,Ed}$ = 0.0 kN – Tensile force

$F_{t,Rd}$ = 48.6 kN – Tension resistance

$B_{p,Rd}$ = 41.3 kN – Punching resistance

Utilization in shear

$\max(\frac{F_{v,Ed}}{F_{v,Rd}}; \frac{F_{b,Ed}}{F_{b,Rd}}) =$ 0.67 ≤ 1.0

Where:

$F_{v,Ed}$ = 21.7 kN – Shear force (in decisive shear plane)

$F_{v,Rd}$ = 32.4 kN – Shear resistance

$F_{b,Ed} = 21.7$ kN – Bearing force (for decisive plate)

$F_{b,Rd} = 34.6$ kN – Bearing resistance

Interaction of tension and shear (EN 1993-1-8 – Table 3.4)

$\frac{F_{v,Ed}}{F_{v,Rd}} + \frac{F_{t,Ed}}{1.4\,F_{t,Rd}} = 0.67 \leq 1.0$

Where:

$F_{v,Ed} = 21.7$ kN – Shear force (in decisive shear plane)

$F_{v,Rd} = 32.4$ kN – Shear resistance

$F_{t,Ed} = 0.0$ kN – Tensile force

$F_{t,Rd} = 48.6$ kN – Tension resistance

Welds

Item	Edge	T_w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ε_{Pl} [%]	$\sigma_{\perp}$ [MPa]	$\tau_{\perp}$ [MPa]	$\tau_{\parallel}$ [MPa]	Ut [%]	Ut_c [%]	Status
VST_GN 2-w 2	Operation 1	◢ 6.0	199	LE1	258.1	0.0	11.8	-49.7	140.3	71.7	38.8	OK
VST_GN 2-w 2	Operation 1	◢ 3.0	119	LE1	63.4	0.0	28.8	-30.6	-11.4	17.6	14.4	OK
VST_GN 2-w 2	Operation 1	◢ 3.0	199	LE1	352.9	0.1	-27.4	-23.3	201.8	98.0	68.6	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9 σ [MPa]
S 235	360.0	0.80	360.0	259.2

Symbol explanation

T_w	Throat thickness a
L	Length
$\sigma_{w,Ed}$	Equivalent stress
ε_{Pl}	Strain
$\sigma_{\perp}$	Perpendicular stress
$\tau_{\perp}$	Shear stress perpendicular to weld axis
$\tau_{\parallel}$	Shear stress parallel to weld axis
Ut	Utilization
Ut_c	Weld capacity estimation
◢	Fillet weld
f_u	Ultimate strength of weld
β_w	Correlation factor EN 1993-1-8 – Tab. 4.1
$\sigma_{w,Rd}$	Equivalent stress resistance
0.9 σ	Perpendicular stress resistance: 0.9*fu/γM2

Detailed result for VST_GN2-w 2 / Operation 1

Weld resistance check (EN 1993-1-8 – Cl. 4.5.3.2)

$\sigma_{w,Rd} = f_u/(\beta_w \gamma_{M2}) =$ 360.0 MPa ≥ $\sigma_{w,Ed} = [\sigma_\perp^2 + 3(\tau_\perp^2 + \tau_\parallel^2)]^{0.5} =$ 352.9 MPa

$\sigma_{\perp,Rd} = 0.9 f_u / \gamma_{M2} =$ 259.2 MPa ≥ $|\sigma_\perp| =$ 102.6 MPa

where:

$f_u =$ 360.0 MPa – Ultimate strength

$\beta_w =$ 0.80 – Correlation factor EN 1993-1-8 – Tab. 4.1

$\gamma_{M2} =$ 1.25 – Safety factor

Stress utilization

$U_t = \max(\frac{\sigma_{w,Ed}}{\sigma_{w,Rd}} ; \frac{|\sigma_\perp|}{\sigma_{\perp,Rd}}) =$ 0.98 ≤ 1.0

Where:

$\sigma_{w,Ed} =$ 352.9 MPa – Maximum normal stress transverse to the axis of the weld

$\sigma_{w,Rd} =$ 360.0 MPa – Equivalent stress resistance

$\sigma_\perp =$ -102.6 MPa – Normal stress perpendicular to the throat

$\sigma_{\perp,Rd} =$ 259.2 MPa – Perpendicular stress resistance

Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
Operation 1	P10.0x400-120 (S 235)		1			M12 8.8	4

Welds

Type	Material	Throat thickness [mm]	Leg size [mm]	Length [mm]
Fillet	S 235	6.0	8.5	200
Fillet	S 235	3.0	4.2	320

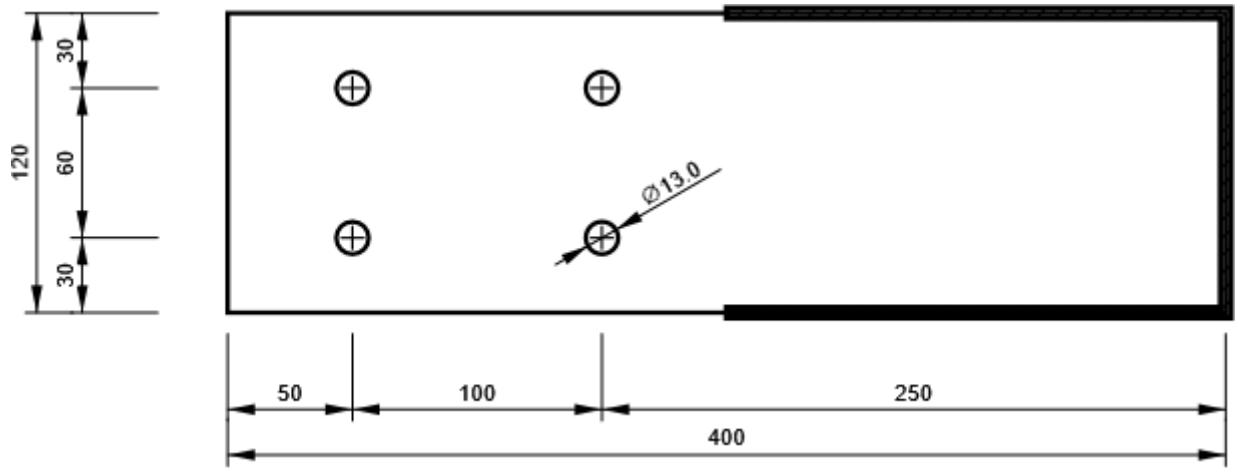
Bolts

Name	Grip length [mm]	Count
M12 8.8	80	4

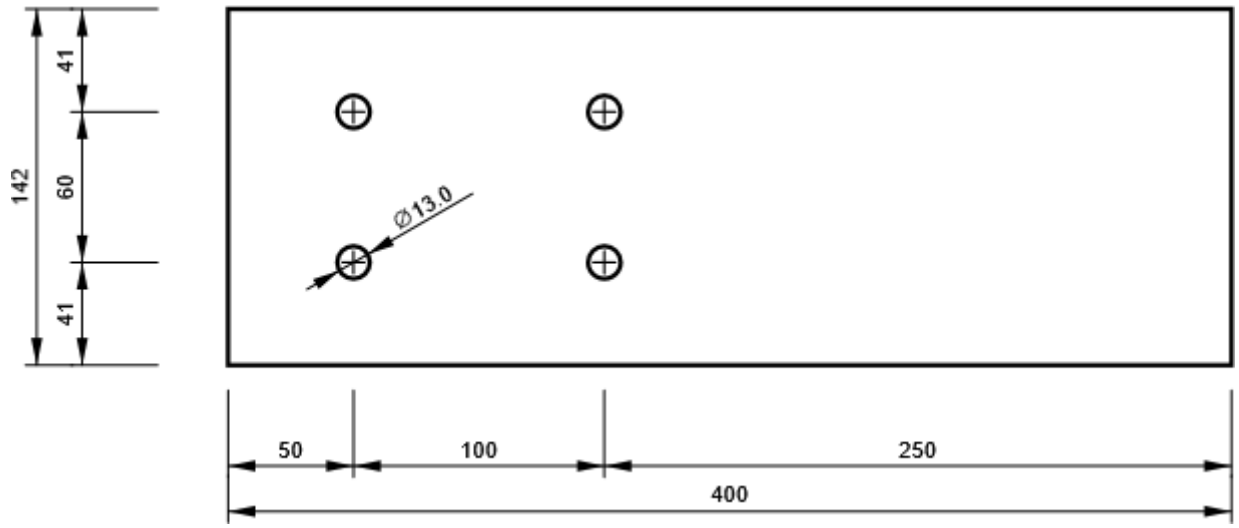
Drawing

Operation 1

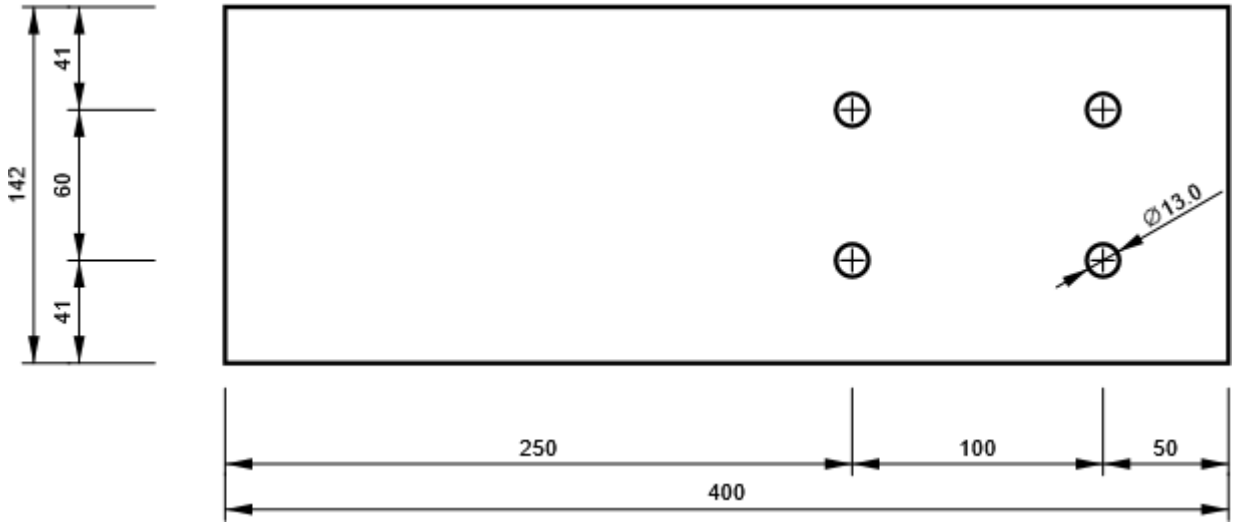
P10.0x120-400 (S 235)



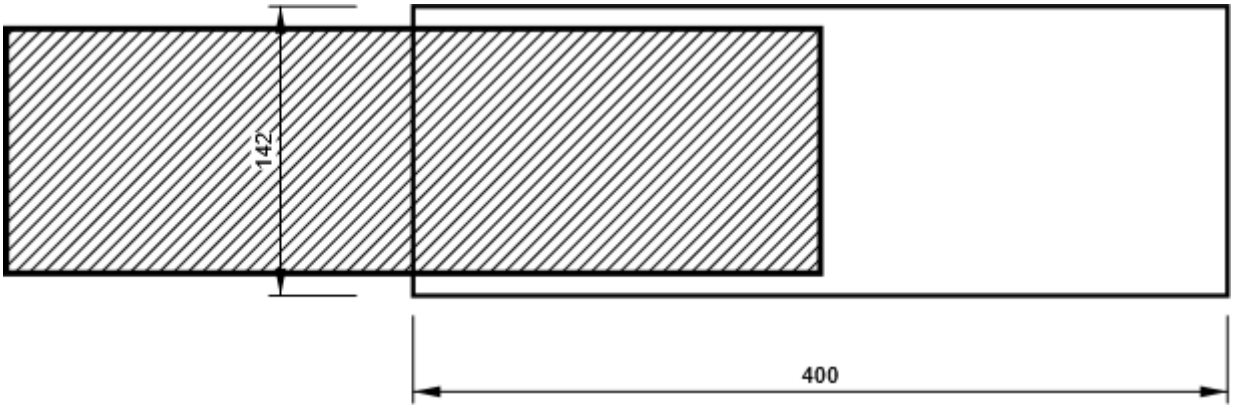
VST_GN1, Css 2(RHS160x80) - Web 2:



VST_GN1, Css 2(RHS160x80) - Web 4:



VST_GN2, Css 2(RHS160x80) - Web 2:



Code settings

Item	Value	Unit	Reference
Safety factor γ_{M0}	1.00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1.10	-	EN 1993-1-1 – 6.1
Safety factor γ_{M2}	1.25	-	EN 1993-1-1 – 6.1, EN 1993-1-8 – Table 2.1
Safety factor γ_{M3}	1.25	-	EN 1993-1-8 – Table 2.1
Safety factor γ_{C}	1.50	-	EN 1992-1-1 – 2.4.2.4
Safety factor γ_{Inst}	1.20	-	EN 1992-4 – Table 4.1
Joint coefficient βj	0.67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0.10	-	
Friction coefficient - concrete	0.25	-	EN 1993-1-8
Friction coefficient in slip-resistance	0.30	-	EN 1993-1-8 – Table 3.7
Limit plastic strain	0.05	-	EN 1993-1-5
Detailing	No		
Distance between bolts [d0]	2.20	-	EN 1993-1-8 – Table 3.3

Distance between bolts and edge [d0]	1.20	-	EN 1993-1-8 – Table 3.3
Concrete breakout resistance check	Both		
Cracked concrete	Yes		EN 1992-4
Local deformation check	No		
Local deformation limit	0.03	-	CIDECT DG 1, 3 – 1.1
Geometrical nonlinearity (GMNA)	Yes		Analysis with large deformations for hollow section joints
Braced system	No		EN 1993-1-8 – 5.2.2.5

NAPOMENA: Spoj nastavka glavnog nosača izvršiti u razini podesta stubišta.

3.10. DETALJ „J“ – SPOJ STUPA I GLAVNOG NOSAČA ČELIČNOG STUBIŠTA

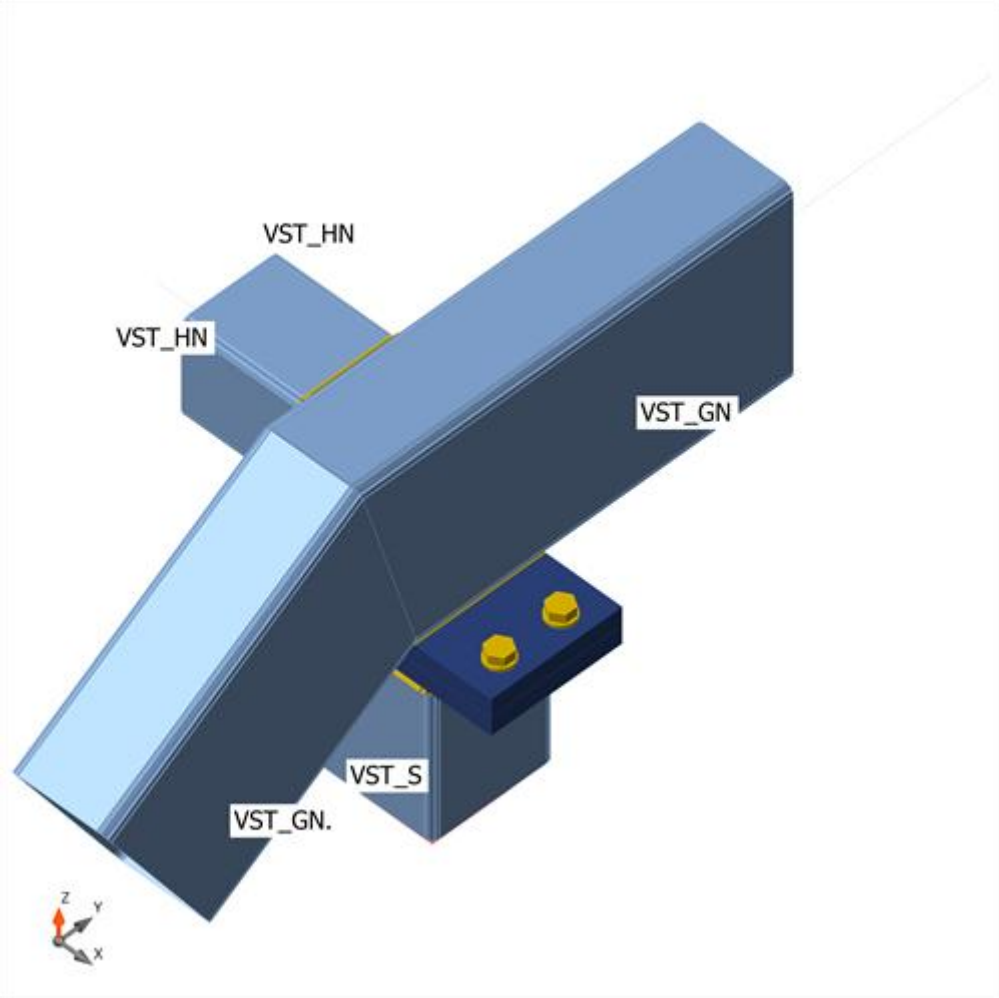
Members

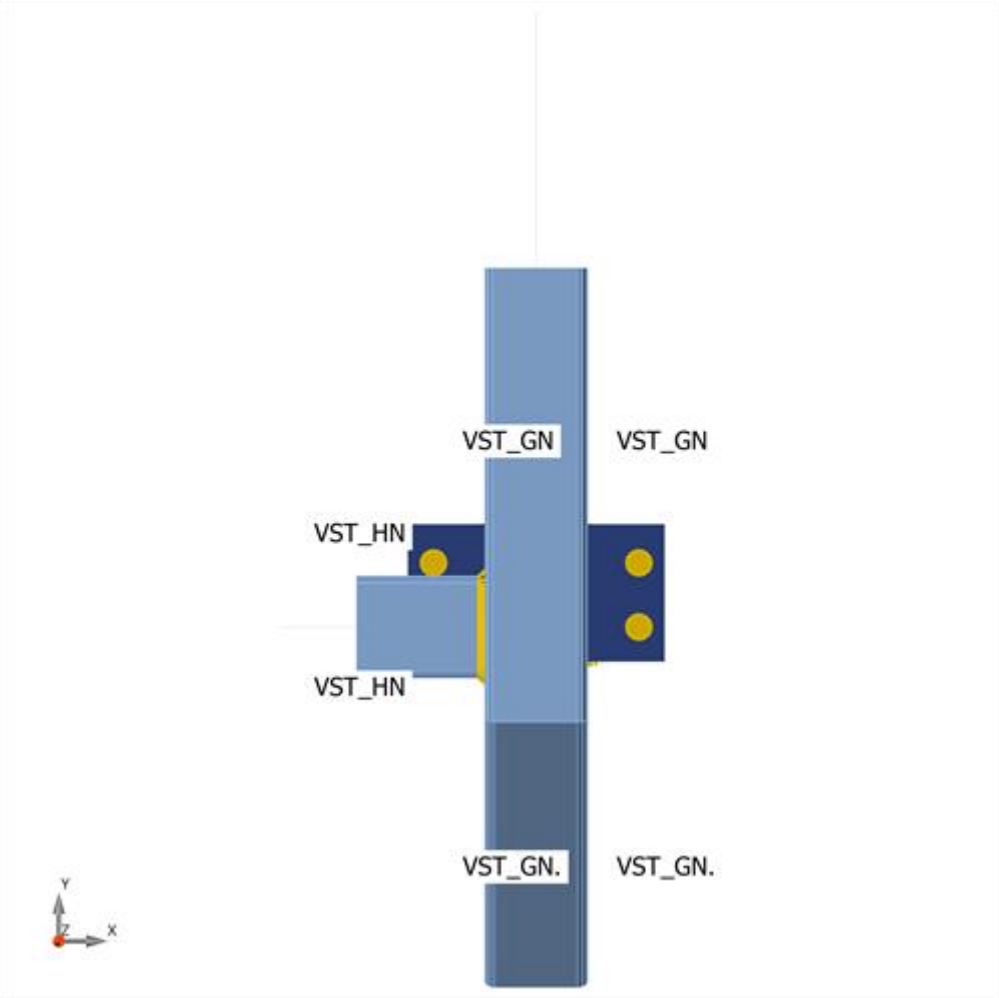
Geometry

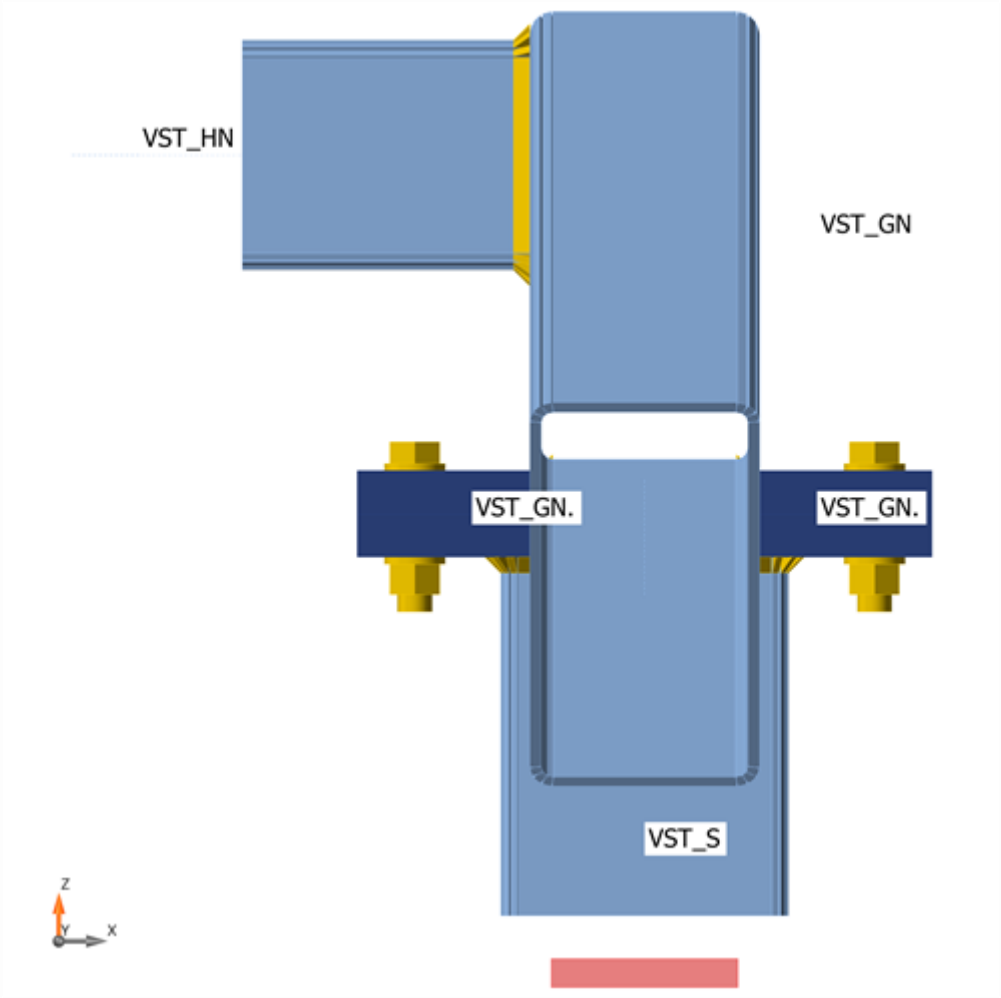
Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
VST_S	1 - CFRHS100X100X3(RHS100x100)	0.0	90.0	0.0	0	75	0
VST_GN.	2 - CFRHS160X80X4(RHS160x80)	90.0	33.3	0.0	50	0	0
VST_HN	4 - CFRHS80X80X3(RHS80x80)	0.0	0.0	0.0	0	50	30
VST_GN	2 - CFRHS160X80X4(RHS160x80)	90.0	0.0	0.0	-50	0	0

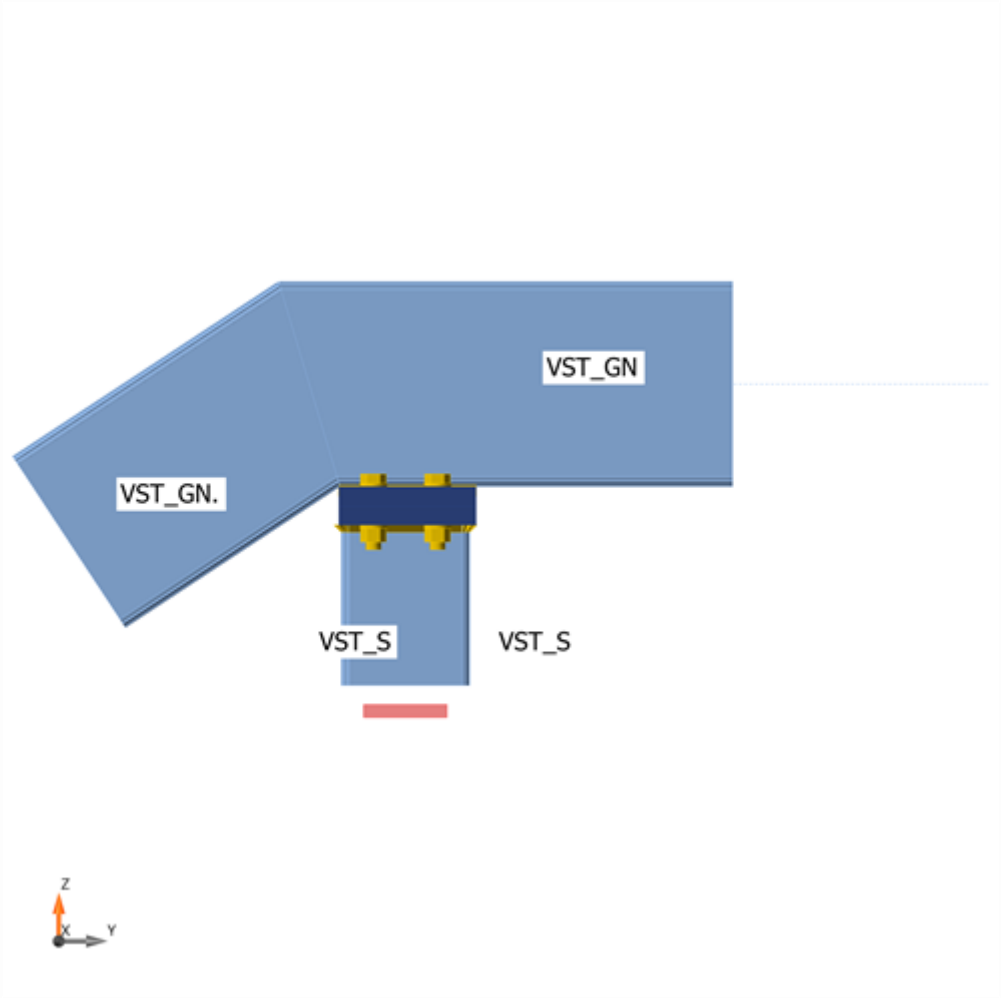
Supports and forces

Name	Support	Forces in	X [mm]
VST_S / begin	N-Vy-Vz-Mx-My-Mz	Position	0
VST_GN. / begin		Position	0
VST_HN / begin		Position	0
VST_GN / end		Position	0


VST_HN
VST_HN
VST_GN
VST_S
VST_GN.
Z
Y
X


VST_GN
VST_GN
VST_HN
VST_HN
VST_GN.
VST_GN.
Y
X


VST_HN
VST_GN
VST_GN.
VST_GN.
VST_S
Z
Y
X



Cross-sections

Name	Material
1 - CFRHS100X100X3(RHS100x100)	S 235
2 - CFRHS160X80X4(RHS160x80)	S 235
4 - CFRHS80X80X3(RHS80x80)	S 235

Bolts

Name	Diameter [mm]	f_y [MPa]	f_u [MPa]	Gross area [mm^2]
M12 5.6	12	300.0	500.0	113

Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
NC_GSN.4(4)	VST_S / Begin	15.0	0.0	-0.2	0.3	0.0	0.0
	VST_GN. / Begin	-5.8	-8.7	-9.4	1.1	-7.0	0.9
	VST_HN / Begin	-10.7	0.0	-1.0	0.0	0.0	0.0

	VST_GN / End	-0.3	-1.9	-2.9	-0.5	7.0	-1.6
NC_GSN.6(6)	VST_S / Begin	14.5	0.0	-0.3	0.2	0.0	0.0
	VST_GN. / Begin	-5.6	-9.7	-9.1	0.8	-6.8	2.2
	VST_HN / Begin	-11.7	0.0	-1.0	0.0	0.0	0.0
	VST_GN / End	-0.3	-1.7	-2.8	0.5	6.8	-2.4
NC_GSN.7(7)	VST_S / Begin	15.1	0.0	-0.3	0.2	0.0	0.0
	VST_GN. / Begin	-5.8	-9.7	-9.4	0.8	-7.0	2.2
	VST_HN / Begin	-11.7	0.0	-1.0	0.0	0.0	0.0
	VST_GN / End	-0.3	-1.7	-3.0	0.5	7.0	-2.4
NC_GSN.8(8)	VST_S / Begin	13.1	0.0	-0.1	-0.1	0.0	0.0
	VST_GN. / Begin	-2.8	-1.2	-4.3	-0.4	-3.1	1.2
	VST_HN / Begin	2.1	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	0.0	0.2	-1.0	1.0	3.1	-0.8
NC_GSN.9(9)	VST_S / Begin	12.5	0.0	-0.1	-0.1	0.0	0.0
	VST_GN. / Begin	-2.6	-1.2	-3.9	-0.4	-2.9	1.2
	VST_HN / Begin	2.1	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	0.0	0.2	-0.9	1.0	2.9	-0.8
NC_GSN.10(10)	VST_S / Begin	11.2	-0.2	-0.2	0.3	0.0	0.0
	VST_GN. / Begin	-0.5	-8.7	-8.6	1.1	-6.4	0.9
	VST_HN / Begin	-10.7	0.0	-1.0	0.0	0.0	0.0
	VST_GN / End	-4.1	-1.9	-2.8	-0.4	6.5	-1.6
NC_GSN.11(11)	VST_S / Begin	11.8	-0.2	-0.2	0.3	0.0	0.0
	VST_GN. / Begin	-0.7	-8.7	-9.0	1.1	-6.7	0.9
	VST_HN / Begin	-10.7	0.0	-1.0	0.0	0.0	0.0
	VST_GN / End	-4.1	-1.9	-2.9	-0.5	6.7	-1.6
NC_GSN.12(12)	VST_S / Begin	3.2	-0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	2.3	0.0	-3.8	0.0	-2.8	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	-3.8	0.0	-1.0	0.0	2.8	0.0
NC_GSN.13(13)	VST_S / Begin	2.6	-0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	2.5	0.0	-3.5	0.0	-2.6	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	-3.8	0.0	-0.9	0.0	2.6	0.0
NC_GSN.14(14)	VST_S / Begin	16.9	0.2	-0.2	0.3	0.0	0.0
	VST_GN. / Begin	-9.5	-8.7	-9.5	1.1	-7.0	0.9
	VST_HN / Begin	-10.8	0.0	-1.0	0.0	0.0	0.0
	VST_GN / End	2.5	-1.9	-2.8	-0.4	7.0	-1.6
NC_GSN.15(15)	VST_S / Begin	17.5	0.2	-0.2	0.3	0.0	0.0
	VST_GN. / Begin	-9.7	-8.7	-9.8	1.1	-7.3	0.9
	VST_HN / Begin	-10.8	0.0	-1.0	0.0	0.0	0.0
	VST_GN / End	2.5	-1.9	-2.9	-0.5	7.3	-1.6
NC_GSN.16(16)	VST_S / Begin	8.9	0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-6.7	0.0	-4.7	0.0	-3.4	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	2.8	0.0	-1.0	0.0	3.4	0.0
NC_GSN.17(17)	VST_S / Begin	8.3	0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-6.5	0.0	-4.4	0.0	-3.2	0.0

	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	2.8	0.0	-0.9	0.0	3.2	0.0
NC_GSN.18(18)	VST_S / Begin	12.9	0.0	-0.2	0.2	0.0	0.0
	VST_GN. / Begin	-4.9	-8.7	-8.0	1.1	-6.0	0.9
	VST_HN / Begin	-10.7	0.0	-0.9	0.0	0.0	0.0
	VST_GN / End	-0.3	-1.9	-2.5	-0.4	6.0	-1.6
NC_GSN.19(19)	VST_S / Begin	13.5	0.0	-0.2	0.3	0.0	0.0
	VST_GN. / Begin	-5.1	-8.7	-8.4	1.1	-6.2	0.9
	VST_HN / Begin	-10.7	0.0	-1.0	0.0	0.0	0.0
	VST_GN / End	-0.3	-1.9	-2.6	-0.4	6.2	-1.6
NC_GSN.20(20)	VST_S / Begin	4.8	0.0	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-2.1	0.0	-3.3	0.0	-2.4	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	0.0	0.0	-0.7	0.0	2.4	0.0
NC_GSN.21(21)	VST_S / Begin	13.0	0.0	-0.3	0.2	0.0	0.0
	VST_GN. / Begin	-4.9	-9.7	-8.0	0.8	-6.0	2.2
	VST_HN / Begin	-11.7	0.0	-0.9	0.0	0.0	0.0
	VST_GN / End	-0.3	-1.7	-2.6	0.5	6.1	-2.4
NC_GSN.22(22)	VST_S / Begin	13.6	0.0	-0.3	0.2	0.0	0.0
	VST_GN. / Begin	-5.2	-9.7	-8.4	0.8	-6.3	2.2
	VST_HN / Begin	-11.7	0.0	-1.0	0.0	0.0	0.0
	VST_GN / End	-0.3	-1.7	-2.7	0.5	6.3	-2.4
NC_GSN.23(23)	VST_S / Begin	11.6	0.0	-0.1	-0.1	0.0	0.0
	VST_GN. / Begin	-2.2	-1.2	-3.3	-0.4	-2.4	1.2
	VST_HN / Begin	2.1	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	0.0	0.2	-0.7	1.0	2.4	-0.8
NC_GSN.24(24)	VST_S / Begin	11.0	0.0	-0.1	-0.1	0.0	0.0
	VST_GN. / Begin	-1.9	-1.2	-2.9	-0.4	-2.1	1.2
	VST_HN / Begin	2.1	0.0	-0.1	0.0	0.0	0.0
	VST_GN / End	0.0	0.2	-0.6	1.0	2.1	-0.8
NC_GSN.25(25)	VST_S / Begin	9.8	-0.2	-0.2	0.2	0.0	0.0
	VST_GN. / Begin	0.2	-8.7	-7.6	1.1	-5.7	0.9
	VST_HN / Begin	-10.7	0.0	-0.9	0.0	0.0	0.0
	VST_GN / End	-4.1	-1.9	-2.5	-0.4	5.7	-1.6
NC_GSN.26(26)	VST_S / Begin	10.3	-0.2	-0.2	0.2	0.0	0.0
	VST_GN. / Begin	0.0	-8.7	-7.9	1.1	-6.0	0.9
	VST_HN / Begin	-10.7	0.0	-1.0	0.0	0.0	0.0
	VST_GN / End	-4.1	-1.9	-2.7	-0.4	6.0	-1.6
NC_GSN.27(27)	VST_S / Begin	1.7	-0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	3.0	0.0	-2.8	0.0	-2.1	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	-3.8	0.0	-0.8	0.0	2.1	0.0
NC_GSN.28(28)	VST_S / Begin	1.1	-0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	3.2	0.0	-2.5	0.0	-1.8	0.0
	VST_HN / Begin	0.0	0.0	-0.1	0.0	0.0	0.0
	VST_GN / End	-3.8	0.0	-0.6	0.0	1.8	0.0
NC_GSN.29(29)	VST_S / Begin	15.4	0.2	-0.2	0.3	0.0	0.0

	VST_GN. / Begin	-8.8	-8.7	-8.5	1.1	-6.3	0.9
	VST_HN / Begin	-10.7	0.0	-0.9	0.0	0.0	0.0
	VST_GN / End	2.5	-1.9	-2.5	-0.4	6.3	-1.6
NC_GSN.30(30)	VST_S / Begin	16.0	0.2	-0.2	0.3	0.0	0.0
	VST_GN. / Begin	-9.0	-8.7	-8.8	1.1	-6.5	0.9
	VST_HN / Begin	-10.7	0.0	-1.0	0.0	0.0	0.0
	VST_GN / End	2.5	-1.9	-2.7	-0.4	6.5	-1.6
NC_GSN.31(31)	VST_S / Begin	7.4	0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-6.0	0.0	-3.7	0.0	-2.7	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	2.8	0.0	-0.8	0.0	2.7	0.0
NC_GSN.32(32)	VST_S / Begin	6.8	0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-5.8	0.0	-3.4	0.0	-2.4	0.0
	VST_HN / Begin	0.0	0.0	-0.1	0.0	0.0	0.0
	VST_GN / End	2.8	0.0	-0.6	0.0	2.4	0.0
NC_GSN.33(33)	VST_S / Begin	11.8	0.0	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-4.7	-6.1	-7.5	0.8	-5.6	0.6
	VST_HN / Begin	-7.5	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	-0.2	-1.3	-2.2	-0.3	5.6	-1.2
NC_GSN.34(34)	VST_S / Begin	13.0	0.0	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-5.1	-6.1	-8.2	0.8	-6.1	0.6
	VST_HN / Begin	-7.5	0.0	-0.9	0.0	0.0	0.0
	VST_GN / End	-0.2	-1.3	-2.4	-0.3	6.1	-1.2
NC_GSN.35(35)	VST_S / Begin	6.9	0.0	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-3.0	0.0	-4.6	0.0	-3.4	0.0
	VST_HN / Begin	0.0	0.0	-0.3	0.0	0.0	0.0
	VST_GN / End	0.0	0.0	-1.1	0.0	3.4	0.0
NC_GSN.36(36)	VST_S / Begin	12.1	0.0	-0.2	0.1	0.0	0.0
	VST_GN. / Begin	-4.7	-7.1	-7.5	0.4	-5.6	1.8
	VST_HN / Begin	-8.3	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	-0.2	-1.1	-2.3	0.7	5.6	-1.8
NC_GSN.37(37)	VST_S / Begin	13.3	0.0	-0.2	0.1	0.0	0.0
	VST_GN. / Begin	-5.2	-7.1	-8.2	0.4	-6.1	1.8
	VST_HN / Begin	-8.3	0.0	-0.9	0.0	0.0	0.0
	VST_GN / End	-0.2	-1.1	-2.5	0.7	6.1	-1.8
NC_GSN.38(38)	VST_S / Begin	13.6	0.0	-0.1	-0.1	0.0	0.0
	VST_GN. / Begin	-3.1	-1.2	-4.6	-0.4	-3.4	1.2
	VST_HN / Begin	2.0	0.0	-0.3	0.0	0.0	0.0
	VST_GN / End	0.0	0.2	-1.1	1.0	3.4	-0.8
NC_GSN.39(39)	VST_S / Begin	8.7	-0.2	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	0.4	-6.1	-7.1	0.8	-5.3	0.6
	VST_HN / Begin	-7.5	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	-4.0	-1.3	-2.2	-0.3	5.3	-1.2
NC_GSN.40(40)	VST_S / Begin	9.8	-0.2	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	0.0	-6.1	-7.8	0.8	-5.8	0.6
	VST_HN / Begin	-7.5	0.0	-0.9	0.0	0.0	0.0
	VST_GN / End	-4.0	-1.3	-2.4	-0.3	5.8	-1.2

NC_GSN.41(41)	VST_S / Begin	3.8	-0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	2.1	0.0	-4.2	0.0	-3.1	0.0
	VST_HN / Begin	0.0	0.0	-0.3	0.0	0.0	0.0
	VST_GN / End	-3.8	0.0	-1.1	0.0	3.1	0.0
NC_GSN.42(42)	VST_S / Begin	14.3	0.2	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-8.6	-6.1	-8.0	0.8	-5.9	0.6
	VST_HN / Begin	-7.5	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	2.6	-1.3	-2.2	-0.3	5.9	-1.2
NC_GSN.43(43)	VST_S / Begin	15.5	0.2	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-9.0	-6.1	-8.7	0.8	-6.4	0.6
	VST_HN / Begin	-7.5	0.0	-0.9	0.0	0.0	0.0
	VST_GN / End	2.6	-1.3	-2.4	-0.3	6.4	-1.2
NC_GSN.44(44)	VST_S / Begin	9.4	0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-6.9	0.0	-5.1	0.0	-3.7	0.0
	VST_HN / Begin	0.0	0.0	-0.3	0.0	0.0	0.0
	VST_GN / End	2.8	0.0	-1.1	0.0	3.7	0.0
NC_GSN.45(45)	VST_S / Begin	10.3	0.0	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-4.0	-6.1	-6.5	0.8	-4.8	0.6
	VST_HN / Begin	-7.5	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	-0.2	-1.3	-2.0	-0.3	4.8	-1.1
NC_GSN.46(46)	VST_S / Begin	11.5	0.0	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-4.4	-6.1	-7.2	0.8	-5.3	0.6
	VST_HN / Begin	-7.5	0.0	-0.8	0.0	0.0	0.0
	VST_GN / End	-0.2	-1.3	-2.2	-0.3	5.3	-1.2
NC_GSN.47(47)	VST_S / Begin	5.4	0.0	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-2.4	0.0	-3.6	0.0	-2.6	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	0.0	0.0	-0.9	0.0	2.6	0.0
NC_GSN.48(48)	VST_S / Begin	10.6	0.0	-0.2	0.1	0.0	0.0
	VST_GN. / Begin	-4.1	-7.1	-6.5	0.4	-4.9	1.8
	VST_HN / Begin	-8.3	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	-0.2	-1.1	-2.0	0.7	4.9	-1.9
NC_GSN.49(49)	VST_S / Begin	11.8	0.0	-0.2	0.1	0.0	0.0
	VST_GN. / Begin	-4.5	-7.1	-7.2	0.4	-5.4	1.8
	VST_HN / Begin	-8.3	0.0	-0.8	0.0	0.0	0.0
	VST_GN / End	-0.2	-1.1	-2.3	0.7	5.4	-1.8
NC_GSN.50(50)	VST_S / Begin	12.2	0.0	-0.1	-0.1	0.0	0.0
	VST_GN. / Begin	-2.4	-1.2	-3.6	-0.4	-2.6	1.2
	VST_HN / Begin	2.1	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	0.0	0.2	-0.9	1.0	2.6	-0.8
NC_GSN.51(51)	VST_S / Begin	7.2	-0.2	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	1.1	-6.1	-6.1	0.8	-4.5	0.6
	VST_HN / Begin	-7.5	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	-4.0	-1.3	-2.0	-0.3	4.6	-1.1
NC_GSN.52(52)	VST_S / Begin	8.3	-0.2	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	0.6	-6.1	-6.7	0.8	-5.0	0.6
	VST_HN / Begin	-7.5	0.0	-0.8	0.0	0.0	0.0

	VST_GN / End	-4.0	-1.3	-2.2	-0.3	5.1	-1.1
NC_GSN.53(53)	VST_S / Begin	2.3	-0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	2.7	0.0	-3.2	0.0	-2.3	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	-3.8	0.0	-0.9	0.0	2.3	0.0
NC_GSN.54(54)	VST_S / Begin	12.8	0.2	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-7.9	-6.1	-6.9	0.8	-5.1	0.6
	VST_HN / Begin	-7.5	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	2.6	-1.3	-2.0	-0.3	5.1	-1.2
NC_GSN.55(55)	VST_S / Begin	14.0	0.2	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-8.4	-6.1	-7.6	0.8	-5.6	0.6
	VST_HN / Begin	-7.5	0.0	-0.8	0.0	0.0	0.0
	VST_GN / End	2.6	-1.3	-2.2	-0.3	5.6	-1.2
NC_GSN.56(56)	VST_S / Begin	7.9	0.2	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-6.3	0.0	-4.0	0.0	-2.9	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	2.8	0.0	-0.9	0.0	2.9	0.0
NC_GSN.57(57)	VST_S / Begin	12.4	0.0	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-4.9	-6.1	-7.9	0.8	-5.8	0.6
	VST_HN / Begin	-7.5	0.0	-0.8	0.0	0.0	0.0
	VST_GN / End	-0.2	-1.3	-2.3	-0.3	5.8	-1.2
NC_GSN.58(58)	VST_S / Begin	16.7	0.0	-0.3	0.0	0.0	0.0
	VST_GN. / Begin	-4.7	-8.0	-7.5	0.2	-5.6	2.7
	VST_HN / Begin	-6.9	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	-0.2	-0.9	-2.3	1.3	5.6	-2.4
NC_GSN.59(59)	VST_S / Begin	17.2	0.0	-0.3	0.0	0.0	0.0
	VST_GN. / Begin	-5.0	-8.0	-7.9	0.2	-5.9	2.7
	VST_HN / Begin	-6.9	0.0	-0.8	0.0	0.0	0.0
	VST_GN / End	-0.2	-0.9	-2.4	1.3	5.9	-2.4
NC_GSN.60(60)	VST_S / Begin	17.6	0.0	-0.2	-0.1	0.0	0.0
	VST_GN. / Begin	-2.9	-2.1	-4.3	-0.6	-3.1	2.1
	VST_HN / Begin	3.4	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	0.0	0.3	-1.0	1.6	3.1	-1.3
NC_GSN.61(61)	VST_S / Begin	17.0	0.0	-0.2	-0.1	0.0	0.0
	VST_GN. / Begin	-2.6	-2.1	-3.9	-0.6	-2.9	2.1
	VST_HN / Begin	3.4	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	0.0	0.3	-0.9	1.6	2.9	-1.3
NC_GSN.62(62)	VST_S / Begin	6.6	-0.4	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	3.8	-6.1	-6.8	0.8	-5.1	0.6
	VST_HN / Begin	-7.5	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	-6.5	-1.3	-2.2	-0.3	5.1	-1.1
NC_GSN.63(63)	VST_S / Begin	7.1	-0.4	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	3.6	-6.1	-7.1	0.8	-5.3	0.6
	VST_HN / Begin	-7.5	0.0	-0.8	0.0	0.0	0.0
	VST_GN / End	-6.5	-1.3	-2.3	-0.3	5.4	-1.2
NC_GSN.64(64)	VST_S / Begin	1.1	-0.4	0.0	0.0	0.0	0.0
	VST_GN. / Begin	5.7	0.0	-3.6	0.0	-2.6	0.0

	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	-6.3	0.0	-1.0	0.0	2.6	0.0
NC_GSN.65(65)	VST_S / Begin	0.5	-0.4	0.0	0.0	0.0	0.0
	VST_GN. / Begin	5.9	0.0	-3.2	0.0	-2.4	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	-6.3	0.0	-0.9	0.0	2.4	0.0
NC_GSN.66(66)	VST_S / Begin	16.0	0.4	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-11.2	-6.1	-8.3	0.8	-6.1	0.6
	VST_HN / Begin	-7.5	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	4.4	-1.3	-2.2	-0.3	6.1	-1.2
NC_GSN.67(67)	VST_S / Begin	16.6	0.4	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-11.4	-6.1	-8.6	0.8	-6.3	0.6
	VST_HN / Begin	-7.6	0.0	-0.8	0.0	0.0	0.0
	VST_GN / End	4.4	-1.3	-2.3	-0.3	6.3	-1.2
NC_GSN.68(68)	VST_S / Begin	10.6	0.4	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-9.3	0.0	-5.0	0.0	-3.6	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	4.6	0.0	-1.0	0.0	3.6	0.0
NC_GSN.69(69)	VST_S / Begin	10.0	0.4	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-9.1	0.0	-4.7	0.0	-3.4	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	4.6	0.0	-0.9	0.0	3.4	0.0
NC_GSN.70(70)	VST_S / Begin	10.9	0.0	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-4.2	-6.1	-6.8	0.8	-5.1	0.6
	VST_HN / Begin	-7.5	0.0	-0.8	0.0	0.0	0.0
	VST_GN / End	-0.2	-1.3	-2.1	-0.3	5.1	-1.2
NC_GSN.71(71)	VST_S / Begin	15.2	0.0	-0.3	0.0	0.0	0.0
	VST_GN. / Begin	-4.1	-8.0	-6.5	0.2	-4.9	2.7
	VST_HN / Begin	-6.9	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	-0.2	-0.9	-2.0	1.3	4.9	-2.4
NC_GSN.72(72)	VST_S / Begin	15.8	0.0	-0.3	0.0	0.0	0.0
	VST_GN. / Begin	-4.3	-8.0	-6.8	0.2	-5.1	2.7
	VST_HN / Begin	-6.9	0.0	-0.8	0.0	0.0	0.0
	VST_GN / End	-0.2	-0.9	-2.2	1.3	5.1	-2.4
NC_GSN.73(73)	VST_S / Begin	16.1	0.0	-0.2	-0.1	0.0	0.0
	VST_GN. / Begin	-2.2	-2.1	-3.2	-0.6	-2.4	2.1
	VST_HN / Begin	3.4	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	0.0	0.3	-0.7	1.6	2.4	-1.3
NC_GSN.74(74)	VST_S / Begin	15.6	0.0	-0.2	-0.1	0.0	0.0
	VST_GN. / Begin	-2.0	-2.1	-2.9	-0.6	-2.1	2.1
	VST_HN / Begin	3.4	0.0	-0.1	0.0	0.0	0.0
	VST_GN / End	0.0	0.3	-0.6	1.6	2.1	-1.3
NC_GSN.75(75)	VST_S / Begin	5.1	-0.4	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	4.5	-6.1	-5.8	0.8	-4.4	0.6
	VST_HN / Begin	-7.5	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	-6.5	-1.3	-2.0	-0.3	4.4	-1.1
NC_GSN.76(76)	VST_S / Begin	5.6	-0.4	-0.1	0.2	0.0	0.0

	VST_GN. / Begin	4.3	-6.1	-6.1	0.8	-4.6	0.6
	VST_HN / Begin	-7.5	0.0	-0.8	0.0	0.0	0.0
	VST_GN / End	-6.5	-1.3	-2.1	-0.3	4.6	-1.1
NC_GSN.77(77)	VST_S / Begin	-0.4	-0.4	0.0	0.0	0.0	0.0
	VST_GN. / Begin	6.4	0.0	-2.5	0.0	-1.9	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	-6.3	0.0	-0.8	0.0	1.9	0.0
NC_GSN.78(78)	VST_S / Begin	-0.9	-0.4	0.0	0.0	0.0	0.0
	VST_GN. / Begin	6.6	0.0	-2.2	0.0	-1.6	0.0
	VST_HN / Begin	0.0	0.0	-0.1	0.0	0.0	0.0
	VST_GN / End	-6.3	0.0	-0.7	0.0	1.6	0.0
NC_GSN.79(79)	VST_S / Begin	14.5	0.4	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-10.5	-6.1	-7.2	0.8	-5.3	0.6
	VST_HN / Begin	-7.5	0.0	-0.7	0.0	0.0	0.0
	VST_GN / End	4.4	-1.3	-2.0	-0.3	5.3	-1.2
NC_GSN.80(80)	VST_S / Begin	15.1	0.4	-0.1	0.2	0.0	0.0
	VST_GN. / Begin	-10.7	-6.1	-7.6	0.8	-5.6	0.6
	VST_HN / Begin	-7.5	0.0	-0.8	0.0	0.0	0.0
	VST_GN / End	4.4	-1.3	-2.1	-0.3	5.6	-1.2
NC_GSN.81(81)	VST_S / Begin	9.1	0.4	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-8.7	0.0	-4.0	0.0	-2.9	0.0
	VST_HN / Begin	0.0	0.0	-0.2	0.0	0.0	0.0
	VST_GN / End	4.6	0.0	-0.8	0.0	2.9	0.0
NC_GSN.82(82)	VST_S / Begin	8.5	0.4	0.0	0.0	0.0	0.0
	VST_GN. / Begin	-8.4	0.0	-3.7	0.0	-2.6	0.0
	VST_HN / Begin	0.0	0.0	-0.1	0.0	0.0	0.0
	VST_GN / End	4.6	0.0	-0.6	0.0	2.6	0.0

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
NC_GSN.4(4)	0.0	0.0	0.0	0.7	-0.1	0.3
NC_GSN.6(6)	0.0	0.0	0.0	0.7	-0.1	0.2
NC_GSN.7(7)	0.0	0.0	0.0	0.8	-0.1	0.2
NC_GSN.8(8)	3.2	0.0	6.7	0.8	0.1	-0.2
NC_GSN.9(9)	3.2	0.0	6.7	0.8	0.1	-0.2
NC_GSN.10(10)	0.0	0.0	0.0	0.5	-0.1	0.3
NC_GSN.11(11)	0.0	0.0	0.0	0.5	-0.1	0.3
NC_GSN.12(12)	0.0	0.0	0.0	0.1	0.0	0.0
NC_GSN.13(13)	0.0	0.0	0.0	0.1	0.0	0.0
NC_GSN.14(14)	0.0	0.0	0.0	0.9	-0.1	0.3
NC_GSN.15(15)	0.0	0.0	0.0	0.9	-0.1	0.3
NC_GSN.16(16)	0.0	0.0	0.0	0.5	0.0	0.0
NC_GSN.17(17)	0.0	0.0	0.0	0.4	0.0	0.0
NC_GSN.18(18)	0.0	0.0	0.0	0.6	-0.1	0.3
NC_GSN.19(19)	0.0	0.0	0.0	0.7	-0.1	0.3
NC_GSN.20(20)	0.0	0.0	0.0	0.2	0.0	0.0
NC_GSN.21(21)	0.0	0.0	0.0	0.7	-0.1	0.2
NC_GSN.22(22)	0.0	0.0	0.0	0.7	-0.1	0.2

NC_GSN.23(23)	3.2	0.0	6.8	0.7	0.1	-0.2
NC_GSN.24(24)	3.2	0.0	6.8	0.7	0.1	-0.2
NC_GSN.25(25)	0.0	0.0	0.0	0.4	-0.1	0.3
NC_GSN.26(26)	0.0	0.0	0.0	0.5	-0.1	0.3
NC_GSN.27(27)	0.0	0.0	0.0	0.0	0.0	0.0
NC_GSN.28(28)	0.0	0.0	0.0	0.0	0.0	0.0
NC_GSN.29(29)	0.0	0.0	0.0	0.8	-0.1	0.3
NC_GSN.30(30)	0.0	0.0	0.0	0.8	-0.1	0.3
NC_GSN.31(31)	0.0	0.0	0.0	0.4	0.0	0.0
NC_GSN.32(32)	0.0	0.0	0.0	0.4	0.0	0.0
NC_GSN.33(33)	0.0	0.0	0.0	0.6	-0.1	0.2
NC_GSN.34(34)	0.0	0.0	0.0	0.6	-0.1	0.2
NC_GSN.35(35)	0.0	0.0	0.0	0.3	0.0	0.0
NC_GSN.36(36)	0.1	0.0	0.2	0.6	-0.1	0.2
NC_GSN.37(37)	0.1	0.0	0.2	0.7	-0.1	0.2
NC_GSN.38(38)	3.2	0.0	6.7	0.8	0.1	-0.2
NC_GSN.39(39)	0.0	0.0	0.0	0.4	-0.1	0.2
NC_GSN.40(40)	0.0	0.0	0.0	0.4	-0.1	0.2
NC_GSN.41(41)	0.0	0.0	0.0	0.1	0.0	0.0
NC_GSN.42(42)	0.0	0.0	0.0	0.7	-0.1	0.2
NC_GSN.43(43)	0.0	0.0	0.0	0.8	-0.1	0.2
NC_GSN.44(44)	0.0	0.0	0.0	0.5	0.0	0.0
NC_GSN.45(45)	0.0	0.0	0.0	0.5	-0.1	0.2
NC_GSN.46(46)	0.0	0.0	0.0	0.6	-0.1	0.2
NC_GSN.47(47)	0.0	0.0	0.0	0.3	0.0	0.0
NC_GSN.48(48)	0.1	0.0	0.2	0.5	-0.1	0.2
NC_GSN.49(49)	0.1	0.0	0.2	0.6	-0.1	0.2
NC_GSN.50(50)	3.2	0.0	6.7	0.8	0.1	-0.2
NC_GSN.51(51)	0.0	0.0	0.0	0.3	-0.1	0.2
NC_GSN.52(52)	0.0	0.0	0.0	0.4	-0.1	0.2
NC_GSN.53(53)	0.0	0.0	0.0	0.0	0.0	0.0
NC_GSN.54(54)	0.0	0.0	0.0	0.7	-0.1	0.2
NC_GSN.55(55)	0.0	0.0	0.0	0.7	-0.1	0.2
NC_GSN.56(56)	0.0	0.0	0.0	0.4	0.0	0.0
NC_GSN.57(57)	0.0	0.0	0.0	0.6	-0.1	0.2
NC_GSN.58(58)	2.3	0.0	4.8	0.9	0.0	0.0
NC_GSN.59(59)	2.3	0.0	4.7	1.0	0.0	0.0
NC_GSN.60(60)	5.4	0.0	11.3	1.1	0.2	-0.3
NC_GSN.61(61)	5.4	0.0	11.3	1.1	0.2	-0.3
NC_GSN.62(62)	0.0	0.0	0.0	0.2	-0.1	0.2
NC_GSN.63(63)	0.0	0.0	0.0	0.3	-0.1	0.2
NC_GSN.64(64)	0.0	0.0	0.0	-0.1	0.0	0.0
NC_GSN.65(65)	0.0	0.0	0.0	-0.1	0.0	0.0
NC_GSN.66(66)	0.0	0.0	0.0	0.9	-0.1	0.2
NC_GSN.67(67)	0.0	0.0	0.0	0.9	-0.1	0.2
NC_GSN.68(68)	0.0	0.0	0.0	0.6	0.0	0.0
NC_GSN.69(69)	0.0	0.0	0.0	0.5	0.0	0.0
NC_GSN.70(70)	0.0	0.0	0.0	0.5	-0.1	0.2
NC_GSN.71(71)	2.3	0.0	4.8	0.9	0.0	0.0
NC_GSN.72(72)	2.3	0.0	4.8	0.9	0.0	0.0
NC_GSN.73(73)	5.4	0.0	11.3	1.1	0.2	-0.3
NC_GSN.74(74)	5.4	0.0	11.3	1.0	0.2	-0.3
NC_GSN.75(75)	0.0	0.0	0.0	0.2	-0.1	0.2
NC_GSN.76(76)	0.0	0.0	0.0	0.2	-0.1	0.2

NC_GSN.77(77)	0.0	0.0	0.0	-0.1	0.0	0.0
NC_GSN.78(78)	0.0	0.0	0.1	-0.2	0.0	0.0
NC_GSN.79(79)	0.0	0.0	0.0	0.8	-0.1	0.2
NC_GSN.80(80)	0.0	0.0	0.0	0.8	-0.1	0.2
NC_GSN.81(81)	0.0	0.0	0.0	0.5	0.0	0.0
NC_GSN.82(82)	0.0	0.0	0.0	0.5	0.0	0.0

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	1.0 < 5.0%	OK
Loc. deformation	1.0 < 3%	OK
Bolts	18.0 < 100%	OK
Welds	97.2 < 100%	OK
Buckling	Not calculated	
GMNA	Calculated	

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ε_{Pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
VST_S	3.0	NC_GSN.15(15)	71.4	0.0	0.0	OK
VST_GN.	4.0	NC_GSN.15(15)	236.2	0.6	0.0	OK
VST_HN	3.0	NC_GSN.7(7)	209.1	0.1	0.0	OK
VST_GN	4.0	NC_GSN.15(15)	237.1	1.0	4.4	OK
SP1	15.0	NC_GSN.60(60)	54.6	0.0	10.6	OK
SP2	15.0	NC_GSN.60(60)	30.8	0.0	10.6	OK

Design data

Material	f_y [MPa]	ε_{lim} [%]
S 235	235.0	5.0

Symbol explanation

t_p Plate thickness
σ_{Ed} Equivalent stress
ε_{Pl} Plastic strain
$\sigma_{c,Ed}$ Contact stress
f_y Yield strength
ε_{lim} Limit of plastic strain

Detailed result for VST_GN

Design values used in the analysis

$f_{yd} = \frac{f_{yk}}{\gamma_{M0}} =$ 235.0 MPa

Where:

f_{yk} = 235.0 MPa – characteristic yield strength

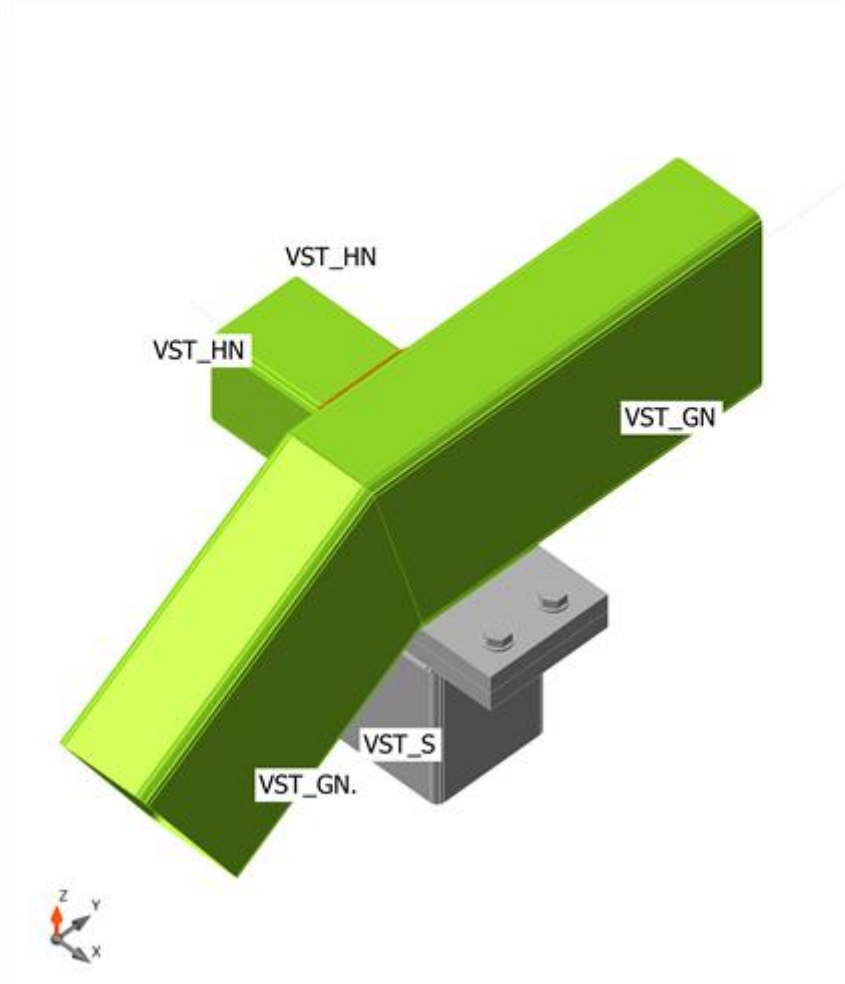
γ_{M0} = 1.00 – partial safety factor for steel material EN 1993-1-1 – 6.1

Loc. deformation

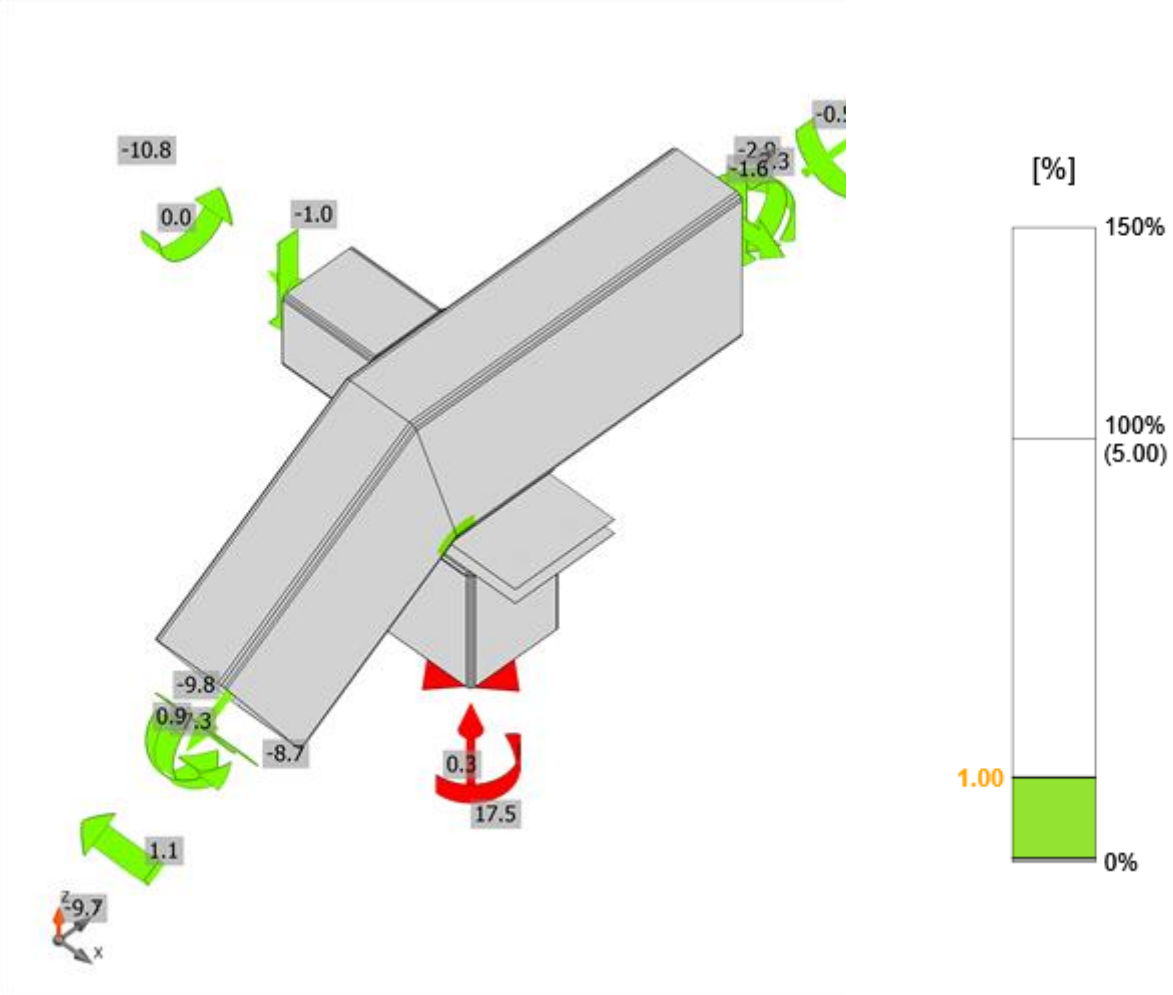
Name	d_0 [mm]	Loads	δ [mm]	δ_{lim} [mm]	δ/d_0 [%]	Check status
VST_S	100	NC_GSN.82(82)	0	3	0.0	OK
VST_GN.	80	NC_GSN.7(7)	1	2	1.0	OK
VST_HN	80	NC_GSN.82(82)	0	2	0.0	OK
VST_GN	80	NC_GSN.7(7)	1	2	1.0	OK

Symbol explanation

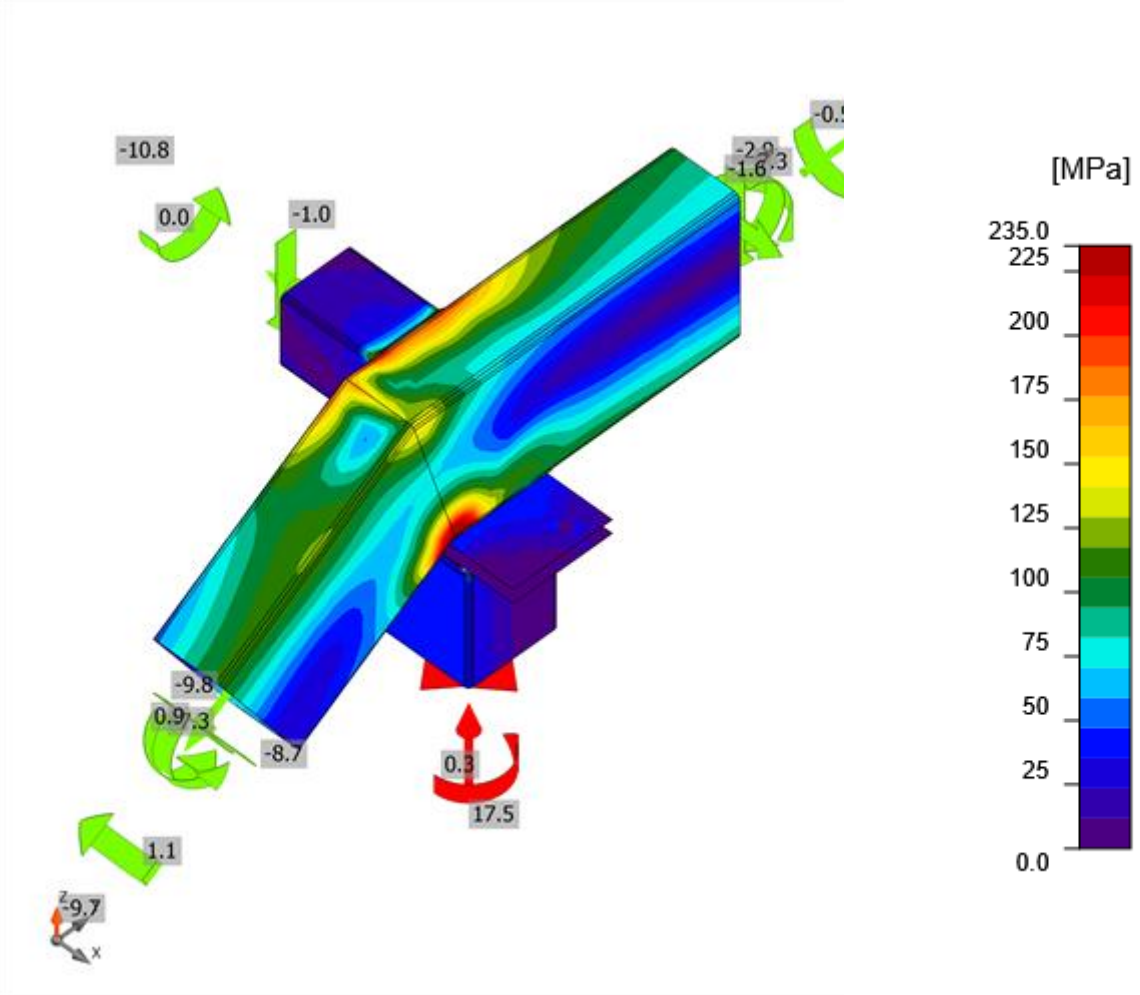
d_0 Cross-section size
δ Local cross-section deformation
δ_{lim} Allowed deformation



Overall check, NC_GSN.15(15)



Strain check, NC_GSN.15(15)



Equivalent stress, NC_GSN.15(15)

Bolts

Shape	Item	Grade	Loads	$F_{t,Ed}$ [kN]	$F_{v,Ed}$ [kN]	$F_{b,Rd}$ [kN]	Ut_t [%]	Ut_s [%]	Ut_{ts} [%]	Detailing	Status
	B1	M12 5.6 - 1	NC_GSN.15(15)	3.0	0.1	92.1	9.9	0.3	7.4	OK	OK
	B2	M12 5.6 - 1	NC_GSN.60(60)	5.0	1.2	66.8	16.6	6.1	18.0	OK	OK
	B3	M12 5.6 - 1	NC_GSN.60(60)	0.0	1.7	66.5	0.1	8.6	8.7	OK	OK
	B4	M12 5.6 - 1	NC_GSN.74(74)	1.7	1.7	66.5	5.5	8.4	12.3	OK	OK

Design data

Grade	$F_{t,Rd}$ [kN]	$B_{p,Rd}$ [kN]	$F_{v,Rd}$ [kN]
M12 5.6 - 1	30.3	154.8	20.2

Symbol explanation

$F_{t,Ed}$	Tension force
$F_{v,Ed}$	Resultant of bolt shear forces Vy and Vz in shear planes
$F_{b,Rd}$	Plate bearing resistance EN 1993-1-8 – Tab. 3.4
Ut_t	Utilization in tension
Ut_s	Utilization in shear
Ut_{ts}	Interaction of tension and shear EN 1993-1-8 – Tab. 3.4
$F_{t,Rd}$	Bolt tension resistance EN 1993-1-8 – Tab. 3.4
$B_{p,Rd}$	Punching shear resistance EN 1993-1-8 – Tab. 3.4
$F_{v,Rd}$	Bolt shear resistance EN 1993-1-8 – Tab. 3.4

Detailed result for B2

Tension resistance check (EN 1993-1-8 – Table 3.4)

$F_{t,Rd} = \frac{k_2 f_{ub} A_s}{\gamma_{M2}} =$ 30.3 kN ≥ $F_{t,Ed} =$ 5.0 kN

Where:

$k_2 =$ 0.90 – Factor

$f_{ub} =$ 500.0 MPa – Ultimate tensile strength of the bolt

$A_s =$ 84 mm^2 – Tensile stress area of the bolt

$\gamma_{M2} =$ 1.25 – Safety factor

Punching resistance check (EN 1993-1-8 – Table 3.4)

$B_{p,Rd} = \frac{0.6 \pi d_m t_p f_u}{\gamma_{M2}} =$ 154.8 kN ≥ $F_{t,Ed} =$ 5.0 kN

Where:

$d_m =$ 19.0 mm – The mean of the across points and across flats dimensions of the bolt head or the nut, whichever is smaller

$t_p =$ 15.0 mm – Plate thickness

$f_u =$ 360.0 MPa – Ultimate strength

$\gamma_{M2} =$ 1.25 – Safety factor

Shear resistance check (EN 1993-1-8 – Table 3.4)

$F_{v,Rd} = \frac{\beta_p \alpha_v f_{ub} A}{\gamma_{M2}} =$ 20.2 kN ≥ $F_{v,Ed} =$ 1.2 kN

Where:

$\beta_p =$ 1.00 – Reduction factor for packing

$\alpha_v =$ 0.60 – Reduction factor for shear stress

f_{ub} = 500.0 MPa – Ultimate tensile strength of the bolt

A = 84 mm^2 – Tensile stress area of the bolt

γ_{M2} = 1.25 – Safety factor

Bearing resistance check (EN 1993-1-8 – Table 3.4)

$F_{b,Rd} = \frac{k_1 \alpha_b f_u dt}{\gamma_{M2}}$ = 66.8 kN ≥ $F_{b,Ed}$ = 1.2 kN

Where:

$k_1 = \min(2.8\frac{e_2}{d_0} - 1.7, 1.4\frac{p_2}{d_0} - 1.7, 2.5)$ = 2.50 – Factor for edge distance and bolt spacing perpendicular to the direction of load transfer

$\alpha_b = \min(\frac{e_1}{3d_0}, \frac{p_1}{3d_0} - \frac{1}{4}, \frac{f_{ub}}{f_u}, 1)$ = 0.52 – Factor for end distance and bolt spacing in direction of load transfer

e_2 = 20 mm – Distance to the plate edge perpendicular to the shear force

p_2 = ∞ mm – Distance between bolts perpendicular to the shear force

d_0 = 13.0 mm – Bolt hole diameter

e_1 = 20 mm – Distance to the plate edge in the direction of the shear force

p_1 = ∞ mm – Distance between bolts in the direction of the shear force

f_{ub} = 500.0 MPa – Ultimate tensile strength of the bolt

f_u = 360.0 MPa – Ultimate strength of the plate

d = 12.0 mm – Nominal diameter of the fastener

t = 15.0 mm – Thickness of the plate

γ_{M2} = 1.25 – Safety factor

Utilization in tension

$\frac{F_{t,Ed}}{\min(F_{t,Rd}; B_{p,Rd})}$ = 0.17 ≤ 1.0

Where:

$F_{t,Ed}$ = 5.0 kN – Tensile force

$F_{t,Rd}$ = 30.3 kN – Tension resistance

$B_{p,Rd}$ = 154.8 kN – Punching resistance

Utilization in shear

$\max(\frac{F_{v,Ed}}{F_{v,Rd}}; \frac{F_{b,Ed}}{F_{b,Rd}})$ = 0.06 ≤ 1.0

Where:

$F_{v,Ed}$ = 1.2 kN – Shear force (in decisive shear plane)

$F_{v,Rd}$ = 20.2 kN – Shear resistance

$F_{b,Ed} = 1.2$ kN – Bearing force (for decisive plate)

$F_{b,Rd} = 66.8$ kN – Bearing resistance

Interaction of tension and shear (EN 1993-1-8 – Table 3.4)

$\frac{F_{v,Ed}}{F_{v,Rd}} + \frac{F_{t,Ed}}{1.4\,F_{t,Rd}} = 0.18 \leq 1.0$

Where:

$F_{v,Ed} = 1.2$ kN – Shear force (in decisive shear plane)

$F_{v,Rd} = 20.2$ kN – Shear resistance

$F_{t,Ed} = 5.0$ kN – Tensile force

$F_{t,Rd} = 30.3$ kN – Tension resistance

Detailing check

- Ductility, rotation capacity: Plate SP1 is too thick. Thickness should be lesser or equal to 6.3 mm. (EN 1993-1-8 – Equation 6.32)

Welds

Item	Edge	T_w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ε_{Pl} [%]	$\sigma_{\perp}$ [MPa]	$\tau_{\perp}$ [MPa]	$\tau_{\parallel}$ [MPa]	Ut [%]	Ut_c [%]	Detailing	Status
SP1	VST_GN-w 1	◢ 4.0	106	NC_GSN.15(15)	322.9	0.0	-143.5	-57.5	-156.8	89.7	55.2	OK	OK
SP1	VST_GN-w 1	◢ 4.0	106	NC_GSN.7(7)	323.5	0.0	-179.2	-124.2	93.5	89.9	44.7	OK	OK
SP2	VST_S	◢ 4.0	376	NC_GSN.60(60)	99.7	0.0	20.8	36.0	43.3	27.7	16.3	OK	OK
VST_GN-w 2	VST_HN	◢ 4.0	299	NC_GSN.15(15)	292.3	0.0	252.0	-78.4	-34.3	97.2	47.1	OK	OK
VST_GN-w 1	VST_GN.-w 1	-	467	-	-	-	-	-	-	-	-	OK	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9 σ [MPa]
S 235	360.0	0.80	360.0	259.2

Symbol explanation

T_w Throat thickness a

L	Length
$\sigma_{w,Ed}$	Equivalent stress
ε_{Pl}	Strain
$\sigma_{\perp}$	Perpendicular stress
$\tau_{\perp}$	Shear stress perpendicular to weld axis
$\tau_{\parallel}$	Shear stress parallel to weld axis
Ut	Utilization
Ut_c	Weld capacity estimation
◢	Fillet weld
f_u	Ultimate strength of weld
β_w	Correlation factor EN 1993-1-8 – Tab. 4.1
$\sigma_{w,Rd}$	Equivalent stress resistance
0.9 σ	Perpendicular stress resistance: 0.9*fu/γM2

Detailed result for VST_GN-w 2 / VST_HN

Weld resistance check (EN 1993-1-8 – Cl. 4.5.3.2)

$\sigma_{w,Rd} = f_u/(\beta_w \gamma_{M2}) =$ 360.0 MPa ≥ $\sigma_{w,Ed} = [\sigma_{\perp}^2 + 3(\tau_{\perp}^2 + \tau_{\parallel}^2)]^{0.5} =$ 292.3 MPa

$\sigma_{\perp,Rd} = 0.9 f_u / \gamma_{M2} =$ 259.2 MPa ≥ $|\sigma_{\perp}| =$ 252.0 MPa

where:

$f_u =$ 360.0 MPa – Ultimate strength

$\beta_w =$ 0.80 – Correlation factor EN 1993-1-8 – Tab. 4.1

$\gamma_{M2} =$ 1.25 – Safety factor

Stress utilization

$U_t = \max(\frac{\sigma_{w,Ed}}{\sigma_{w,Rd}} ; \frac{|\sigma_{\perp}|}{\sigma_{\perp,Rd}}) =$ 0.97 ≤ 1.0

Where:

$\sigma_{w,Ed} =$ 292.3 MPa – Maximum normal stress transverse to the axis of the weld

$\sigma_{w,Rd} =$ 360.0 MPa – Equivalent stress resistance

$\sigma_{\perp} =$ 252.0 MPa – Normal stress perpendicular to the throat

$\sigma_{\perp,Rd} =$ 259.2 MPa – Perpendicular stress resistance

Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.

CUT1				CJP: 3.0	467		
SP1	P15.0x200-107 (S 235)		1			M12 5.6	4
SP2	P15.0x200-107 (S 235)		1			M12 5.6	4
CUT2				Fillet: 4.0	380		
CUT4				Fillet: 4.0	300		

Symbol explanation

Fillet weld	throat thickness of weld
CJP weld	plate thickness

Welds

Type	Material	Throat thickness [mm]	Leg size [mm]	Effective throat [mm]	Length [mm]
CJP	S 235	-	-	3.0	467
Fillet	S 235	4.0	5.7	-	893

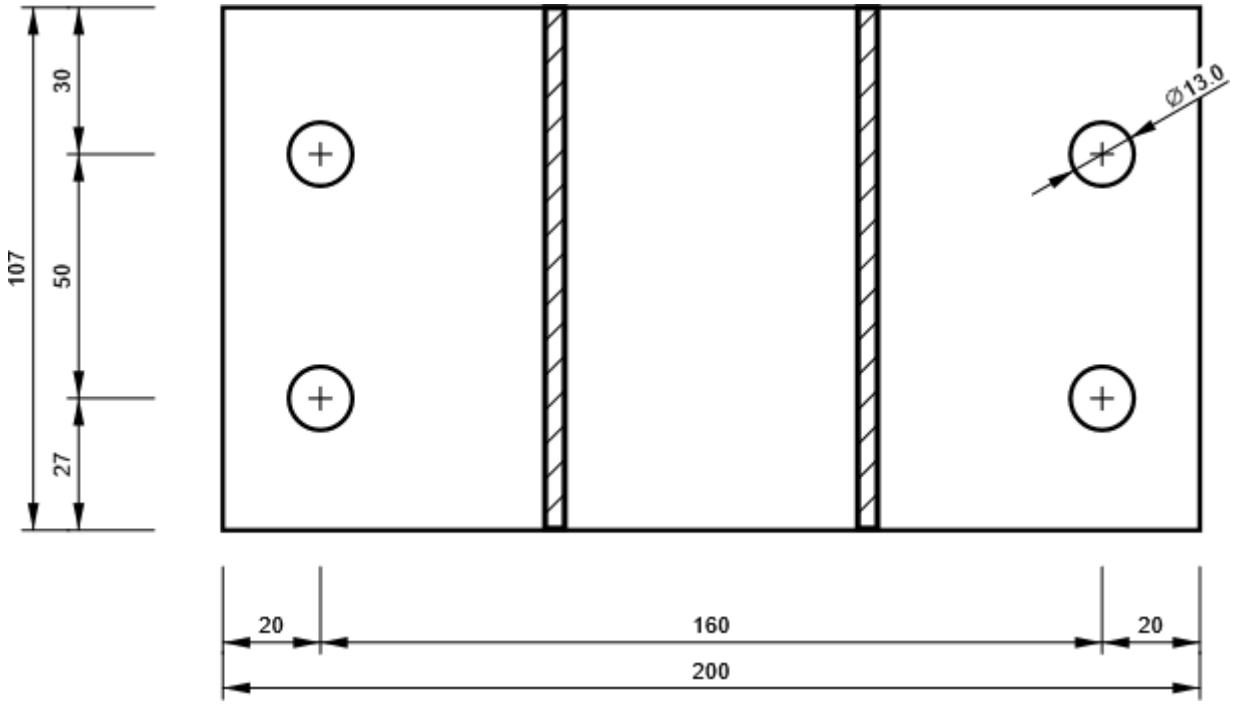
Bolts

Name	Grip length [mm]	Count
M12 5.6	30	4

Drawing

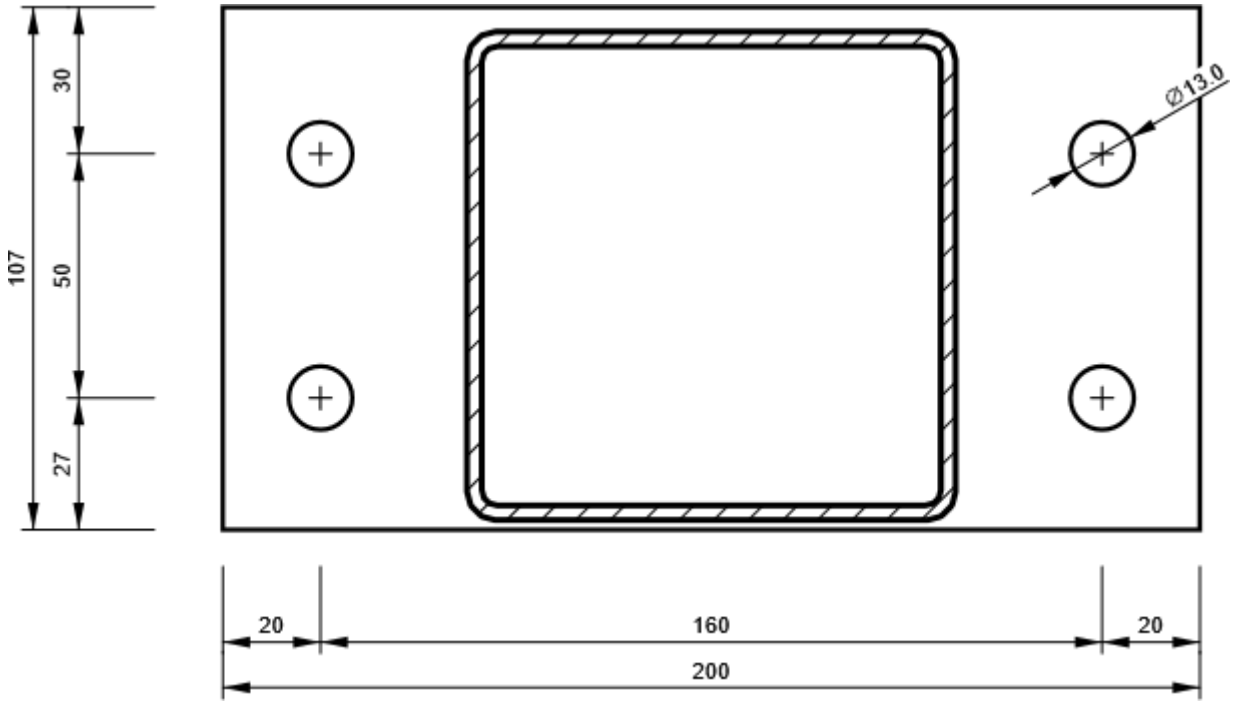
SP1

P15.0x107-200 (S 235)

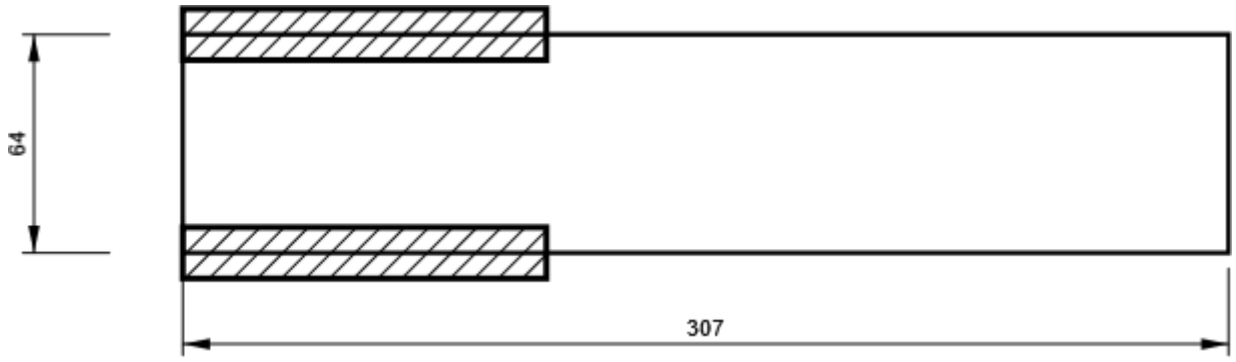


SP2

P15.0x107-200 (S 235)



VST_GN, CFRHS160X80X4(RHS160x80) - Web 1:



Code settings

Item	Value	Unit	Reference
Safety factor γ_{M0}	1.00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1.10	-	EN 1993-1-1 – 6.1
Safety factor γ_{M2}	1.25	-	EN 1993-1-1 – 6.1, EN 1993-1-8 – Table 2.1
Safety factor γ_{M3}	1.25	-	EN 1993-1-8 – Table 2.1
Safety factor γ_{C}	1.50	-	EN 1992-1-1 – 2.4.2.4
Safety factor γ_{Inst}	1.20	-	EN 1992-4 – Table 4.1
Joint coefficient βj	0.67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0.10	-	
Friction coefficient - concrete	0.25	-	EN 1993-1-8
Friction coefficient in slip-resistance	0.30	-	EN 1993-1-8 – Table 3.7
Limit plastic strain	0.05	-	EN 1993-1-5
Detailing	Yes		
Distance between bolts [d0]	2.20	-	EN 1993-1-8 – Table 3.3
Distance between bolts and edge [d0]	1.20	-	EN 1993-1-8 – Table 3.3
Concrete breakout resistance check	Both		
Cracked concrete	Yes		EN 1992-4
Local deformation check	Yes		
Local deformation limit	0.03	-	CIDECT DG 1, 3 – 1.1
Geometrical nonlinearity (GMNA)	Yes		Analysis with large deformations for hollow section joints
Braced system	No		EN 1993-1-8 – 5.2.2.5

Software info

Application	IDEA StatiCa Connection
Version	25.1.0.4172
Developed by	IDEA StatiCa

3.11. DETALJ „K“ – SPOJ STUPA I TEMELJA ČELIČNOG STUBIŠTA

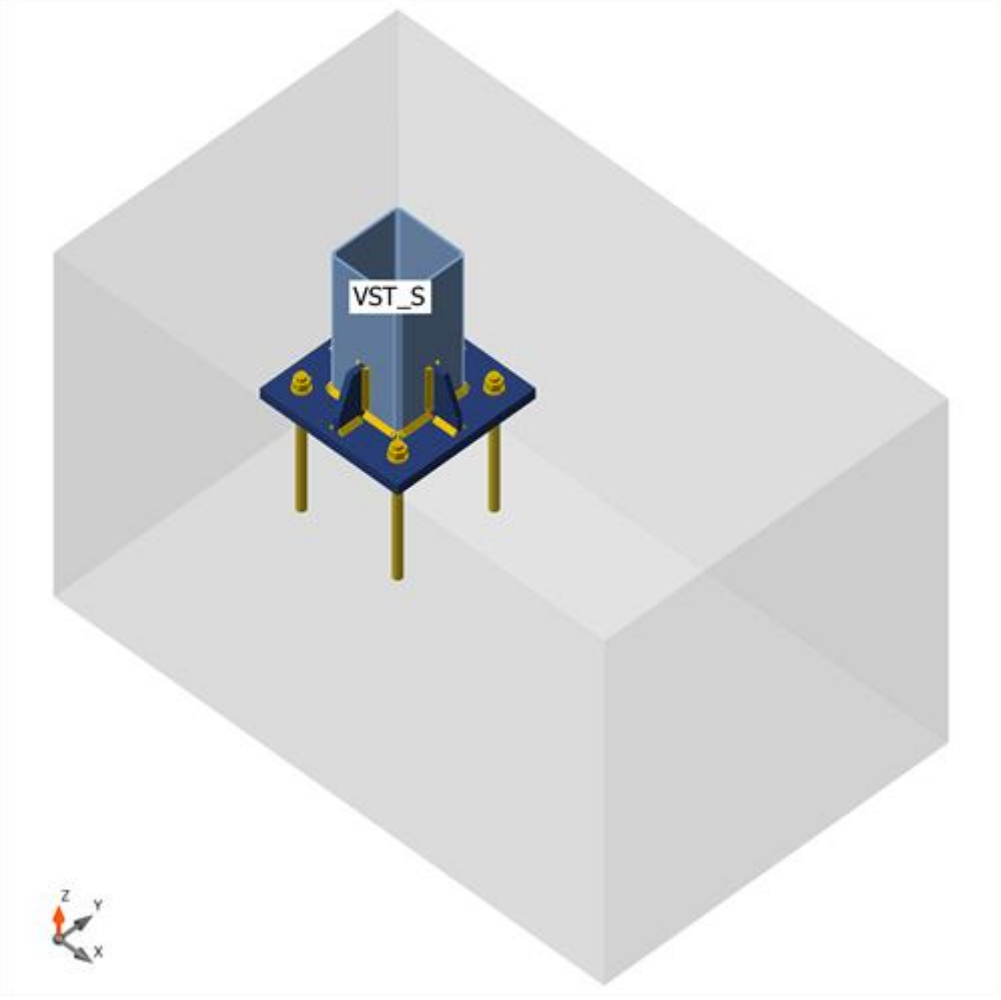
Members

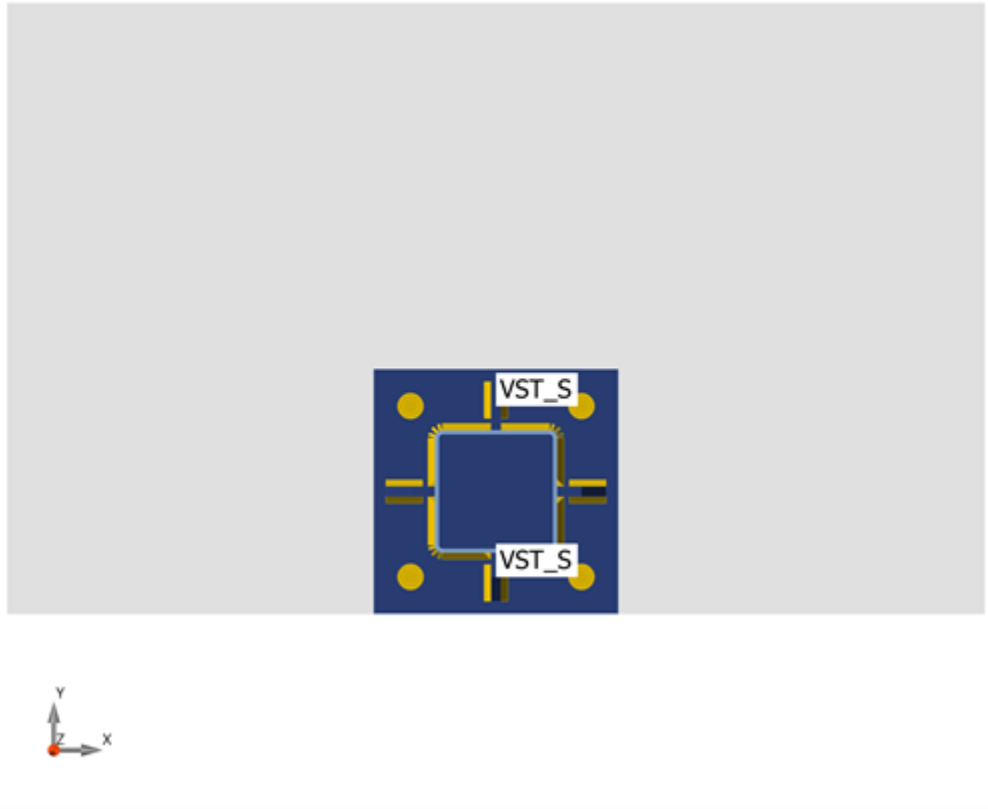
Geometry

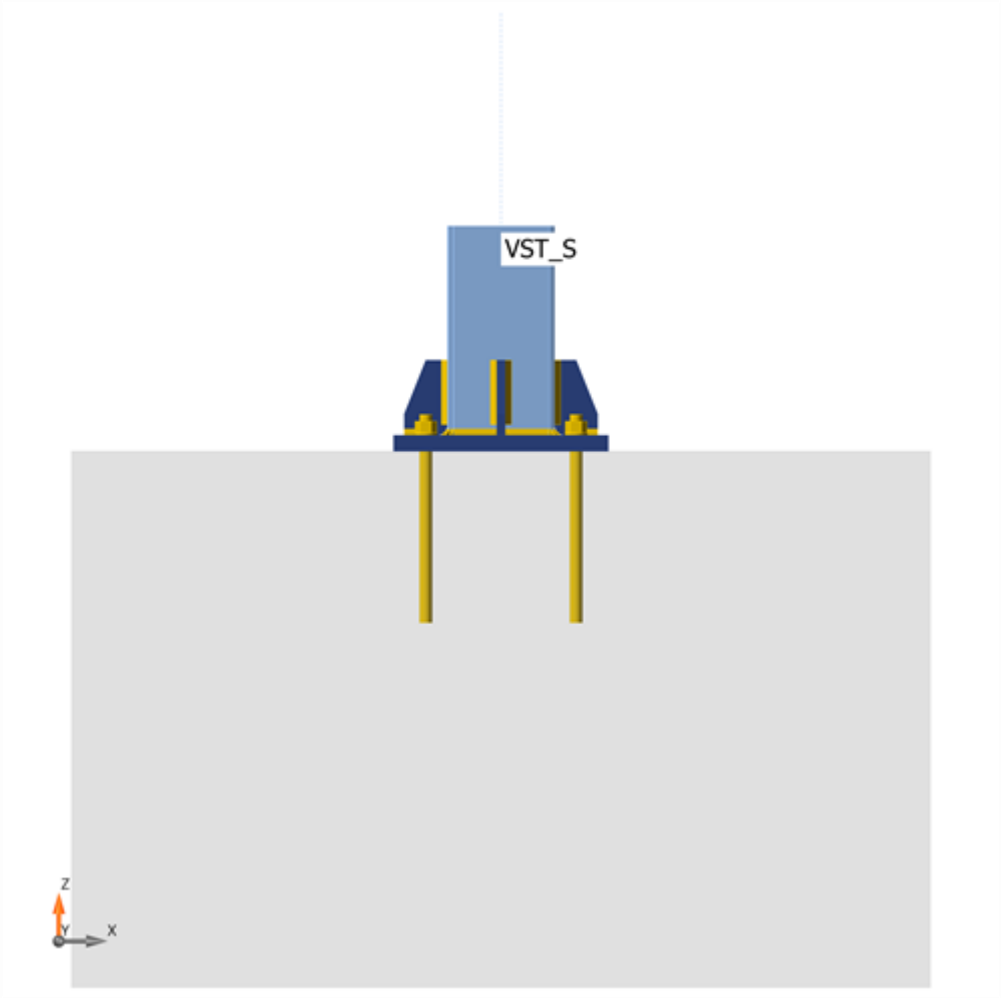
Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
VST_S	1 - CFRHS100X100X3(RHS100x100)	0.0	90.0	0.0	0	0	0

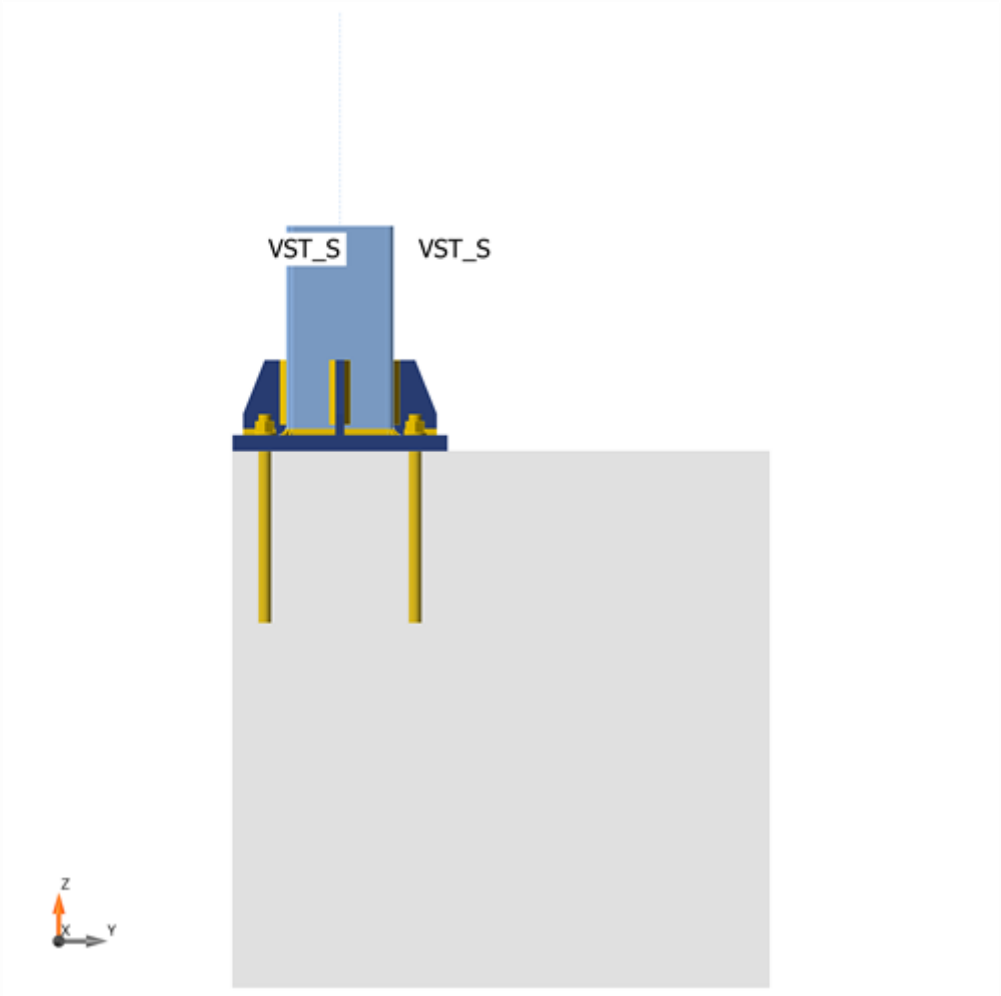
Supports and forces

Name	Support	Forces in	X [mm]
VST_S / end		Position	0




VST_S
VST_S
Y
Z
X

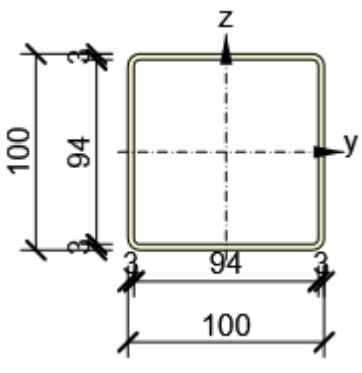

VST_S
Z
Y
X



Cross-sections

Name	Material
1 - CFRHS100X100X3(RHS100x100)	S 235

Cross-sections

Name	Material	Drawing
1 - CFRHS100X100X3(RHS100x100)	S 235	

Anchors

Name	Diameter [mm]	f_y [MPa]	f_u [MPa]	Gross area [mm^2]
M12 8.8	12	640.0	800.0	113

Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
NC_GSN.1(1)	VST_S / End	23.4	8.8	0.0	0.0	-0.2	0.6
NC_GSN.2(2)	VST_S / End	14.4	13.0	0.0	0.0	1.7	0.0
NC_GSN.3(3)	VST_S / End	0.4	0.4	0.0	-0.3	0.0	0.5
NC_GSN.4(4)	VST_S / End	0.4	0.4	0.0	-0.3	0.0	0.5
NC_GSN.5(5)	VST_S / End	0.5	0.0	0.0	0.0	0.0	0.0
NC_GSN.6(6)	VST_S / End	4.1	0.3	-0.4	-0.2	0.4	0.4
NC_GSN.7(7)	VST_S / End	4.2	0.3	-0.4	-0.2	0.4	0.4
NC_GSN.8(8)	VST_S / End	4.2	-0.1	-0.4	0.0	0.4	-0.1
NC_GSN.9(9)	VST_S / End	4.2	-0.1	-0.4	0.0	0.4	-0.1
NC_GSN.10(10)	VST_S / End	0.2	-1.5	0.0	-0.3	0.0	-1.4
NC_GSN.11(11)	VST_S / End	0.3	-1.5	0.0	-0.3	0.0	-1.4
NC_GSN.12(12)	VST_S / End	0.4	-1.8	0.0	0.0	0.0	-2.0
NC_GSN.13(13)	VST_S / End	0.3	-1.8	0.0	0.0	0.0	-2.0
NC_GSN.14(14)	VST_S / End	0.6	1.3	0.0	-0.3	0.0	1.5
NC_GSN.15(15)	VST_S / End	0.6	1.3	0.0	-0.3	0.0	1.5
NC_GSN.16(16)	VST_S / End	0.7	0.9	0.0	0.0	0.0	1.0
NC_GSN.17(17)	VST_S / End	0.6	0.9	0.0	0.0	0.0	1.0
NC_GSN.18(18)	VST_S / End	0.3	0.4	0.0	-0.3	0.0	0.5
NC_GSN.19(19)	VST_S / End	0.3	0.4	0.0	-0.3	0.0	0.5

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
NC_GSN.1(1)	0.0	8.8	23.4	-0.6	-0.2	0.0
NC_GSN.2(2)	0.0	13.0	14.4	0.0	1.7	0.0
NC_GSN.3(3)	0.0	0.4	0.4	-0.5	0.0	-0.3
NC_GSN.4(4)	0.0	0.4	0.4	-0.5	0.0	-0.3
NC_GSN.5(5)	0.0	0.0	0.5	0.0	0.0	0.0
NC_GSN.6(6)	0.4	0.3	4.1	-0.4	0.4	-0.2
NC_GSN.7(7)	0.4	0.3	4.2	-0.4	0.4	-0.2
NC_GSN.8(8)	0.4	-0.1	4.2	0.1	0.4	0.0
NC_GSN.9(9)	0.4	-0.1	4.2	0.1	0.4	0.0
NC_GSN.10(10)	0.0	-1.5	0.2	1.4	0.0	-0.3
NC_GSN.11(11)	0.0	-1.5	0.3	1.4	0.0	-0.3
NC_GSN.12(12)	0.0	-1.8	0.4	2.0	0.0	0.0
NC_GSN.13(13)	0.0	-1.8	0.3	2.0	0.0	0.0
NC_GSN.14(14)	0.0	1.3	0.6	-1.5	0.0	-0.3
NC_GSN.15(15)	0.0	1.3	0.6	-1.5	0.0	-0.3
NC_GSN.16(16)	0.0	0.9	0.7	-1.0	0.0	0.0
NC_GSN.17(17)	0.0	0.9	0.6	-1.0	0.0	0.0
NC_GSN.18(18)	0.0	0.4	0.3	-0.5	0.0	-0.3
NC_GSN.19(19)	0.0	0.4	0.3	-0.5	0.0	-0.3

Foundation block

Item	Value	Unit
CB 1		
Dimensions	500 x 800	mm
Depth	500	mm
Anchor	M12 8.8	
Anchoring length	160	mm
Shear force transfer	Anchors	

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0.0 < 5.0%	OK
Loc. deformation	0.0 < 3%	OK
Anchors	72.7 < 100%	OK
Welds	61.4 < 100%	OK
Concrete block	11.5 < 100%	OK
Buckling	Not calculated	

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ε_{Pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
VST_S	3.0	NC_GSN.2(2)	203.0	0.0	0.0	OK
BP1	15.0	NC_GSN.2(2)	73.0	0.0	0.0	OK
RIB1	8.0	NC_GSN.1(1)	21.9	0.0	0.0	OK
RIB2	8.0	NC_GSN.2(2)	24.1	0.0	0.0	OK
RIB3	8.0	NC_GSN.2(2)	27.7	0.0	0.0	OK
RIB4	8.0	NC_GSN.2(2)	28.0	0.0	0.0	OK

Design data

Material	f_y [MPa]	ε_{lim} [%]
S 235	235.0	5.0

Symbol explanation

t_p Plate thickness
σ_{Ed} Equivalent stress
ε_{Pl} Plastic strain
$\sigma_{c,Ed}$ Contact stress
f_y Yield strength
ε_{lim} Limit of plastic strain

Detailed result for VST_S

Design values used in the analysis

$f_{yd} = \frac{f_{yk}}{\gamma_{M0}} =$ 235.0 MPa

Where:

$f_{yk} =$ 235.0 MPa – characteristic yield strength

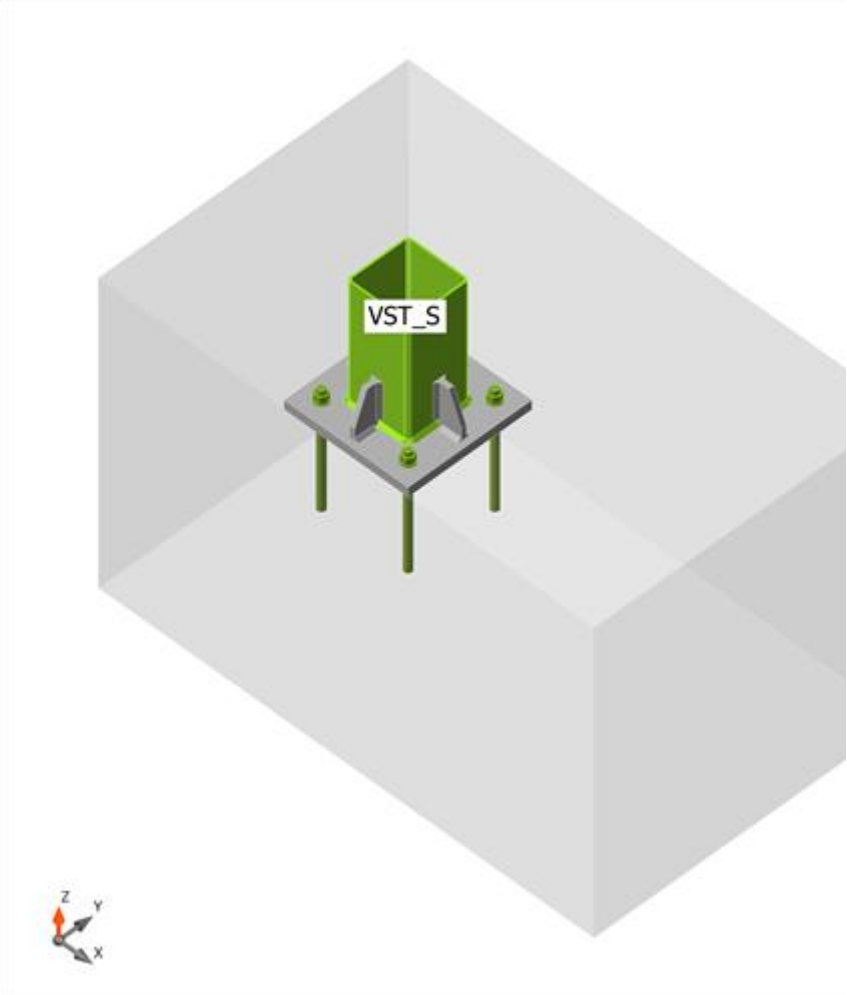
$\gamma_{M0} =$ 1.00 – partial safety factor for steel material EN 1993-1-1 – 6.1

Loc. deformation

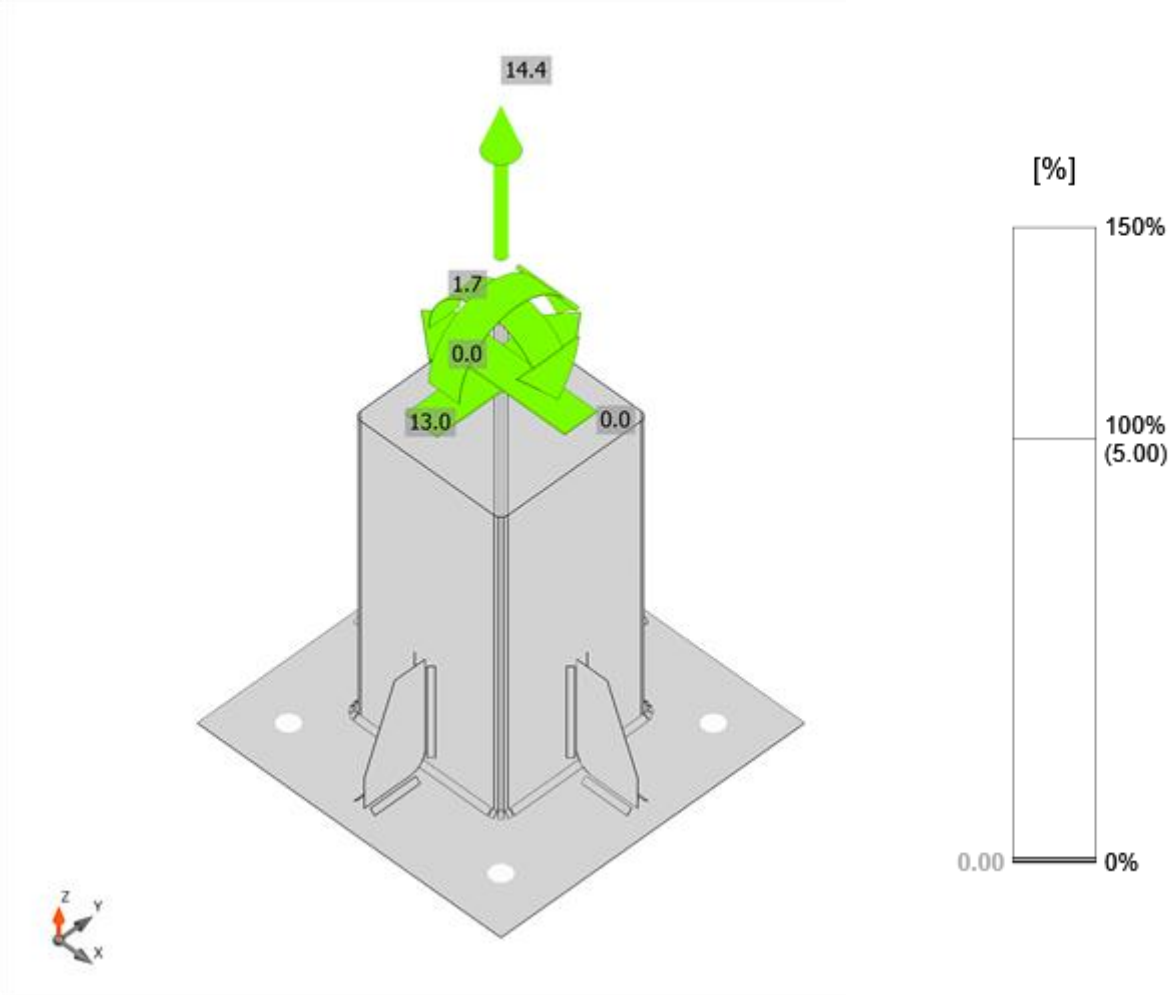
Name	d_0 [mm]	Loads	δ [mm]	δ_{lim} [mm]	δ/d_0 [%]	Check status
VST_S	100	NC_GSN.19(19)	0	3	0.0	OK

Symbol explanation

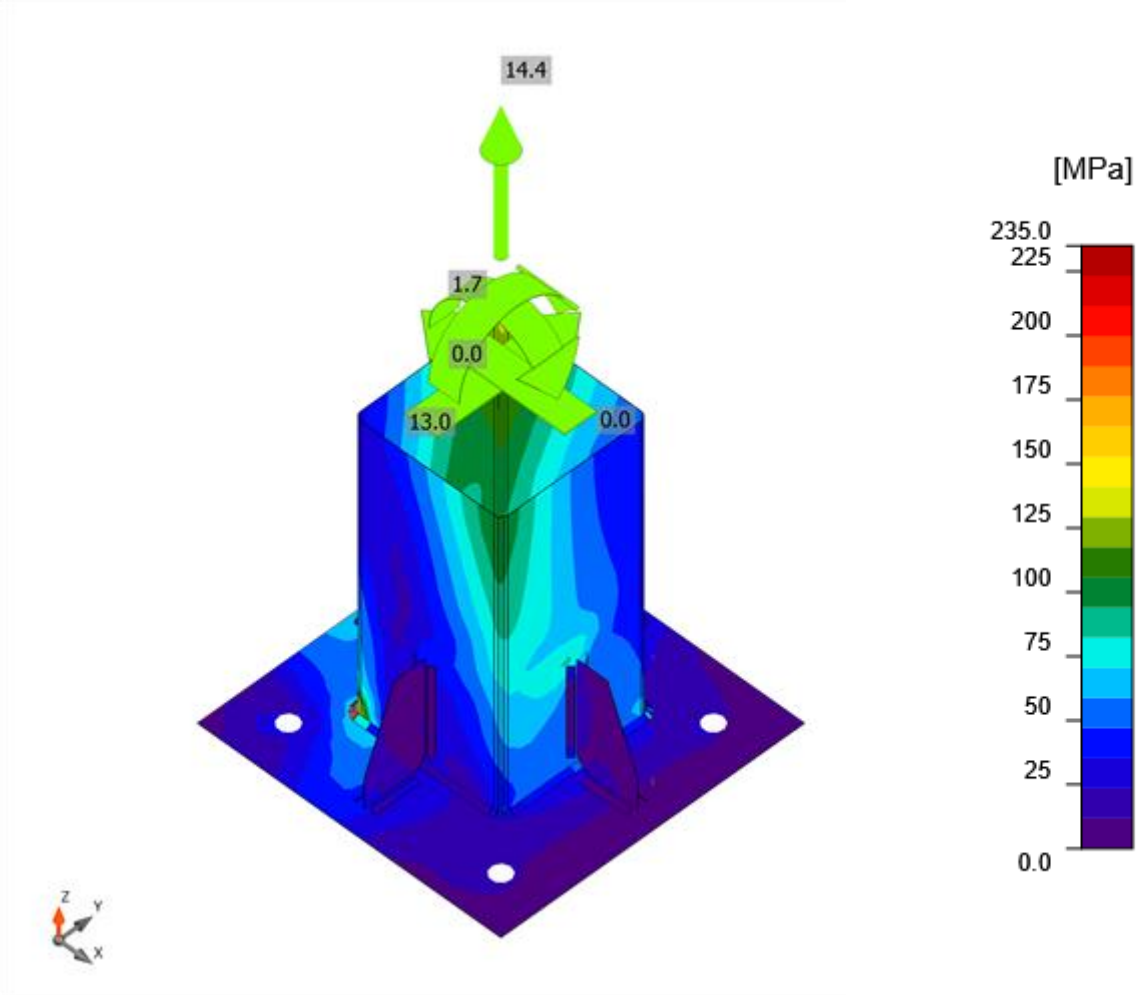
d_0 Cross-section size
δ Local cross-section deformation
δ_{lim} Allowed deformation



Overall check, NC_GSN.2(2)

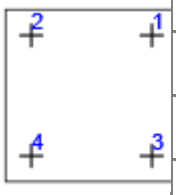


Strain check, NC_GSN.2(2)



Equivalent stress, NC_GSN.2(2)

Anchors

Shape	Item	Loads	N_{Ed} [kN]	V_{Ed} [kN]	$N_{Rd,c}$ [kN]	$V_{Rd,c}$ [kN]	$V_{Rd,cp}$ [kN]	Ut_t [%]	Ut_s [%]	Ut_{ts} [%]	Detailing	Status
	A1	NC_GSN.1 (1)	3.4	2.2	34.0	41.2	92.6	72.7	21.3	71.8	OK	OK
	A2	NC_GSN.1 (1)	7.4	2.2	34.0	0.0	92.6	72.7	9.5	64.9	OK	OK
	A3	NC_GSN.1 (1)	4.9	2.2	34.0	41.2	92.6	72.7	21.3	71.8	OK	OK
	A4	NC_GSN.1 (1)	9.0	2.2	34.0	0.0	92.6	72.7	9.5	64.9	OK	OK

Design data

Grade	$N_{Rd,s}$ [kN]	$V_{Rd,s}$ [kN]
M12 8.8 - 1	38.2	27.0

Symbol explanation

N_{Ed}	Tension force
V_{Ed}	Resultant of bolt shear forces Vy and Vz in shear planes
$N_{Rd,c}$	Design resistance in case of concrete cone failure under tension load - EN 1992-4 – 7.2.1.4
$V_{Rd,c}$	Design resistance in case of concrete cone failure under shear load - EN 1992-4 – 7.2.2.5
$V_{Rd,cp}$	Design resistance in case of concrete pryout failure - EN 1992-4 – 7.2.2.4
Ut_t	Utilization in tension
Ut_s	Utilization in shear
Ut_{ts}	Utilization in tension and shear - EN 1992-4 – Table 7.3
$N_{Rd,s}$	Design tensile resistance of a fastener in case of steel failure - EN 1992-4 – 7.2.1.3
$V_{Rd,s}$	Design shear resistance of a fastener in case of steel failure - EN 1992-4 – 7.2.2.3.1

Detailed result for A1

Following checks of anchors loaded in tension are not provided and should be checked using information in relevant European Technical Product Specification:

- Pull-out failure of fastener (for post-installed mechanical anchors) - EN 1992-4 – 7.2.1.5
- Combined pull-out and concrete failure (for post-installed bonded anchors) - EN 1992-4 – 7.2.1.6
- Concrete splitting failure - EN 1992-4 – 7.2.1.7

Concrete blow-out failure is provided only for anchors with washer plates and headed studs.

Anchor tensile resistance (EN 1992-4 – 7.2.1.3)

$N_{Rd,s} = \frac{N_{Rk,s}}{\gamma_{Ms}} =$ 38.2 kN ≥ $N_{Ed} =$ 3.4 kN

$N_{Rk,s} = c \cdot A_s \cdot f_{uk} =$ 57.3 kN

Where:

$c = 0.85$ – reduction factor for cut thread

$A_s = 84\ mm^2$ – tensile stress area

$f_{uk} = 800.0\ MPa$ – minimum tensile strength of the bolt

$\gamma_{Ms} = 1.50$ – safety factor for steel

$\gamma_{Ms} = 1.2 \cdot \frac{f_{uk}}{f_{yk}} \geq 1.4$

, where:

$f_{yk} =$

640.0 MPa – minimum yield strength of the bolt

Concrete breakout resistance of anchor in tension (EN 1992-4 – 7.2.1.4)
The check is performed for group of anchors that form common tension breakout cone: A1, A2, A3, A4

$\frac{N_{Rd,c}}{N_{\cdots}} =$ 34.0 kN ≥ $N_{Ed,g} =$ 24.7 kN

$N_{Rk,c} = N^0_{Rk,c} \cdot \frac{A_{c,N}}{A^0_{c,N}} \cdot \psi_{s,N} \cdot \psi_{re,N} \cdot \psi_{ec,N} \cdot \psi_{M,N} =$ 61.1 kN

Where:

$N_{Ed,g} = 24.7$ kN – sum of tension forces of anchors with common concrete breakout cone area

$N^0_{Rk,c} = 85.4$ kN – characteristic strength of a fastener, remote from the effects of adjacent fasteners or edges of the concrete member

$N^0_{Rk,c} = k_1 \cdot \sqrt{f_c} \cdot h_{ef}^{1.5}$

, where:

$k_1 =$

7.70 – parameter accounting for anchor type and concrete condition

$f_c =$

30.0 MPa – concrete compressive strength

$h_{ef} = \min(h_{emb}, \max(\frac{c_{a,max}}{1.5}, \frac{s_{max}}{3})) =$

160 mm – depth of embedment, where:

$h_{emb} =$

160 mm – embedment depth

$c_{a,max} =$

330 mm – maximum distance from the anchor to one of the three closest edges

$s_{max} =$

140 mm – maximum spacing between anchors

$A_{c,N} = 254200$ mm^2 – concrete breakout cone area for group of anchors

$A^0_{c,N} = 230400$ mm^2 – concrete breakout cone area for single anchor not influenced by edges

$A^0_{c,N} = (3 \cdot h_{ef})^2$

, where:

$h_{ef} =$

160 mm – depth of embedment

$\psi_{s,N} = 0.74$ – parameter related to the distribution of stresses in the concrete due to the proximity of the fastener to an edge of the concrete member:

$\psi_{s,N} = 0.7 + 0.3 \cdot \frac{c}{1.5 \cdot h_{ef}} \leq 1$

, where:

$c =$

30 mm – minimum distance from the anchor to the edge

$h_{ef} =$

160 mm – depth of embedment

$\psi_{re,N} = 1.00$ – parameter accounting for the shell spalling:

$\psi_{re,N} = 0.5 + \frac{h_{ef}}{200} \leq 1$

, where:

$h_{ef} =$

160 mm – depth of embedment

$\psi_{ec,N} = 0.88$ – modification factor for anchor groups loaded eccentrically in tension:

$\psi_{ec,N} = \psi_{ecx,N} \cdot \psi_{ecy,N}$

, where:

$\psi_{ecx,N} = \frac{1}{1+\frac{2 e_{x,N}}{3 h_{ef}}} =$

0.91 – modification factor that depends on eccentricity in x-direction

$e_{x,N} =$

23 mm – tension load eccentricity in x-direction

$\psi_{ecy,N} = \frac{1}{1+\frac{2 \cdot e_{y,N}}{3 \cdot h_{ef}}} =$

0.97 – modification factor that depends on eccentricity in y-direction

$e_{y,N} =$

9 mm – tension load eccentricity in y-direction

$h_{ef} =$

160 mm – depth of embedment

$\psi_{M,N} = 1.00$ – parameter accounting for the effect of a compression force between the fixture and concrete; this parameter is equal to 1 if c < 1.5h_{ef} or the ratio of the compressive force (including the compression due to bending) to the sum of tensile forces in anchors is smaller than 0.8

$\psi_{M,N} = 2 - \frac{2 \cdot z}{3 \cdot h_{ef}} \geq 1$

, where:

$z =$

54 mm – internal lever arm

$h_{ef} =$

160 mm – depth of embedment

$\gamma_{Mc} = 1.80$ – safety factor for concrete

Shear resistance (EN 1992-4 – 7.2.2.3.1)

$\frac{V_{Rd,s}}{V_{Ed}} =$ 27.0 kN ≥ $V_{Ed} =$ 2.2 kN

$V_{Rk,s} = k_7 \cdot V^0_{Rk,s} =$ 33.7 kN

Where:

$k_7 = 1.00$ – coefficient for anchor steel ductility

$k_7 = \begin{cases} 0.8, & A < 0.08 \\ 1.0, & A \geq 0.08 \end{cases}$

, where:

$A =$

0.12 – bolt grade elongation at rupture

$V^0_{Rk,s} = 33.7$ kN – the characteristic shear strength

$V^0_{Rk,s} = k_6 \cdot A_s \cdot f_{uk}$

, where:

$k_6 =$

0.50 – coefficient for anchor resistance in shear

$A_s =$

84 mm^2 – tensile stress area

$f_{uk} =$

800.0 MPa – specified ultimate strength of anchor steel

$\gamma_{Ms} = 1.25$ – safety factor for steel

Concrete edge failure resistance (EN 1992-4 – 7.2.2.5)

The check is performed for group of anchors that form shear breakout cones: A1, A3

$V_{Rd,c} = \frac{V_{Rk,c}}{\gamma_{Mc}} =$ 41.2 kN ≥ $V_{Ed,g} =$ 8.8 kN

$V_{Rk,c} = V^0_{Rk,c} \cdot \frac{A_{c,V}}{A^0_{c,V}} \cdot \psi_{s,V} \cdot \psi_{h,V} \cdot \psi_{ec,V} \cdot \psi_{\alpha,V} \cdot \psi_{re,V} =$ 61.8 kN

Where:

$V_{Ed,g} = 8.8$ kN – sum of shear forces of anchors on common base plate

$V^0_{Rk,c} = 85.0$ kN – initial value of the characteristic shear strength of the fastener

$V^0_{Rk,c} = k_9 \cdot d_{nom}^{\alpha} \cdot l_f^{\beta} \cdot \sqrt{f_{ck}} \cdot c_1^{1.5}$

, where:

$k_9 =$

1.70 – parameter accounting for the state of the concrete

$d_{nom} =$

12.0 mm – anchor diameter

$\alpha = 0.1 \cdot (\frac{l_f}{c_1})^{0.5} =$

0.07 – factor

$l_f = \min(h_{ef}, 12 \cdot d) =$

144 mm – parameter related to the length of the fastener, where:

$h_{ef} =$

160 mm – embedment depth

$d_{nom} =$

12.0 mm – anchor diameter

$\beta = 0.1 \cdot (\frac{d_{nom}}{c_1})^{0.2} =$

0.05 – factor

$f_{ck} =$

30.0 MPa – concrete compressive strength

$c_1 =$

330 mm – edge distance of fastener in direction 1 towards the edge in the direction of loading

$A_{c,V} = 396000$ mm^2 – actual area of idealised concrete break-out body

$A^0_{c,V} = 490050$ mm^2 – reference projected area of failure cone

$A^0_{c,V} = 4.5 \cdot c_1^2$

, where:

$c_1 =$

330 mm – edge distance of fastener in direction 1 towards the edge in the direction of loading

$\psi_{s,V} = 0.90$ – parameter related to the distribution of stresses in the concrete due to the proximity of the fastener to an edge of the concrete member:

$\psi_{s,V} = 0.7 + 0.3 \cdot \frac{c_2}{1.5 \cdot c_1} \leq 1$

, where:

$c_1 =$

330 mm – edge distance of fastener in direction 1 towards the edge in the direction of loading

$c_2 =$

330 mm – edge distance of fastener perpendicular to direction 1 that is the smallest edge distance in a narrow member with multiple edge distances

$\psi_{h,V} = 1.00$ – modification factor for anchors located in a shallow concrete member:

$\psi_{h,V} = (\frac{1.5 \cdot c_1}{h})^{0.5} \geq 1$

, where:

$h =$

500 mm – concrete member thickness

$c_1 =$

330 mm – edge distance of fastener in direction 1 towards the edge in the direction of loading

$\psi_{ec,V} = 1.00$ – modification factor for anchor groups loaded eccentrically in shear:

$\psi_{ec,V} = \frac{1}{1+\frac{2 e_V}{3 c_1}} \leq 1$

, where:

$e_V =$

0 mm – shear load eccentricity

$c_1 =$

330 mm – edge distance of fastener in direction 1 towards the edge in the direction of loading

$\psi_{\alpha,V} = 1.00$ – modification factor for anchors loaded at an angle with the concrete edge

$\psi_{\alpha,V} = \sqrt{\frac{1}{(\cos \alpha_V)^2+(0.5 \cdot \sin \alpha_V)^2}} \geq 1$

, where:

$\alpha_V =$

0.0 ° – angle between the applied load to the fastener or fastener group and the direction perpendicular to the free edge under consideration

$\psi_{re,V} = 1.00$ – parameter accounting for the shell spalling effect, no edge reinforcement or stirrups are assumed

$\gamma_{Mc} = 1.50$ – safety factor for concrete

Concrete pryout resistance (EN 1992-4 – 7.2.2.4)

The check is performed for group of anchors on common base plate

$V_{Rd,cp} = \frac{V_{Rk,cp}}{\gamma_{Mc}} =$ 92.6 kN ≥ $V_{Ed,g} =$ 8.8 kN

$V_{Rk,cp} = k_8 \cdot$ 138.9 kN

Where:

$k_8 = 2.00$ – factor taking into account fastener embedment depth

$N_{Rk,c} = 69.5$ kN – characteristic concrete cone failure of a fastener or a group of fasteners; all anchors are assumed to be in tension

$\gamma_{Mc} = 1.50$ – safety factor for concrete

Interaction of tensile and shear forces in steel (EN 1992-4 – Table 7.3)

$(\frac{N_{Ed}}{N_{Rd,s}})^2 +$ 0.01 ≤ 1.0

Where:

$N_{Ed} = 3.4$ kN – design tension force

$N_{Rd,s} = 38.2$ kN – fastener tensile strength

$V_{Ed} = 2.2$ kN – design shear force

$V_{Rd,s} = 27.0$ kN – fastener shear strength

Interaction of tensile and shear forces in concrete (EN 1992-4 – Table 7.3)

$(\frac{N_{Ed}}{N_{Rd,i}})^{1.5} +$ 0.72 ≤ 1.0

Where:

$\frac{N_{Ed}}{N_{Rd,i}}$ – the largest utilization value for tension failure modes

$\frac{V_{Ed}}{V_{Rd,i}}$ – the largest utilization value for shear failure modes

$\frac{N_{Ed,g}}{N_{Rd,c}} = 72.7\ \%$ – concrete breakout failure of anchor in tension

$\frac{N_{Ed}}{N_{Rd,p}} = 0.0\ \%$ – concrete pullout failure

$\frac{N_{Ed}}{N_{Rd,cb}} = 0.0\ \%$ – concrete blowout failure

$\frac{V_{Ed}}{V_{Rd,c}} = 21.3\ \%$ – concrete edge failure

$\frac{V_{Ed}}{V_{Rd,cb}} = 9.5\ \%$ – concrete pryout failure

Welds

Item	Edge	T_w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ε_{Pl} [%]	$\sigma_{\perp}$ [MPa]	$\tau_{\perp}$ [MPa]	$\tau_{\parallel}$ [MPa]	Ut [%]	Ut_c [%]	Detailing	Status
BP1	RIB1	◢ 4.0 ◣	30	NC_GSN.12(12)	24.8	0.0	2.3	-10.5	9.6	6.9	6.9	OK	OK
		◢ 4.0 ◣	30	NC_GSN.12(12)	25.3	0.0	1.8	-3.2	14.2	7.0	7.0	OK	OK
VST_S-w 1	RIB1	◢ 4.0 ◣	60	NC_GSN.2(2)	31.5	0.0	-1.9	1.5	18.1	8.7	6.7	OK	OK
		◢ 4.0 ◣	60	NC_GSN.1(1)	29.0	0.0	4.7	4.3	16.0	8.1	6.5	OK	OK
BP1	RIB2	◢ 4.0 ◣	30	NC_GSN.2(2)	23.5	0.0	5.9	8.6	-9.9	6.5	6.5	OK	OK
		◢ 4.0 ◣	30	NC_GSN.2(2)	30.0	0.0	3.3	4.8	-16.5	8.3	8.1	OK	OK
VST_S-w 2	RIB2	◢ 4.0 ◣	60	NC_GSN.12(12)	39.5	0.0	3.2	-3.2	-22.5	11.0	7.3	OK	OK
		◢ 4.0 ◣	60	NC_GSN.12(12)	39.4	0.0	3.2	3.2	22.5	11.0	7.3	OK	OK
BP1	RIB3	◢ 4.0 ◣	30	NC_GSN.12(12)	25.0	0.0	1.7	3.1	-14.1	7.0	7.0	OK	OK
		◢ 4.0 ◣	30	NC_GSN.12(12)	24.8	0.0	2.3	10.6	-9.5	6.9	6.9	OK	OK
VST_S-w 3	RIB3	◢ 4.0 ◣	60	NC_GSN.2(2)	51.5	0.0	5.1	-4.7	-29.2	14.3	8.5	OK	OK
		◢ 4.0 ◣	60	NC_GSN.2(2)	49.0	0.0	3.8	4.2	27.9	13.6	8.2	OK	OK
BP1	RIB4	◢ 4.0 ◣	30	NC_GSN.2(2)	29.1	0.0	6.9	-3.4	15.9	8.1	8.1	OK	OK

		◢ 4.0 ◣	30	NC_GSN.2(2)	31.8	0.0	-1.2	-15.8	9.3	8.8	7.9	OK	OK
VST_S-w 4	RIB4	◢ 4.0 ◣	60	NC_GSN.13(13)	50.4	0.0	-4.1	4.1	28.7	14.0	8.3	OK	OK
		◢ 4.0 ◣	60	NC_GSN.13(13)	50.4	0.0	-4.1	-4.1	-28.7	14.0	8.3	OK	OK
BP1	VST_S	◢ 4.0	378	NC_GSN.2(2)	198.5	0.0	159.2	-61.3	-30.5	61.4	37.4	OK	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9 σ [MPa]
S 235	360.0	0.80	360.0	259.2

Symbol explanation

T_w	Throat thickness a
L	Length
$\sigma_{w,Ed}$	Equivalent stress
ε_{Pl}	Strain
$\sigma_\perp$	Perpendicular stress
$\tau_\perp$	Shear stress perpendicular to weld axis
$\tau_\parallel$	Shear stress parallel to weld axis
Ut	Utilization
Ut_c	Weld capacity estimation
◢	Fillet weld
f_u	Ultimate strength of weld
β_w	Correlation factor EN 1993-1-8 – Tab. 4.1
$\sigma_{w,Rd}$	Equivalent stress resistance
0.9 σ	Perpendicular stress resistance: 0.9*fu/γM2

Detailed result for BP1 / VST_S

Weld resistance check (EN 1993-1-8 – Cl. 4.5.3.2)

$\sigma_{w,Rd} = f_u/(\beta_w \gamma_{M2}) =$ 360.0 MPa ≥ $\sigma_{w,Ed} = [\sigma_\perp^2 + 3(\tau_\perp^2 + \tau_\parallel^2)]^{0.5} =$ 198.5 MPa

$\sigma_{\perp,Rd} = 0.9 f_u / \gamma_{M2} =$ 259.2 MPa ≥ $|\sigma_\perp| =$ 159.2 MPa

where:

$f_u =$ 360.0 MPa – Ultimate strength

$\beta_w =$ 0.80 – Correlation factor EN 1993-1-8 – Tab. 4.1

$\gamma_{M2} =$ 1.25 – Safety factor

Stress utilization

$U_t = \max(\frac{\sigma_{w,Ed}}{\sigma_{w,Rd}} ; \frac{|\sigma_\perp|}{\sigma_{\perp,Rd}}) =$ 0.61 ≤ 1.0

Where:

$\sigma_{w,Ed}$ = 198.5 MPa – Maximum normal stress transverse to the axis of the weld

$\sigma_{w,Rd}$ = 360.0 MPa – Equivalent stress resistance

$\sigma_{\perp}$ = 159.2 MPa – Normal stress perpendicular to the throat

$\sigma_{\perp,Rd}$ = 259.2 MPa – Perpendicular stress resistance

Concrete block

Item	Loads	c [mm]	A_{eff} [mm^2]	σ [MPa]	k_j [-]	f_{jd} [MPa]	Ut [%]	Status
CB 1	NC_GSN.13(13)	36	8951	1.5	1.00	13.4	11.5	OK

Symbol explanation

c Bearing width
A_{eff} Effective area
σ Average stress in concrete
k_j Concentration factor
f_{jd} The ultimate bearing strength of the concrete block
Ut Utilization

Detailed result for CB 1

Concrete block compressive resistance check (EN 1993-1-8 – 6.2.5)

f_{jd} = 13.4 MPa ≥ σ = 1.5 MPa

Where:

f_{jd} – concrete block design bearing strength:

$f_{jd} = \alpha_{cc}\beta_j k_j \frac{f_{ck}}{\gamma_c}$

, where:

α_{cc} =

1.00 – long term effects on compressive strength factor

β_j =

0.67 – grout quality factor

k_j =

1.00 – concentration factor

f_{ck} =

30.0 MPa – characteristic resistance of concrete in compression

γ_c =

1.50 – safety factor for concrete

σ – average compressive stress in concrete under base plate

$\sigma = \frac{N}{A_{eff}}$

, where:

N =

13.8 kN – compressive normal force acting on concrete block

A_{eff} =

8951 mm^2 – effective area on which normal force is distributed

Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
BP1	P15.0x200-200 (S 235)		1	Fillet: 4.0	380	M12 8.8	4
RIB1	P8.0x40-70 (S 235)		1	Double fillet: 4.0	90		
RIB2	P8.0x40-70 (S 235)		1	Double fillet: 4.0	90		
RIB3	P8.0x40-70 (S 235)		1	Double fillet: 4.0	90		
RIB4	P8.0x40-70 (S 235)		1	Double fillet: 4.0	90		

Symbol explanation

Fillet weld throat thickness of weld

Welds

Type	Material	Throat thickness [mm]	Leg size [mm]	Length [mm]

Fillet	S 235	4.0	5.7	380
Double fillet	S 235	4.0	5.7	360

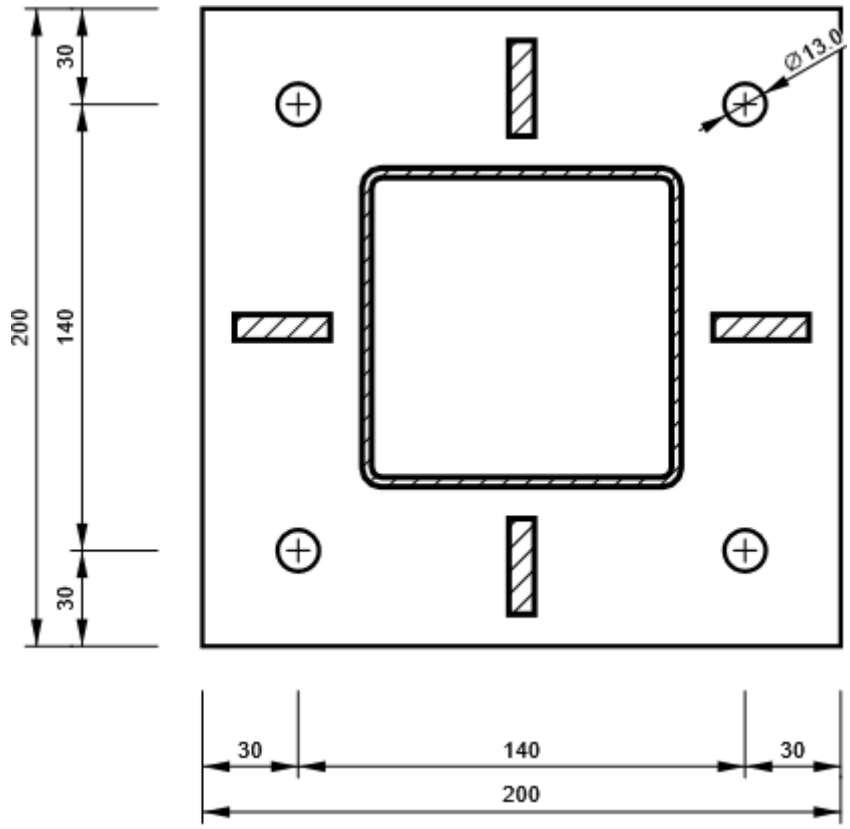
Anchors

Name	Length [mm]	Drill length [mm]	Count
M12 8.8	175	160	4

Drawing

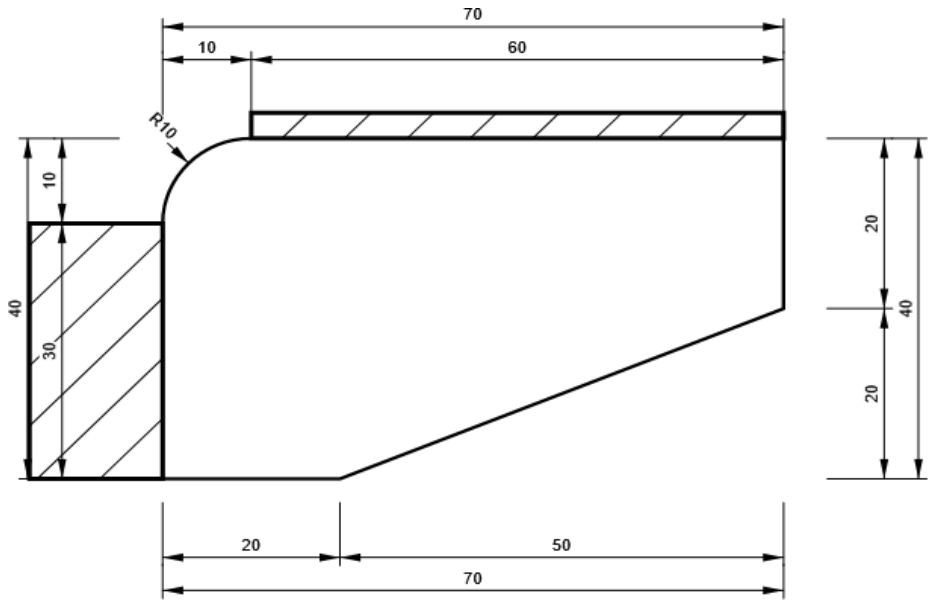
BP1

P15.0x200-200 (S 235)



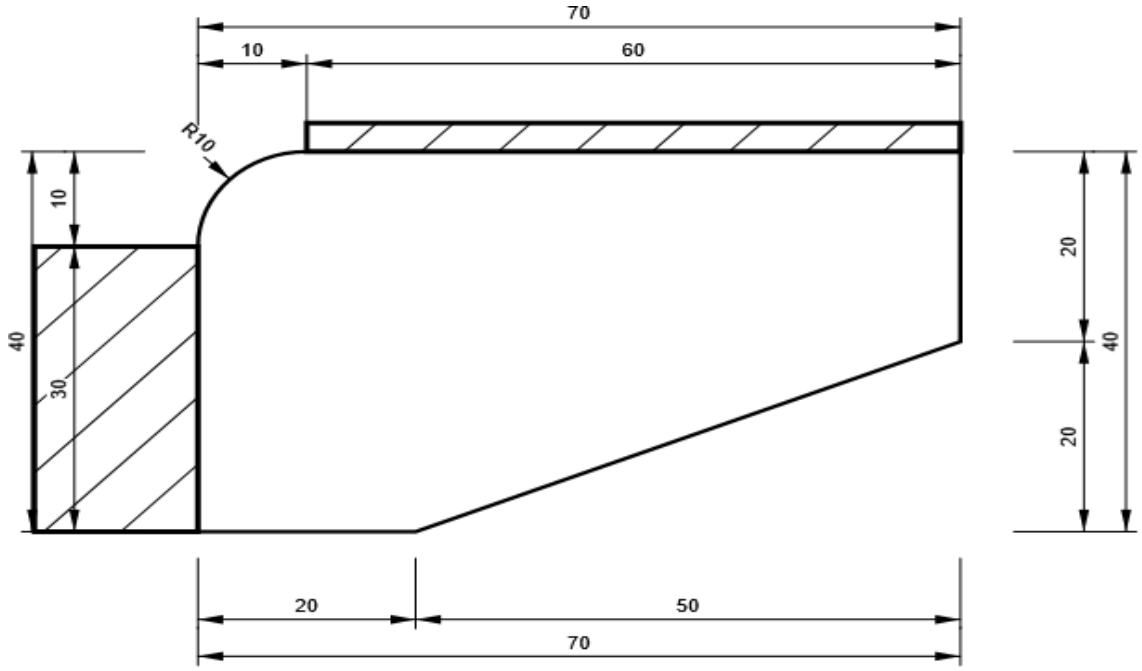
RIB1

P8.0x70-40 (S 235)



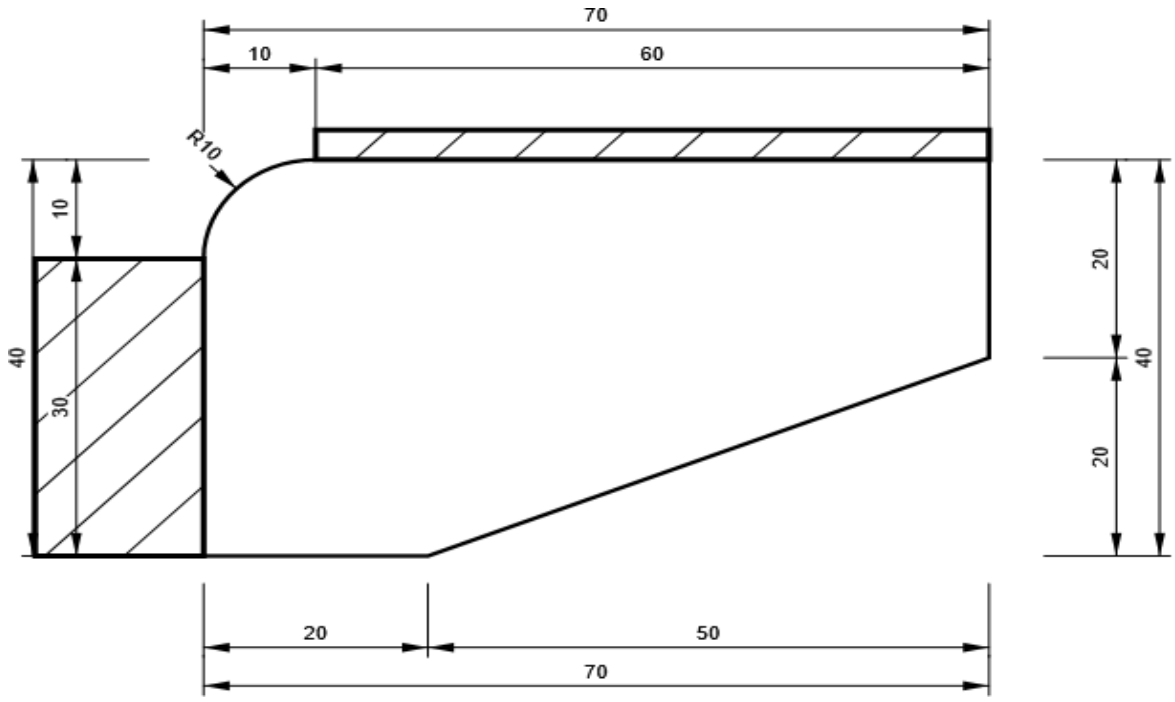
RIB2

P8.0x70-40 (S 235)



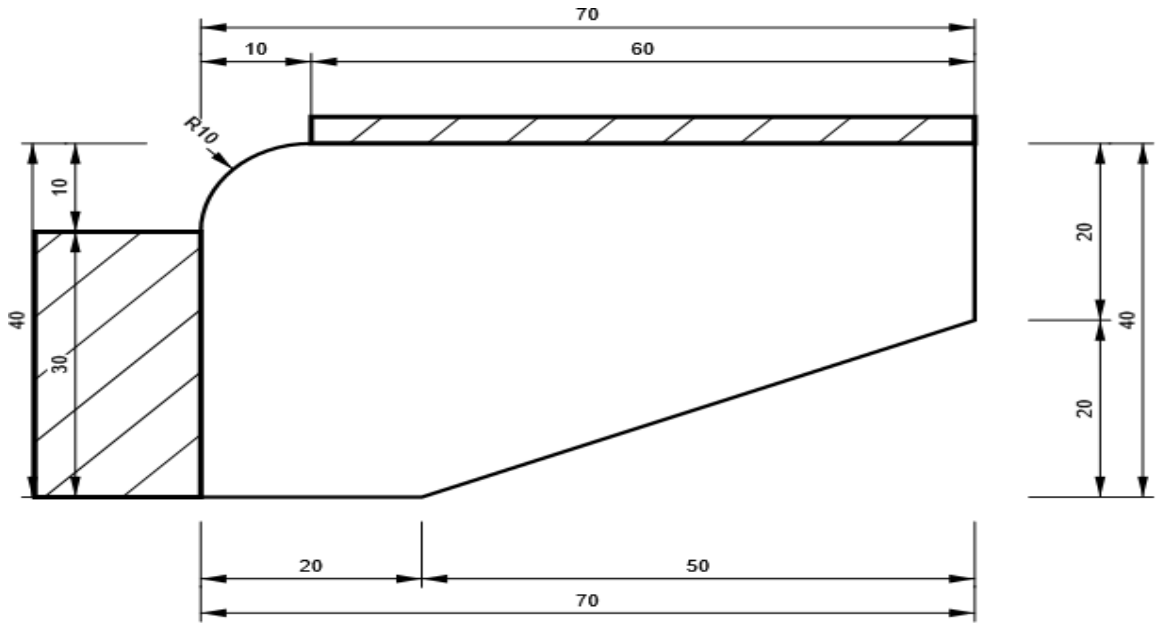
RIB3

P8.0x70-40 (S 235)



RIB4

P8.0x70-40 (S 235)



Code settings

Item	Value	Unit	Reference
Safety factor γ_{M0}	1.00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1.10	-	EN 1993-1-1 – 6.1
Safety factor γ_{M2}	1.25	-	EN 1993-1-1 – 6.1, EN 1993-1-8 – Table 2.1
Safety factor γ_{M3}	1.25	-	EN 1993-1-8 – Table 2.1
Safety factor γ_{C}	1.50	-	EN 1992-1-1 – 2.4.2.4
Safety factor γ_{Inst}	1.20	-	EN 1992-4 – Table 4.1
Joint coefficient βj	0.67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0.10	-	
Friction coefficient - concrete	0.25	-	EN 1993-1-8
Friction coefficient in slip-resistance	0.30	-	EN 1993-1-8 – Table 3.7
Limit plastic strain	0.05	-	EN 1993-1-5
Detailing	Yes		
Distance between bolts [d0]	2.20	-	EN 1993-1-8 – Table 3.3
Distance between bolts and edge [d0]	1.20	-	EN 1993-1-8 – Table 3.3
Concrete breakout resistance check	Both		
Cracked concrete	Yes		EN 1992-4
Local deformation check	Yes		
Local deformation limit	0.03	-	CIDECT DG 1, 3 – 1.1
Geometrical nonlinearity (GMNA)	Yes		Analysis with large deformations for hollow section joints
Braced system	No		EN 1993-1-8 – 5.2.2.5

NAPOMENA: Spoj stupa stubištana armiranobetonski temelj izraditi naknadnim sidrenjem.

4. Prilog: popis nacrta

Nacrt br.	Naziv nacrta	Papir	Mjerilo	Šipke (kg)	Mreže (kg)
0.1	PLAN OPLATE TEMELJNE PLOČE POZ 001	**A0 (84,1/118,9 cm)**	1:50	/	/
0.2	PLAN OPLATE TEMELJNE PLOČE POZ 002	**A1 (59,4/84,1 cm)**	1:50	/	/
0.3	PLAN OPLATE ZIDOVA PODRUMA - TLOCRT	**A0 (84,1/118,9 cm)**	1:50	/	/
0.4	PLAN OPLATE PLOČE IZNAD PODRUMA - POZ 101	**A3+ (29,7/95,0 cm)**	1:50	/	/
0.5	PLAN OPLATE PLOČE IZNAD PODRUMA - POZ 102	**A1 (84,1/59,4 cm)**	1:50	/	/
0.6	PLAN OPLATE ZIDOVA PRIZEMLJA - TLOCRT	**A0+ (84,1/194,0 cm)**	1:50	/	/
0.7a	PLAN OPLATE PLOČE IZNAD PRIZEMLJA - POZ 201	**A0 (84,1/118,9 cm)**	1:50	/	/
0.7b	PLAN OPLATE PLOČE POZ 202	**A0 (84,1/118,9 cm)**	1:50	/	/
0.7c	PLAN OPLATE PLOČE POZ 203	**A3+ (29,7/59,0 cm)**	1:50	/	/
0.8	PLAN OPLATE ZIDOVA 1. KATA - TLOCRT	**A0 (84,1/118,9 cm)**	1:50	/	/
0.9	PLAN OPLATE PLOČE I GREDA IZNAD 1. KATA (POZ 300)	**A0 (84,1/118,9 cm)**	1:50	/	/
0.10	PLAN OPLATE NADOZIDA	**A0 (84,1/118,9 cm)**	1:50	/	/
0.11a	PLAN OPLATE ZIDOVA U OSI A I B	**A0 (84,1/118,9 cm)**	1:50	/	/
0.11b	PLAN OPLATE ZIDOVA U OSIMA C, D, E, F, G	**A0 (84,1/118,9 cm)**	1:50	/	/
0.11c	PLAN OPLATE ZIDOVA U OSIMA H, I	**A0 (84,1/118,9 cm)**	1:50	/	/
0.11d	PLAN OPLATE ZIDOVA U OSIMA J i L	**A0 (84,1/118,9 cm)**	1:50	/	/
0.11e	PLAN OPLATE ZIDOVA U OSIMA 1, 2, 3, 4	**A0 (84,1/118,9 cm)**	1:50	/	/
0.11f	PLAN OPLATE ZIDOVA U OSIMA 5, 7, 8, 9, 2'	**A0 (84,1/118,9 cm)**	1:50	/	/
0.12	PLAN OPLATE GREDA G201, 203 i 205	**A2 (42,0/59,4 cm)**	1:50	/	/
0.13a	PLAN POZICIJA ČELIČNE REŠETKE - TLOCRT ELEMENATA U RAZINI DONJE POJASNICE	**A0 (84,1/118,9 cm)**	1:50	/	/
0.13b	PLAN POZICIJA ČELIČNE REŠETKE - TLOCRT ELEMENATA U RAZINI GORNJE POJASNICE	**A0 (84,1/118,9 cm)**	1:50	/	/
0.13c	PLAN POZICIJA ČELIČNE REŠETKE - PRESJEK C1-C1	**A0 (84,1/118,9 cm)**	1:50	/	/
0.13d	PLAN POZICIJA ČELIČNE REŠETKE - PRESJEK C2-C2 I PREJEK A-A	**A0 (84,1/118,9 cm)**	1:50	/	/

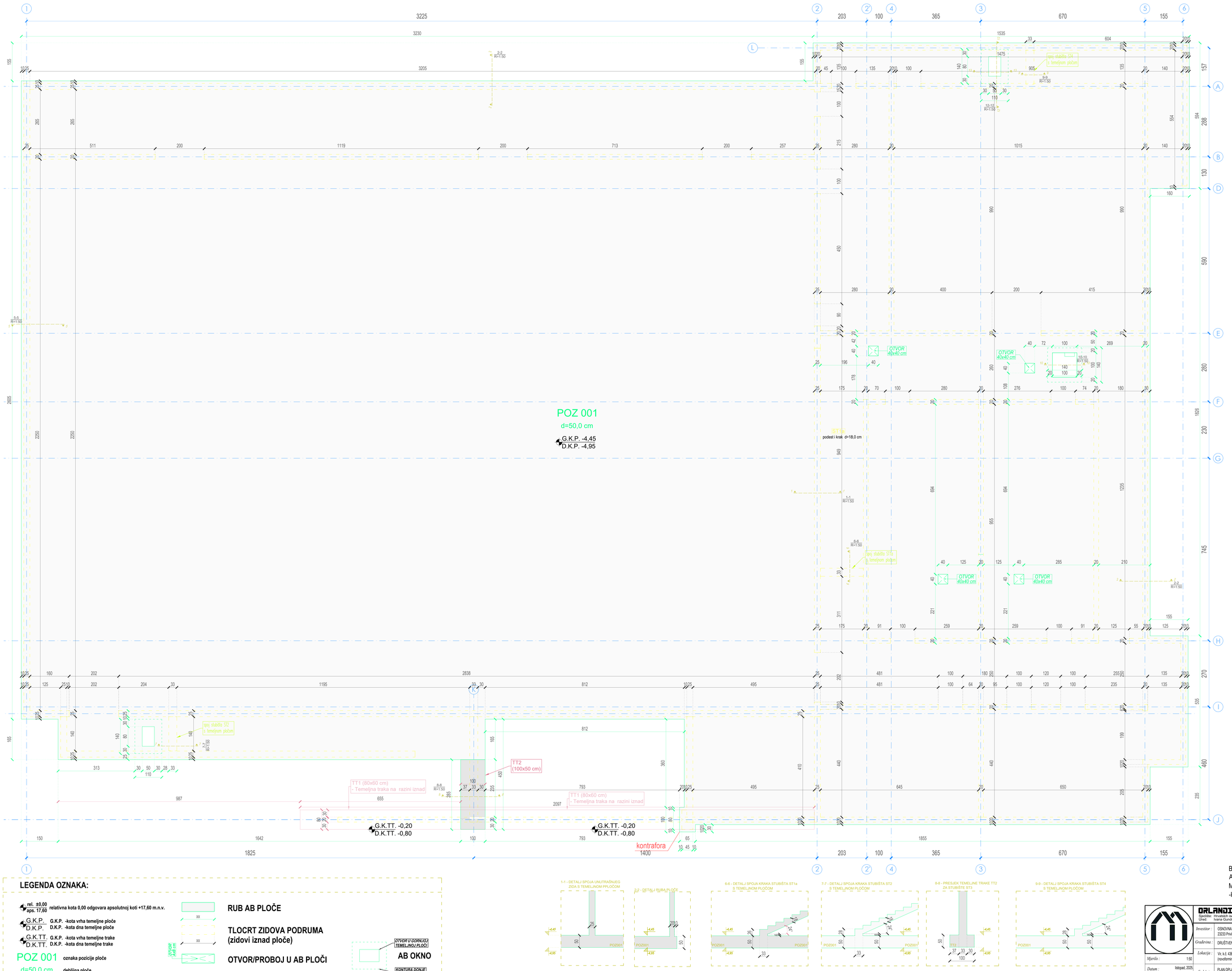
Nacrt br.	Naziv nacrta		Papir	Mjerilo	Šipke (kg)	Mreže (kg)
1.1A	PLAN ARMATURE TEMELJNE PLOČE POZ 001 - DONJA ZONA - MREŽE	TEMELJNA PLOČA - 000	A0 (84,1/118,9 cm)	1:50	14294,10	33212,83
1.1B	PLAN ARMATURE TEMELJNE PLOČE POZ 001 - DONJA ZONA - OJAČANJA		A0 (84,1/118,9 cm)	1:50		
1.1C	PLAN ARMATURE TEMELJNE PLOČE POZ 001 - GORNJA ZONA - MREŽE		A0 (84,1/118,9 cm)	1:50		
1.1D	PLAN ARMATURE TEMELJNE PLOČE POZ 001 - RUBNE VILICE, ANKERI I KONSTRUKTIVNE ŠIPKE		A0 (84,1/118,9 cm)	1:50		
1.1E	ISKAZ ARMATURE TEMELJNE PLOČE POZ 001		A0 (84,1/118,9 cm)	1:50		
1.2A	PLAN ARMATURE TEMELJNE PLOČE POZ 002 - DONJA ZONA - MREŽE I OJAČANJA		A1 (59,4/84,1 cm)	1:50	2331,74	3507,78
1.2B	PLAN ARMATURE TEMELJNE PLOČE POZ 002 - GORNJA ZONA - MREŽE I OJAČANJA		A1 (59,4/84,1 cm)	1:50		
1.2C	PLAN ARMATURE TEMELJNE PLOČE POZ 002 - RUBNE VILICE, ANKERI I KONSTRUKTIVNE ŠIPKE		A1 (59,4/84,1 cm)	1:50		
1.2D	ISKAZ ARMATURE TEMELJNE PLOČE POZ 002		A2 (42/59,4 cm)	1:50		
2.0	PLAN ARMATURE ZIDOVA PODRUMA T LOCRT	ZIDOVI PODRUMA	A0 (84,1/118,9 cm)	1:50	13655,16	21856,79
2.1	ZIDOVI PODRUMA - PLAN ARMATURE ZIDOVA U OSIMA A i K		A1+ (59,4/122,1 cm)	1:50		
2.2	ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI B		A2+ (42,0/93,4 cm)	1:50		
2.3	ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI C		A1+ (59,4/94,1 cm)	1:50		
2.4	ZIDOVI PODRUMA - PLAN ARMATURE ZIDOVA U OSI E i F		A1 (59,4/84,1 cm)	1:50		
2.5	ZIDOVI PODRUMA - PLAN ARMATURE ZIDOVA U OSI H i I		A1+ (59,4/94,1 cm)	1:50		
2.6	ZIDOVI PODRUMA - PLAN ARMATURE ZIDOVA U OSI J i L		A1+ (59,4/122,1 cm)	1:50		
2.7	ZIDOVI PODRUMA - PLAN ARMATURE ZIDOVA U OSI C i J		A2 (42/59,4 cm)	1:50		
2.8	ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI 1		A1 (59,4/84,1 cm)	1:50		
2.9	ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI 2		A1+ (59,4/94,1 cm)	1:50		
2.10	ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI 3		A2 (42/59,4 cm)	1:50		
2.11	ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI 4		A2 (42/59,4 cm)	1:50		
2.12	ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI 5		A1+ (59,4/94,1 cm)	1:50		
2.13	ISKAZ ARMATURE ZIDOVA PODRUMA		A1+ (59,4/122,1 cm)	1:50		
3.1A	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 101 - DONJA ZONA - MREŽE + OJAČANJA	PLOČE IZNAD PODRUMA - POZ 100	A1 (59,4/84,1 cm)	1:50	2695,59	2974,49
3.1B	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 101 - GORNJA ZONA - MREŽE + OJAČANJA		A1 (59,4/84,1 cm)	1:50		
3.1C	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 101 - VILICE I KONSTRUKTIVNE ŠIPKE		A1 (59,4/84,1 cm)	1:50		
3.1D	ISKAZ ARMATURE PLOČE IZNAD PODRUMA POZ 101		A2 (42,0/59,4 cm)	1:50		
3.2A	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102 - DONJA ZONA - MREŽE I ŠIPKE		A1 (84,1/59,4 cm)	1:50	2365,00	8418,95
3.2B	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102 - GORNJA ZONA - MREŽE I ŠIPKE		A1 (84,1/59,4 cm)	1:50		
3.2C	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102 - VILICE I KONSTRUKTIVNE ŠIPKE		A1 (84,1/59,4 cm)	1:50		
3.2D	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102 - ANKERI I GREDE		A1 (84,1/59,4 cm)	1:50		
3.2E	ISKAZ ARMATURE PLOČE IZNAD PODRUMA POZ 102		A1+ (59,4/94,1 cm)	1:50		
3.3	ISKAZ ARMATURE PLOČE TRIBINIA POZ 101*		A3 (29,7/42,0 cm)	1:50	114,76	1094,94

Nacrt br.	Naziv nacrta		Papir	Mjerilo	Šipke (kg)	Mreže (kg)
4.0	PLAN ARMATURE ZIDOVA PRIZEMLJA - TLOCRT	ZIDOVI PRIZEMLJA	**A0+ (84,1/194 cm)**	1:50	20860,21	14930,40
4.1	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI A		**A1+ (59,4/122,1 cm)**	1:50		
4.2	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI C		**A0 (84,1/118,9 cm)**	1:50		
4.3	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI D		**A2 (42/59,4 cm)**	1:50		
4.4	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI G		**A1+ (59,4/94,1 cm)**	1:50		
4.5	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDOVA U OSI G i H		**A2 (42/59,4 cm)**	1:50		
4.6	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI H		**A1 (59,4/84,1 cm)**	1:50		
4.7	ZIDOVI PRIZEMLJA - PLAN ARMATURE GREDA KOJE NISU CRTANE U SKLOPU ZIDA		**A2 (42/59,4 cm)**	1:50		
4.8	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI J		**A1+ (59,4/94,1 cm)**	1:50		
4.9	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 1		**A1 (59,4/84,1 cm)**			
4.10	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 2		**A1+ (59,4/94,1 cm)**	1:50		
4.11	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 3		**A2 (42/59,4 cm)**	1:50		
4.12	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 5		**A2+ (42/93,4 cm)**	1:50		
4.13	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 7		**A2 (42/59,4 cm)**	1:50		
4.14	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 8		**A2 (42/59,4 cm)**	1:50		
4.15	ISKAZ ARMATURE ZIDOVA PRIZEMLJA		**A1+ (59,4/122,1 cm)**	1:50		
5.1A	PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201 - DONJA ZONA - MREŽE I ŠIPKE	PLOČE IZNAD PRIZEMLJA - POZ 200	**A0 (84,1/118,9 cm)**	1:50	3516,96	12356,72
5.1B	PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201 - GORNJA ZONA - MREŽE I OJAČANJA		**A0 (84,1/118,9 cm)**	1:50		
5.1C	PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201 - VILICE I KONSTRUKTIVNE ŠIPKE		**A0 (84,1/118,9 cm)**	1:50		
5.1D	PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201 - ANKERI I GREDE		**A0 (84,1/118,9 cm)**	1:50		
5.1E	ISKAZ ARMATURE PLOČE IZNAD PRIZEMLJA POZ 201		**A1+ (59,4/94,1 cm)**	1:50		
5.2A	PLAN ARMATURE PLOČE POZ 202		**A0 (84,1/118,9 cm)**	1:50	2754,29	3359,09
5.2B	ISKAZ ARMATURE PLOČE POZ 202		**A3 (29,7/42,0 cm)**			
5.3	PLAN I ISKAZ ARMATURE PLOČE POZ 203		**A1+ (59,4/94,1 cm)**	1:50	288,55	248,03
6.0	PLAN ARMATURE ZIDOVA 1.KATA - TLOCRT	ZIDOVI 1.KATA	**A0 (84,1/118,9 cm)**	1:50	10346,33	5548,24
6.1	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI A		**A2 (42/59,4 cm)**	1:50		
6.2	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI D		**A2 (42/59,4 cm)**	1:50		
6.3	ZIDOVI KATA - PLAN ARMATURE GREDA POZ 301		**A3+ (29,7/54 cm)**	1:50		
6.4	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI G		**A2+ (42,0/93,4 cm)**	1:50		
6.5	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI H		**A1+ (59,4/94,1 cm)**	1:50		
6.6	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI J		**A1+ (59,4/94,1 cm)**	1:50		
6.7	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 2		**A1+ (59,4/94,1 cm)**	1:50		
6.8	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 2*		**A2 (42/59,4 cm)**	1:50		
6.9	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 3		**A2 (42/59,4 cm)**			
6.10	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 5		**A2+ (42/93,4 cm)**	1:50		
6.11	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 7		**A2 (42/59,4 cm)**	1:50		
6.12	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 9		**A2 (42/59,4 cm)**	1:50		
6.13	ISKAZ ARMATURE ZIDOVA KATA		**A1+ (59,4/94,1 cm)**	1:50		

Nacrt br.	Naziv nacrta		Papir	Mjerilo	Šipke (kg)	Mreže (kg)
7.1A	PLAN ARMATURE PLOČE IZNAD 1.KATA - POZ 301 - DONJA ZONA - MREŽE I OJAČANJA	PLOČE IZNAD 1.KATA - POZ 300	A0 (84,1/118,9 cm)	1:50	4079,55	16299,20
7.1B	PLAN ARMATURE PLOČE IZNAD 1.KATA - POZ 301 - GORNJA ZONA - MREŽE I OJAČANJA		A0 (84,1/118,9 cm)	1:50		
7.1C	PLAN ARMATURE PLOČE IZNAD 1.KATA - POZ 301 - VILICE I KONSTRUKTIVNE ŠIPKE		A0 (84,1/118,9 cm)	1:50		
7.1D	PLAN ARMATURE PLOČE IZNAD 1.KATA - POZ 301 - ANKERI I GREDE		A0 (84,1/118,9 cm)	1:50		
7.1E	ISKAZ ARMATURE PLOČE IZNAD 1.KATA POZ 301		A1 (59,4/84,1 cm)	1:50		
8.1	STUBIŠTA - PLAN ARMATURE STUBIŠTA ST1a, ST1b I ST6	STUBIŠTA	A2+ (42/93,4 cm)	1:50	1111,48	2506,60
8.2	STUBIŠTA - PLAN ARMATURE STUBIŠTA ST2 i ST3		A2+ (42/93,4 cm)	1:50		
8.3	STUBIŠTA - PLAN ARMATURE STUBIŠTA ST4		A3+ (29,7/70,0 cm)	1:50		
8.4	ISKAZ ARMATURE STUBIŠTA		A2 (42/59,4 cm)	1:50		
8.5	PLAN I ISKAZ ARMATURE VANJSKOG AB STUBIŠTA ST5		A2 (42/59,4 cm)	1:50	466,76	218,03
9.0	ČELIČNA REŠETKA - DETALJI SPOJEVA		A1 (59,4/84,1 cm)	1:10		
10.0	ČELIČNO VANJSKO STUBIŠTE - DETALJI SPOJEVA		A1 (59,4/84,1 cm)	1:10		

	MREŽE	ŠIPKE
UKUPNO (kg):	78880,5	126532,1

5. Prilog: Nacrti armature i oplate



LEGENDA OZNAKA:

- rel. ±0,00 / aps. 17,60 — relativna kota 0,00 odgovara apsolutnoj koti +17,60 m.n.v.
- G.K.P. / D.K.P. — G.K.P. -kota vrha temeljne ploče; D.K.P. -kota dna temeljne ploče
- G.K.T. / D.K.T. — G.K.P. -kota vrha temeljne trake; D.K.P. -kota dna temeljne trake
- POZ 001 — oznaka pozicije ploče
- d=50,0 cm — debljina ploče

RUB AB PLOČE

TLOCRT ZIDOVA PODRUMA (zidovi iznad ploče)

OTVOR/PROBOJ U AB PLOČI

AB OKNO

OTVOR U GORNJOJ TEMELJNOJ PLOČI

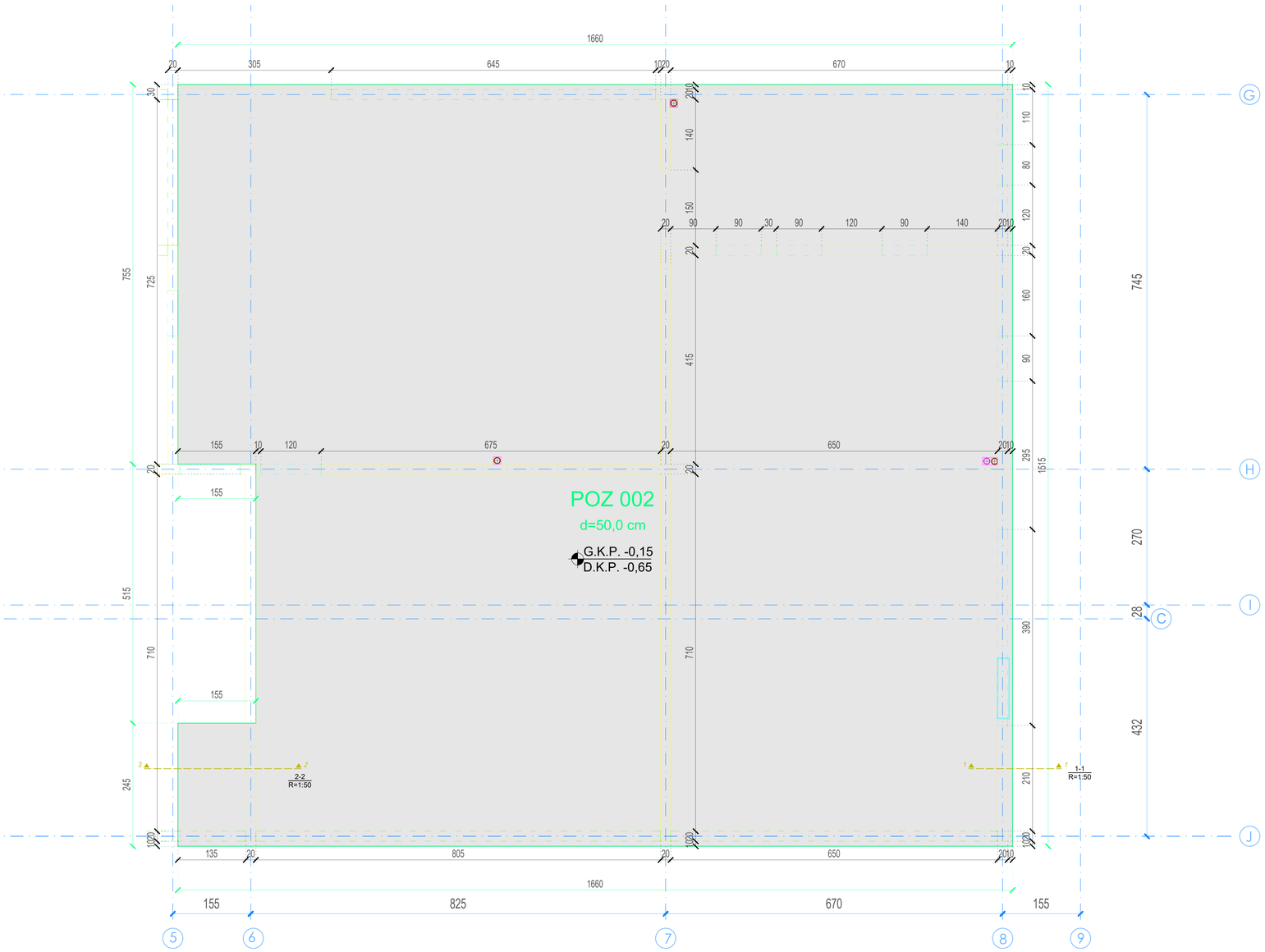
KONTURA DONJE TEMELJNE PLOČE

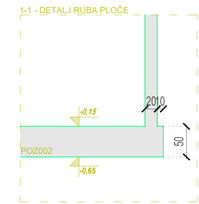
PLAN OPLATE TEMELJNE PLOČE POZ 001

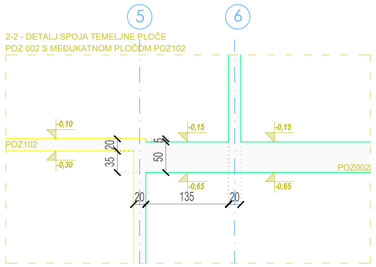
BETON: C30/37, XC2, max zrno agregata D=32 mm
ARMATURA: B500A (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRVLAKA, Ivana Pavla II 53, 23233 Prvlaka; OIB: 63233501548	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	Suradnica :	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo :	1:50		
Datum :	listopad, 2025.	Faza projekta :	IZVEDBENI PROJEKT
Oznaka projekta:	TD_21-2024	Sadržaj :	PLAN OPLATE TEMELJNE PLOČE POZ 001
		Broj lista	0.1







LEGENDA OZNAKA:

rel. ±0,00 / aps. 17,60 — relativna kota 0,00 odgovara apsolutnoj koti +17,60 m.n.v.

G.K.P. / D.K.P. — G.K.P. -kota vrha temeljne ploče; D.K.P. -kota dna temeljne ploče

POZ 002 — oznaka pozicije ploče

d=50,0 cm — debljina ploče

RUB AB PLOČE

TLOCRT ZIDOVA PRIZEMLJA (zidovi iznad ploče)

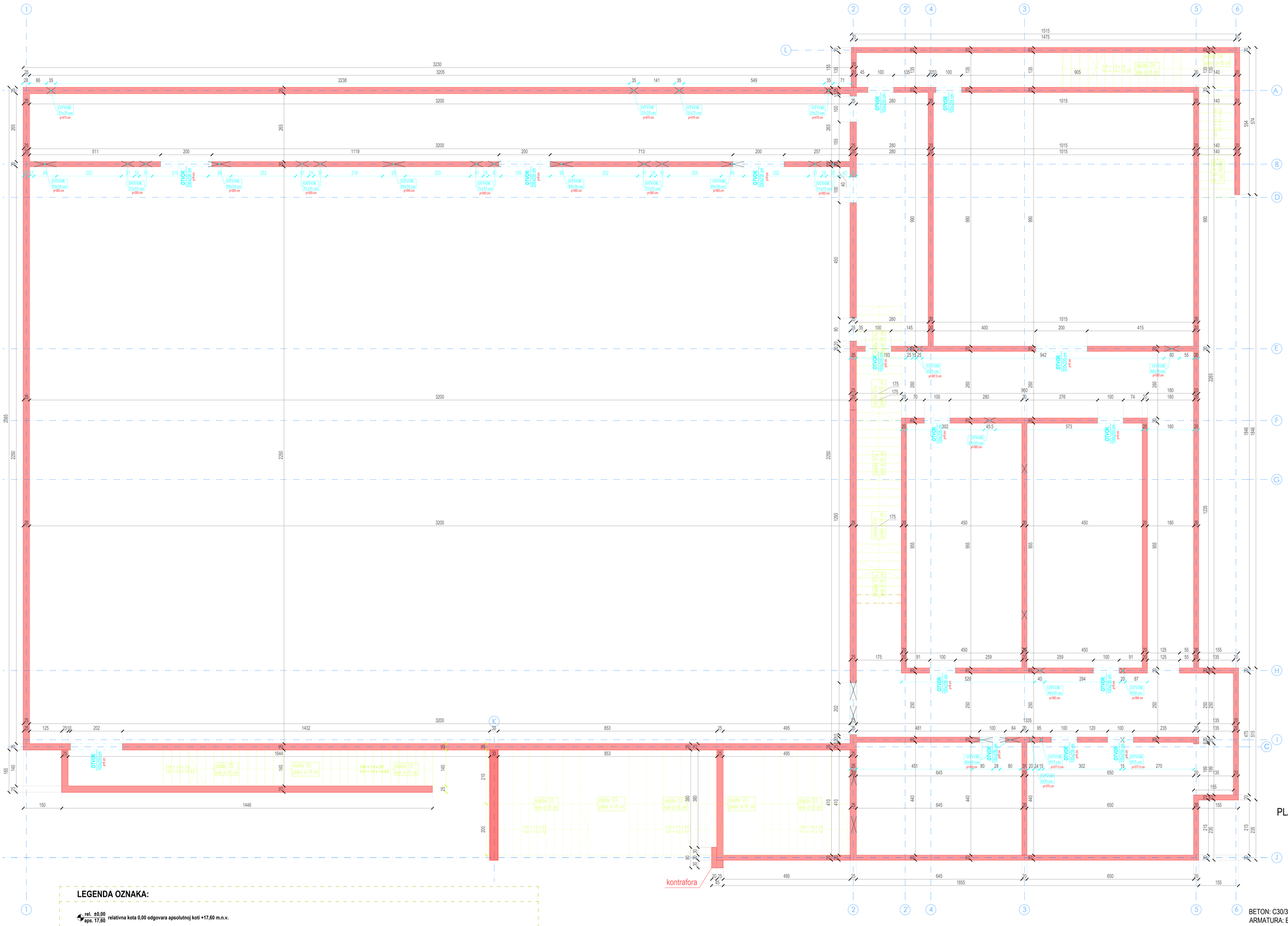
OTVOR/PROBOJ U AB PLOČI

PLAN OPLATE TEMELJNE PLOČE POZ 002

BETON: C30/37, XC2, max zrno agregata D=32 mm
ARMATURA: B500A (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	Suradnica :	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	Sadržaj : PLAN OPLATE TEMELJNE PLOČE POZ 002	Faza projekta :	IZVEDBENI PROJEKT
		Broj lista :	0.2



LEGENDA OZNAKA:

rel. ±0,00 aps. 17,60 relativna kota 0,00 odgovara apsolutnoj koti +17,60 m.n.v.

TLOCRT ZIDOVA PODRUMA

TLOCRTNA OZNAKA ZA PROBOJ U AB ZIDU
- površina otvora u tlocrtu: A x širina zida
- visina otvora: B
- visina parapeta mjereno od vrha AB ploče: p=XX

TLOCRTNA OZNAKA ZA OTVOR U AB ZIDU (vrata, prozor)
- površina otvora u tlocrtu: A x širina zida
- visina otvora: B
- visina parapeta mjereno od vrha AB ploče: p=XX

VISINSKA OZNAKA ZA PROBOJ U AB ZIDU
- duljina otvora A
- visina otvora: B

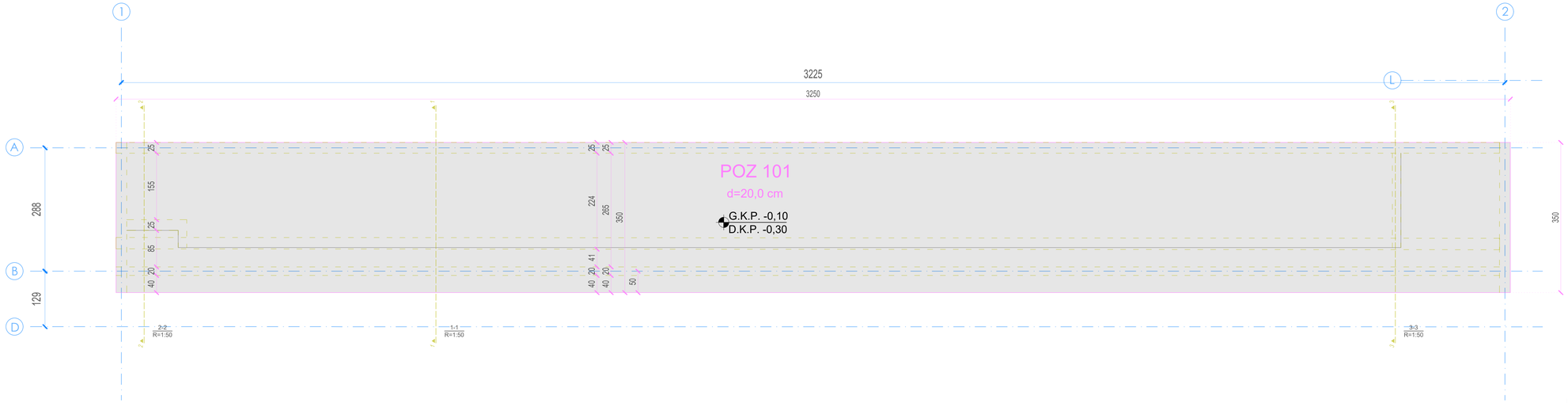
VISINSKA OZNAKA ZA OTVOR U AB ZIDU (vrata, prozor)
- duljina otvora: A
- visina otvora: B

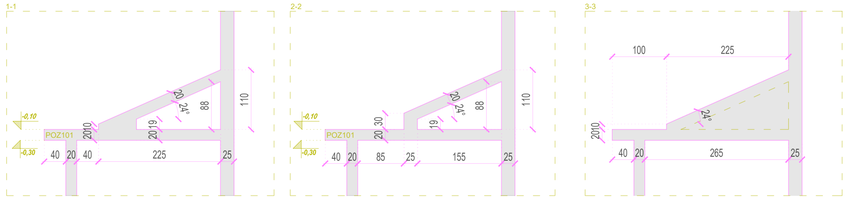
PLAN OPLATE ZIDOVA PODRUMA TLOCRT

BETON: C30/37, XC1;XC2, max zrno agregata D=32 mm
ARMATURA: B500A (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRVLAKA, Ivana Pavla II 53, 23233 Privlaka; OIB: 63233901548	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	Suradnici :	MARTINA BOUČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo :	1:50		
Datum :	listopad, 2025.	Faza projekta :	IZVEDBENI PROJEKT
Oznaka projekta:	TO_28-2025_IZV	Broj lista	0.3



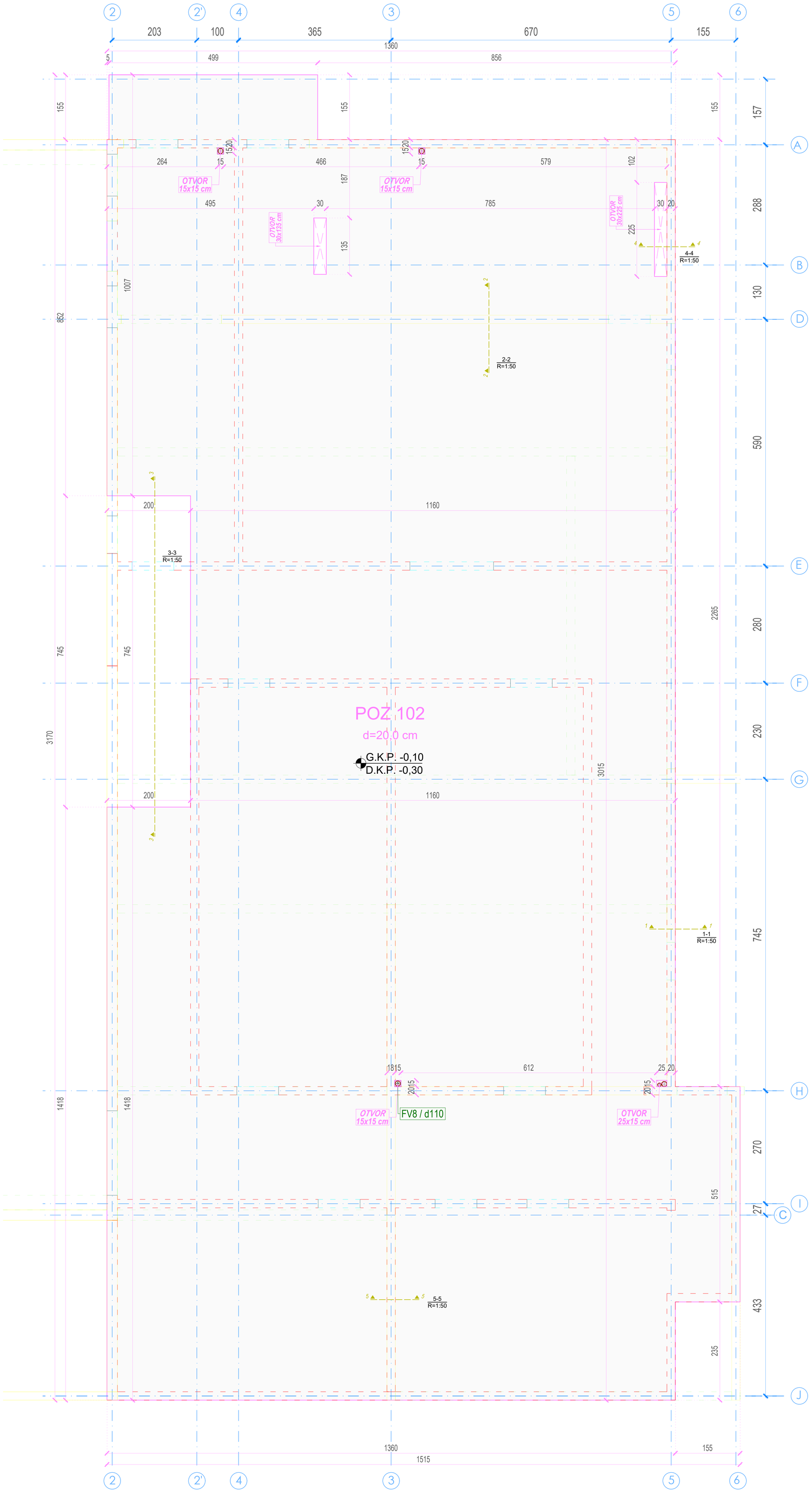


PLAN OPLATE
PLOČE IZNAD PODRUMA - POZ 101

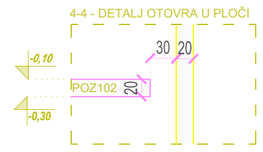
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500A (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

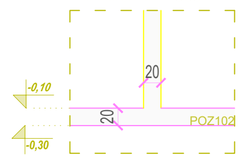
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Sadržaj :	PLAN OPLATE PLOČE IZNAD PODRUMA - POZ 101	*Faza projekta :*	IZVEDBENI PROJEKT
Mjerilo :	1:50	*Broj lista :*	0.4
Datum :	listopad, 2025.		
Oznaka projekta:	TD_21-2024		

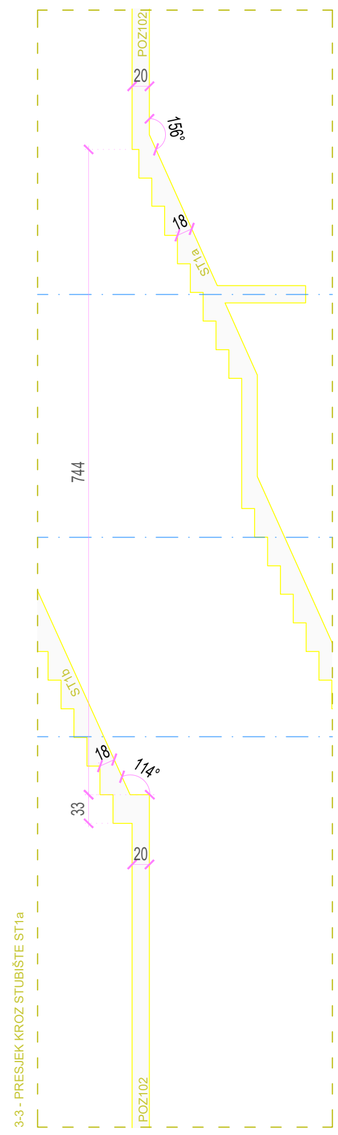


4-4 - DETALJ OTOVRA U PLOČI

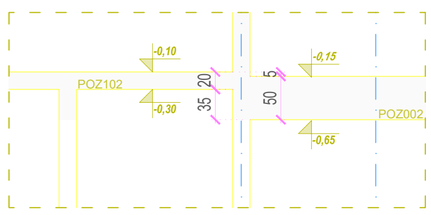


2-2 - DETALJ OSLANJANJA ZIDA PRIZEMLJA NA PLOČU

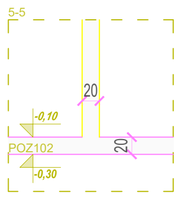




1-1 - DETALJ SPOJA TEMELJNE PLOČE POZ 002 S MEĐUKATNOM PLOČOM POZ102



5-5



PLAN OPLATE PLOČE IZNAD PODRUMA - POZ 102

LEGENDA OZNAKA:

rel. ±0,00 / aps. 17,60 — relativna kota 0,00 odgovara apsolutnoj koti +17,60 m.n.v.

G.K.P. / D.K.P. — G.K.P. -kota vrha ploče; D.K.P. -kota dna ploče

POZ 102 — oznaka pozicije ploče

d=20,0 cm — debljina ploče

OTVOR AxB cm — OTVOR/PROBOJ U AB PLOČI

RUB AB PLOČE

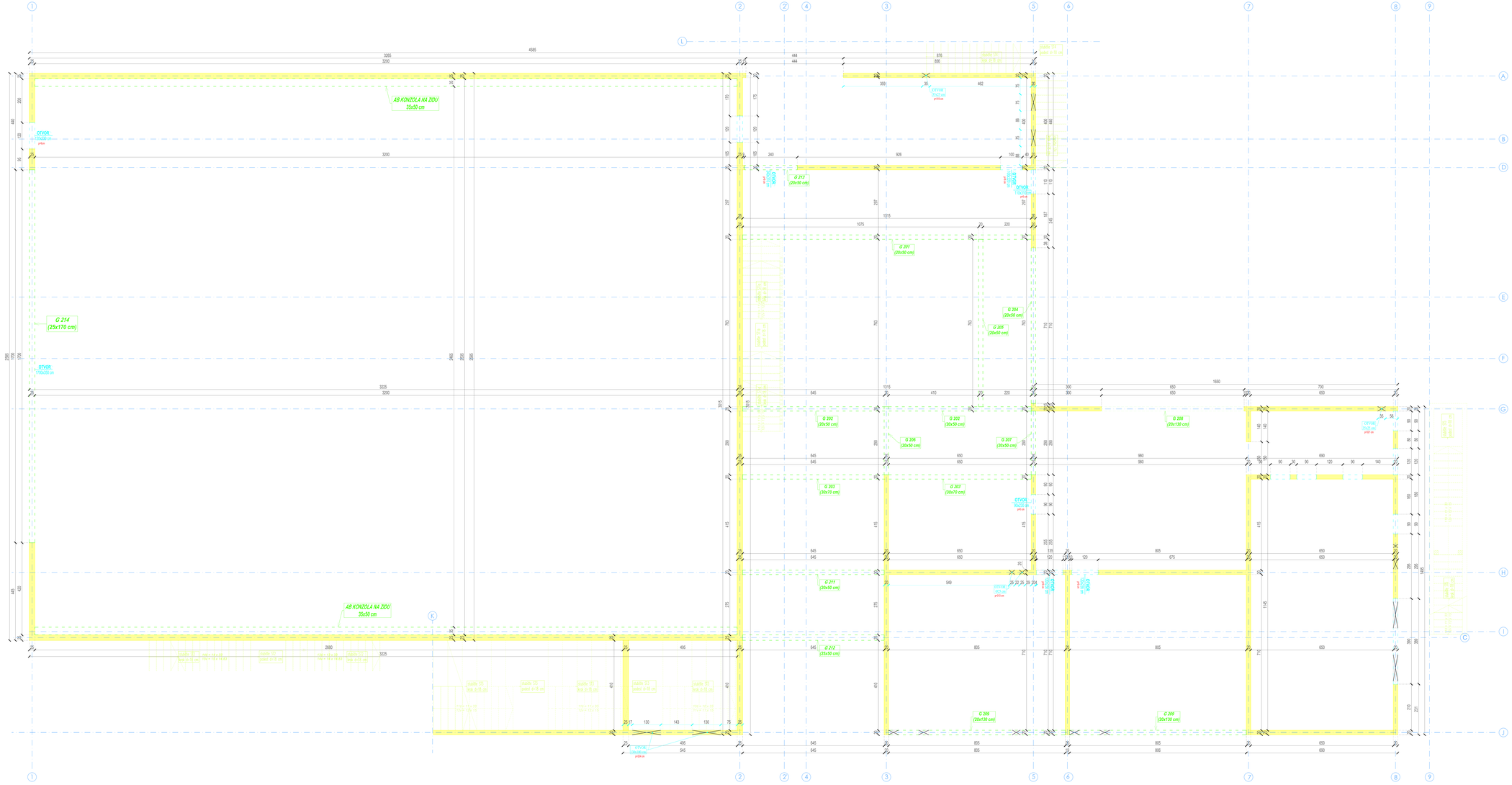
TLOCRT ZIDOVA PODRUMA (zidovi ispod ploče)

TLOCRT ZIDOVA PRIZEMLJA (zidovi iznad ploče)

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500A (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	Suradnica :	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	Sadržaj : PLAN OPLATE PLOČE IZNAD PODRUMA - POZ 102	Faza projekta :	IZVEDBENI PROJEKT — Broj lista : 0.5



LEGENDA OZNAKA:

rel. ±0,00
aps. 17,60 — relativna kota 0,00 odgovara apsolutnoj koti +17,60 m.n.v.

TLOCRT ZIDOVA PRIZEMLJA

OZNAKA ZA GREDU U TLOCRTU
- pozicija grede: G XXX
- širina grede: A
- visina grede: B

G xxx (AxB cm)

OZNAKA ZA KONZOLU U TLOCRTU
- širina konzole: A
- visina konzole: B

AB KONZOLA AxB cm

TLOCRTNA OZNAKA ZA PROBOJ U AB ZIDU
- površina otvora u tlocrtu: A x širina zida
- visina otvora: B
- visina parapeta mjereno od vrha AB ploče: p=XX

OTVOR AxB cm p=XX

TLOCRTNA OZNAKA ZA OTVOR U AB ZIDU
(vrata, prozor)
- površina otvora u tlocrtu: A x širina zida
- visina otvora: B
- visina parapeta mjereno od vrha AB ploče: p=XX

OTVOR AxB cm p=XX

VISINSKA OZNAKA ZA PROBOJ U AB ZIDU
- duljina otvora A
- visina otvora: B

OTVOR AxB cm

VISINSKA OZNAKA ZA OTVOR U AB ZIDU
(vrata, prozor)
- duljina otvora: A
- visina otvora: B

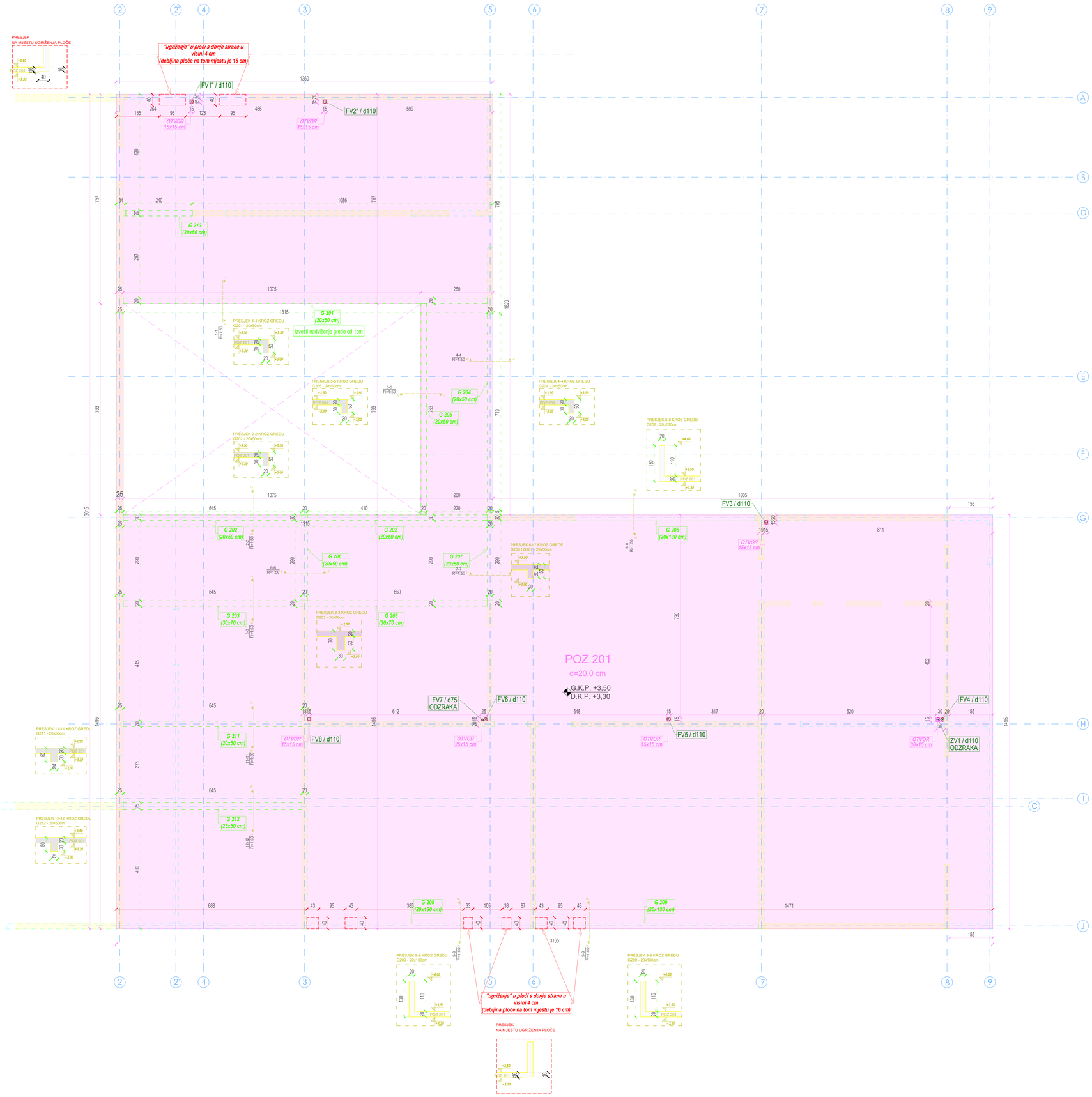
OTVOR AxB cm

PLAN OPLATE ZIDOVA PRIZEMLJA
TLOCRT

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mrežo); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište i ured: Hrvatskih vladara 13, 21000 SPLIT; Ivana Gundulića 28a/I kat, 51000 RIJEKA
OIB: 64758439539

Investitor:	OSNOVNA ŠKOLA PRILAIKA, Ivana Pavla II 53, 23333 Prilaka; OIB: 83230019149	Projektant (ime&prez) projekta:	IVO ORLANDINI mag.ing.aedif.
Građevina:	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	Suradnica:	MARTINA BIJUČIĆ mag.ing.aedif.
Lokacija:	Vc k.č. 4388, 4389, 4270, 4271 k.o. Vr (novoformirana k.č. 4270/1 k.o. Vr)		
Mjerilo: 1:50		Faza projekta:	IZVEDBENI PROJEKT
Datum:	listopad, 2023.	Sadržaj:	PLAN OPLATE ZIDOVA PRIZEMLJA - TLOCRT
Oznaka projekta:	70_21-2024		Broj lista: 0.6



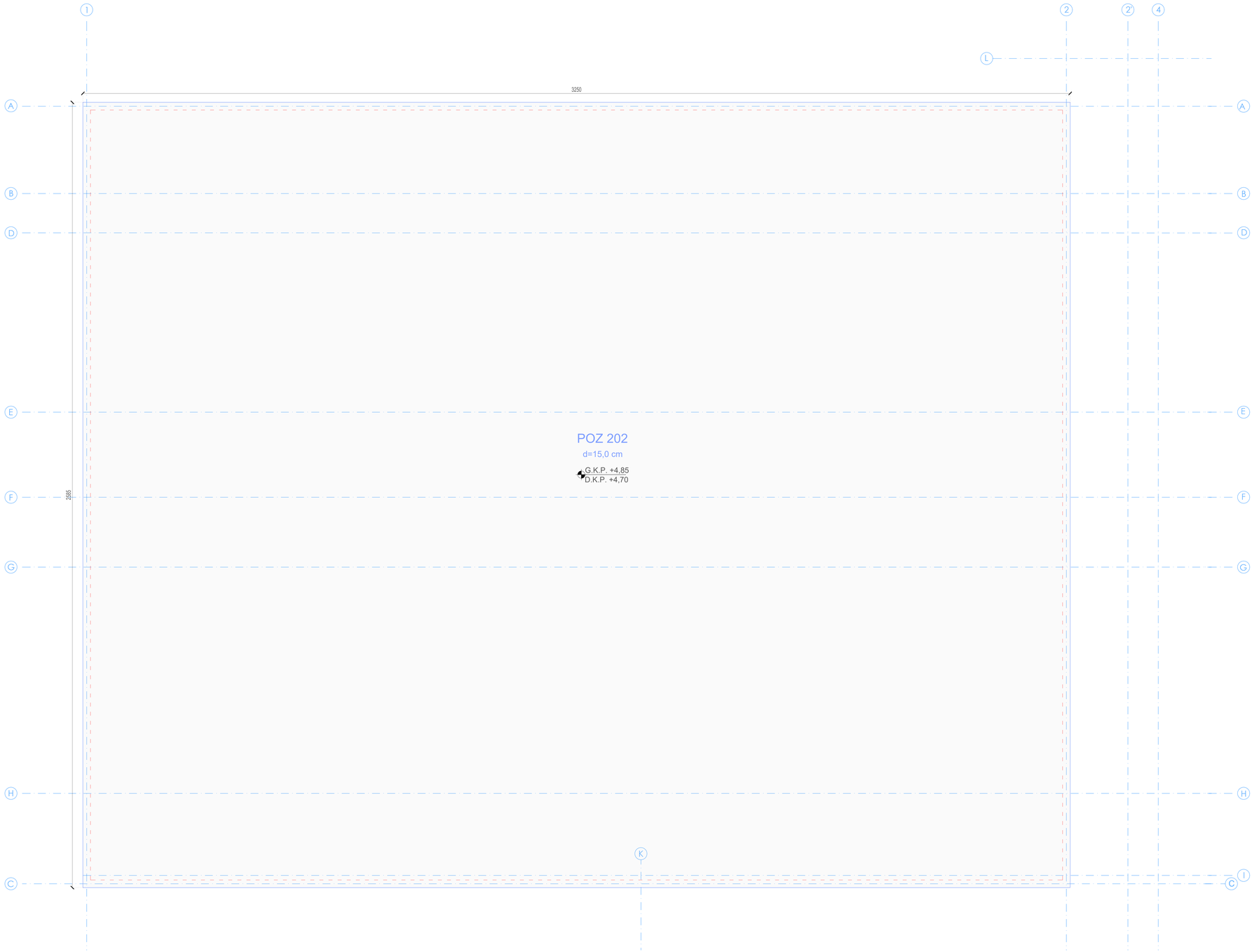
LEGENDA OZNAKA:

- rel. ±0,00 / aps. 17,60 — relativna kota 0,00 odgovara apsolutnoj koti +17,60 m.n.v.
- G.K.P. / D.K.P. — G.K.P. -kota vrha ploče; D.K.P. -kota dna ploče
- POZ 201 — oznaka pozicije ploče
- d=20,0 cm — debljina ploče
- OTVOR/PROBOJ U AB PLOČI
- OZNAKA ZA GREDU U TLOCRTU
  - pozicija grede: G XXX
  - širina grede: A
  - visina grede: B
- "Ugrižnje" u ploči s donje strane u visini 4 cm (debljina ploče na tom mjestu je 16 cm) Poprečni presjek:
- RUB AB PLOČE
- TLOCRT ZIDOVA PRIZEMLJA (zidovi ispod ploče)
- TLOCRT ZIDOVA 1.KATA (zidovi iznad ploče)
- RUB AB GREDE ISPOD PLOČE

PLAN OPLATE PLOČE (POZ201) I GREDA IZNAD PRIZEMLJA - POZ 200

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 29a/III kat; 21000 SPLIT OIB: 64758426529			
Investitor :	OSNOVNA ŠKOLA PRVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	Suradnica :	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	Sadržaj : PLAN OPLATE PLOČE (POZ201) I GREDA IZNAD PRIZEMLJA - POZ 200	Faza projekta :	IZVEDBENI PROJEKT — Broj lista: 0.7A
Oznaka projekta: TD_21-2024			



PLAN OPLATE PLOČE
POZ 202

LEGENDA OZNAKA:

rel. ±0,00 / aps. 17,60 — relativna kota 0,00 odgovara apsolutnoj koti +17,60 m.n.v.

G.K.P. / D.K.P. — G.K.P. -kota vrha ploče; D.K.P. -kota dna ploče

POZ 202 — oznaka pozicije ploče

d=15,0 cm — debljina ploče

RUB AB PLOČE

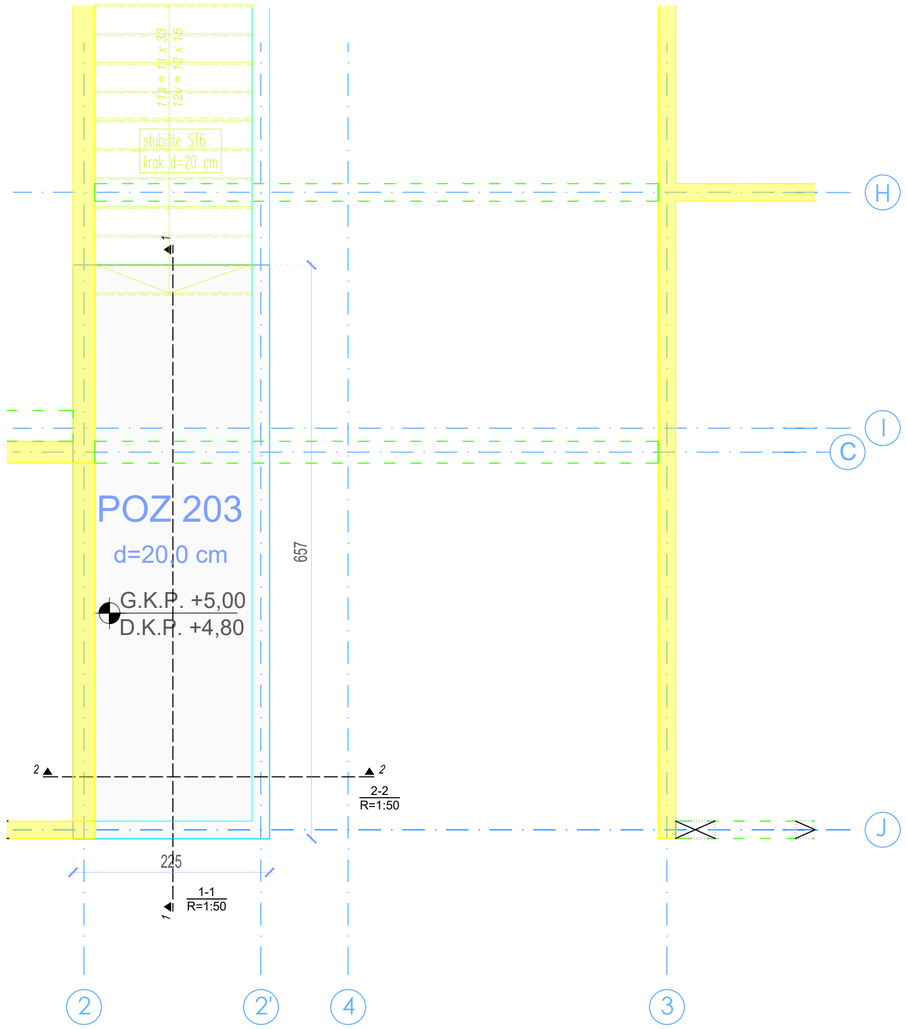
xx

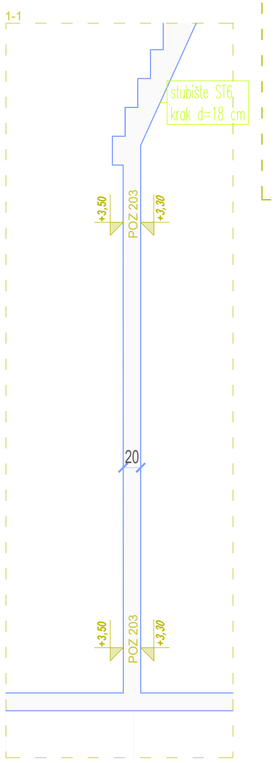
TLOCRT ZIDOVA PORUMA (zidovi ispod ploče)

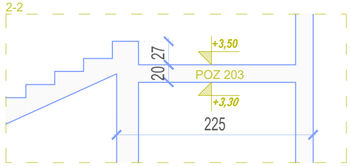
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRVLAKA, Ivana Pavla II 53, 23233 Privlaka; OIB: 63233001548	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	Suradnica :	MARTINA BOUČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	Sadržaj : PLAN OPLATE PLOČE POZ 202	Faza projekta :	IZVEDBENI PROJEKT
		Broj lista	0.7B







LEGENDA OZNAKA:

rel. ±0,00 / aps. 17,60 — relativna kota 0,00 odgovara apsolutnoj koti +17,60 m.n.v.

G.K.P. / D.K.P. — G.K.P. -kota vrha ploče; D.K.P. -kota dna ploče

POZ 203 — oznaka pozicije ploče

d=20,0 cm — debljina ploče

XX — RUB AB PLOČE

TLOCRT ZIDOVA PRIZEMLJA (zidovi ispod ploče)

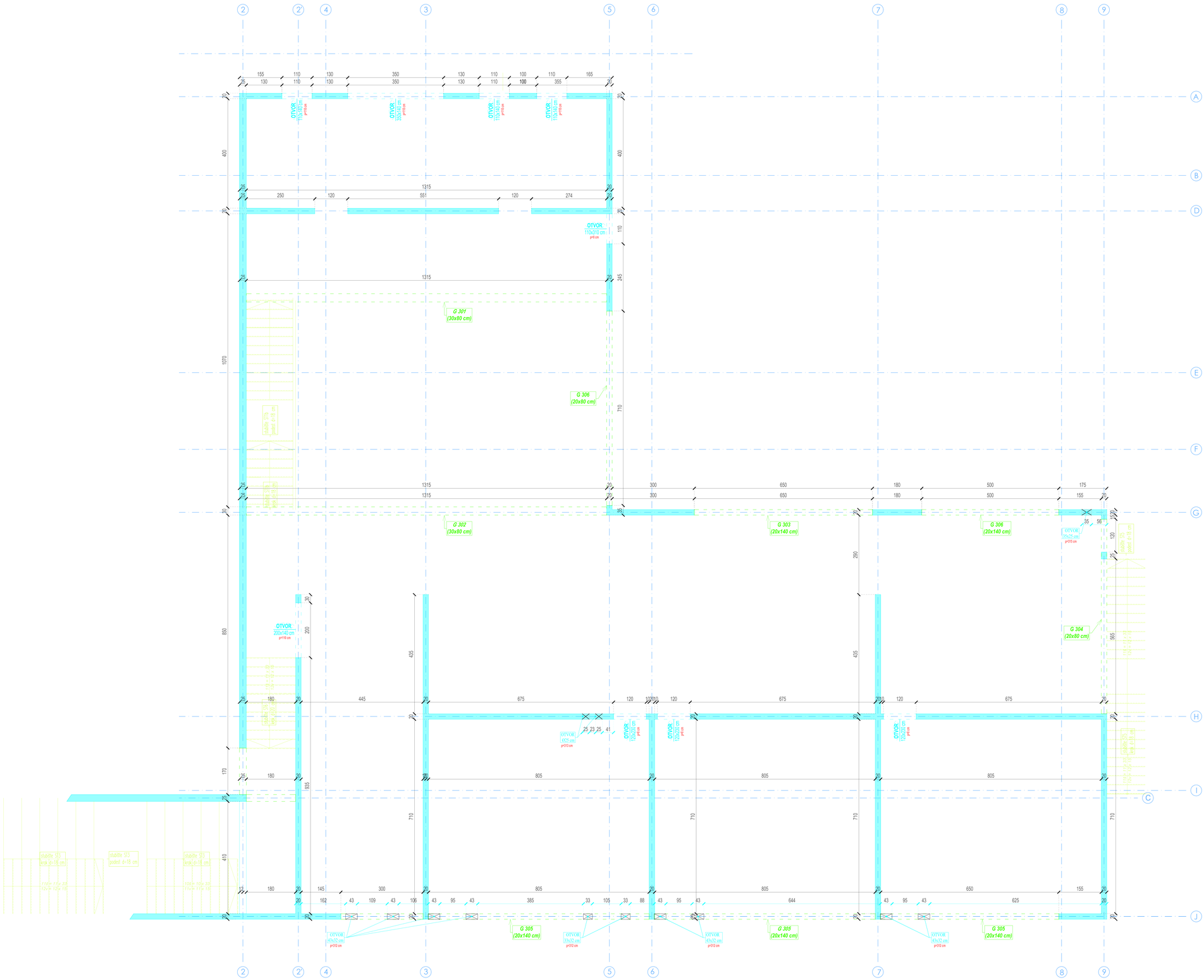
TLOCRT ZIDOVA 1.KATA

PLANO OPLATE PLOČE POZ 203

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	*Sadržaj :* PLAN OPLATE PLOČE POZ 203	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 0.7C

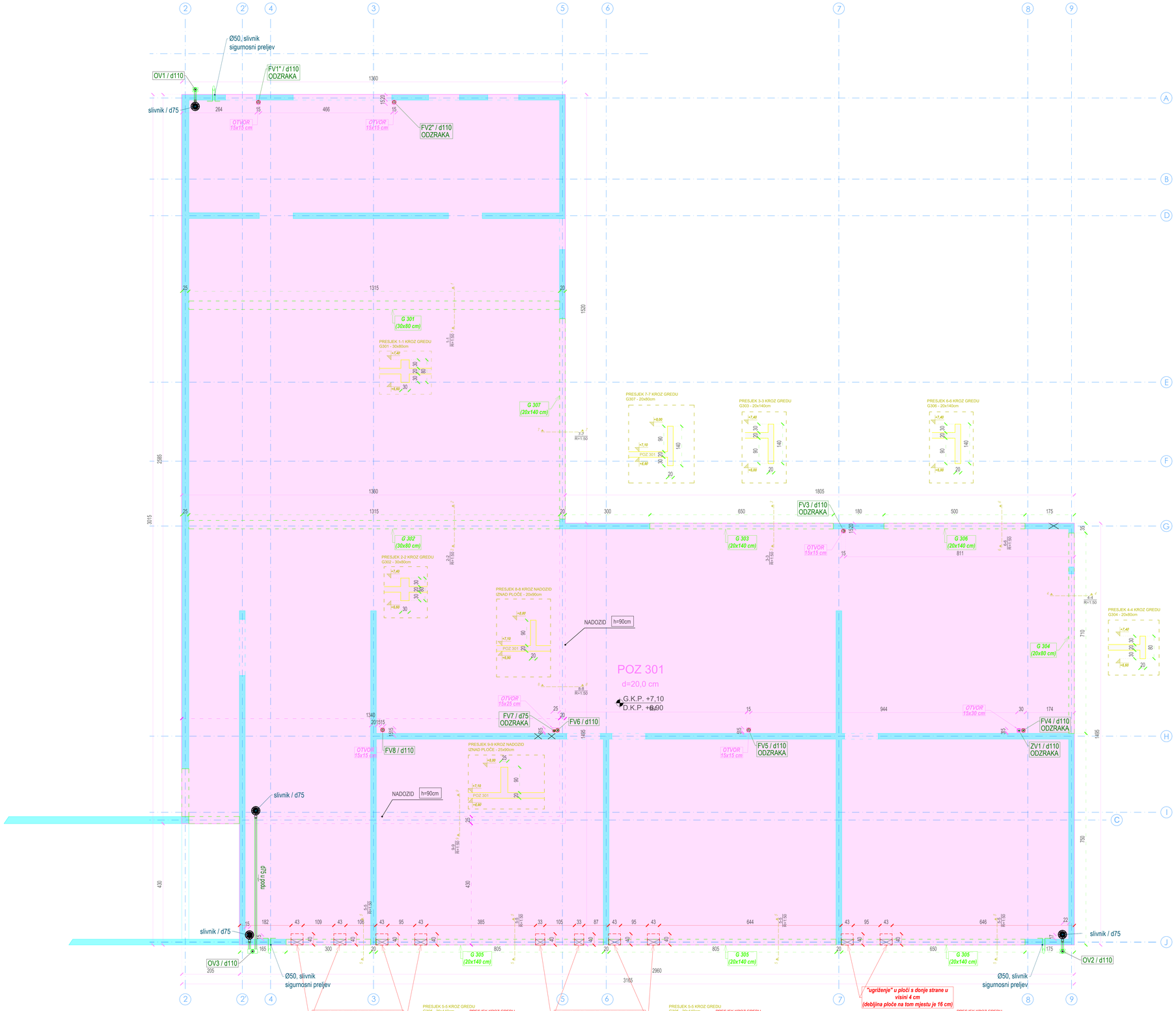


PLAN OPLATE ZIDOVA 1. KATA
TLOCRT

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63203301548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* PLAN OPLATE ZIDOVA 1. KATA - TLOCRT	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_21-2024			*Broj lista* 9.8



LEGENDA OZNAKA:

- rel. ±0,00 / aps. 17,60 — relativna kota 0,00 odgovara apsolutnoj koti +17,60 m.n.v.
- G.K.P. — kota vrha ploče
- D.K.P. — kota dna ploče
- POZ 301 — oznaka pozicije ploče
- d=20,0 cm — debljina ploče

OTVOR/PROBOJ U AB PLOČI

"Ugriženje" u ploči s donje strane u visini 4 cm (debljina ploče na tom mjestu je 16 cm)
Poprečni presjek:

OZNAKA ZA GREDU U TLOCRTU
- pozicija grede: G XXX
- širina grede: A
- visina grede: B

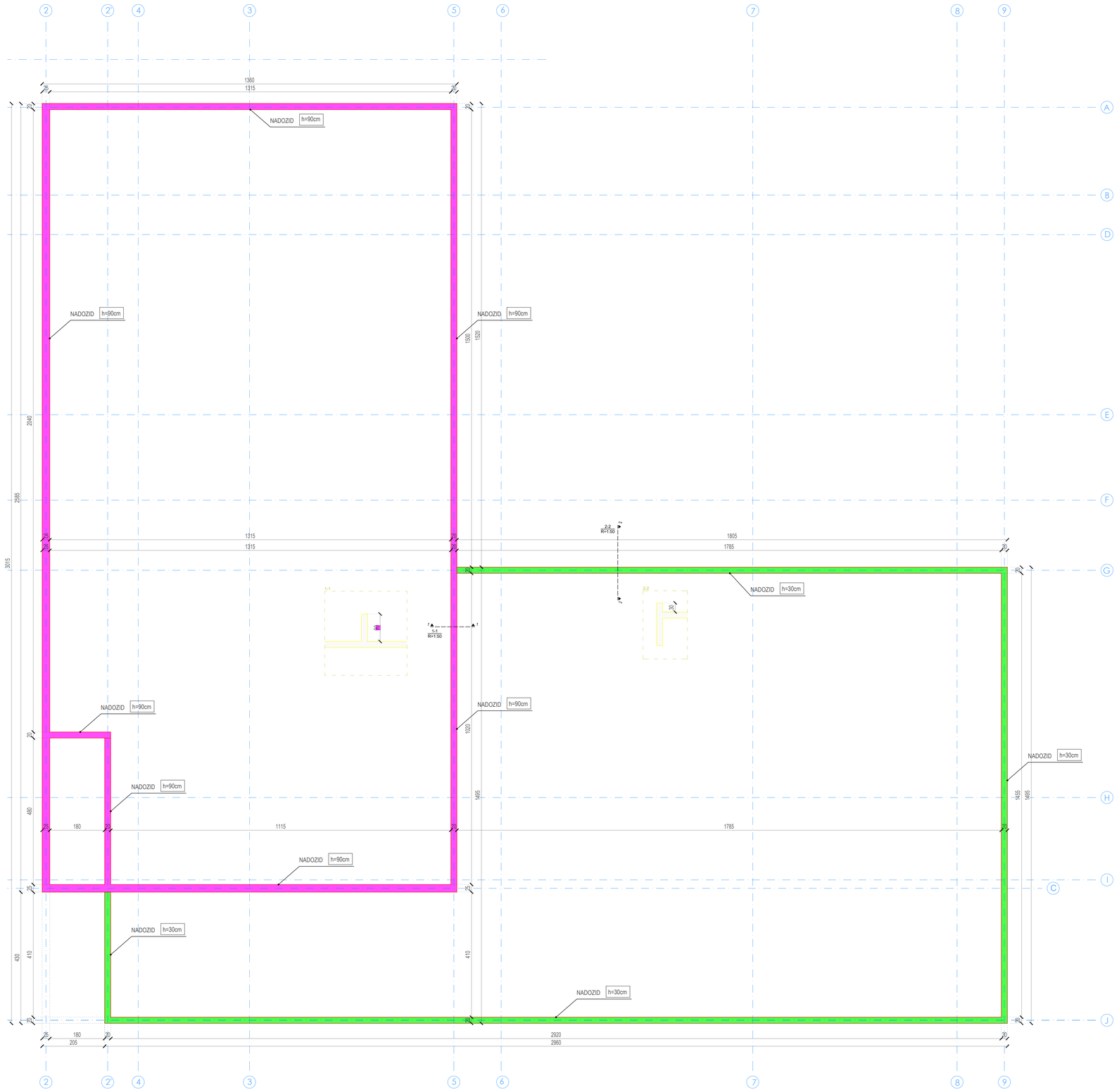
- RUB AB PLOČE
- RUB AB GREDE ISPOD PLOČE
- RUB AB NADOZIDA IZNAD PLOČE
- TLOCRT ZIDOVA 1.KATA (zidovi ispod ploče)

PLAN OPLATE PLOČE I GREDA IZNAD 1. KATA (POZ 300)

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRVLAKA, Ivana Pavla II 53, 23233 Prvlaka; OIB: 63233001548	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	Suradnica :	MARTINA BOUČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	Sadržaj : PLAN OPLATE PLOČE I GREDA IZNAD 1. KATA (POZ 300)	Faza projekta :	IZVEDBENI PROJEKT
Oznaka projekta: TD_21-2024			Broj lista: 0.9



LEGENDA OZNAKA:

rel. ±0,00 / aps. 17,60 — relativna kota 0,00 odgovara apsolutnoj koti +17,60 m.n.v.

AB NADOZID VISINE 90 CM

xx NADOZID h=90cm

AB NADOZID VISINE 30 CM

xx NADOZID h=30cm

PLAN OPLATE NADOZIDA

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

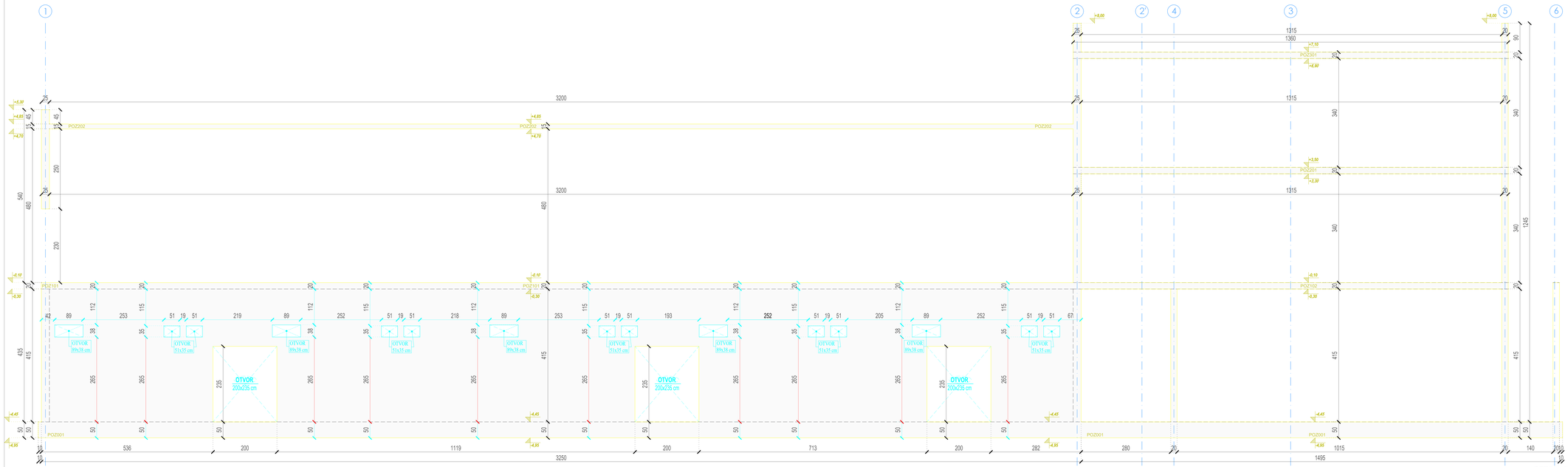
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT
Ured: Ivana Gundulića 25a/III kat, 21000 SPLIT
OIB: 64755426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233301548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.		*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_21-2024	*Sadržaj :* PLAN OPLATE NADOZIDA		*Broj lista* 0.10

ZID U OSI A



ZID U OSI B



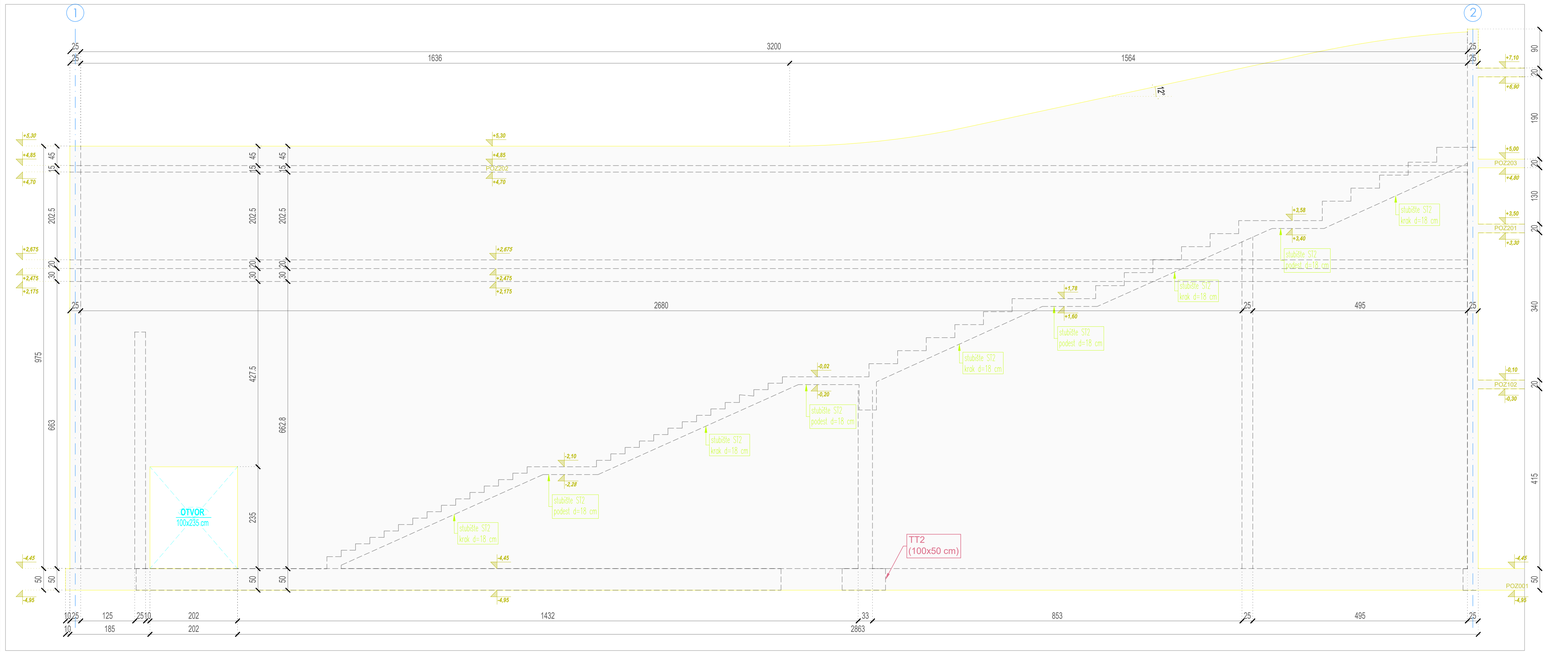
PLAN OPLATE ZIDOVA U OSI A I B

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

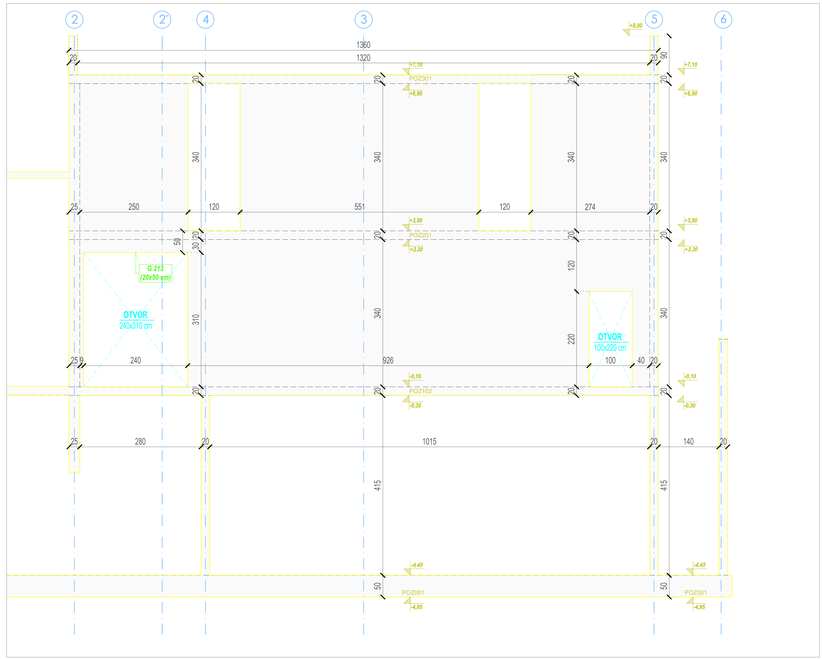
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih svjetionika 13, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Mjerilo : 1:50	Investitor :	OSNOVNA ŠKOLA PRIVLAKA, Ivana Pavla II 53, 23233 Privlaka; OIB: 63033501548	Projektant izvedbenog projekta : IVO ORLANDINI mag.ing.aedif.
Datum : listopad, 2025.	Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	
Oznaka projekta: TD_212024	Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	Suradnica : MARTINA BOJČIĆ mag.ing.aedif.
	Sadržaj :	PLAN OPLATE ZIDOVA U OSI A I B	Faza projekta : IZVEDBENI PROJEKT — Broj lista : 0.11A

ZID U OSI C



ZID U OSI D



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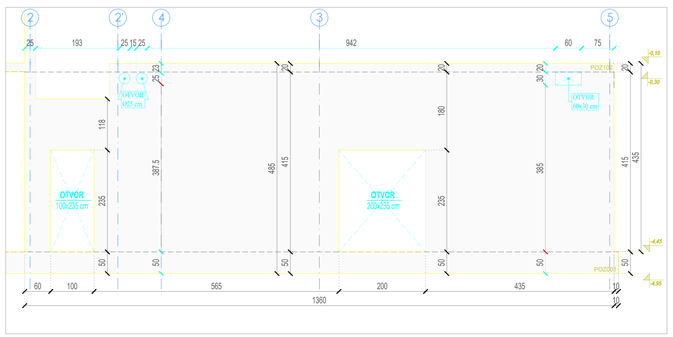
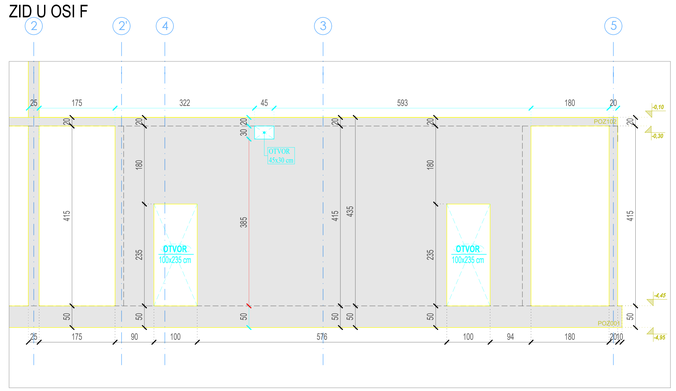
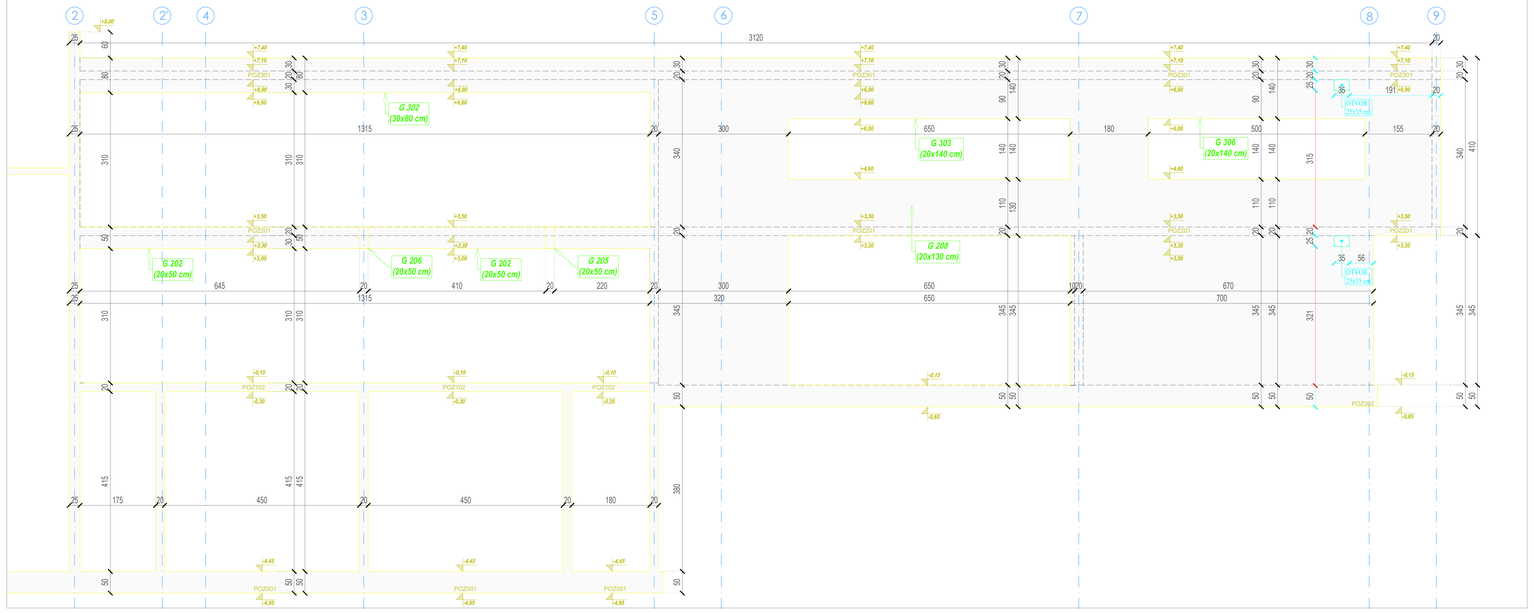


ZID U OSI F



ZID U OSI G



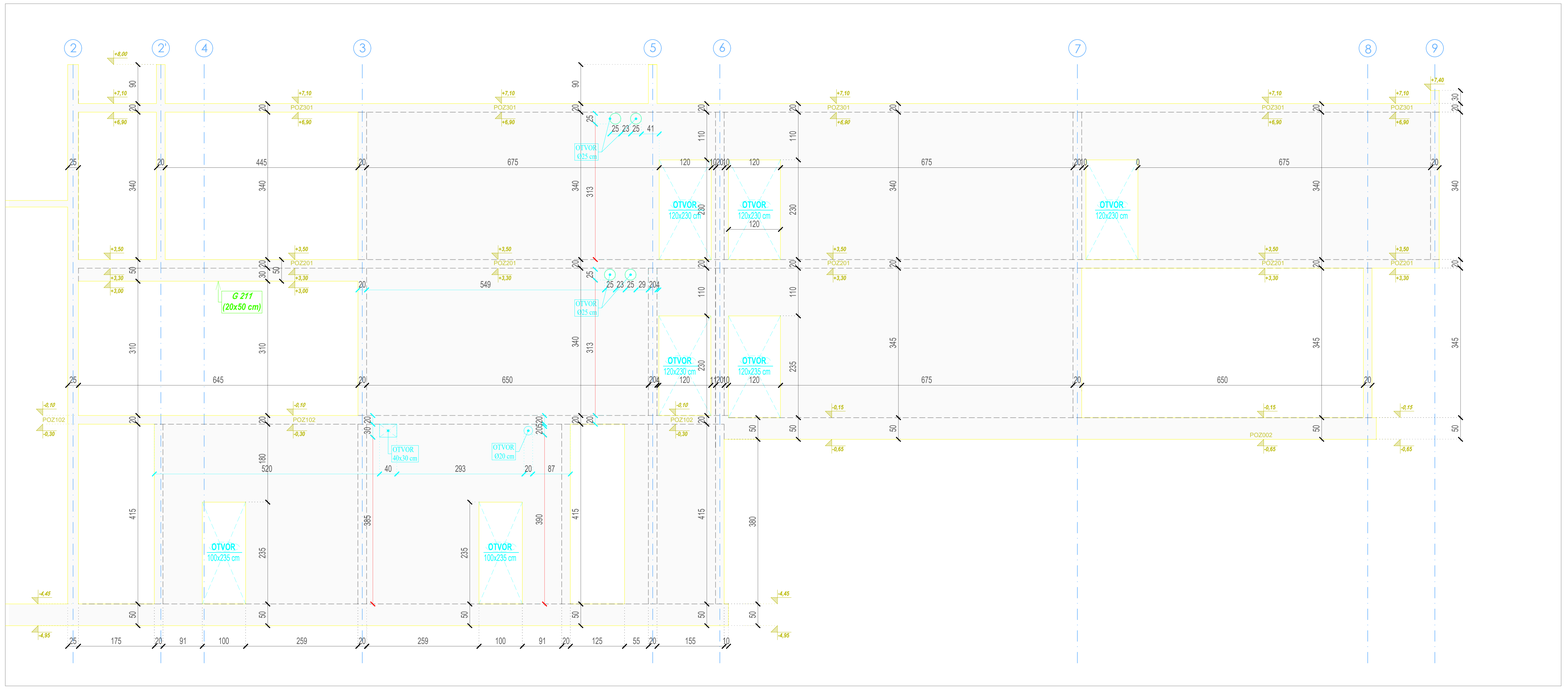
PLAN OPLATE ZIDOVA U OSIMA
C, D, E, F, G

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

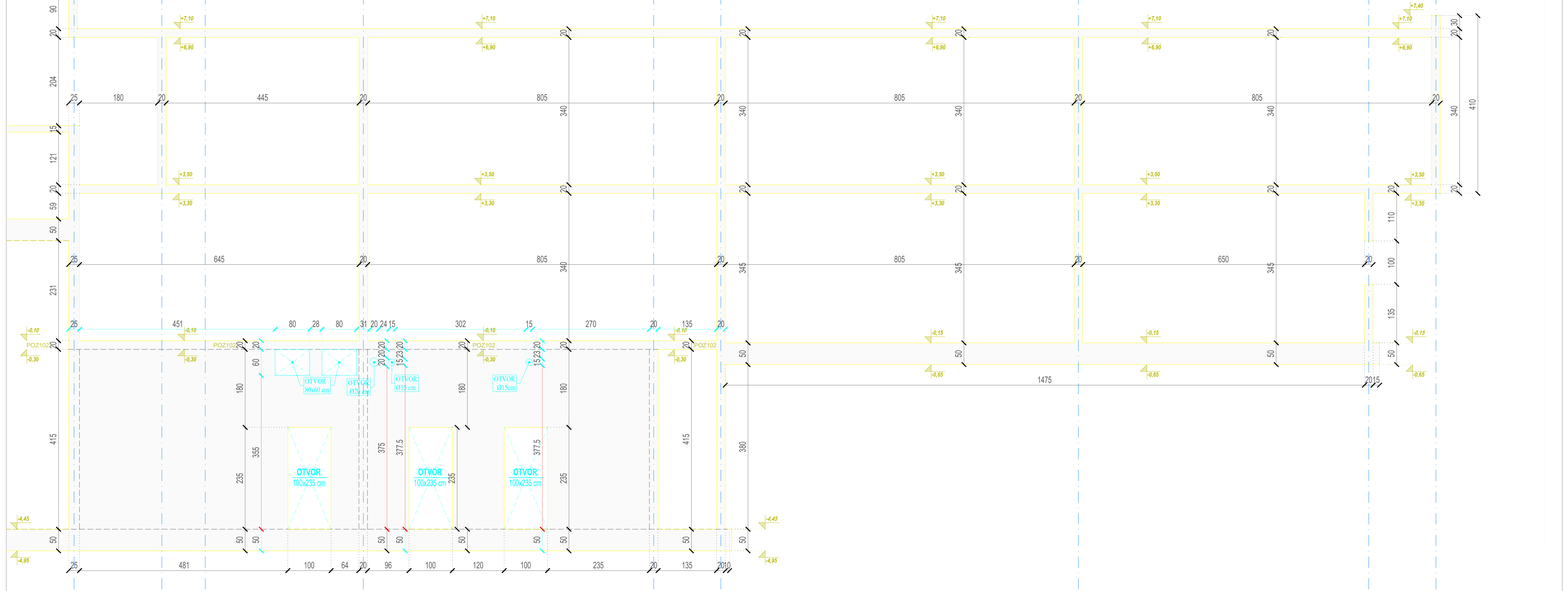
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih sudionika 13, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo :	1:50		
Datum :	listopad, 2025.	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta:	TD_21-2024	*Sadržaj :*	PLAN OPLATE ZIDOVA U OSIMA C, D, E, F, G
		Broj lista	0.11B

ZID U OSI H



ZID U OSI I



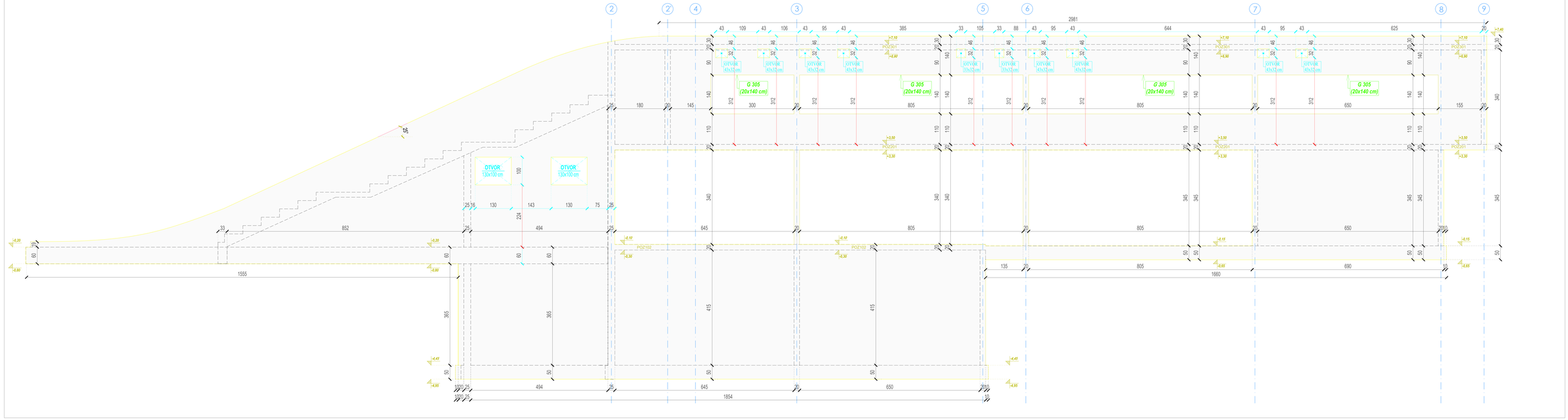
PLAN OPLATE ZIDOVA U OSIMA
H, I

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

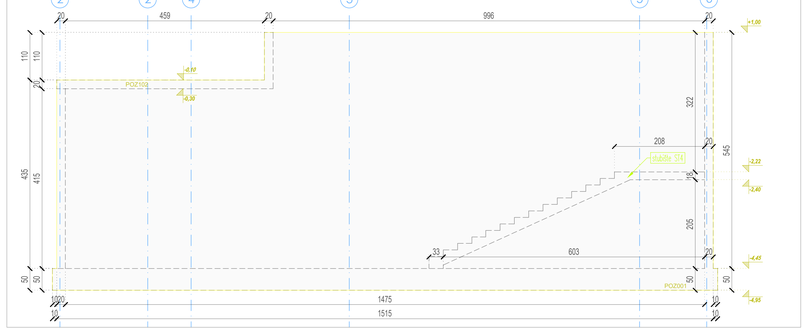
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih sedmina 13, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRVLAKA; Ivana Pavla II 53, 23233 Prvlaka; OIB: 63203001548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* PLAN OPLATE ZIDOVA U OSIMA H, I	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_21-2024		*Broj lista :*	0.11C

ZID U OSI J



POGLED NA ZID U OSI L

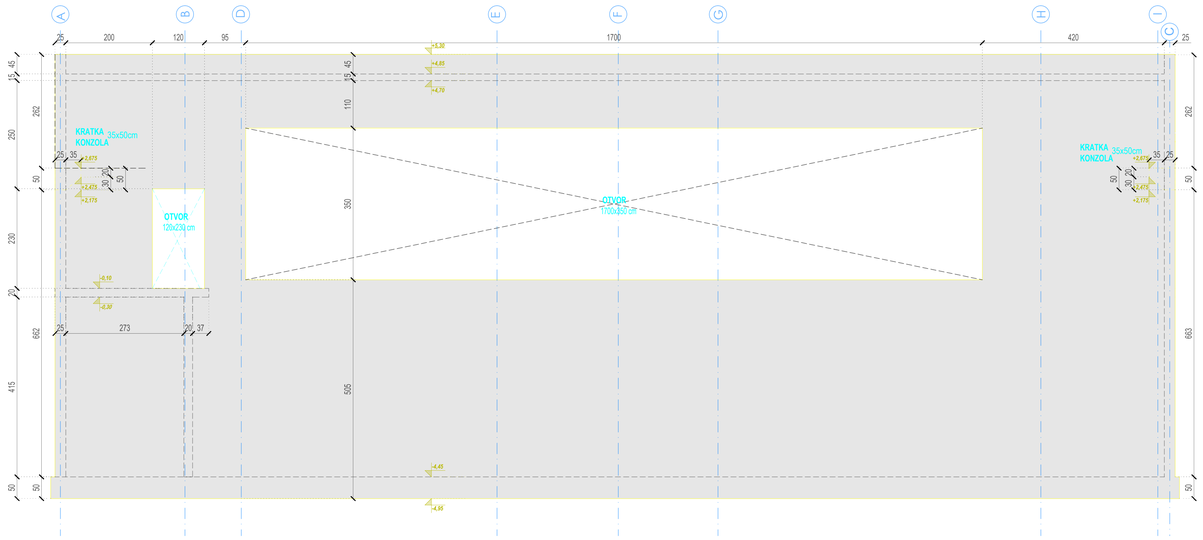


PLAN OPLATE ZIDOVA U OSIMA
J, L

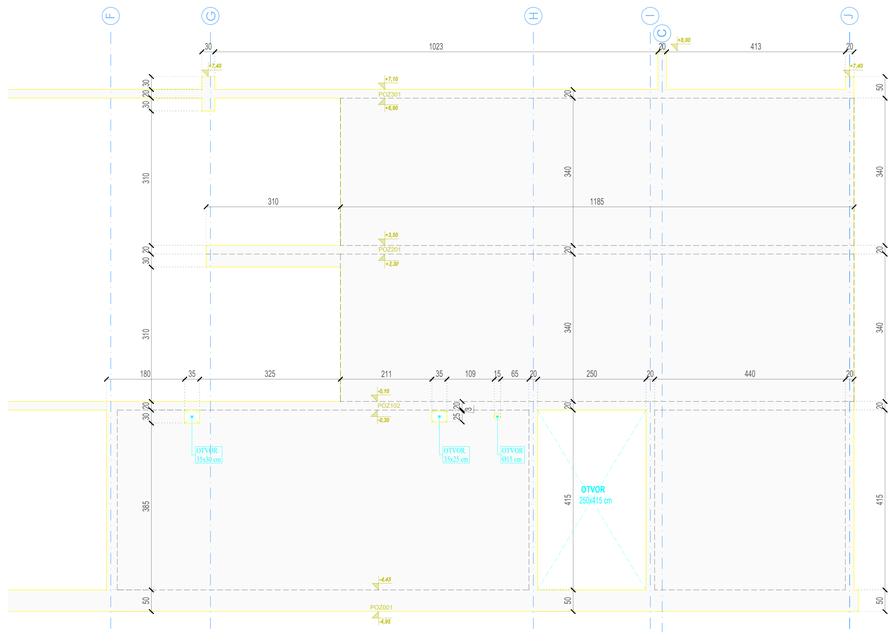
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT OIB: 64758426529			
Investitor :	OSNOVNA ŠKOLA PRIVLAKA, Ivana Pavla II 53, 23233 Privlaka; OIB: 63233001548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnica :*	MARTINA BOUČIĆ mag.ing.aedif.
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* PLAN OPLATE ZIDOVA U OSIMA J, L	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_21-2024		*Broj lista*	0.11D

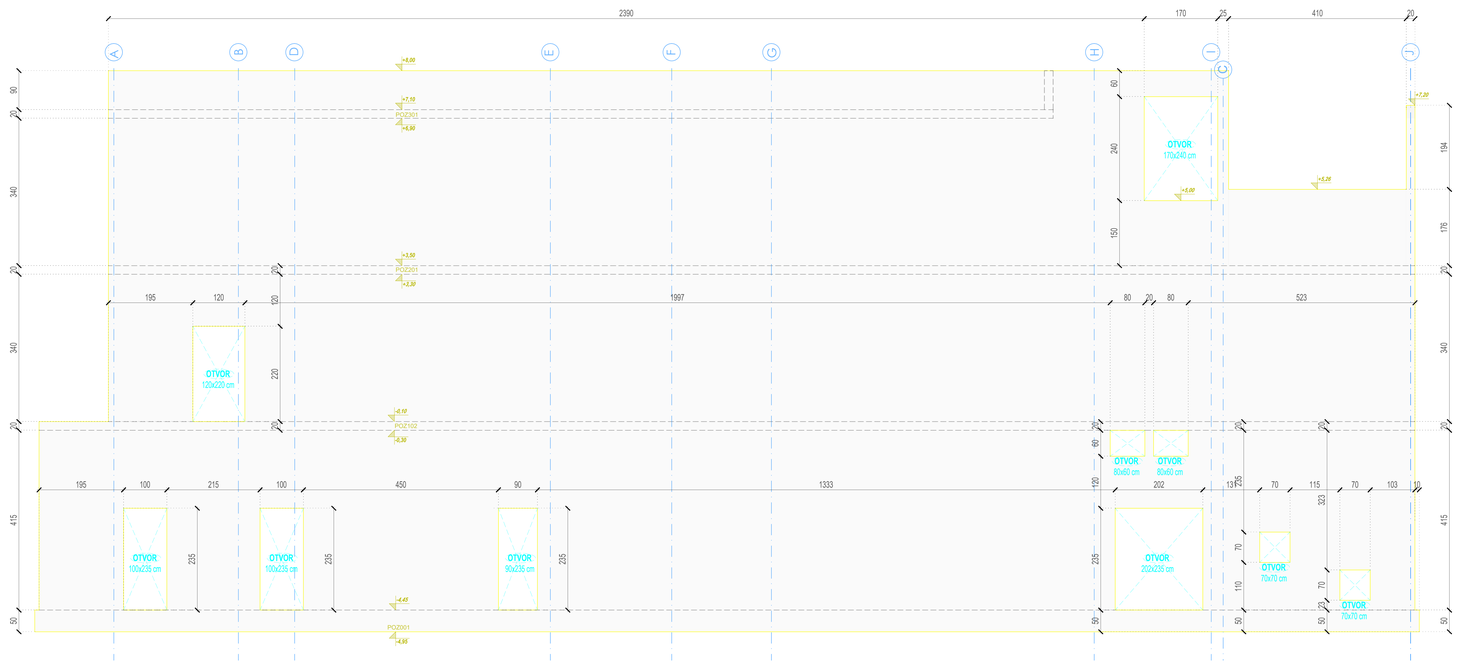
ZID U OSI 1



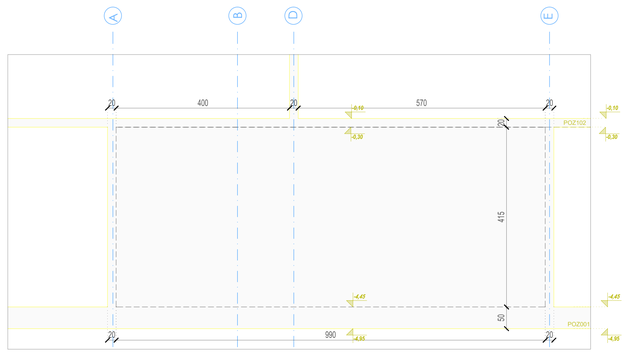
ZID U OSI 3



ZID U OSI 2



ZID U OSI 4

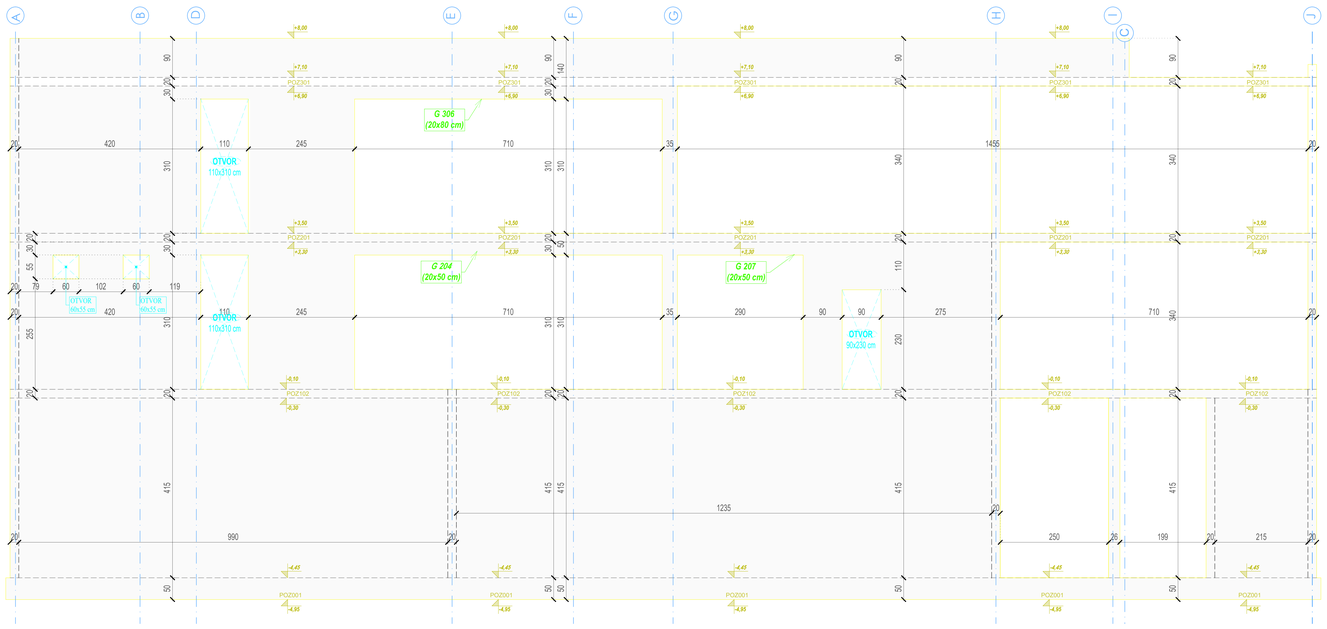


PLAN OPLATE ZIDOVA U OSIMA
1, 2, 3, 4

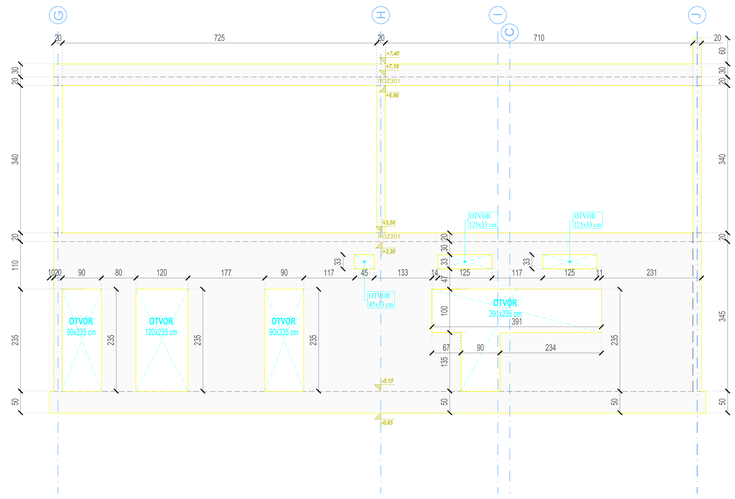
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT			
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 25a/III kat, 21000 SPLIT		**OIB: 64750426529**	
Investitor :	OSNOVNA ŠKOLA PRVLAKA, Ivana Pavla II 53, 23233 Privlaka, OIB: 63233001548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOUČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	*Sadržaj :* PLAN OPLATE ZIDOVA U OSIMA 1, 2, 3, 4	*Faza projekta :*	IZVEDBENI PROJEKT
		Broj lista	0.11E

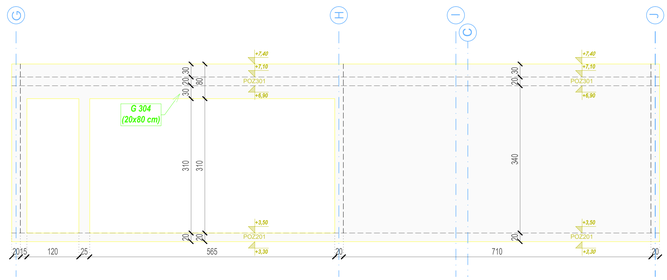
ZID U OSI 5



ZID U OSI 8



ZID U OSI 9



ZID U OSI 7

ZID U OSI 2'

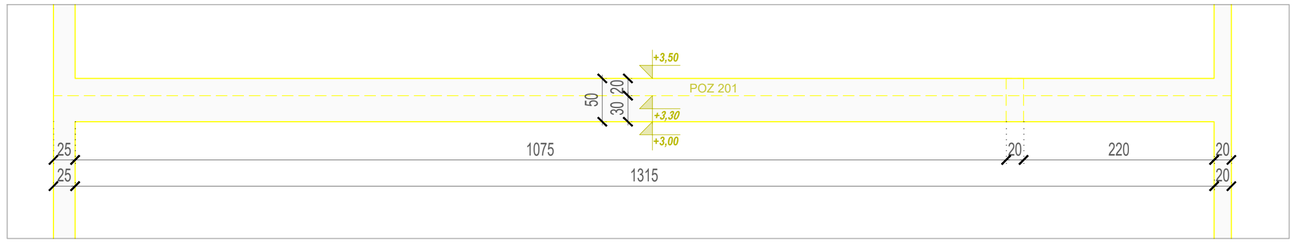
PLAN OPLATE ZIDOVA U OSIMA
5, 7, 8, 9, 2'

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

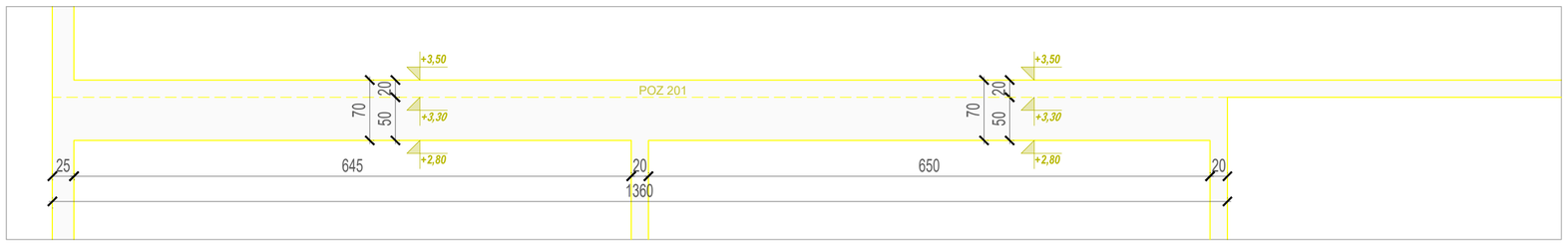
Investitor :	OSNOVNA ŠKOLA PRVLAKA; Ivana Pavla II 53, 23233 Prvlaka; OIB: 63203801548	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	Suradnica :	MARTINA BOJČIĆ mag.ing.aedif.
Sadržaj :	PLAN OPLATE ZIDOVA U OSIMA 5, 7, 8, 9, 2'	Faza projekta :	IZVEDBENI PROJEKT
Mjerilo : 1:50		Broj lista :	0.11F
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024			

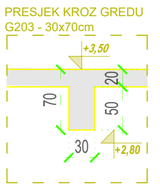
POGLED NA GREDU G201 20x50cm



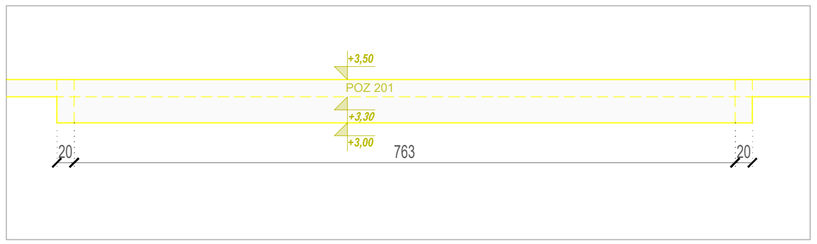


POGLED NA GREDU G203 30x70cm





POGLED NA GREDU G205 20x50cm



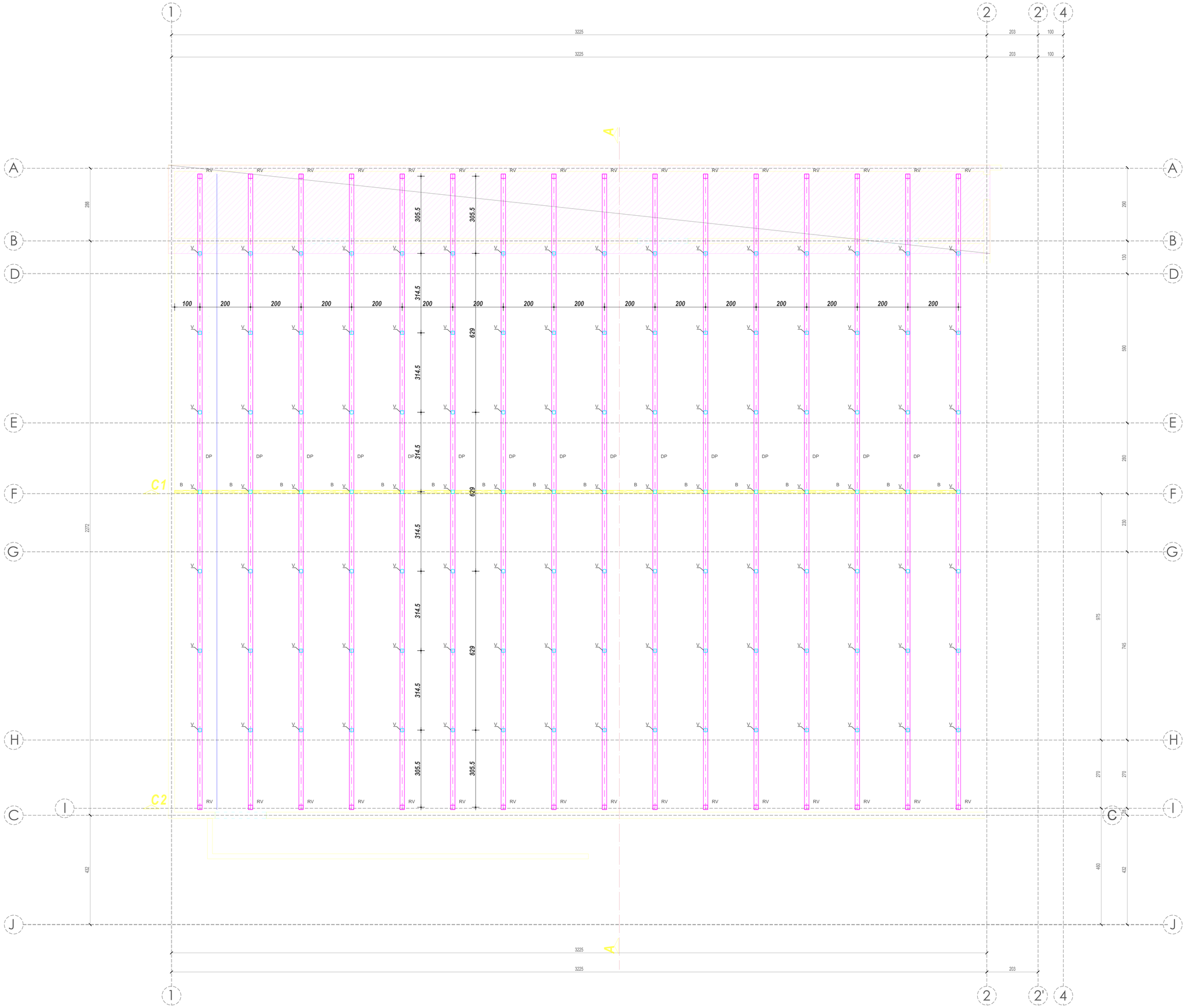


PLAN OPLATE GREDA G201, 203 i 205

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	*Sadržaj :* PLAN OPLATE GREDA G201, G203 i G205	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 0.12



LEGENDA:

B	□	HSS SHS 100x100x5
DP, RV	□	HSS RHS 180x180x8
K,V	□	HSS SHS 140x140x8
GP	I	HEA 240

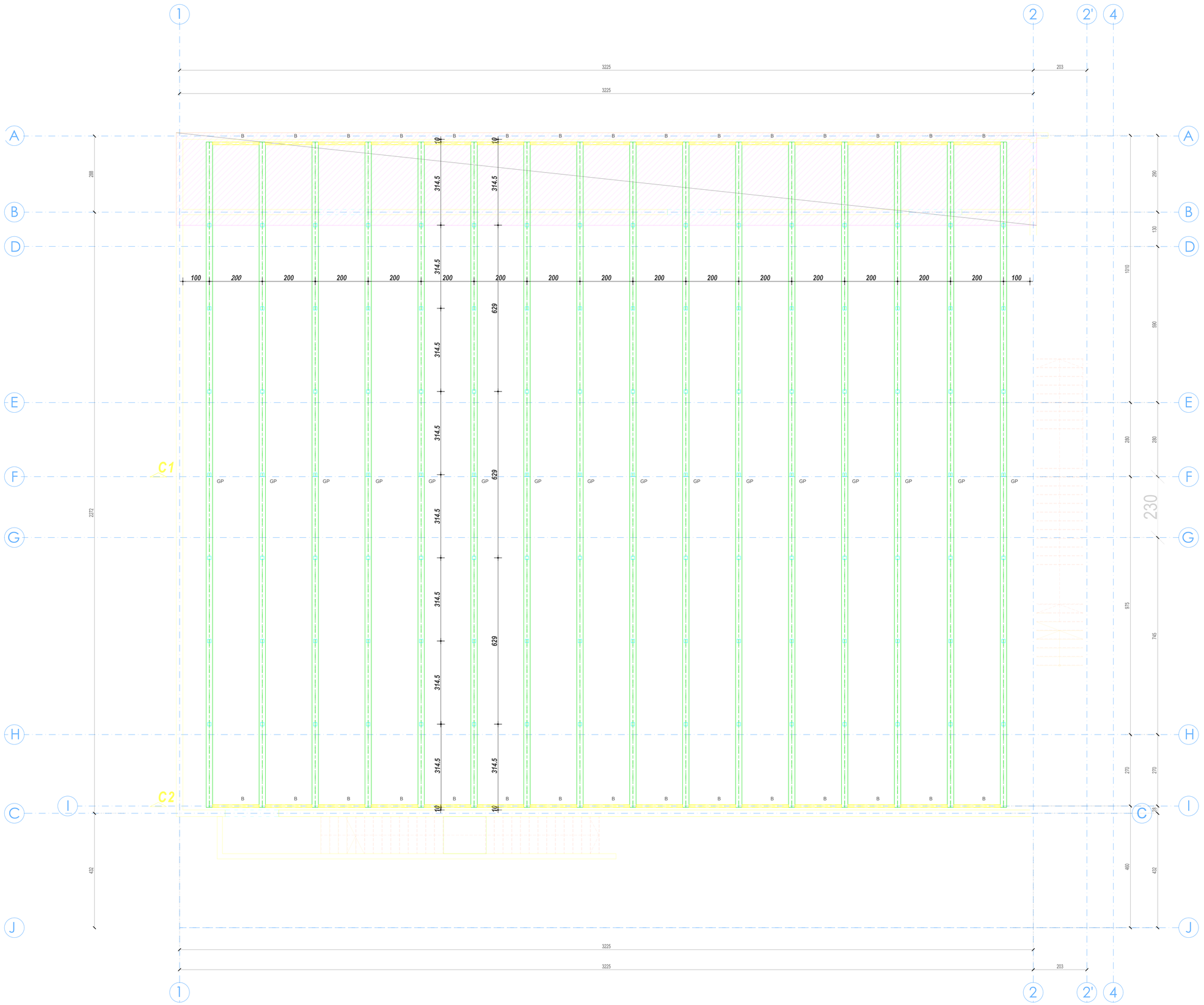
ČELIK:
S355JR

Opće napomene:
-Svi elementi od čelika S355JR
-Svi elementi moraju se izvoditi prema HRN EN 1090-2
-Klasa izvedbe: EXC3
-Visinske kote i dimenzije kontrolirati na licu mjesta
-Zaštititi konstrukciju od korozije pocinčavanjem

PLAN POZICIJA ČELIČNE REŠETKE -
TLOCRT ELEMENATA U RAZINI DONJE POJASNICE

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 15, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64755426529

Investitor :	OSNOVNA ŠKOLA PRVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vr, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Sadržaj :	PLAN POZICIJA ČELIČNE REŠETKE - TLOCRT ELEMENATA U RAZINI DONJE POJASNICE	*Faza projekta :*	IZVEDBENI PROJEKT
Mjerilo :	1:50	*Broj lista :*	0.13a
Datum :	listopad, 2025.		
Oznaka projekta:	TD-21-2024		



LEGENDA:

B		HSS SHS 100x100x5
DP, RV		HSS RHS 180x180x8
K,V		HSS SHS 140x140x8
GP		HEA 240

ČELIK:
S355JR

Opće napomene:
-Svi elementi od čelika S355JR
-Svi elementi moraju se izvoditi prema HRN EN 1090-2
-Klasa izvedbe: EXC3
-Visinske kote i dimenzije kontrolirati na licu mjesta
-Zaštititi konstrukciju od korozije pocinčavanjem

PLAN POZICIJA ČELIČNE REŠETKE -
TLOCRT ELEMENATA U RAZINI GORNJE POJASNICE

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT
Ured: Ivana Gundulića 28a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRVLAKA; Ivana Pavla II 53, 23233 Prvlaka; OIB: 63333501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Sadržaj :	PLAN POZICIJA ČELIČNE REŠETKE - TLOCRT ELEMENATA U RAZINI GORNJE POJASNICE	*Faza projekta :*	IZVEDBENI PROJEKT
Mjerilo :	1:50	*Broj lista :*	0.13b
Datum :	listopad, 2025.		
Oznaka projekta:	10_21-2024		

PRESJEK C1-C1



LEGENDA:

B	□	HSS SHS 100x100x5
DP, RV	□	HSS RHS 180x180x8
K,V	□	HSS SHS 140x140x8
GP	I	HEA 240

ČELIK:
S355JR

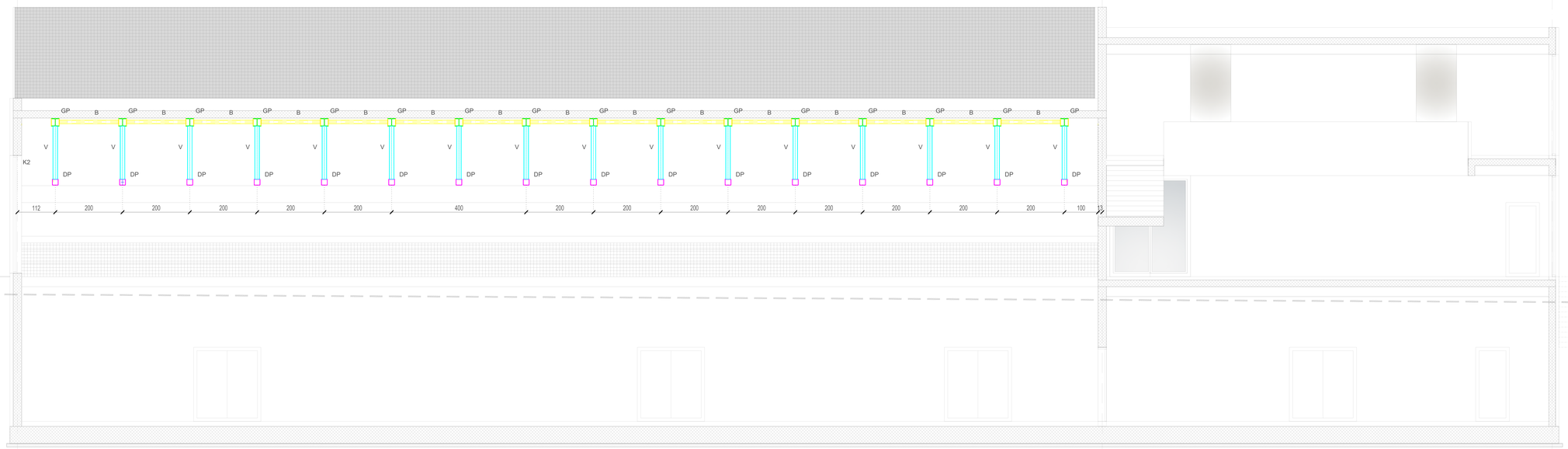
Opće napomene:
-Svi elementi od čelika S355JR
-Svi elementi moraju se izvoditi prema HRN EN 1090-2
-Klasa izvedbe: EXC3
-Visinske kote i dimenzije kontrolirati na licu mjesta
-Zaštititi konstrukciju od korozije pocinčavanjem

PLAN POZICIJA ČELIČNE REŠETKE -
PRESJEK C1-C1

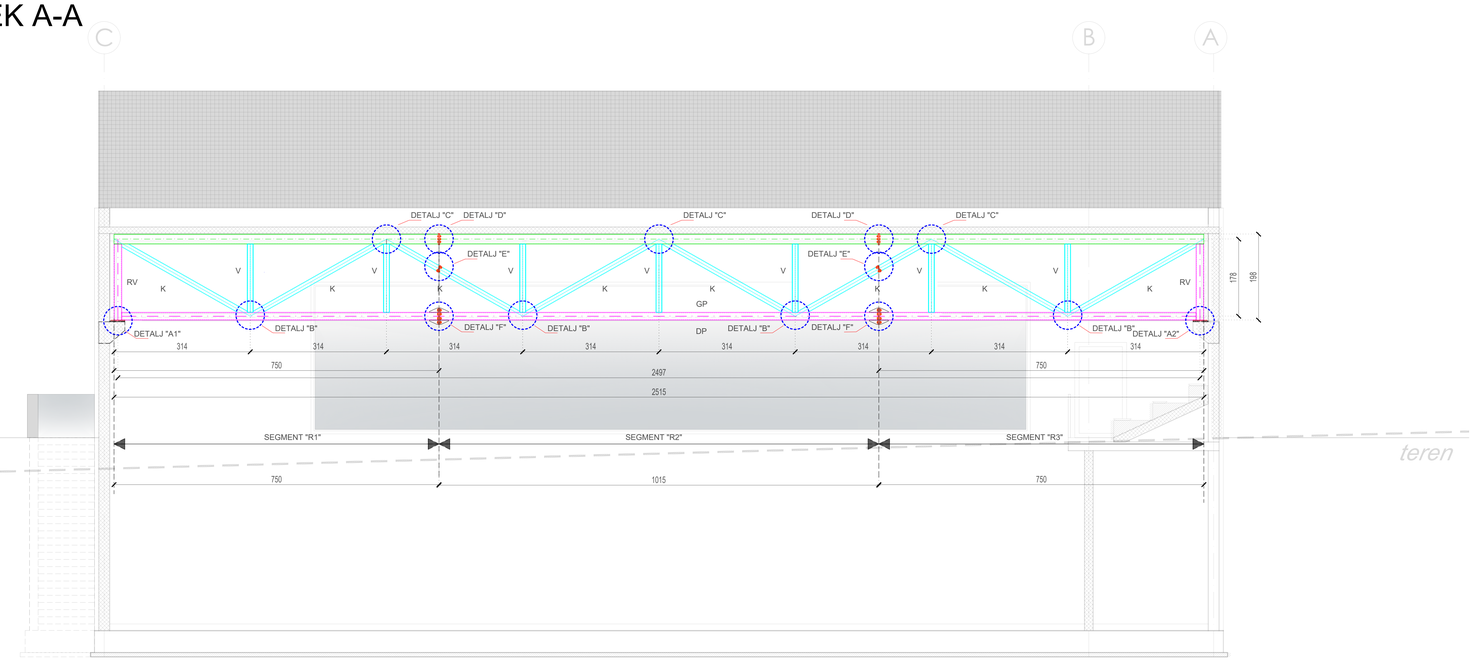
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64755426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* PLAN POZICIJA ČELIČNE REŠETKE - PRESJEK C1-C1	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD.-21-2024			*Broj lista :* 0.13c

PRESJEK C2-C2



PRESJEK A-A



LEGENDA:

B		HSS SHS 100x100x5
DP, RV		HSS RHS 180x180x8
K,V		HSS SHS 140x140x8
GP		HEA 240

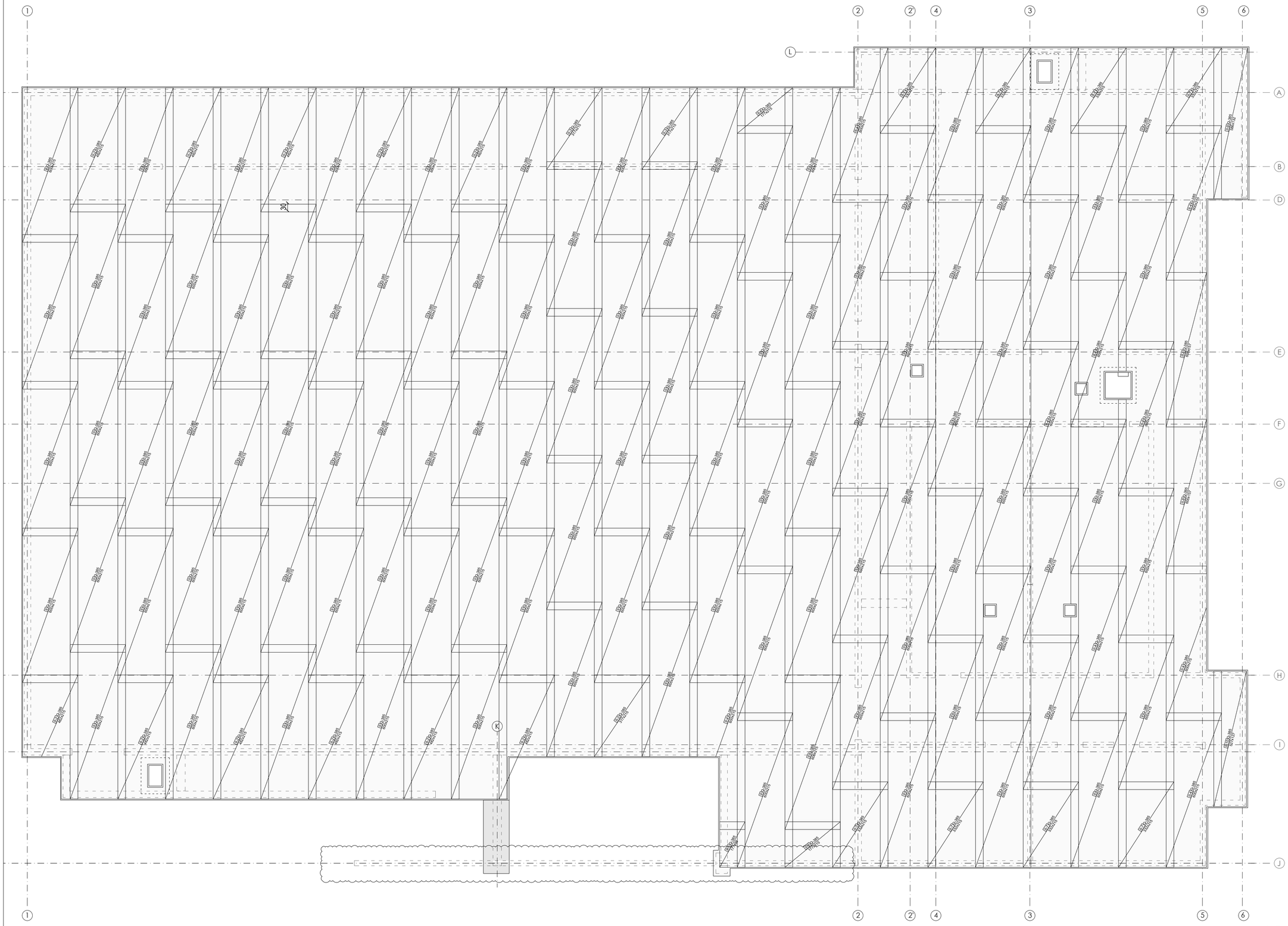
ČELIK:
S355JR

Opće napomene:
-Svi elementi od čelika S355JR
-Svi elementi moraju se izvoditi prema HRN EN 1090-2
-Klasa izvedbe: EXC3
-Visinske kote i dimenzije kontrolirati na licu mjesta
-Zaštititi konstrukciju od korozije pocinčavanjem

PLAN POZICIJA ČELIČNE REŠETKE -
PRESJEK C2-C2 i PRESJEK A-A

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 15, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64755426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vr, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	Suradnica :	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD-21-2024	Sadržaj : PLAN POZICIJA ČELIČNE REŠETKE - PRESJEK C2-C2 i PRESJEK A-A	Faza projekta :	IZVEDBENI PROJEKT
		Broj lista :	0.136



PLAN ARMATURE TEMELJNE PLOČE
POZ 001
DONJA ZONA - MREŽE

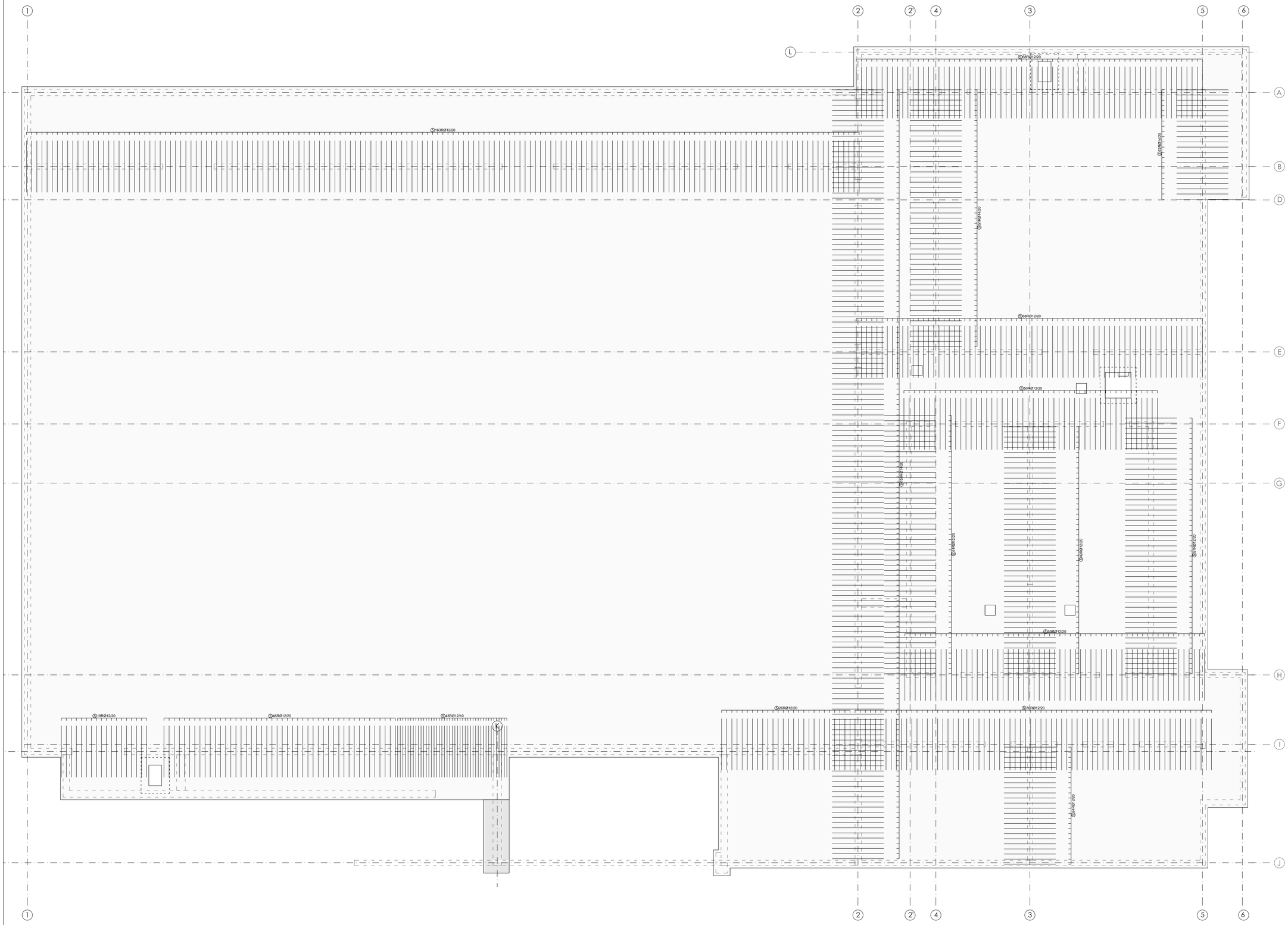
BETON: C30/37, XC2, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35 mm

NAPOMENE:

- Preklopi mreža: 30 cm (Q-385); 40 cm (Q-503); 50 cm (Q-785)

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* PLAN ARMATURE TEMELJNE PLOČE POZ 001 - DONJA ZONA - MREŽE	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD 21-2024		*Broj lista :*	1.1A

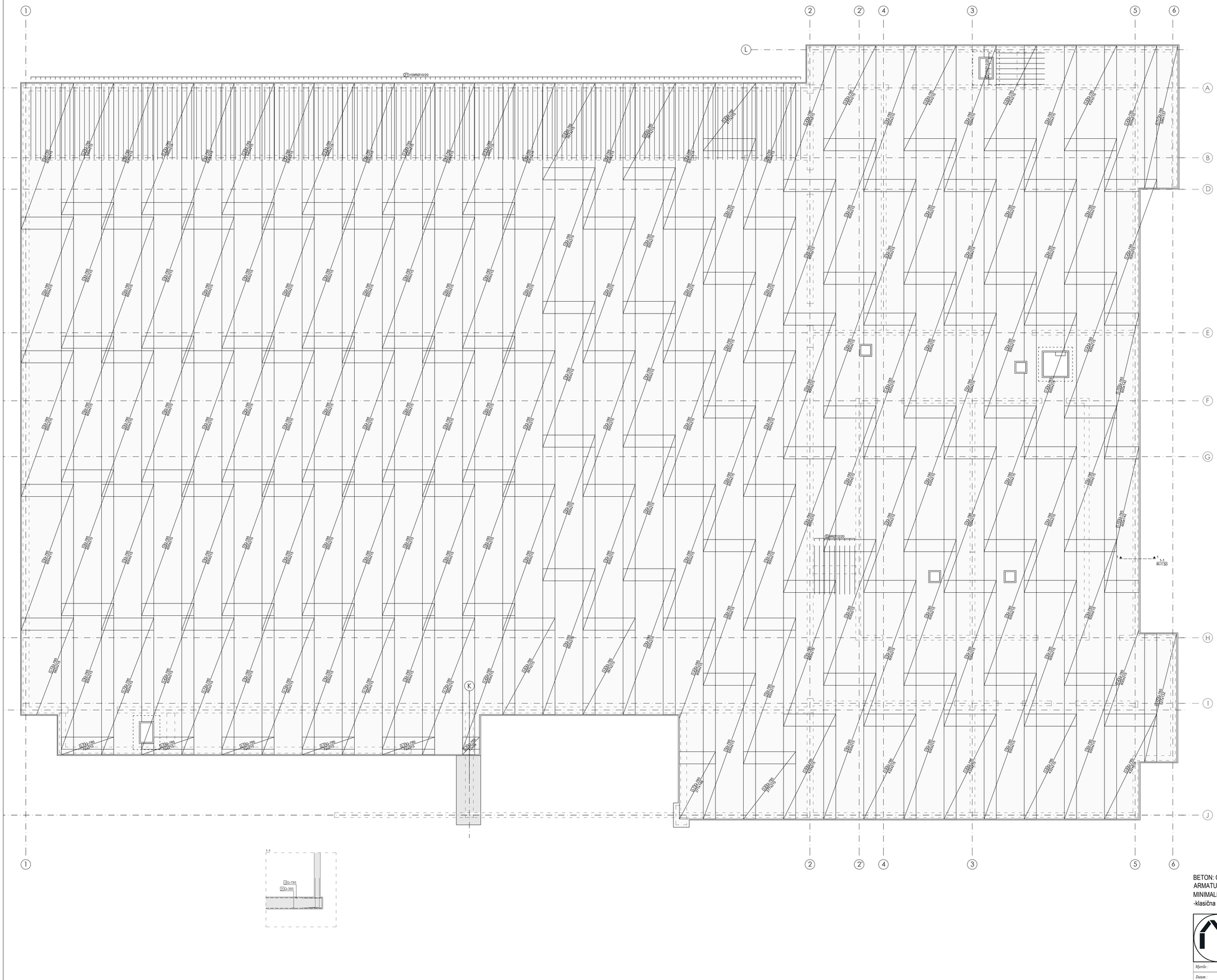


PLAN ARMATURE TEMELJNE PLOČE
POZ 001
DONJA ZONA - OJAČANJA

BETON: C30/37, XC2, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35 mm

ORLANDINI PROJEKT D. O. O. – SPLIT
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PROVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 03233007548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo :	1:50		
Datum :	listopad, 2025.	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta:	10_21-2024	*Broj lista*	1.1B
Sadržaj :	PLAN ARMATURE TEMELJNE PLOČE POZ 001 - DONJA ZONA - OJAČANJA		



PLAN ARMATURE TEMELJNE PLOČE
POZ 001
GORNJA ZONA - MREŽE I OJAČANJA

BETON: C30/37, XC2, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvađenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* PLAN ARMATURE TEMELJNE PLOČE POZ 001 - GORNJA ZONA - MREŽE	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_21-2024			*Broj lista :* 1.1C

PLAN ARMATURE TEMELJNE PLOČE
POZ 001
VILICE, ANKERI I KONSTRUKTIVNE ŠIPKE

BETON: C30/37, XC2, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35 mm

ORLANDINI PROJEKT d. o. o. – SPLIT			
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT		OIB: 64758426529	
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63333501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* PLAN ARMATURE TEMELJNE PLOČE POZ 001 - VILICE, ANKERI I KONSTRUKTIVNE ŠIPKE	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD.21-2024			*Broj lista :* 1.1D

Šipke - specifikacija

ozn	oblik i mjere [cm]	Ø	lg [m]	n [kom]	lgn [m]	Napomena
TEMELJNA PLOČA - POZ 001 (1 kom)						
1	30 / 220	16	2.50	314	785.00	
2	30 / 120	16	1.50	932	1398.00	
3	200	14	2.00	223	446.00	
4	500	12	5.00	20	100.00	
5	200	12	2.00	826	1652.00	
6	130	12	1.30	40	52.00	
7	100	12	1.00	72	72.00	
8	65 / 68 / 82 / 27 / 69 / 37 / 27 / 51	12	3.31	16	52.96	
9	37 / 82 / 65 / 67 / 27 / 67 / 27 / 51	12	3.29	18	59.22	
10	30 / 225	12	2.55	56	142.80	
11	30 / 170	12	2.00	1051	2102.00	
12	65 / 73 / 33 / 42 / 30	12	1.51	16	24.16	
13	65 / 73 / 33 / 40 / 30	12	1.50	18	27.00	
14	30 / 120	12	1.50	28	42.00	
15	1200	10	12.00	114	1368.00	
16	1000	10	10.00	4	40.00	
17	800	10	8.00	7	56.00	
18	600	10	6.00	5	30.00	
19	525	10	5.25	7	36.75	
20	400	10	4.00	32	128.00	
21	300	10	3.00	183	549.00	
22	250	10	2.50	33	82.50	
23	200	10	2.00	16	32.00	
24	175	10	1.75	4	7.00	
25	165	10	1.65	4	6.60	
26	130	10	1.30	24	31.20	
27	132 / 11 / 22 / 11 / 22 / 132	10	3.52	12	42.24	
28	93 / 11 / 43 / 11 / 43 / 93	10	3.37	15	50.55	
29	133 / 11 / 13 / 11 / 13 / 133	10	3.27	36	117.72	
30	102 / 11 / 20 / 11 / 20 / 102	10	2.86	14	40.04	
31	105 / 11 / 17 / 11 / 17 / 105	10	2.83	1	2.83	
32	73 / 11 / 38 / 38 / 11 / 38 / 73	10	2.82	1	2.82	
33	105 / 11 / 16 / 11 / 16 / 105	10	2.80	2	5.60	
34	94 / 11 / 17 / 11 / 17 / 94	10	2.61	1	2.61	
35	80 / 11 / 23 / 11 / 23 / 80	10	2.51	2	5.02	
36	95 / 11 / 12 / 11 / 12 / 95	10	2.48	3	7.44	
37	95 / 11 / 11 / 11 / 11 / 95	10	2.45	4	9.80	
38	110 / 110	10	2.20	2	4.40	
39	84 / 11 / 17 / 11 / 17 / 84	10	2.41	1	2.41	
40	71 / 11 / 22 / 11 / 22 / 71	10	2.30	26	59.80	
41	84 / 11 / 12 / 11 / 12 / 84	10	2.26	1	2.26	
42	80 / 40 / 80	10	2.00	916	1832.00	
43	70 / 11 / 17 / 11 / 17 / 70	10	2.13	1	2.13	
44	75 / 11 / 11 / 11 / 11 / 75	10	2.05	1	2.05	
45	80 / 12 / 80	10	1.72	1	1.72	
46	60 / 11 / 17 / 11 / 17 / 60	10	1.93	4	7.72	
47	60 / 11 / 16 / 11 / 16 / 60	10	1.90	20	38.00	
48	65 / 11 / 12 / 11 / 12 / 65	10	1.88	1	1.88	
49	58 / 11 / 16 / 11 / 16 / 58	10	1.86	1	1.86	
50	65 / 11 / 11 / 11 / 11 / 65	10	1.85	2	3.70	
51	54 / 11 / 17 / 11 / 17 / 54	10	1.81	2	3.62	
52	30 / 120	10	1.50	1931	2896.50	
53	55 / 11 / 12 / 11 / 12 / 55	10	1.68	33	55.44	
54	55 / 11 / 11 / 11 / 11 / 55	10	1.65	17	28.05	
55	50 / 40 / 50	10	1.40	61	85.40	
56	60 / 20 / 60	10	1.40	64	89.60	
57	50 / 17 / 50	10	1.17	2	2.34	
58	50 / 12 / 50	10	1.12	17	19.04	
59	28 / 11 / 16 / 11 / 16 / 28	10	1.32	1	1.32	
60	20 / 11 / 14 / 11 / 14 / 20	10	1.04	1	1.04	
61	20 / 37 / 37 / 3D geometrija	10	1.34	2000	2680.00	

Šipke - rekapitulacija

Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
B500B			
10	10476.00	0.62	6463.69
12	4326.14	0.89	3841.61
14	446.00	1.21	539.66
16	2183.00	1.58	3449.14
Ukupno (B500B)			14294.10
Ukupno			14294.10

Mreže - specifikacija

Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
TEMELJNA PLOČA - POZ 001 (1 kom)							
I	Q-785	215	600	112	12.46	18002.21	
I-1	Q-785	215	562	6	12.46	903.32	
I-2	Q-785	215	540	6	12.46	867.96	
I-3	Q-785	215	72	5	12.46	96.44	
I-4	Q-785	215	600	10	12.46	1607.34	
I-5	Q-785	69	72	1	12.46	6.23	
I-6	Q-785	215	397	4	12.46	425.41	
I-7	Q-785	148	277	1	12.46	51.14	
I-8	Q-785	215	277	2	12.46	148.41	
I-9	Q-785	215	432	9	12.46	1041.56	
I-10	Q-785	142	600	2	12.46	212.32	
I-11	Q-785	137	586	1	12.46	100.03	
I-12	Q-785	132	527	1	12.46	86.68	
II	Q-385	215	600	100	6.10	7869.00	
II-1	Q-385	130	130	2	6.10	20.62	
II-2	Q-385	215	482	11	6.10	695.36	
II-3	Q-385	215	317	3	6.10	124.72	
II-4	Q-385	215	600	9	6.10	708.21	
II-5	Q-385	98	177	1	6.10	10.60	
II-6	Q-385	215	177	2	6.10	46.43	
II-7	Q-385	215	332	8	6.10	348.33	
II-8	Q-385	157	600	2	6.10	114.92	
II-9	Q-385	132	586	1	6.10	47.18	
II-10	Q-385	127	527	1	6.10	40.83	
Ukupno						33575.26	

Mreže - rekapitulacija

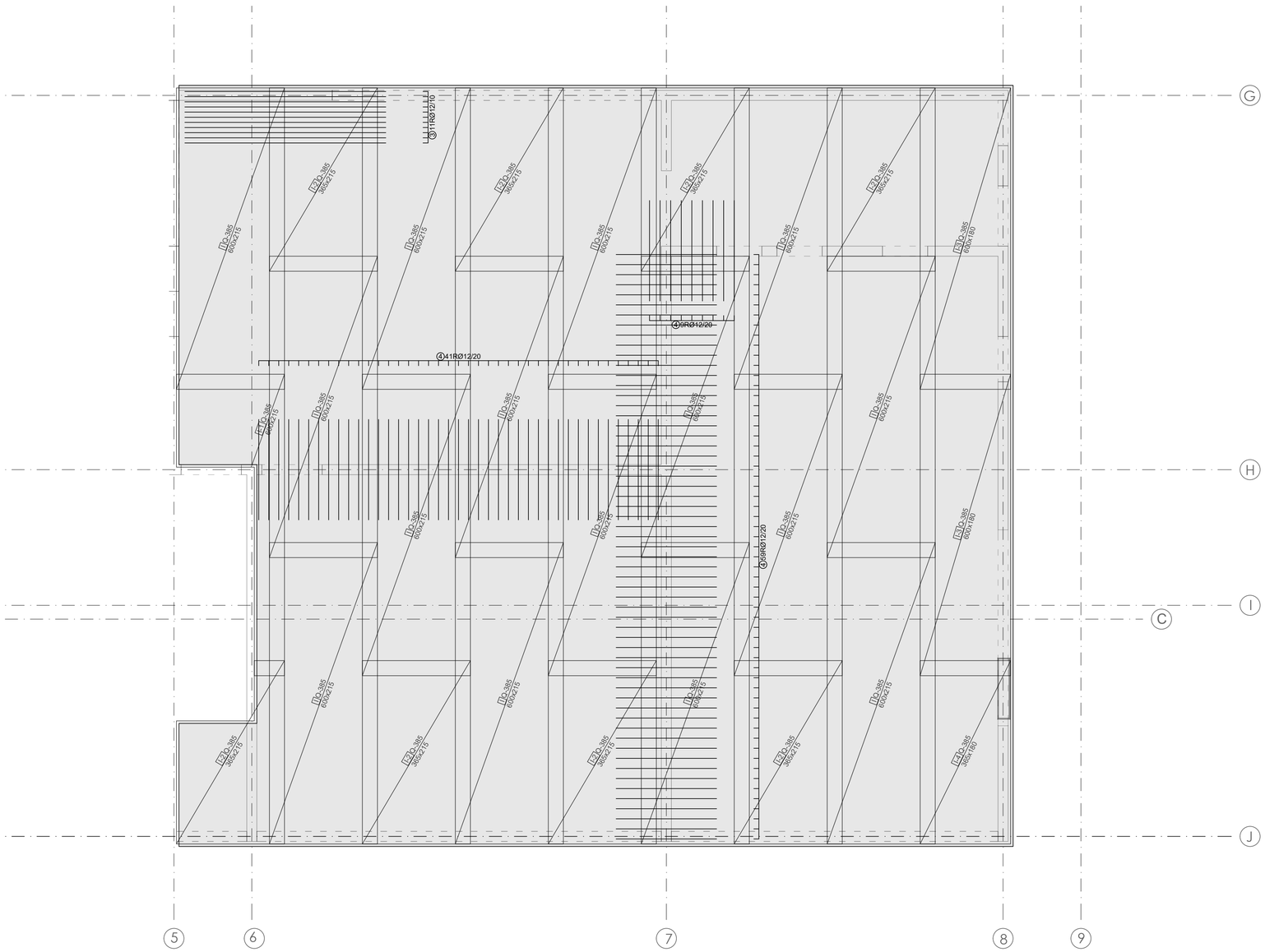
Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-385	215	600	135	6.10	10615.28	9907.61
Q-785	215	600	153	12.46	24573.11	23305.21
Ukupno					35188.40	33212.83

Mreže - plan rezanja

TEMELJNA PLOČA - POZ 001

Q-385 (600 cm x 215 cm)

1x II-4 600 x 215
II-4
1x II-4 600 x 215
II-4
1x II-4 600 x 215
II-4

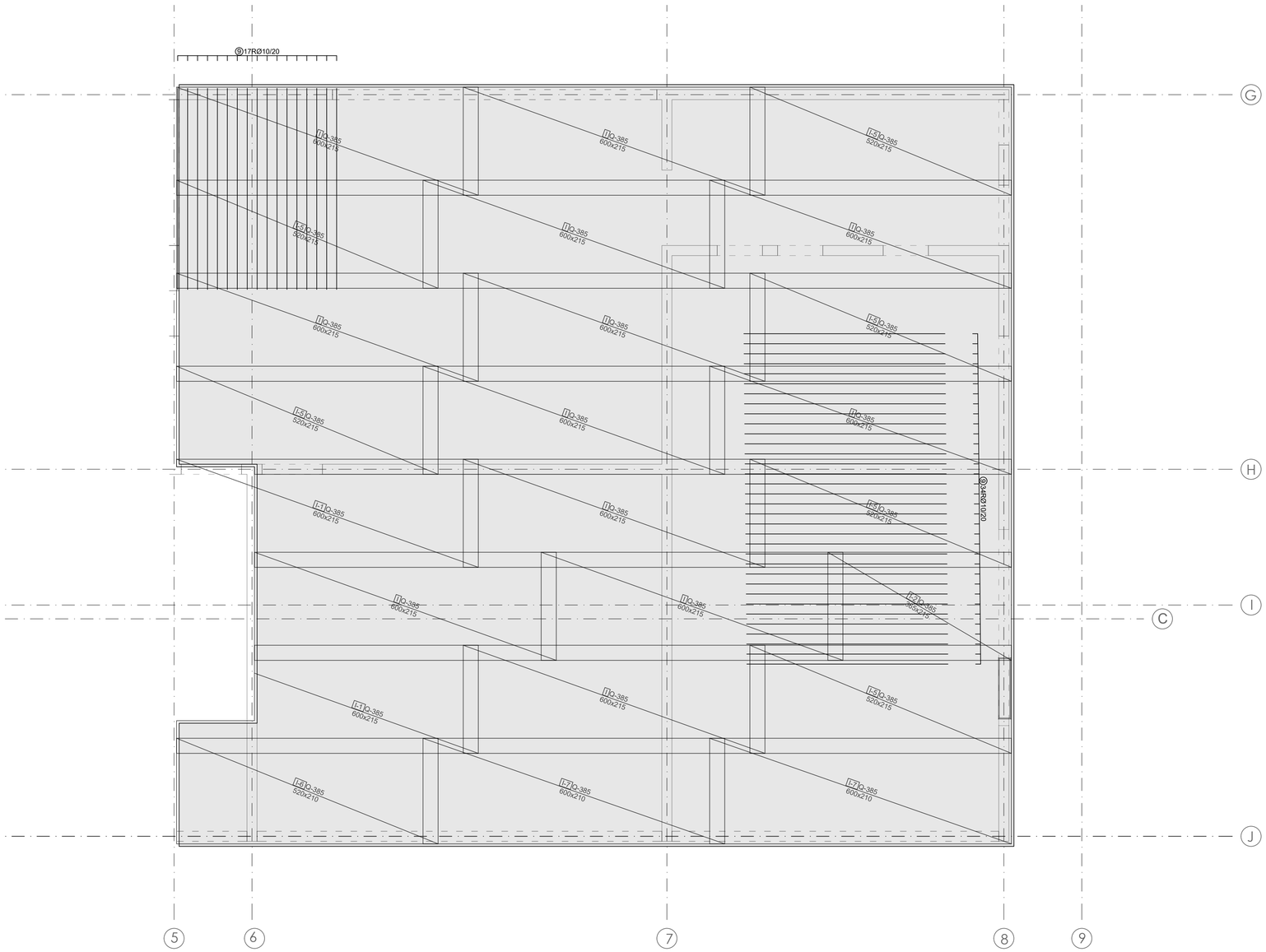


PLAN ARMATURE TEMELJNE PLOČE
POZ 002
DONJA ZONA - MREŽE

BETON: C30/37, XC2, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	*Sadržaj :* PLAN ARMATURE TEMELJNE PLOČE POZ 002 - DONJA ZONA - MREŽE	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 1.2A

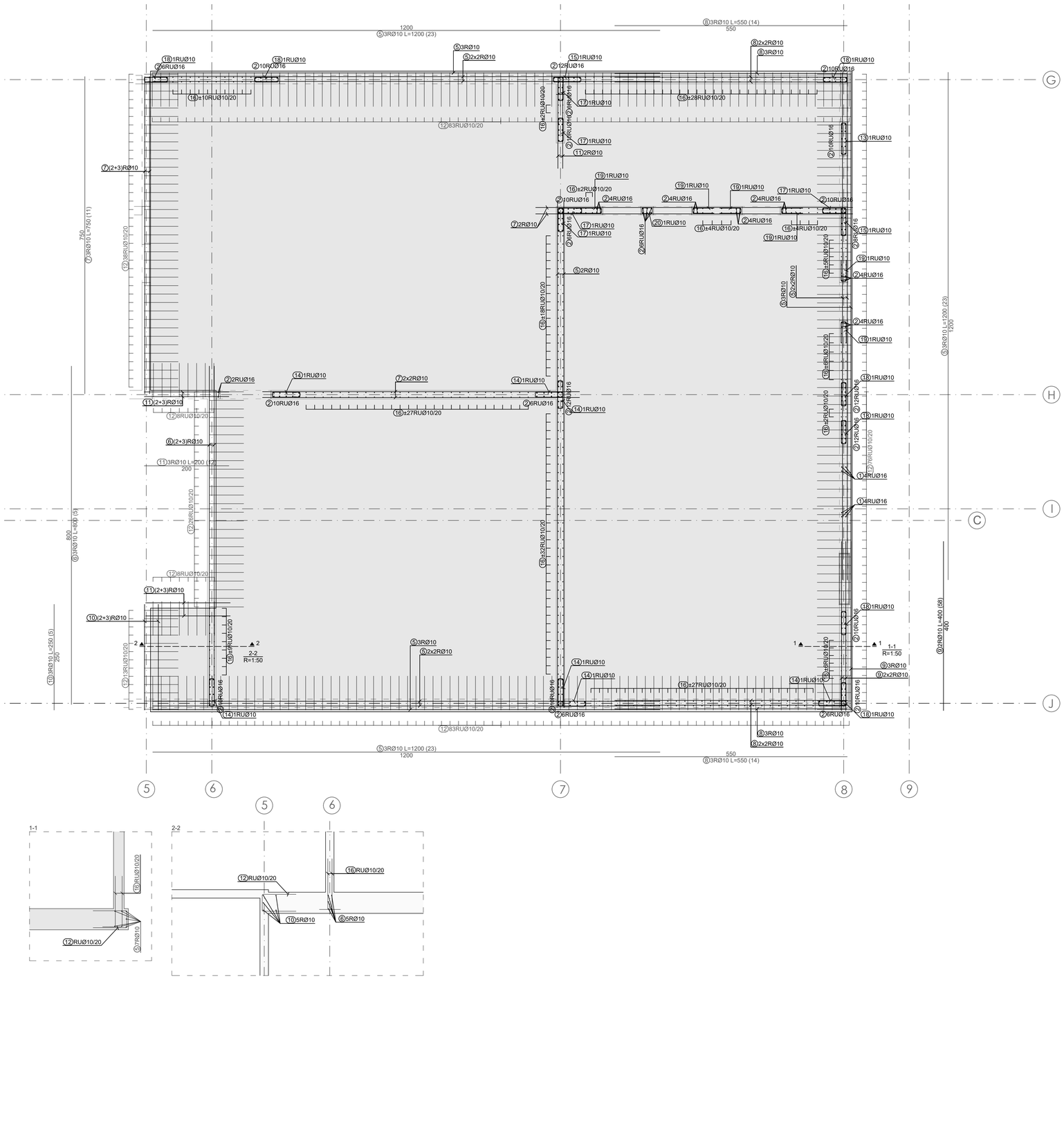


PLAN ARMATURE TEMELJNE PLOČE
POZ 002
GORNJA ZONA - MREŽE I ŠIPKE

BETON: C30/37, XC2, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT **OIB: 64758426529**

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	*Sadržaj :* PLAN ARMATURE TEMELJNE PLOČE POZ 002 - GORNJA ZONA - MREŽE	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 1.2B



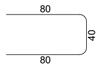
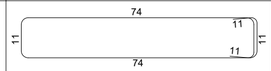
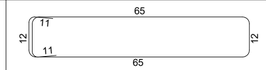
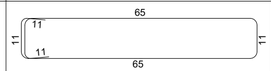
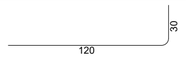
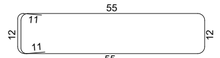
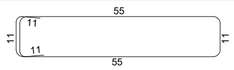
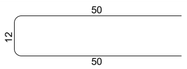
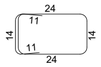
PLAN ARMATURE TEMELJNE PLOČE POZ 002 VILICE, ANKERI I KONSTRUKTIVNE ŠIPKE

BETON: C30/37, XC2, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA: Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	*Sadržaj :* PLAN ARMATURE TEMELJNE PLOČE POZ 002 - VILICE, ANKERI I KONSTRUKTIVNE ŠIPKE	*Faza projekta :*	IZVEDBENI PROJEKT
		Broj lista :	1.2C

Šipke - specifikacija

ozn	oblik i mjere [cm]	Ø	lg [m]	n [kom]	lgn [m]	Napomena
TEMELJNA PLOČA - POZ 002 (1 kom)						
1		16	2.00	8	16.00	
2		16	1.50	234	351.00	
3	400	12	4.00	11	44.00	
4	200	12	2.00	109	218.00	
5	1200	10	12.00	23	276.00	
6	800	10	8.00	5	40.00	
7	750	10	7.50	11	82.50	
8	550	10	5.50	14	77.00	
9	400	10	4.00	58	232.00	
10	250	10	2.50	5	12.50	
11	200	10	2.00	12	24.00	
12		10	2.00	335	670.00	
13		10	2.03	1	2.03	
14		10	1.88	7	13.16	
15		10	1.85	2	3.70	
16		10	1.50	364	546.00	
17		10	1.68	5	8.40	
18		10	1.65	7	11.55	
19		10	1.12	6	6.72	
20		10	1.12	1	1.12	
21	 3D geometrija	10	1.34	340	455.60	

Šipke - rekapitulacija

Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
B500B			
10	2462.28	0.62	1519.23
12	262.00	0.89	232.66
16	367.00	1.58	579.86
Ukupno (B500B)			2331.74
Ukupno			2331.74

Mreže - specifikacija

Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
TEMELJNA PLOČA - POZ 002 (1 kom)							
I	Q-385	215	600	27	6.10	2124.63	
I-1	Q-385	215	600	3	6.10	236.07	
I-2	Q-385	215	365	9	6.10	430.83	
I-3	Q-385	180	600	2	6.10	131.76	
I-4	Q-385	180	365	1	6.10	40.08	
I-5	Q-385	215	520	6	6.10	409.19	
I-6	Q-385	210	520	1	6.10	66.61	
I-7	Q-385	210	600	2	6.10	153.72	
Ukupno						3592.88	

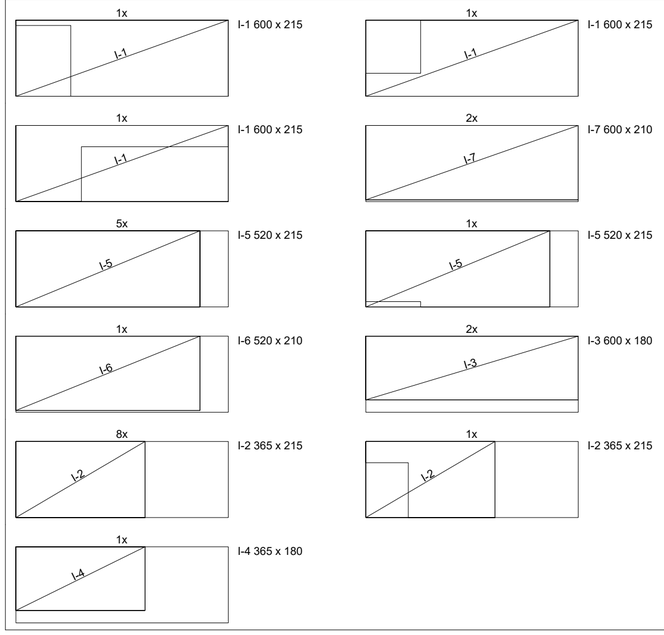
Mreže - rekapitulacija

Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-385	215	600	51	6.10	4013.19	3507.78
Ukupno					4013.19	3507.78

Mreže - plan rezanja

TEMELJNA PLOČA - POZ 002

Q-385 (600 cm x 215 cm)

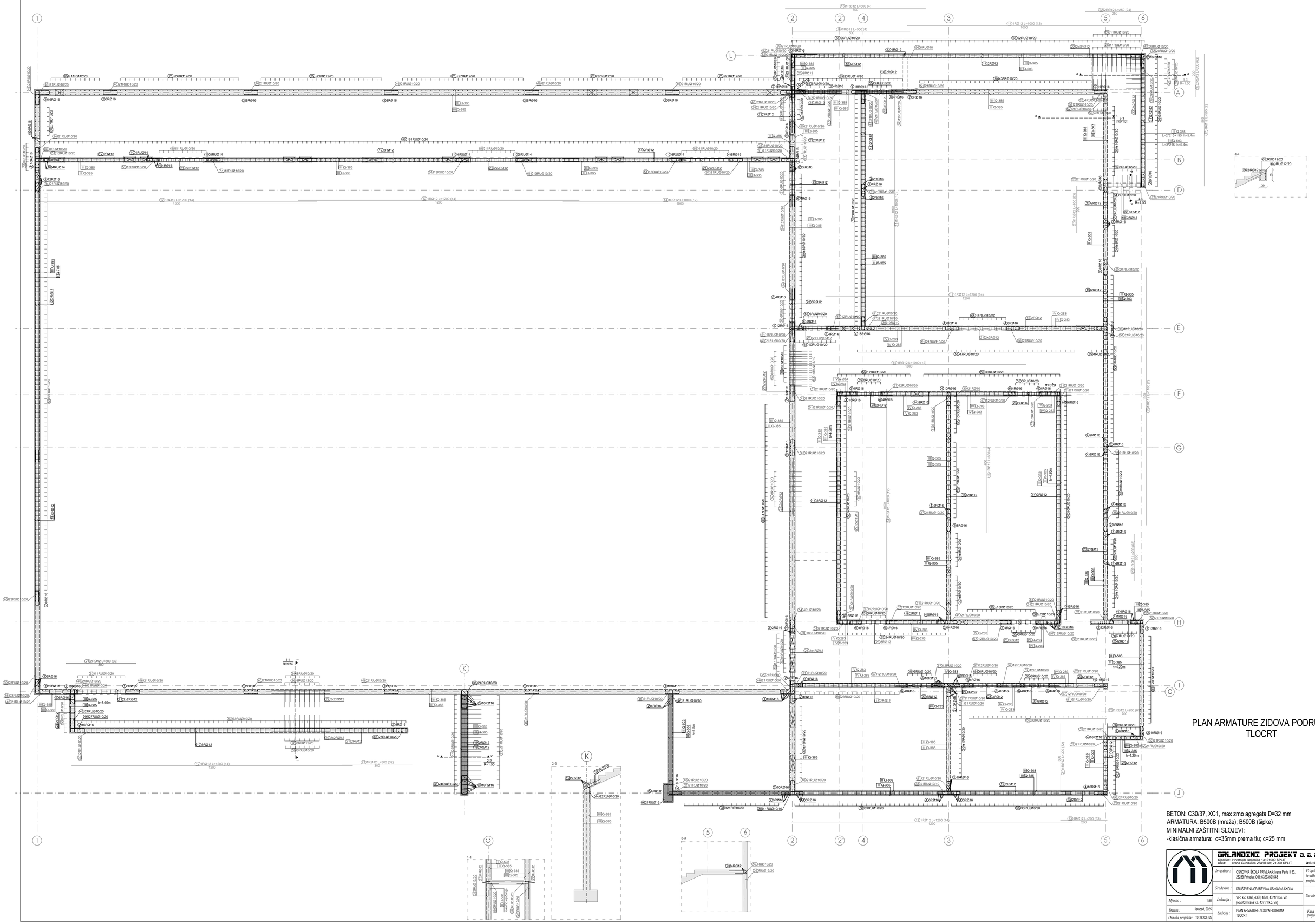


ISKAZ ARMATURE TEMELJNE PLOČE POZ 002

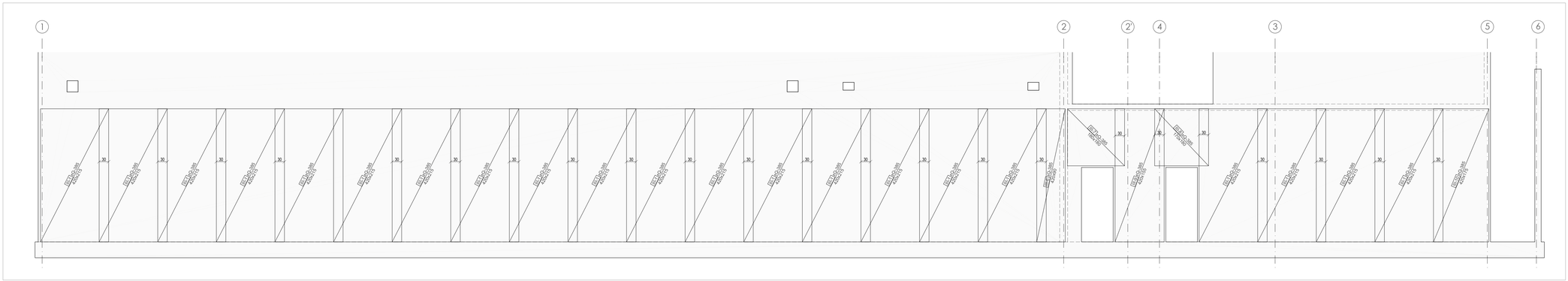
ORLANDINI PROJEKT d. o. o. – SPLIT

Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT **OIB: 64758426529**

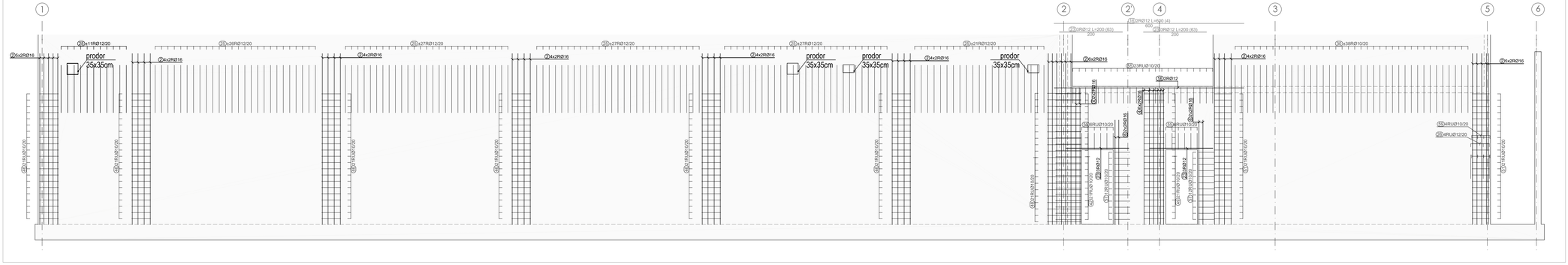
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	*Sadržaj :* ISKAZ ARMATURE TEMELJNE PLOČE POZ 002	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 1.2D


PLAN ARMATURE ZIDOVA PODRUMA
TLOCRT
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm
ORLANDINI PROJEKT d.o.o. – SPLIT
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529
Investitor: OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233371548
Projektant izvedbenog projekta: IVO ORLANDINI mag.ing.aedf.
Građevina: DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA
Lokacija: VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)
Suradnici: MARTINA BOJČIĆ mag.ing.aedf.
Mjerilo: 1:50
Datum: listopad, 2025.
Oznaka projekta: TD_28-2025_IZV
Sadržaj: PLAN ARMATURE ZIDOVA PODRUMA TLOCRT
Faza projekta: IZVEDBENI PROJEKT
Broj lista: 2.0

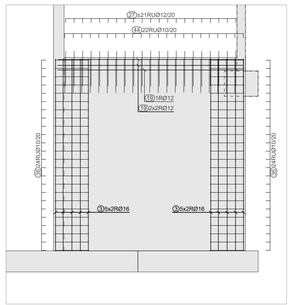
POGLED NA ZID U OSI A - MREŽE - OBA LICA ZIDA



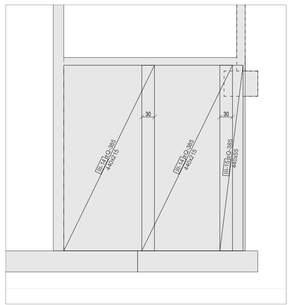
POGLED NA ZID U OSI A - ŠIPKASTA ARMATURA



ZID U OSI K - ŠIPKASTA ARMATURA



ZID U OSI K - MREŽE - OBA LICA ZIDA



ZIDOVI PODRUMA

PLAN ARMATURE ZIDOVA
U OSIMA A i K

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

ORLANDINI PROJEKT d.o.o. – SPLIT Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT OIB: 64758426529			
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501048	Projektant (voditelj) cjelovitog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	Suradnici :	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.		Faza projekta :	IZVEDBENI PROJEKT
Oznaka projekta: TD_39-2025_IZV	Sadržaj : ZIDOVI PODRUMA - PLAN ARMATURE ZIDOVA U OSIMA A i K		Broj lista : 2.1

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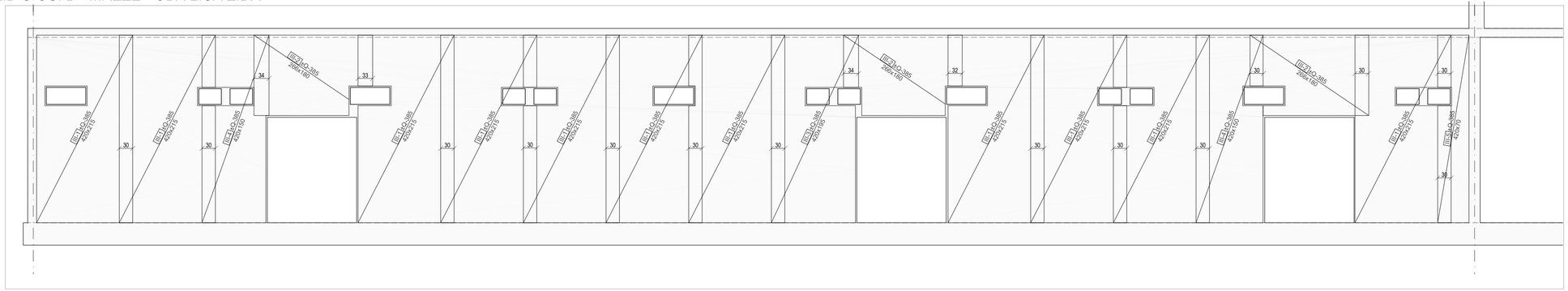
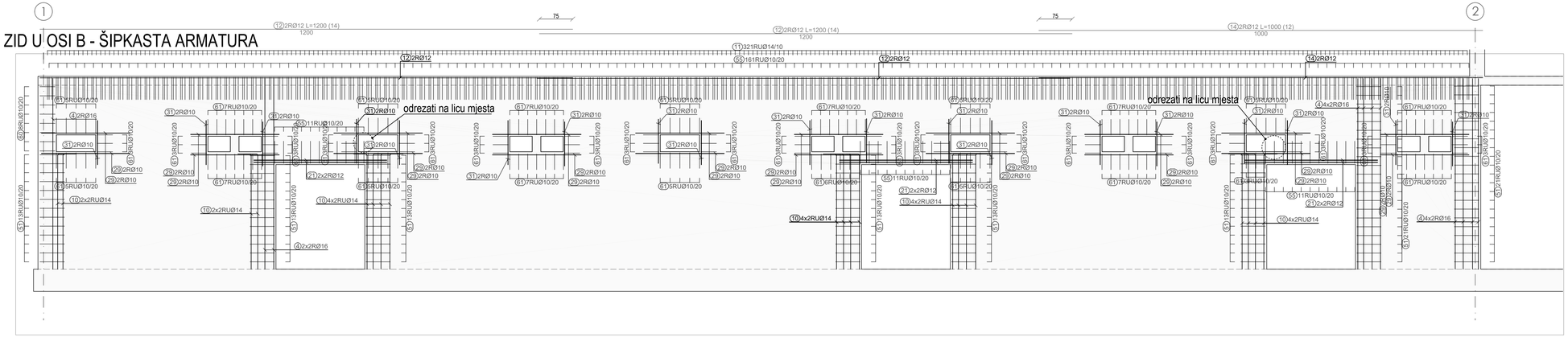
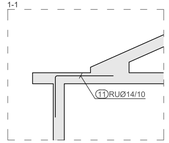


ZID U OSI B - ŠIPKASTA ARMATURA





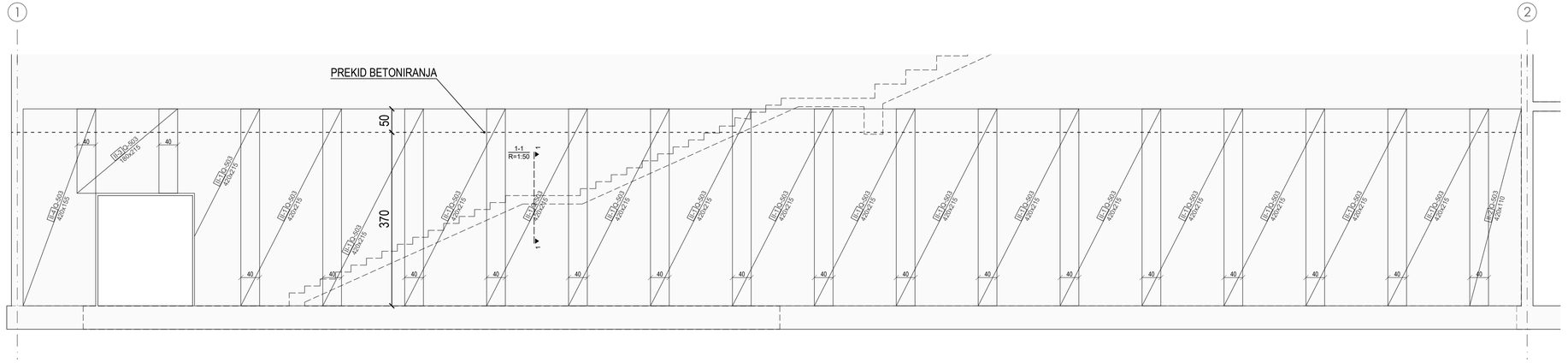
ZIDOVI PODRUMA

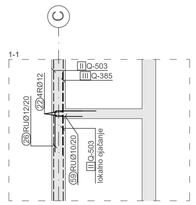
PLAN ARMATURE ZIDA
U OSI B

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

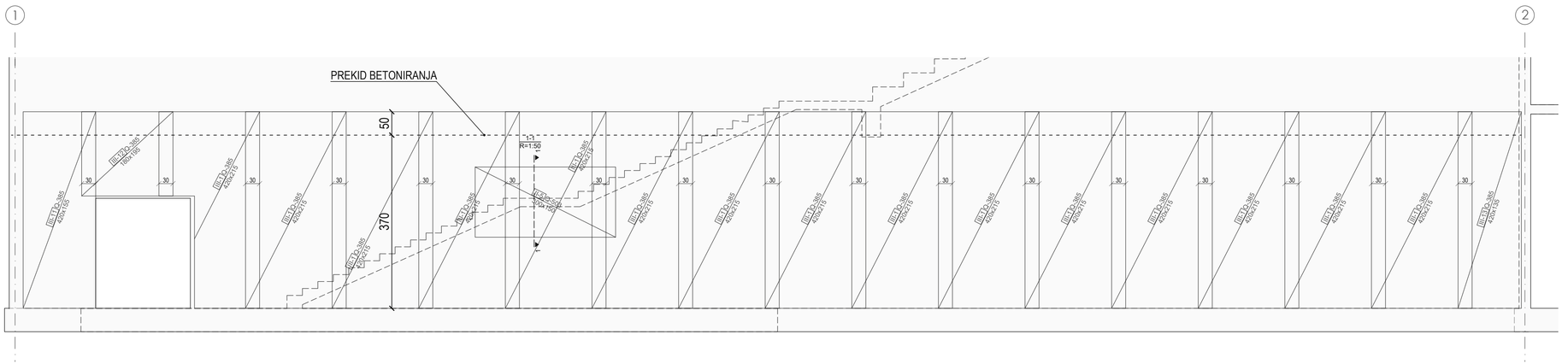
	ORLANDINI PROJEKT d. o. o. – SPLIT		
	Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT — OIB: 64758426529		
	Investitor : OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
	Građevina : DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50	*Lokacija :* VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Datum : listopad, 2025.	*Sadržaj :* ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI B	*Faza projekta :*	IZVEDBENI PROJEKT — *Broj lista :* 2.2
Oznaka projekta: TD_28-2025_IZV			

ZID U OSI C - MREŽE - UNUTARNJE LICE ZIDA (prema osi H)

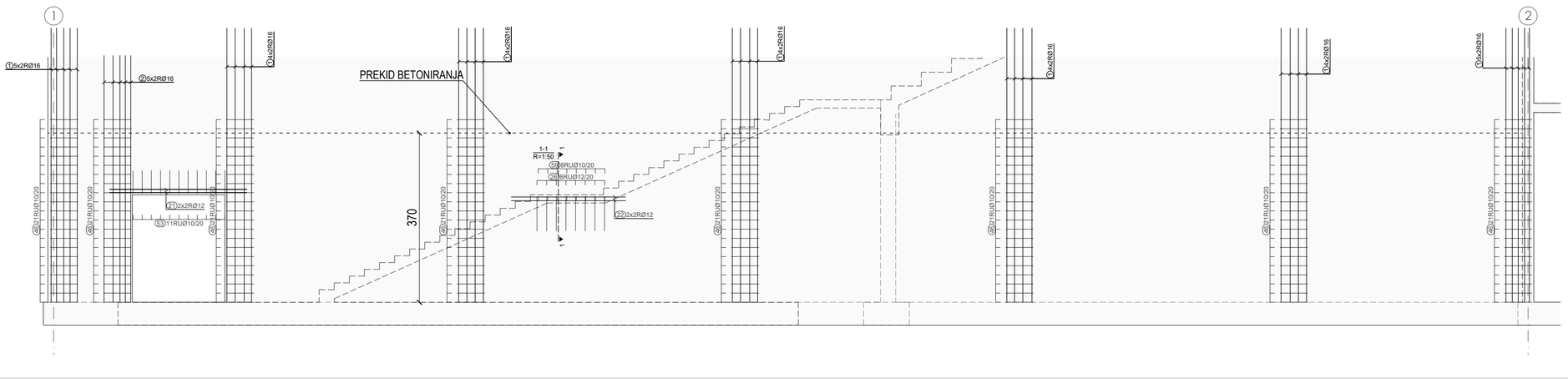




ZID U OSI C - MREŽE - VANJSKO LICE ZIDA (prema osi J)



ZID U OSI C - ŠIPKASTA ARMATURA



ZIDOVI PODRUMA

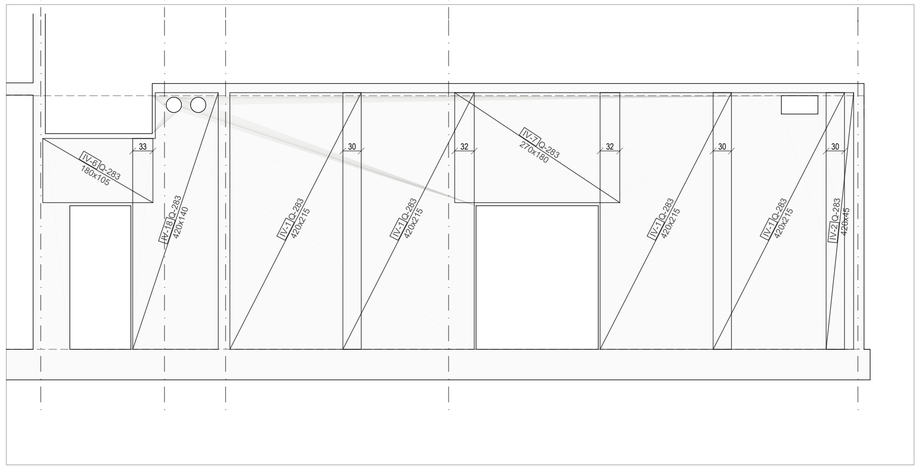
PLAN ARMATURE ZIDA
U OSI C

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

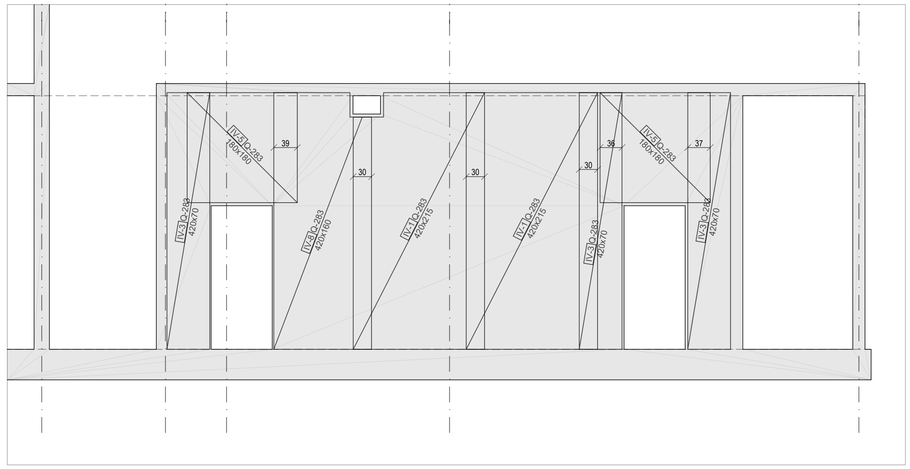
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_09-2025_IZV	*Sadržaj :* ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI C	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 2.3

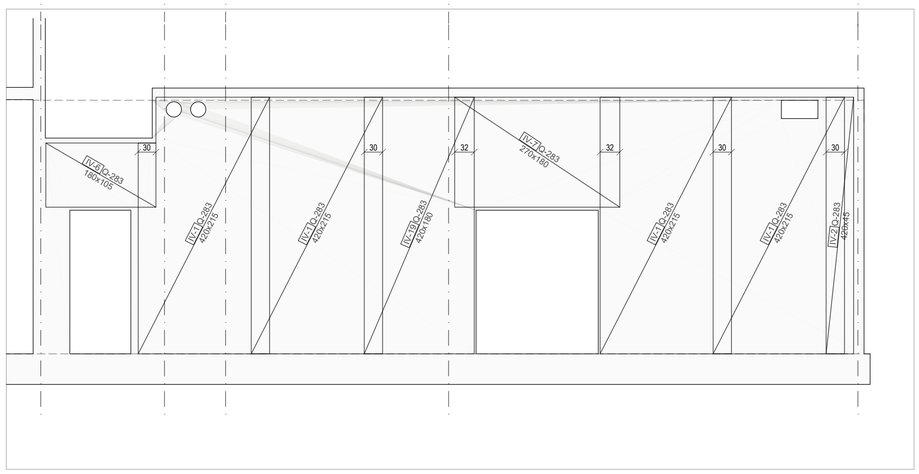
ZID U OSI E - MREŽE - LICE ZIDA PREMA OSI D



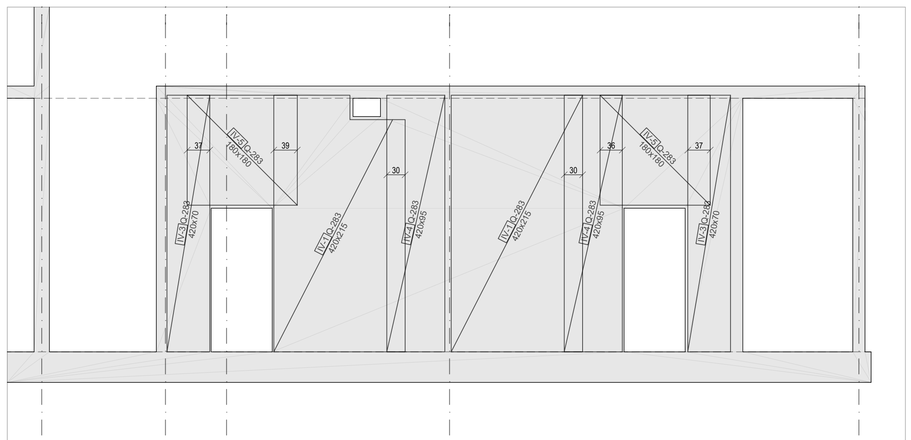
ZID U OSI F - MREŽE - LICE ZIDA PREMA OSI E



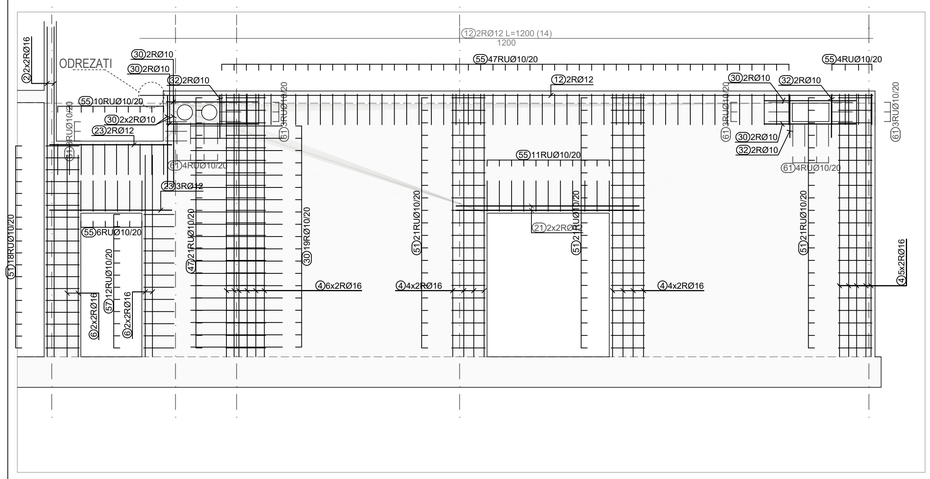
ZID U OSI E - MREŽE - LICE ZIDA PREMA OSI F



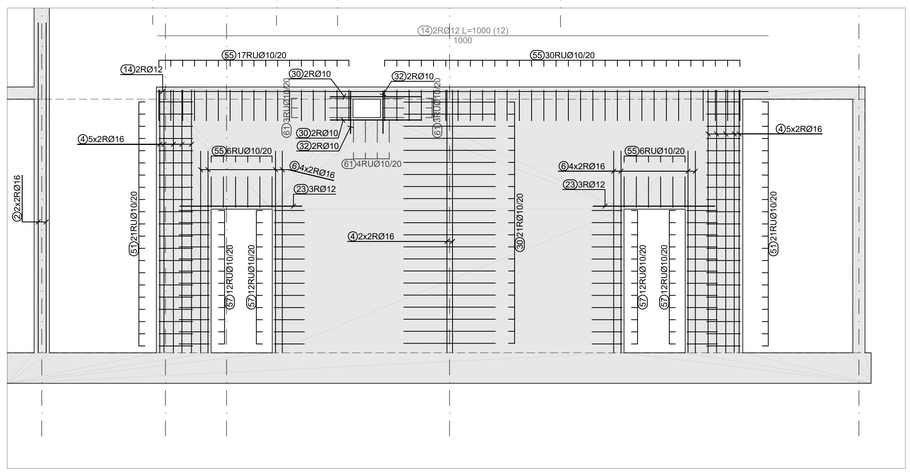
ZID U OSI F - MREŽE - LICE ZIDA PREMA OSI G



ZID U OSI E - MREŽE - LICE ZIDA PREMA OSI F



ZID U OSI F - ŠIPKASTA ARMATURA



ZIDOVI PODRUMA

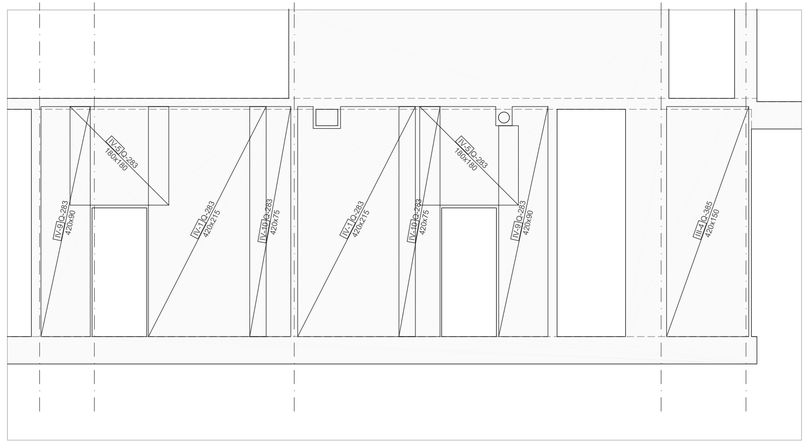
PLAN ARMATURE ZIDOVA
U OSI E i F

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

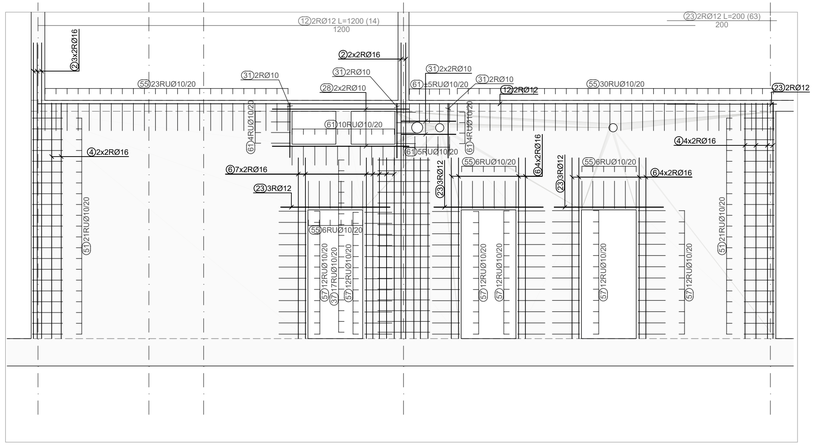
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_28-2025_IZV	*Faza projekta :*	IZVEDBENI PROJEKT
Sadržaj :	ZIDOVI PODRUMA - PLAN ARMATURE ZIDOVA U OSI E i F	*Broj lista :*	2.4

ZID U OSI H - MREŽE - LICE ZIDA PREMA OSI G



ZID U OSI I - ŠIPKASTA ARMATURA



ZID U OSI H - MREŽE - LICE ZIDA PREMA OSI I

ZID U OSI I - MREŽE - LICE ZIDA PREMA OSI H

ZID U OSI H - ŠIPKASTA ARMATURA

ZID U OSI I - MREŽE - LICE ZIDA PREMA OSI J

ZIDOVI PODRUMA

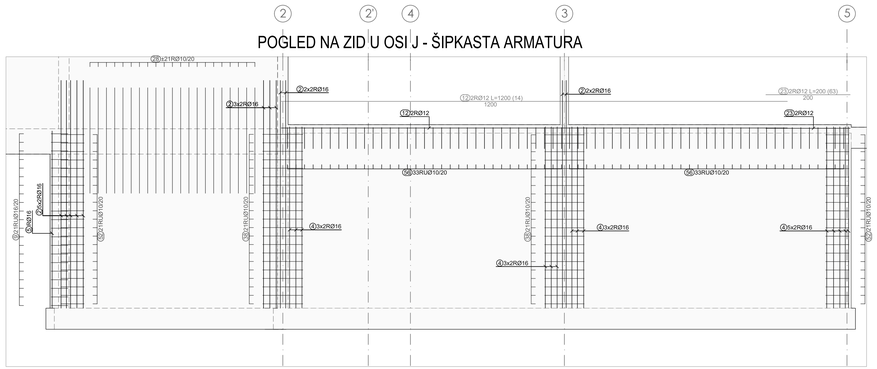
PLAN ARMATURE ZIDOVA U OSI H i I

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

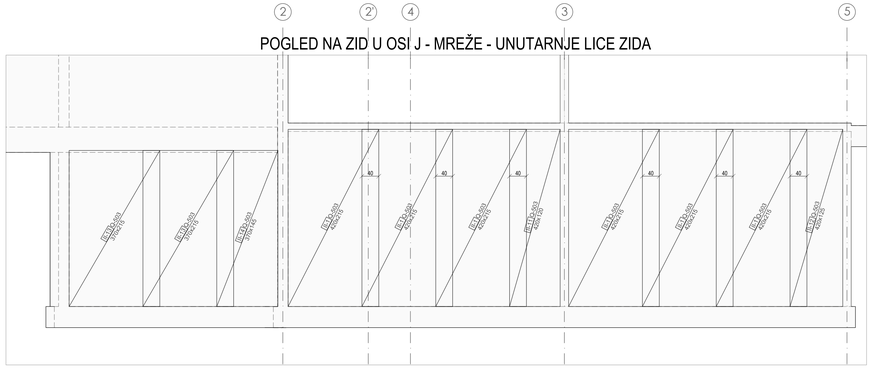
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_09-2025_IZV	*Faza projekta :*	IZVEDBENI PROJEKT
Sadržaj :	ZIDOVI PODRUMA - PLAN ARMATURE ZIDOVA U OSI H i I	*Broj lista :*	2.5

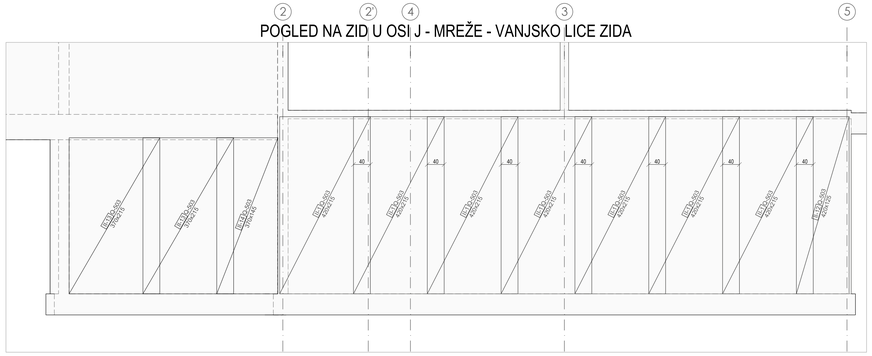
POGLED NA ZID U OSI J - ŠIPKASTA ARMATURA



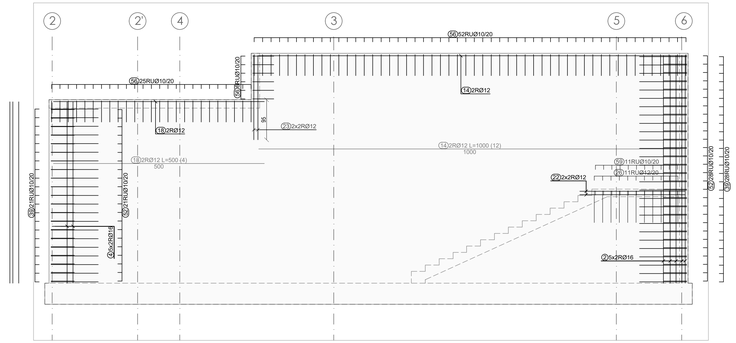
POGLED NA ZID U OSI J - MREŽE - UNUTARNJE LICE ZIDA



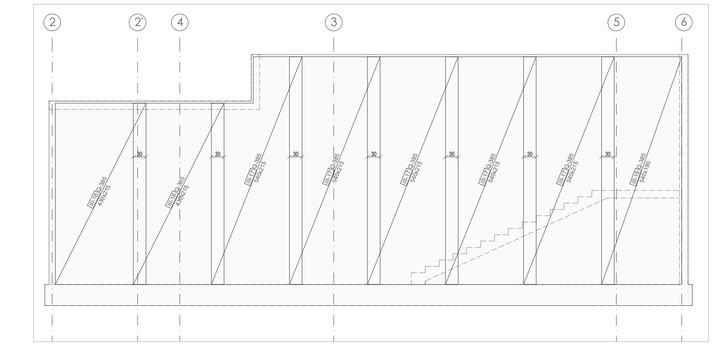
POGLED NA ZID U OSI J - MREŽE - VANJSKO LICE ZIDA



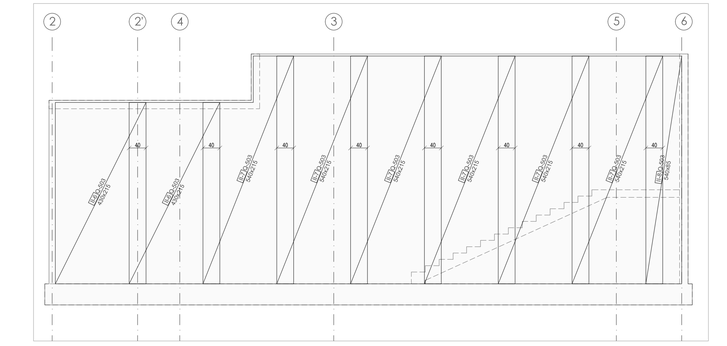
POGLED NA ZID U OSI L - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI L - MREŽE - VANJSKO LICE ZIDA



POGLED NA ZID U OSI L - MREŽE - UNUTARNJE LICE ZIDA



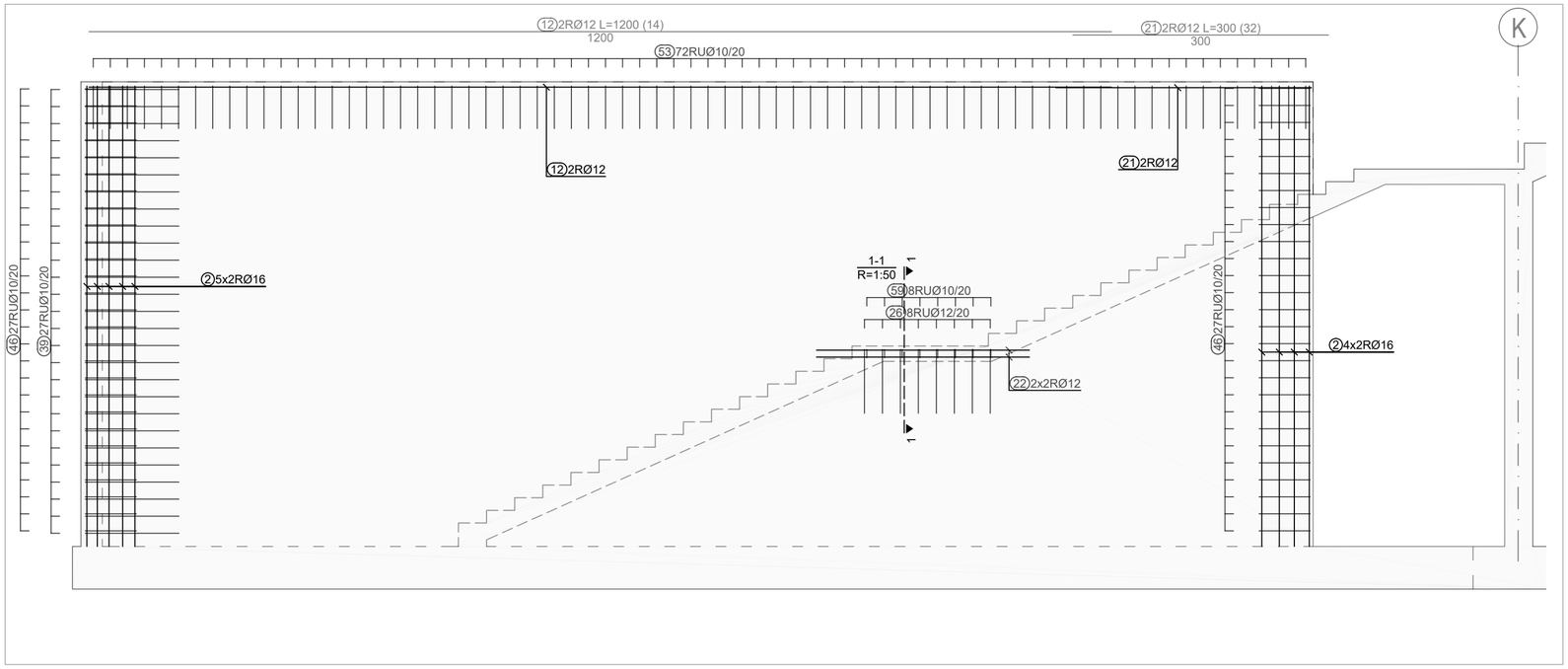
ZIDOVI PODRUMA

PLAN ARMATURE ZIDOVA
U OSI J i L

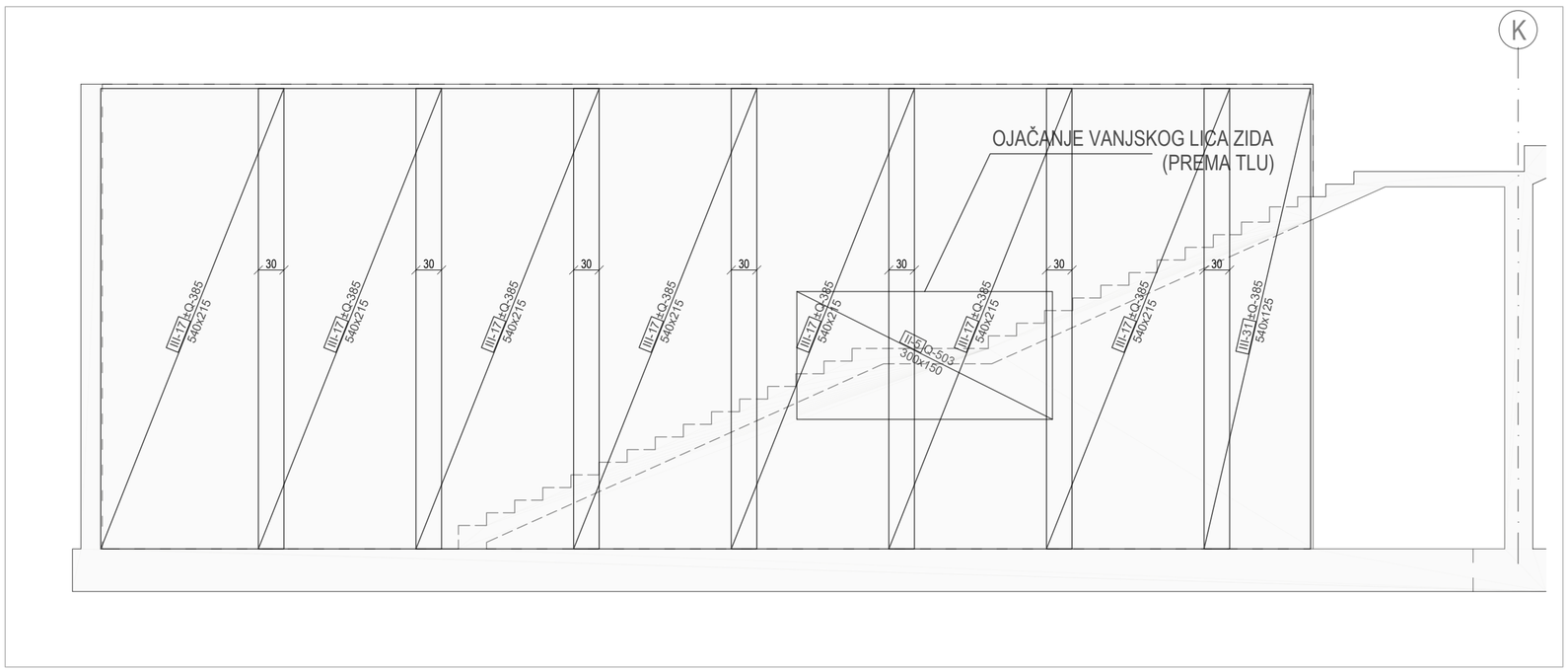
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT			
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT		**OIB: 64758426529**	
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501048	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* ZIDOVI PODRUMA - PLAN ARMATURE ZIDOVA U OSI J i L	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_39-2025_IZV			*Broj lista :* 2.6

ZID IZMEĐU OSI C i J - ŠIPKASTA ARMATURA



ZID IZMEĐU OSI C i J - MREŽE - OBA LICA ZIDA



ZIDOVI PODRUMA

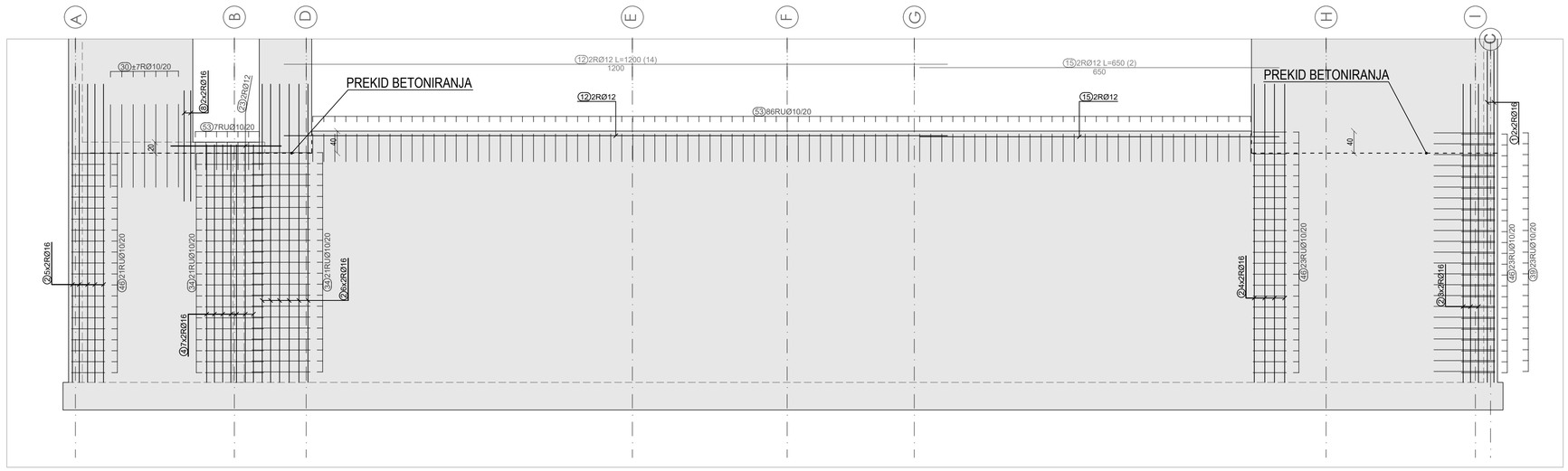
PLAN ARMATURE ZIDOVA U OSI C i J

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

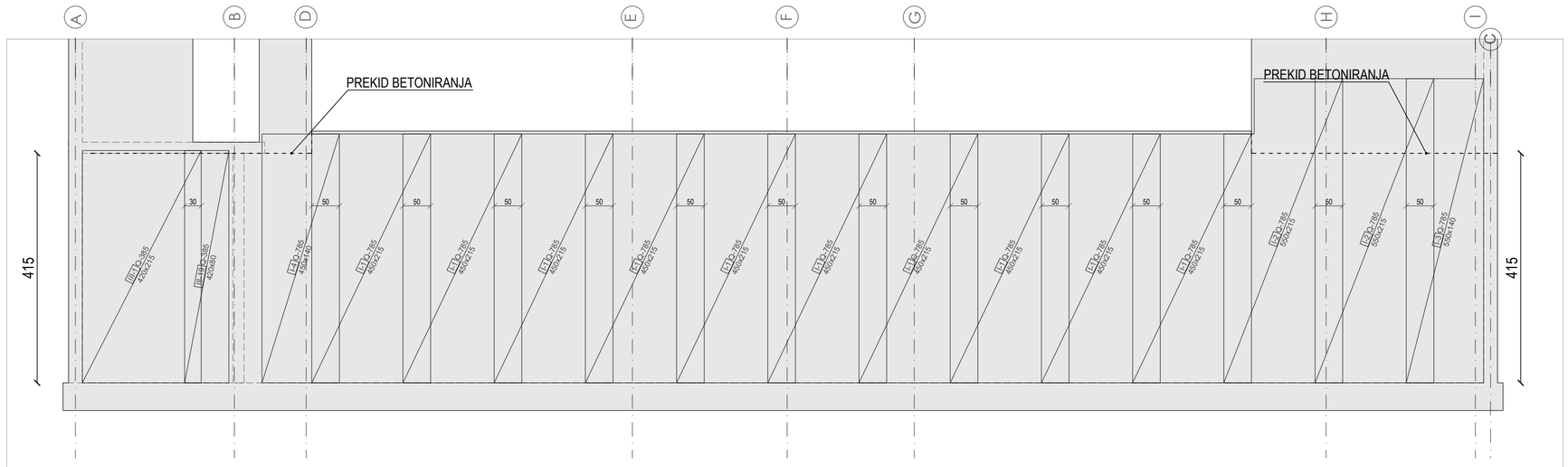
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI PODRUMA - PLAN ARMATURE ZIDOVA U OSI C i J	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 2.7

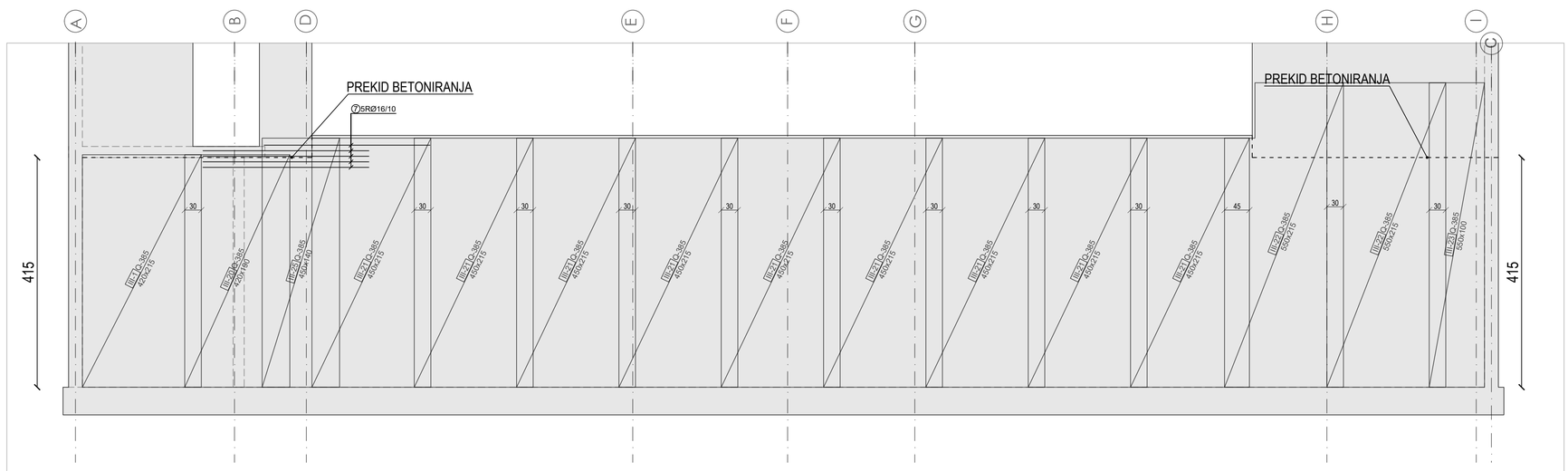
POGLED NA ZID U OSI 1 - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 1 - MREŽE - UNUTARNJE LICE ZIDA PREMA OSI 2



POGLED NA ZID U OSI 1 - MREŽE I OJAČANJA - VANJSKO LICE ZIDA



ZIDOVI PODRUMA

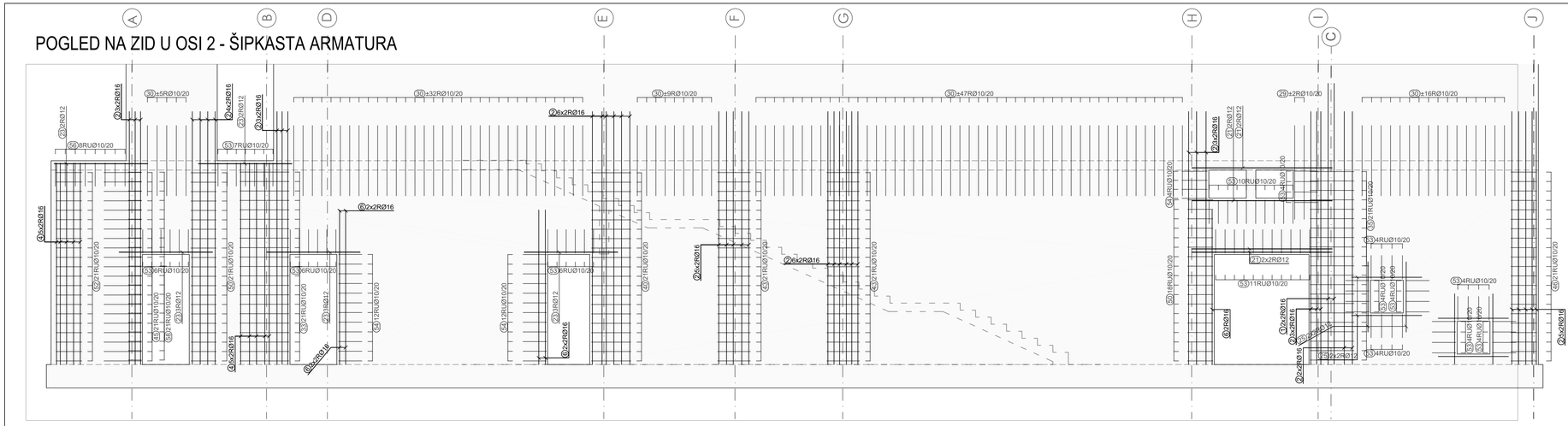
PLAN ARMATURE ZIDA U OSI 1

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

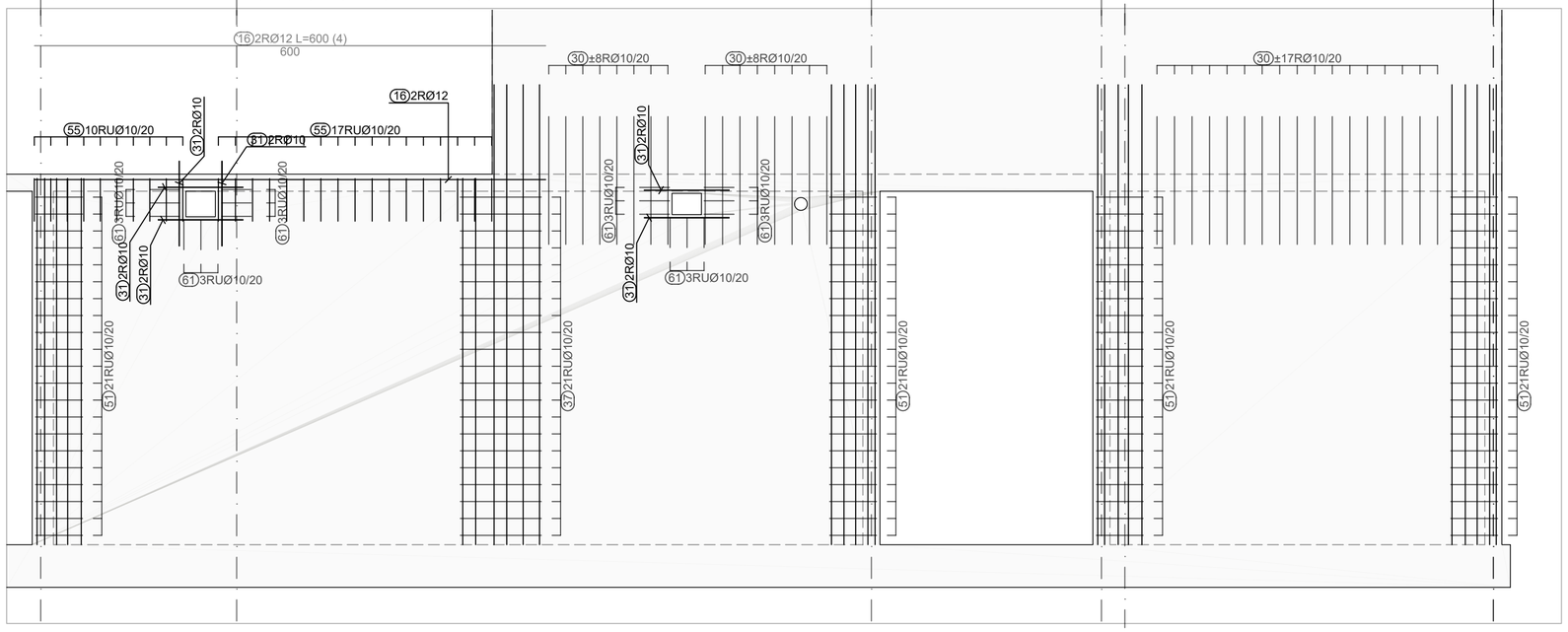
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI 1	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_28-2025_IZV		*Broj lista :*	2.8

POGLED NA ZID U OSI 2 - ŠIPKASTA ARMATURA


A
B
D
E
F
G
H
I
C
J
30 ±5RØ10/20
30 ±32RØ10/20
30 ±9RØ10/20
30 ±47RØ10/20
29 ±2RØ10/20
30 ±16RØ10/20
2 6x2RØ16
2 2x2RØ16
2 4x2RØ16
2 2x2RØ16
2 2x2RØ16
2 2

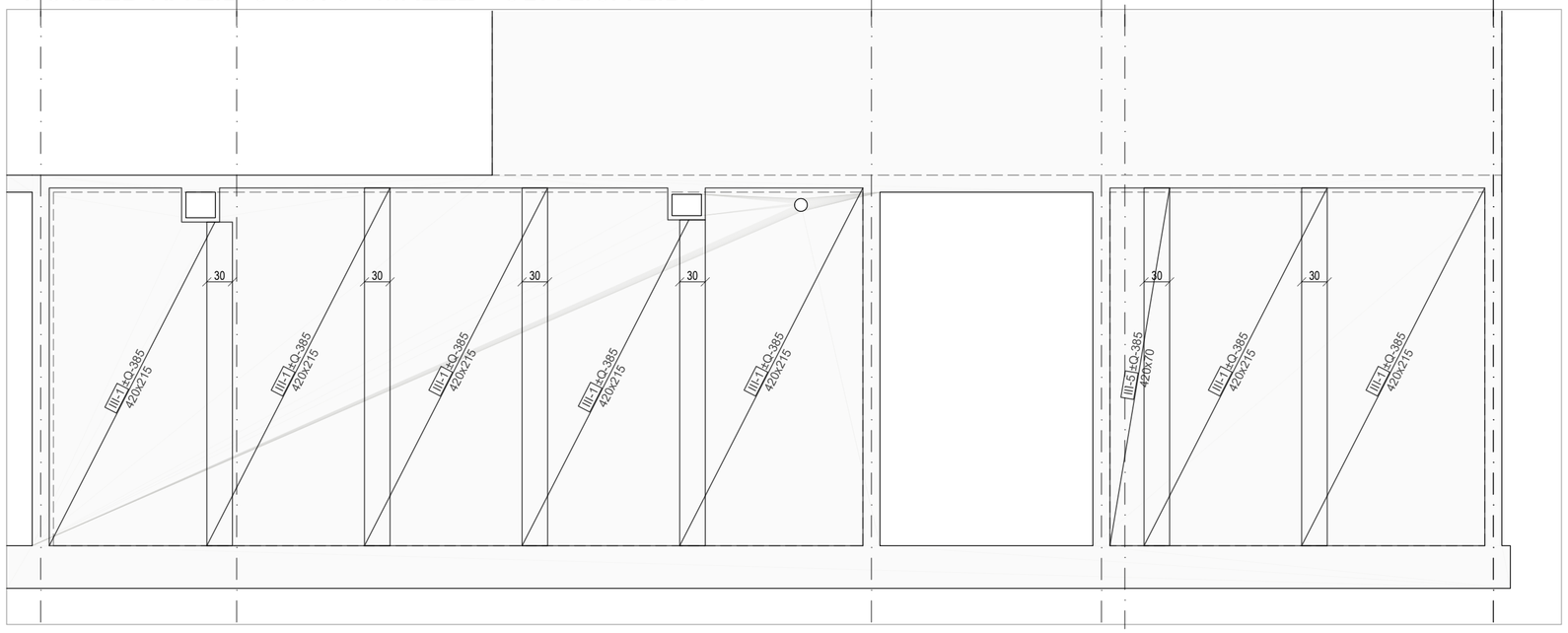
F G H I C J

POGLED NA ZID U OSI 3 - ŠIPKASTA ARMATURA



F G H I C J

POGLED NA ZID U OSI 3 - MREŽE - OBA LICA ZIDA



ZIDOVI PODRUMA

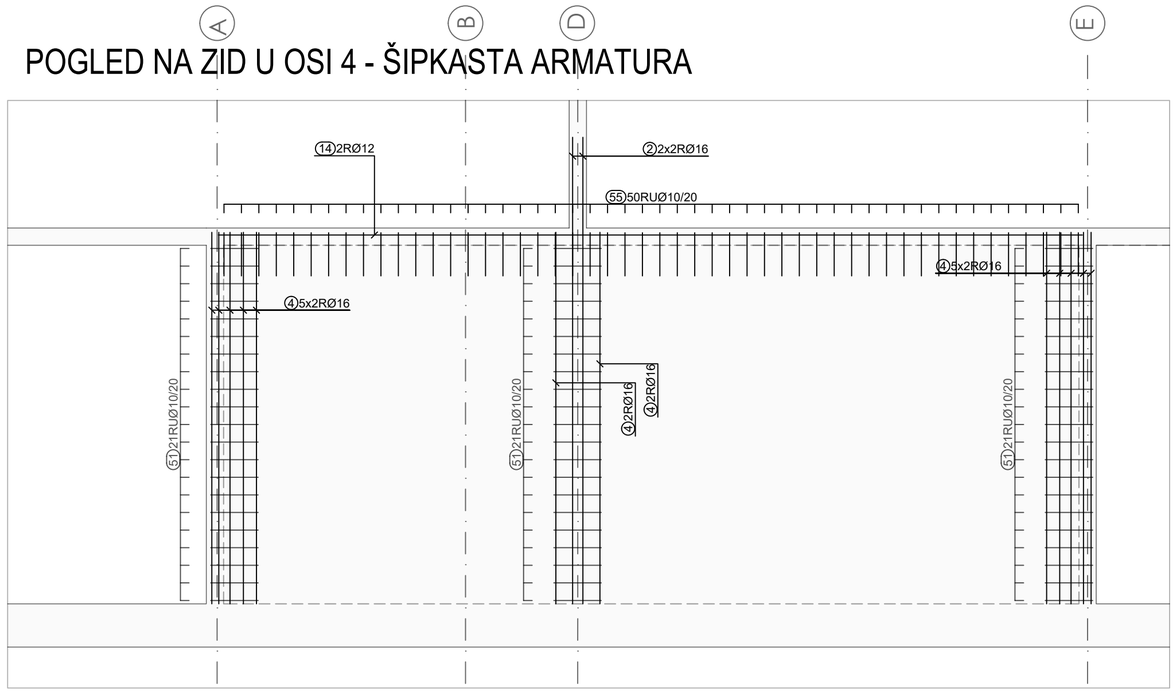
PLAN ARMATURE ZIDA U OSI 3

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

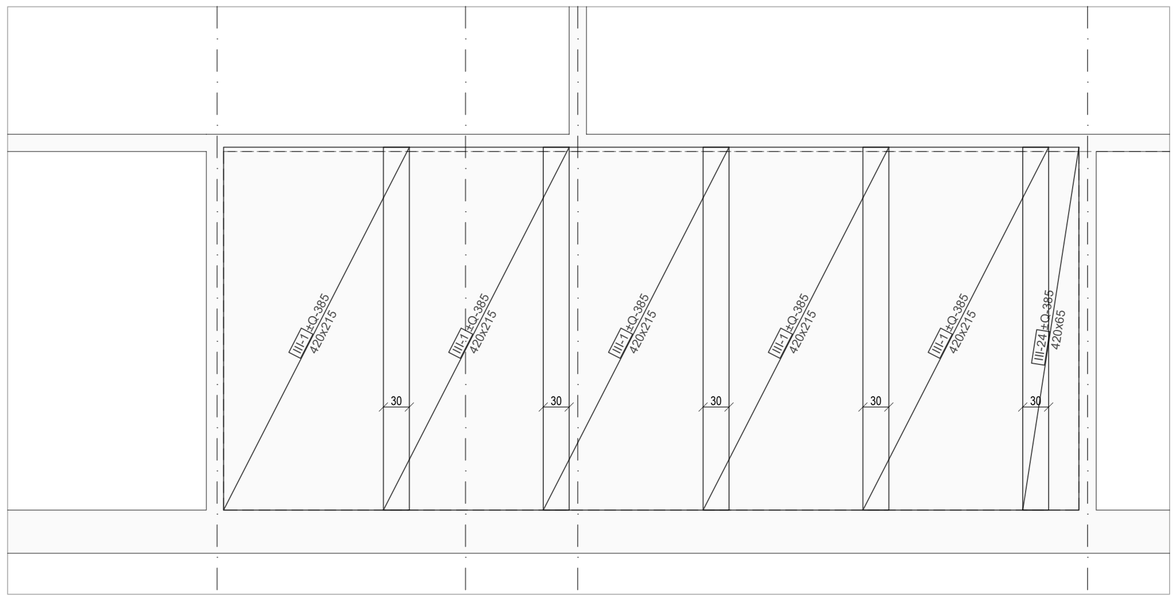
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI 3	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 2.10

POGLED NA ZID U OSI 4 - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 4 - MREŽE - OBA LICA ZIDA



ZIDOVI PODRUMA

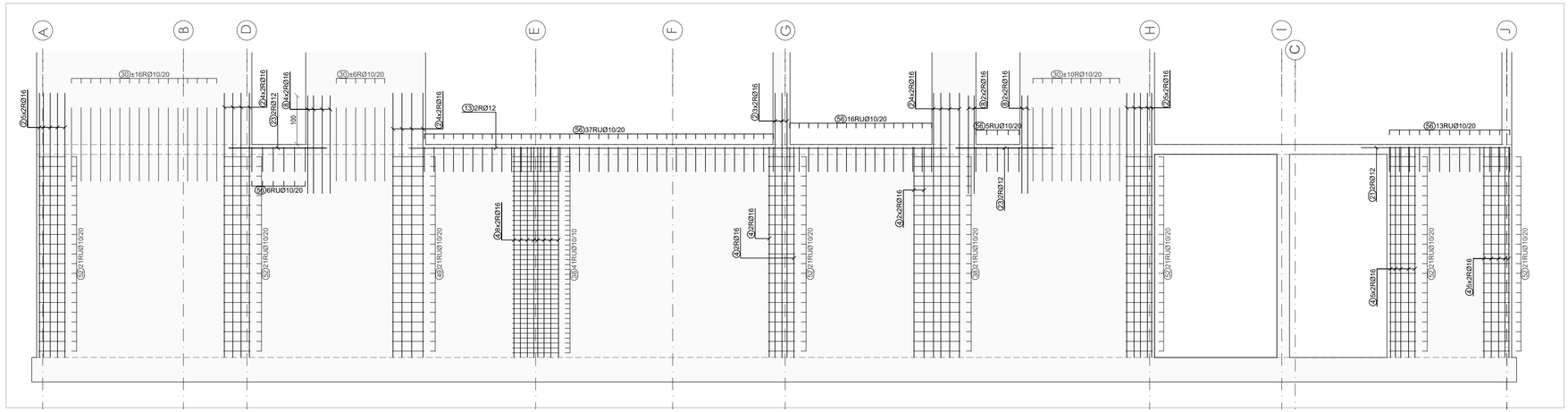
PLAN ARMATURE ZIDA U OSI 4

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

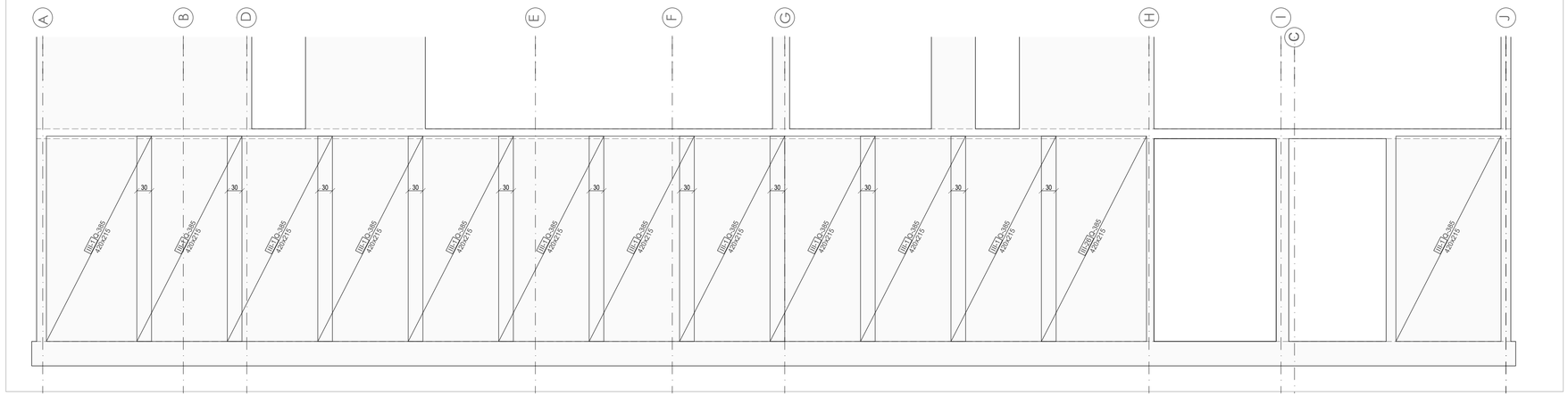
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_28-2025_IZV	*Faza projekta :*	IZVEDBENI PROJEKT
Sadržaj :	ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI 4	*Broj lista :*	2.11

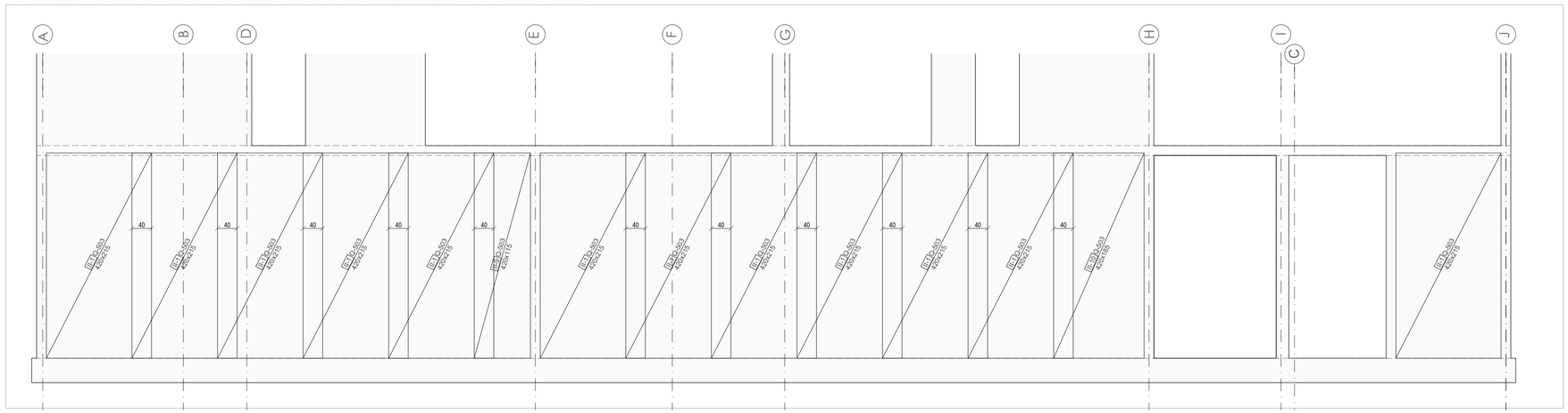
POGLED NA ZID U OSI 5 - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 5 - MREŽE - VANJSKO LICE ZIDA



POGLED NA ZID U OSI 5 - MREŽE - UNUTARNJE LICE ZIDA - PREMA OSI 3



ZIDOVI PODRUMA

PLAN ARMATURE ZIDA
U OSI 5

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Sadržaj :	ZIDOVI PODRUMA - PLAN ARMATURE ZIDA U OSI 5	*Faza projekta :*	IZVEDBENI PROJEKT
Mjerilo :	1:50	*Broj lista :*	2.12
Datum :	listopad, 2025.		
Oznaka projekta:	TD_28-2025_IZV		

Šipke - specifikacija

ozn	oblik i mjere [cm]	Ø	lg [m]	n	lgn [m]	Napomena
	ZIDOVI PODRUMA (1 kom)					
1	600	16	6.00	62	372.00	
2	540	16	5.40	417	2251.80	
3	455	16	4.55	20	91.00	
4	430	16	4.30	302	1298.60	
5	420	16	4.20	9	37.80	
6	330	16	3.30	94	310.20	
7	300	16	3.00	5	15.00	
8	200	16	2.00	20	40.00	
9	73 / 18 / 36 / 36 / 73	16	2.96	21	62.16	
10	75 / 75	16	1.50	16	24.00	
11	290 / 30	14	2.90	40	116.00	
12	105 / 75	14	1.80	321	577.80	
13	1200	12	12.00	14	168.00	
14	1100	12	11.00	2	22.00	
15	1000	12	10.00	12	120.00	
16	650	12	6.50	2	13.00	
17	600	12	6.00	4	24.00	
18	565	12	5.65	2	11.30	
19	500	12	5.00	4	20.00	
20	440	12	4.40	5	22.00	
22	300	12	3.00	32	96.00	
23	250	12	2.50	24	60.00	
24	200	12	2.00	63	126.00	
25	180	12	1.80	2	3.60	
26	170	12	1.70	8	13.60	
27	150	12	1.50	296	444.00	
28	277 / 23 / 65 / 23 / 23	12	2.48	8	19.84	
29	23 / 35 / 65 / 36 / 82	12	1.51	8	12.08	
30	75 / 75	12	1.50	38	57.00	
31	21 / 80 / 80	12	1.30	42	54.60	
32	250	10	2.50	46	115.00	
33	200	10	2.00	40	80.00	
34	150	10	1.50	572	858.00	
35	100	10	1.00	70	70.00	
36	70	10	0.70	10	7.00	
37	105 / 11 / 11 / 17 / 17 / 105	10	2.83	21	59.43	
38	105 / 11 / 11 / 16 / 16 / 105	10	2.80	42	117.60	
39	94 / 11 / 11 / 16 / 16 / 94	10	2.58	21	54.18	
40	80 / 11 / 11 / 22 / 22 / 80	10	2.51	48	120.48	
41	95 / 11 / 11 / 12 / 12 / 95	10	2.48	38	94.24	
42	95 / 11 / 11 / 11 / 11 / 95	10	2.45	165	404.25	
43	110 / 110	10	2.20	99	217.80	
44	84 / 11 / 11 / 7 / 7 / 84	10	2.41	21	50.61	
45	84 / 11 / 11 / 12 / 12 / 84	10	2.26	21	47.46	
46	80 / 11 / 11 / 12 / 12 / 80	10	2.18	21	45.78	
47	70 / 11 / 11 / 17 / 17 / 70	10	2.13	42	89.46	
48	80 / 23 / 80	10	1.83	22	40.26	
49	80 / 12 / 80	10	1.72	21	36.12	
50	60 / 11 / 11 / 16 / 16 / 60	10	1.90	526	999.40	
51	65 / 11 / 11 / 12 / 12 / 65	10	1.88	21	39.48	
52	58 / 11 / 11 / 16 / 16 / 58	10	1.86	21	39.06	
53	65 / 11 / 11 / 11 / 11 / 65	10	1.85	42	77.70	
54	54 / 11 / 11 / 17 / 17 / 54	10	1.81	39	70.59	
55	55 / 11 / 11 / 12 / 12 / 55	10	1.68	600	1008.00	
56	55 / 11 / 11 / 11 / 11 / 55	10	1.65	399	658.35	
57	50 / 50 / 18	10	1.19	263	312.97	
58	50 / 17 / 50	10	1.17	28	32.76	
59	50 / 50 / 15	10	1.15	650	747.50	
60	50 / 50 / 14	10	1.14	278	316.92	
61	50 / 12 / 50	10	1.12	204	228.48	
62	28 / 11 / 11 / 28 / 28	10	1.32	21	27.72	
63	50 / 10 / 50	10	1.10	62	68.20	
64	34 / 11 / 11 / 20 / 20	10	1.26	8	10.08	
65	35 / 35 / 10	10	0.85	261	221.85	
66	20 / 11 / 11 / 20 / 20	10	1.04	21	21.84	

Šipke - rekapitulacija

Ø [mm]	lgn [m]	Jedinična težina [kg/m1]	Težina [kg]
	B500B		
10	7388.57	0.62	4558.75
12	1287.02	0.89	1142.87
14	693.80	1.21	839.50
16	4502.56	1.58	7114.04
Ukupno (B500B)			13655.16
Ukupno			13655.16

Mreže - rekapitulacija

Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-283	215	600	36	4.48	2080.51	1620.14
Q-385	215	600	235	6.10	18492.15	13271.40
Q-503	215	600	73	8.03	7561.85	5297.48
Q-785	215	600	14	12.46	2250.28	1667.77
Ukupno					30384.79	21856.79

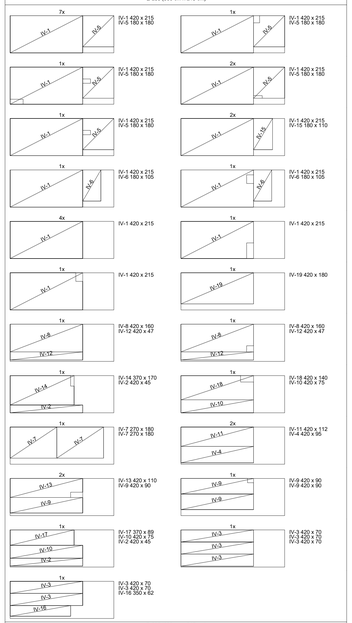
Mreže - specifikacija

Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
		ZIDOVI PODRUMA (1 kom)					
I-1	Q-785	215	450	10	12.46	1205.51	
I-2	Q-785	215	550	2	12.46	294.68	
I-3	Q-785	140	550	1	12.46	95.94	
I-4	Q-785	140	450	1	12.46	78.50	
II-1	Q-503	215	420	43	8.03	3117.97	
II-2	Q-503	110	420	1	8.03	37.18	
II-3	Q-503	215	180	1	8.03	31.08	
II-4	Q-503	155	420	1	8.03	52.28	
II-5	Q-503	150	300	2	8.03	72.27	
II-6	Q-503	215	430	2	8.03	148.47	
II-7	Q-503	215	540	8	8.03	745.83	
II-8	Q-503	85	540	1	8.03	36.86	
II-9	Q-503	115	420	1	8.03	38.78	
II-10	Q-503	185	420	1	8.03	62.39	
II-11	Q-503	120	420	1	8.03	40.47	
II-12	Q-503	125	420	3	8.03	126.47	
II-13	Q-503	215	370	4	8.03	255.51	
II-14	Q-503	145	370	2	8.03	86.16	
II-15	Q-503	215	540	1	8.03	93.23	
II-16	Q-503	215	480	4	8.03	331.48	
II-17	Q-503	60	480	2	8.03	46.24	
III-1	Q-385	215	420	159	6.10	8758.20	
III-2	Q-385	180	266	6	6.10	174.99	
III-3	Q-385	195	420	2	6.10	99.92	
III-4	Q-385	150	420	5	6.10	192.15	
III-5	Q-385	70	420	8	6.10	143.47	
III-6	Q-385	90	420	2	6.10	46.12	
III-7	Q-385	180	180	2	6.10	39.58	
III-8	Q-385	180	170	2	6.10	37.39	
III-9	Q-385	155	420	2	6.10	79.43	
III-10	Q-385	175	420	4	6.10	179.34	
III-11	Q-385	155	420	2	6.10	79.42	
III-12	Q-385	195	180	1	6.10	21.41	
III-13	Q-385	135	420	1	6.10	34.65	
III-14	Q-385	215	440	4	6.10	230.82	
III-15	Q-385	55	440	2	6.10	29.52	
III-16	Q-385	215	430	2	6.10	112.79	
III-17	Q-385	215	540	21	6.10	1487.24	
III-18	Q-385	190	540	1	6.10	62.59	
III-19	Q-385	80	420	1	6.10	20.50	
III-20	Q-385	190	420	1	6.10	48.67	
III-21	Q-385	215	450	9	6.10	531.16	
III-22	Q-385	215	550	2	6.10	144.26	
III-23	Q-385	100	550	1	6.10	33.55	
III-24	Q-385	65	420	2	6.10	33.31	
III-25	Q-385	140	450	1	6.10	38.43	
III-26	Q-385	215	420	1	6.10	55.08	
III-27	Q-385	180	300	2	6.10	65.93	
III-28	Q-385	180	180	6	6.10	118.75	
III-29	Q-385	135	420	2	6.10	69.18	
III-30	Q-385	205	420	1	6.10	52.52	
III-31	Q-385	125	540	2	6.10	82.35	
III-32	Q-385	210	420	1	6.10	53.80	
III-33	Q-385	195	540	1	6.10	64.23	
III-34	Q-385	125	420	1	6.10	32.03	
III-35	Q-385	135	420	2	6.10	69.17	
III-36	Q-385	140	540	2	6.10	92.23	
IV-1	Q-283	215	420	22	4.48	890.00	
IV-2	Q-283	45	420	2	4.48	16.93	
IV-3	Q-283	70	420	5	4.48	65.86	
IV-4	Q-283	95	420	2	4.48	35.75	
IV-5	Q-283	180	180	12	4.48	174.42	
IV-6	Q-283	105	180	2	4.48	16.96	
IV-7	Q-283	180	270	2	4.48	43.59	
IV-8	Q-283	160	420	2	4.48	60.21	
IV-9	Q-283	90	420	4	4.48	67.74	
IV-10	Q-283	75	420	2	4.48	28.22	
IV-11	Q-283	112	420	2	4.48	42.15	
IV-12	Q-283	47	420	2	4.48	17.69	
IV-13	Q-283	110	420	2	4.48	41.40	
IV-14	Q-283	170	370	1	4.48	28.18	
IV-15	Q-283	110	180	2	4.48	17.76	
IV-16	Q-283	62	350	1	4.48	9.75	
IV-17	Q-283	89	370	1	4.48	14.75	
IV-18	Q-283	140	420	1	4.48	26.34	
IV-19	Q-283	180	420	1	4.48	33.87	
Ukupno						22043.03	

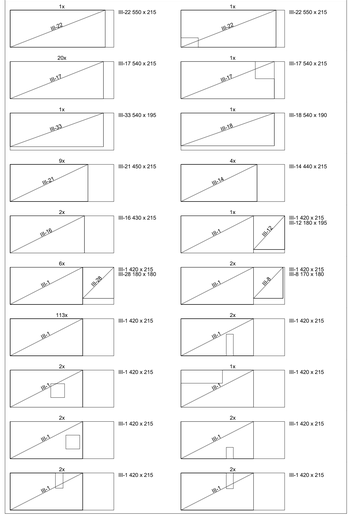
Mreže - plan rezanja

ZIDOVI PODRUMA

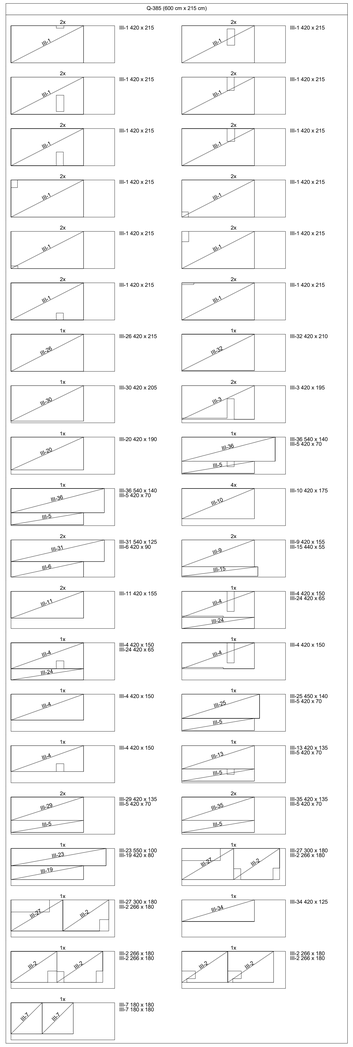
Q-283 (600 cm x 215 cm)



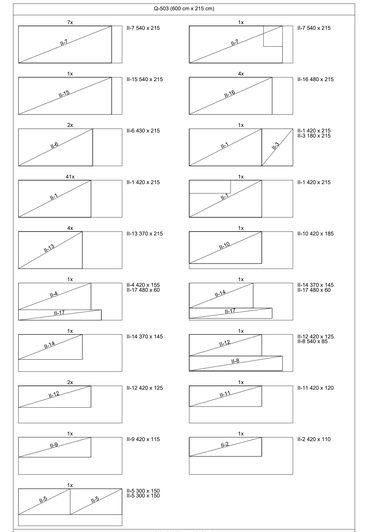
Q-385 (600 cm x 215 cm)



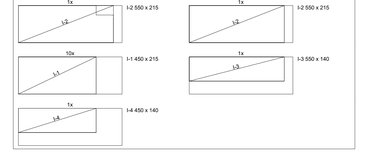
Q-385 (600 cm x 215 cm)



Q-503 (600 cm x 215 cm)



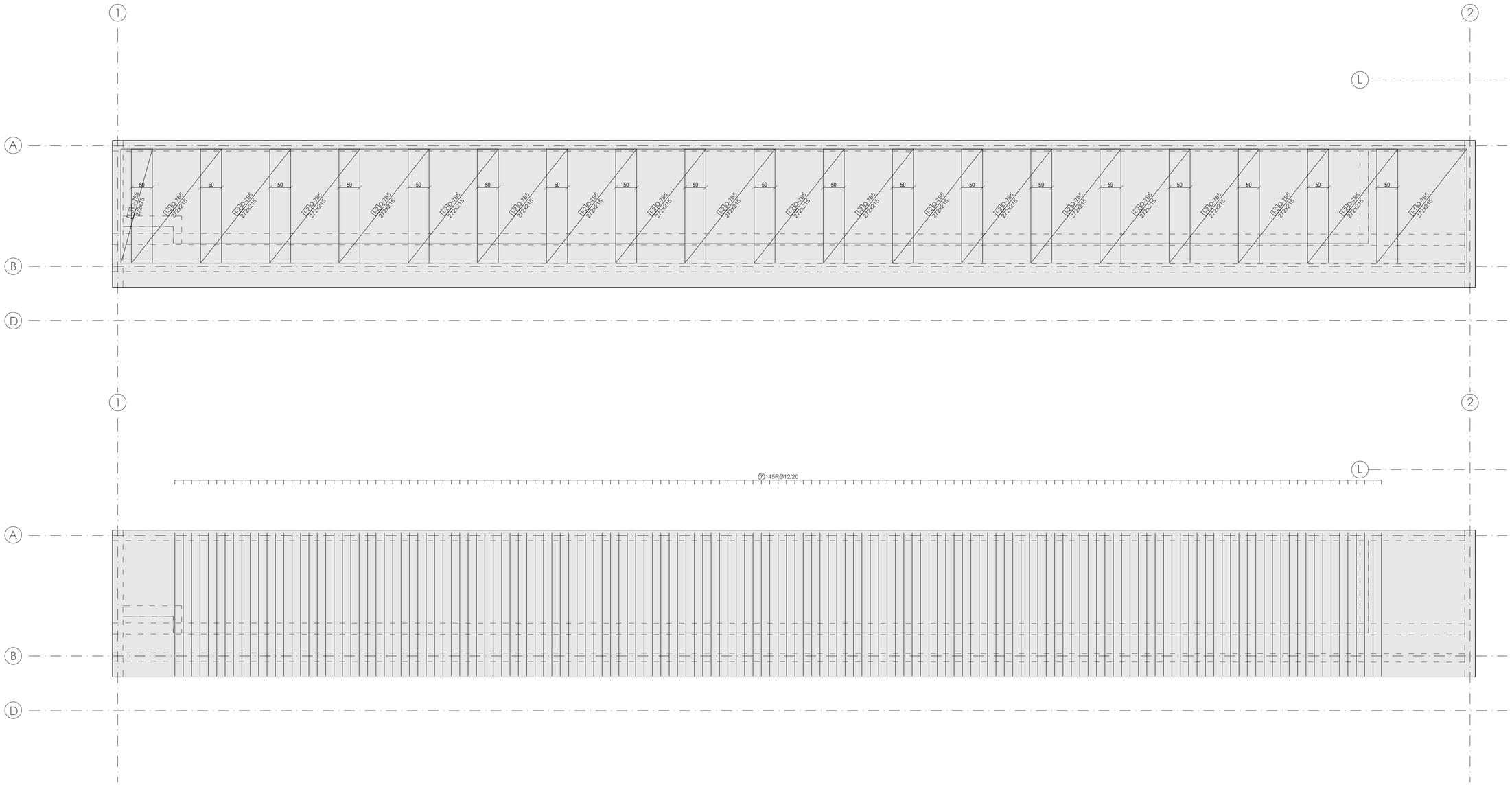
Q-785 (600 cm x 215 cm)



ISKAZ ARMATURE ZIDOVA PODRUMA

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih branitelja 13, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501046
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)
Sadržaj :	ISKAZ ARMATURE ZIDOVA PODRUMA
Mjerilo :	1:50
Datum :	listopad, 2025.
Oznaka projekta:	TD_28-2025_ZV
Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Suradnici :	MARTINA BOJČIĆ mag.ing.aedif.
Faza projekta :	IZVEDBENI PROJEKT
Broj lista :	2.13

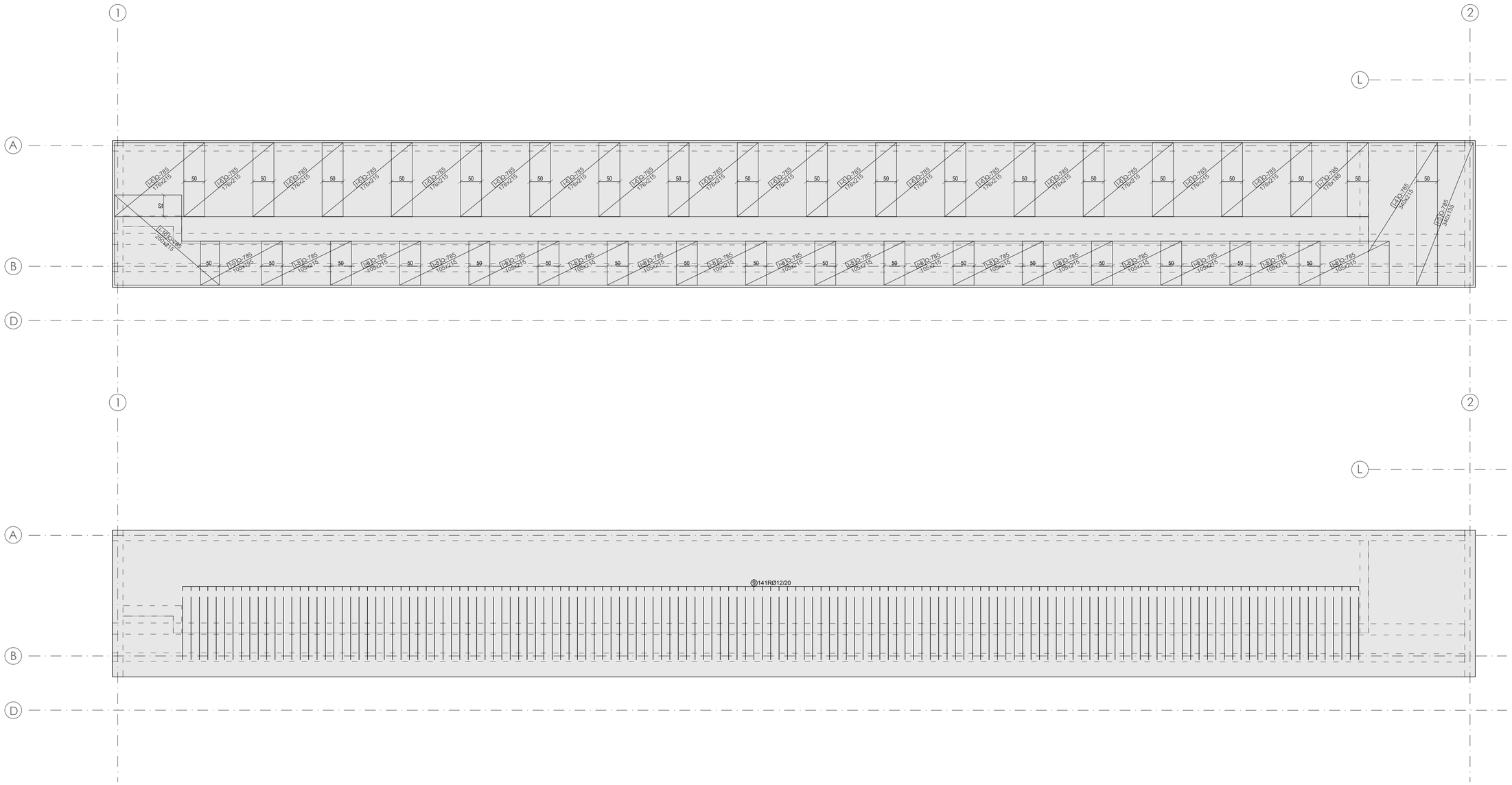


PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 101
DONJA ZONA - MREŽE + OJAČANJA

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Sadržaj :	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 101 - DONJA ZONA - MREŽE + OJAČANJA	*Faza projekta :*	IZVEDBENI PROJEKT
Broj lista :	3.1A		
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_21-2024		

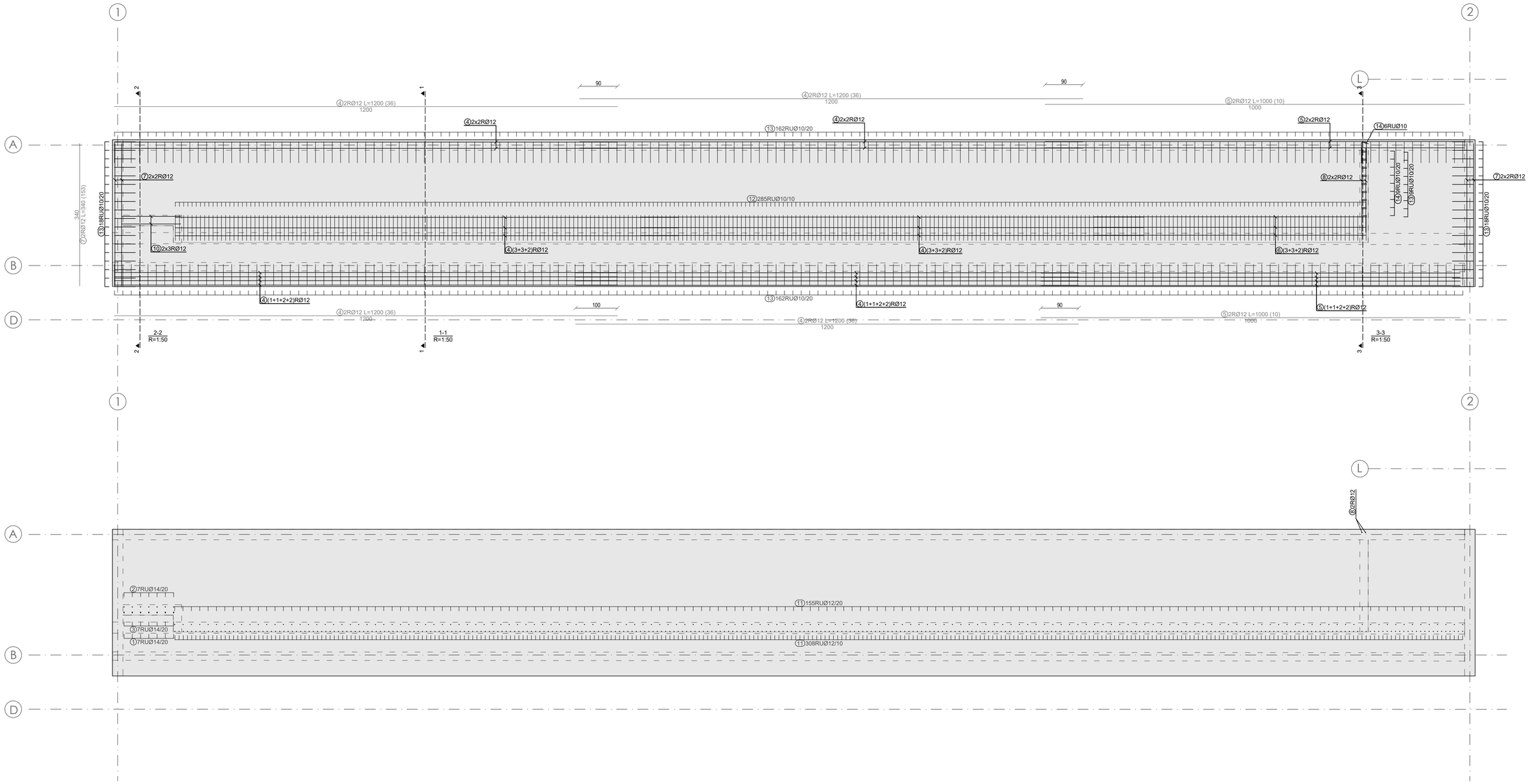


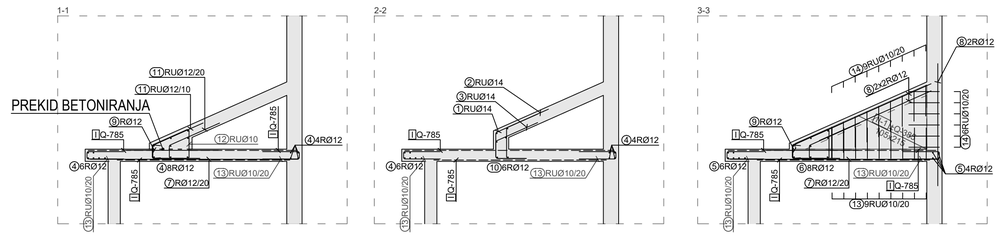
PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 101
GORNJA ZONA - MREŽE + OJAČANJA

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Sadržaj :	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 101 - GORNJA ZONA - MREŽE + OJAČANJA	*Faza projekta :*	IZVEDBENI PROJEKT
Broj lista :	3.1B		
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_21-2024		





PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 101
VILICE I KONSTRUKTIVNE ŠIPKE

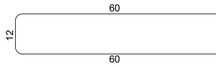
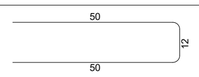
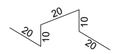
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	*Sadržaj :* PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 101 - VILICE I KONSTRUKTIVNE ŠIPKE	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 3.1C

ISKAZ ARMATURE PLOČE IZNAD PODRUMA - POZ 101

Šipke - specifikacija

ozn	oblik i mjere [cm]	Ø	lg [m]	n [kom]	lgn [m]	Napomena
PLOČA POZ 101 (1 kom)						
1		14	1.67	7	11.69	
2		14	1.55	7	10.85	
3		14	1.53	7	10.71	
4	1200	12	12.00	36	432.00	
5	1000	12	10.00	10	100.00	
6	650	12	6.50	8	52.00	
7	340	12	3.40	153	520.20	
8	200	12	2.00	6	12.00	
9	150	12	1.50	141	211.50	
10	140	12	1.40	6	8.40	
11		12	1.61	463	745.43	
12		10	2.40	285	684.00	
13		10	1.32	369	487.08	
14		10	1.12	15	16.80	
15	 3D geometrija	10	0.80	150	120.00	

Šipke - rekapitulacija

Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
B500B			
10	1307.88	0.62	806.96
12	2081.53	0.89	1848.40
14	33.25	1.21	40.23
Ukupno (B500B)			2695.59
Ukupno			2695.59

Mreže - specifikacija

Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
PLOČA POZ 101 (1 kom)							
I-1	Q-785	215	272	1	12.46	72.95	
I-2	Q-785	215	272	18	12.46	1313.35	
I-3	Q-785	75	272	1	12.46	25.44	
I-4	Q-785	215	340	1	12.46	91.08	
I-5	Q-785	135	340	1	12.46	57.19	
I-6	Q-785	215	176	17	12.46	803.72	
I-7	Q-785	185	176	1	12.46	40.68	
I-8	Q-785	215	105	16	12.46	450.06	
I-9	Q-785	195	105	1	12.46	25.51	
I-10	Q-785	215	250	1	12.46	66.97	
II-1	Q-385	215	105	2	6.10	27.54	
Ukupno						2974.49	

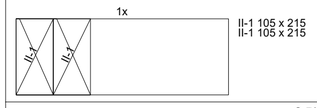
Mreže - rekapitulacija

Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-385	215	600	1	6.10	78.69	15.01
Q-785	215	600	21	12.46	3375.41	2924.43
Ukupno					3454.10	2939.44

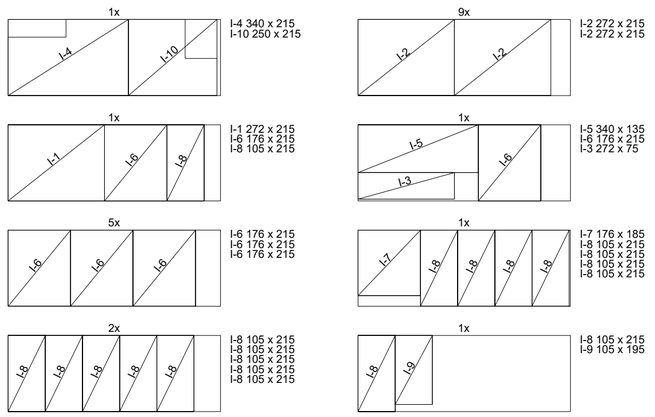
Mreže - plan rezanja

PLOČA POZ 101

Q-385 (600 cm x 215 cm)



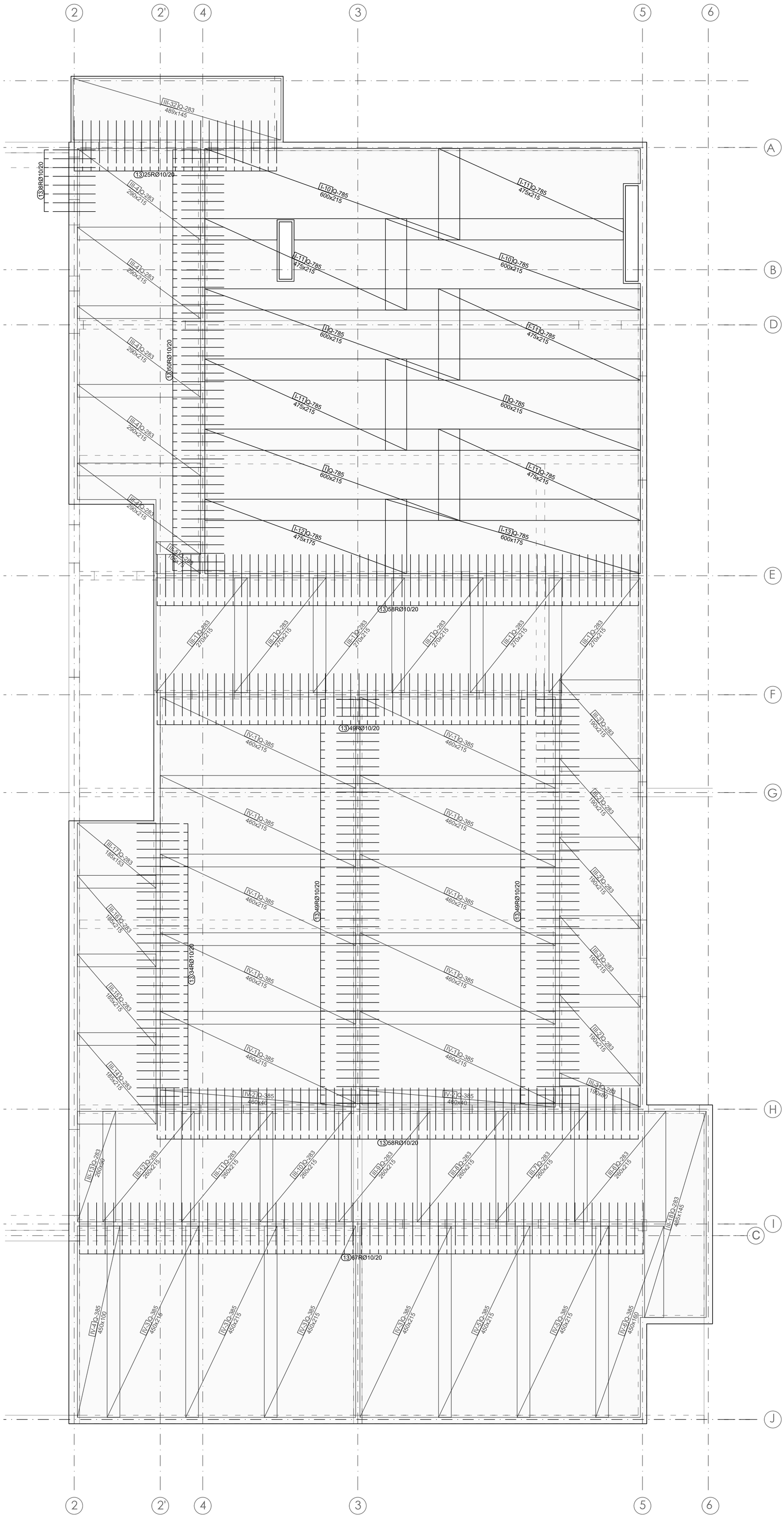
Q-785 (600 cm x 215 cm)



ORLANDINI PROJEKT d. o. o. – SPLIT

Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_21-2024	*Faza projekta :*	IZVEDBENI PROJEKT
Sadržaj :	ISKAZ ARMATURE PLOČE IZNAD PODRUMA - POZ 101	*Broj lista :*	3.1D

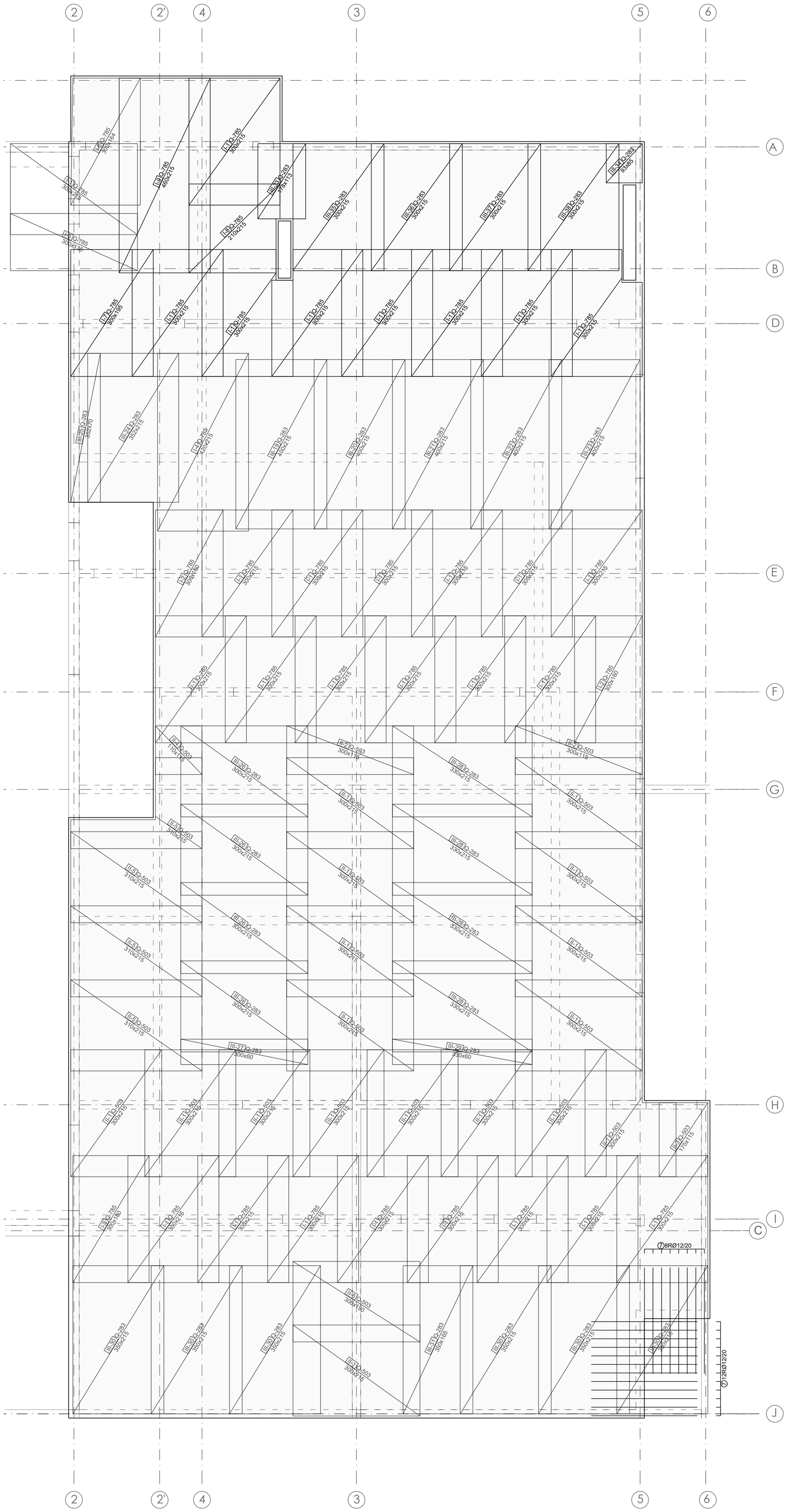


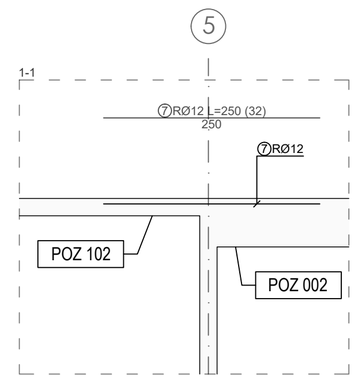
PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102
DONJA ZONA - MREŽE I ŠIPKE

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	*Sadržaj :* PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102 -DONJA ZONA - MREŽE	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 3.2A



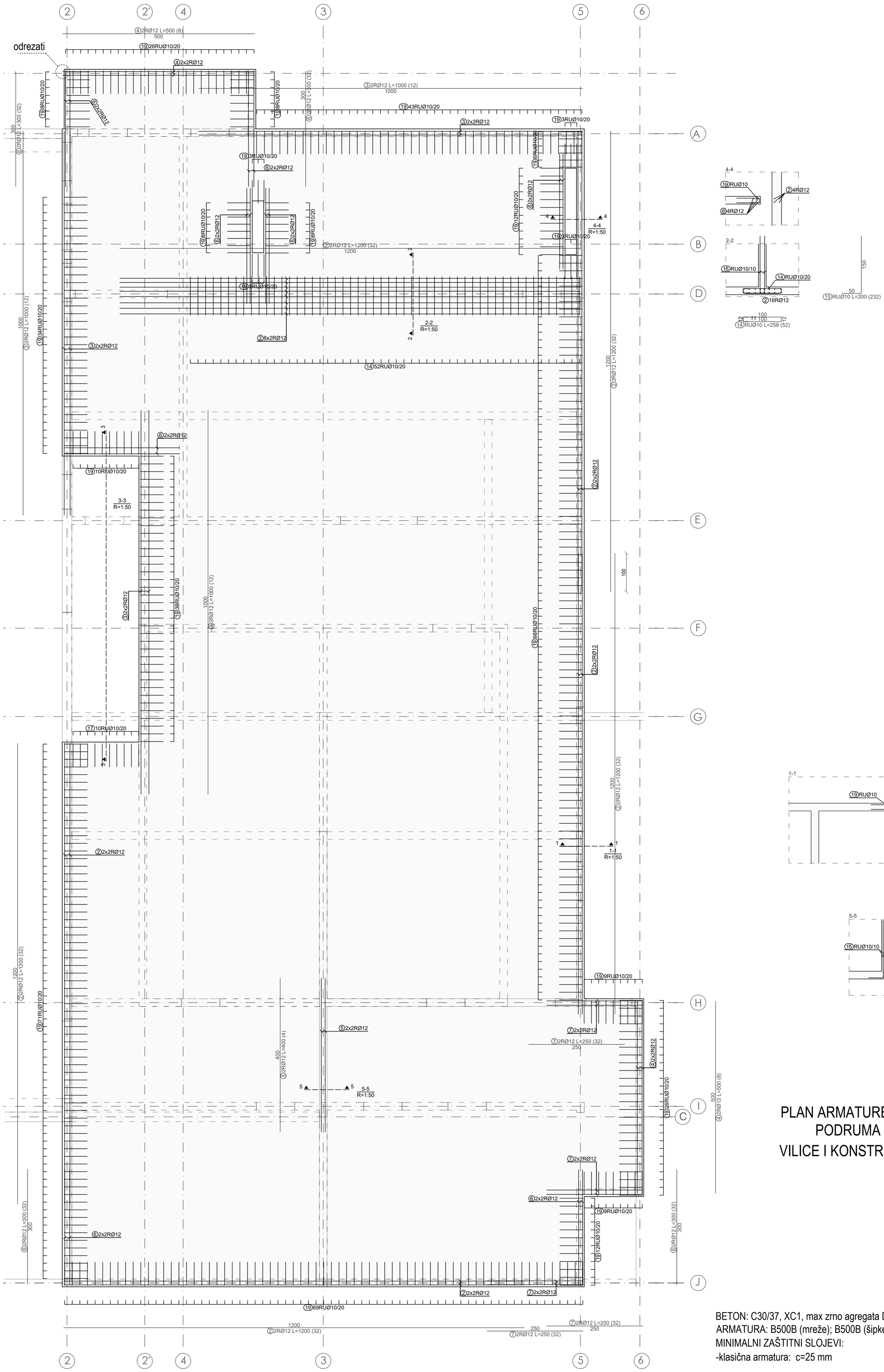


PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102 GORNJA ZONA - MREŽE I ŠIPKE

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo :	1:50		
Datum :	listopad, 2025.	*Sadržaj :*	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102 - GORNJA ZONA - MREŽE
Oznaka projekta:	TD_21-2024	*Faza projekta :*	IZVEDBENI PROJEKT
		Broj lista :	3.2B

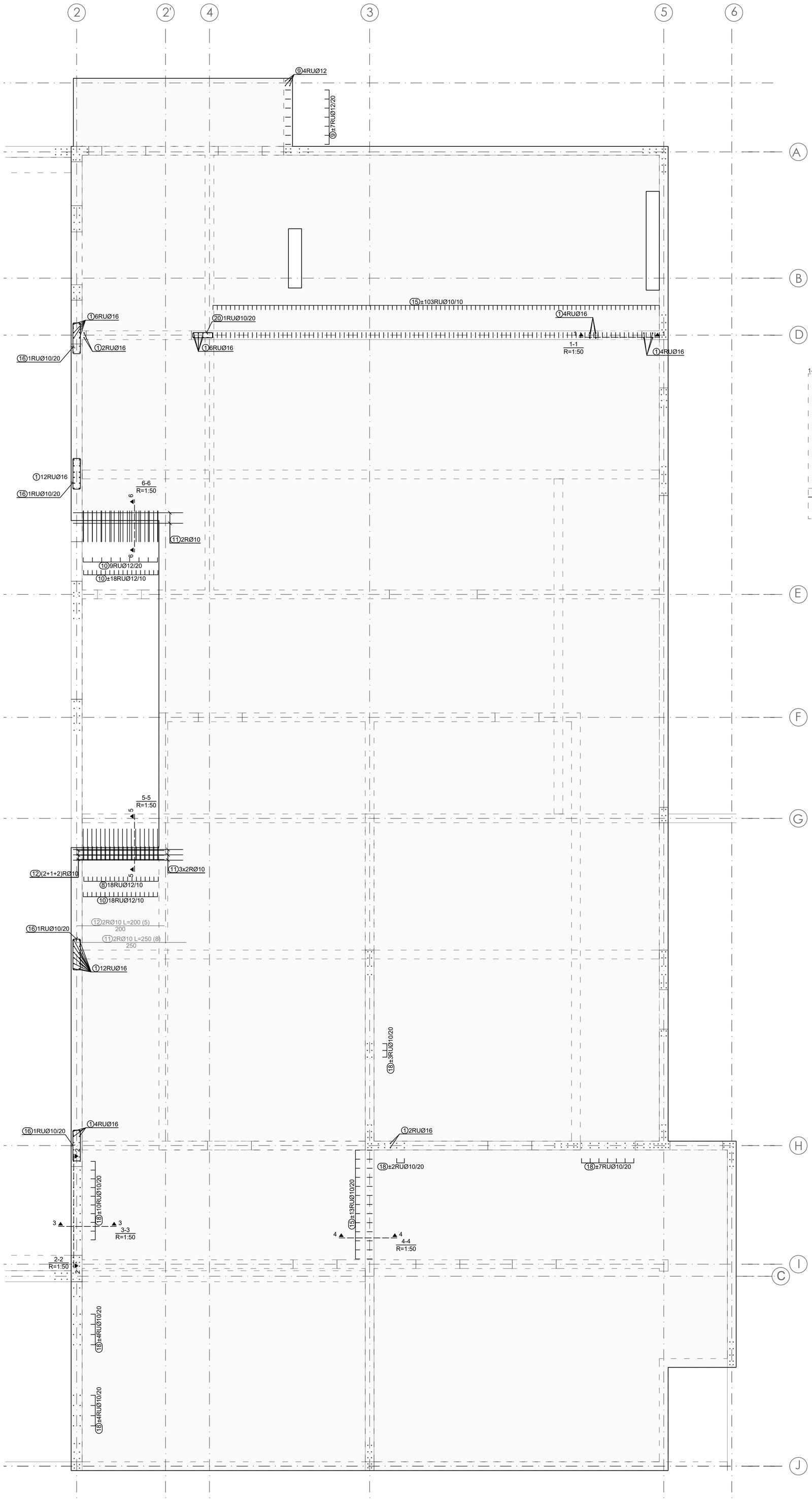


PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102
VILICE I KONSTRUKTIVNE ŠIPKE

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_21-2024		
Sadržaj :	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102 - VILICE I KONSTRUKTIVNE ŠIPKE	*Faza projekta :*	IZVEDBENI PROJEKT
		Broj lista :	3.2C



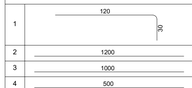
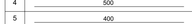
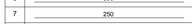
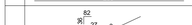
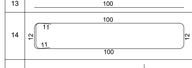
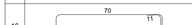
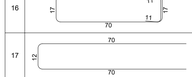
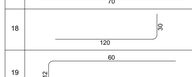
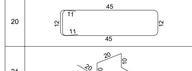
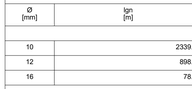
PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102 ANKERI I GREDE

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024			
Sadržaj :	PLAN ARMATURE PLOČE IZNAD PODRUMA - POZ 102 - ANKERI I GREDE	*Faza projekta :*	IZVEDBENI PROJEKT — *Broj lista :* 3.2D

Šipke - specifikacija

ozn	oblik i mjere [cm]	Ø	lg [m]	n [kom]	lgn [m]	Napomena
PLOČA POZ 102 (1 kom)						
1		16	1.50	52	78.00	
2		12	12.00	32	384.00	
3		12	10.00	12	120.00	
4		12	5.00	8	40.00	
5		12	4.00	4	16.00	
6		12	3.00	32	96.00	
7		12	2.50	32	80.00	
8		12	2.30	18	41.40	
9		12	1.50	18	27.00	
10		12	1.50	63	94.50	
11		10	2.50	8	20.00	
12		10	2.00	5	10.00	
13		10	1.00	447	447.00	
14		10	2.58	52	134.16	
15		10	2.00	232	464.00	
16		10	2.13	4	8.52	
17		10	1.52	10	15.20	
18		10	1.50	60	90.00	
19		10	1.32	507	669.24	
20		10	1.48	1	1.48	
21	3D geometrija	10	0.80	600	480.00	

Šipke - rekapitulacija

Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
B500B			
10	2339.60	0.62	1443.53
12	898.90	0.89	798.22
16	78.00	1.58	123.24
Ukupno (B500B)			2365.00
Ukupno			2365.00

Mreže - specifikacija

Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
PLOČA POZ 102 (1 kom)							
I	Q-785	215	600	3	12.46	482.20	
I-1	Q-785	215	300	29	12.46	2330.64	
I-2	Q-785	160	300	2	12.46	119.62	
I-3	Q-785	180	300	1	12.46	67.28	
I-4	Q-785	215	420	1	12.46	112.51	
I-5	Q-785	135	300	1	12.46	50.46	
I-6	Q-785	164	300	1	12.46	61.43	
I-7	Q-785	195	300	1	12.46	72.89	
I-8	Q-785	215	210	1	12.46	56.26	
I-9	Q-785	215	460	1	12.46	123.23	
I-10	Q-785	215	600	2	12.46	321.47	
I-11	Q-785	215	475	5	12.46	636.24	
I-12	Q-785	175	475	1	12.46	103.58	
I-13	Q-785	175	600	1	12.46	130.84	
II-1	Q-503	215	300	17	8.03	880.49	
II-2	Q-503	115	300	2	8.03	55.41	
II-3	Q-503	115	175	1	8.03	16.16	
II-4	Q-503	115	110	1	8.03	10.16	
II-5	Q-503	215	310	4	8.03	214.08	
II-6	Q-503	190	300	1	8.03	45.78	
III-1	Q-283	215	270	6	4.48	156.04	
III-2	Q-283	215	190	5	4.48	91.50	
III-3	Q-283	80	190	1	4.48	6.81	
III-4	Q-283	215	290	5	4.48	139.66	
III-5	Q-283	75	105	1	4.48	3.53	
III-6	Q-283	215	260	1	4.48	25.04	
III-7	Q-283	215	260	1	4.48	25.04	
III-8	Q-283	215	260	1	4.48	25.04	
III-9	Q-283	215	260	1	4.48	25.04	
III-10	Q-283	215	260	1	4.48	25.04	
III-11	Q-283	215	260	1	4.48	25.04	
III-12	Q-283	215	260	1	4.48	25.04	
III-13	Q-283	90	260	1	4.48	10.48	
III-14	Q-283	215	185	1	4.48	17.82	
III-15	Q-283	215	185	1	4.48	17.82	
III-16	Q-283	215	185	1	4.48	17.82	
III-17	Q-283	153	185	1	4.48	12.71	
III-18	Q-283	145	485	1	4.48	31.51	
III-19	Q-283	215	400	1	4.48	38.51	
III-20	Q-283	215	400	1	4.48	38.52	
III-21	Q-283	215	400	1	4.48	38.52	
III-22	Q-283	215	400	1	4.48	38.52	
III-23	Q-283	215	400	1	4.48	38.51	
III-24	Q-283	215	352	1	4.48	33.90	
III-25	Q-283	70	352	1	4.48	11.04	
III-26	Q-283	215	300	4	4.48	115.58	
III-27	Q-283	60	300	1	4.48	8.06	
III-28	Q-283	215	330	4	4.48	127.14	
III-29	Q-283	60	330	1	4.48	8.87	
III-30	Q-283	215	350	6	4.48	202.27	
III-31	Q-283	165	350	1	4.48	25.87	
III-32	Q-283	145	489	1	4.48	31.78	
III-33	Q-283	113	178	1	4.48	9.00	
III-34	Q-283	85	93	1	4.48	3.52	
III-35	Q-283	215	300	1	4.48	28.89	
III-36	Q-283	215	300	1	4.48	28.89	
III-37	Q-283	215	300	1	4.48	28.89	
III-38	Q-283	215	300	1	4.48	28.89	
IV-1	Q-385	215	460	10	6.10	603.29	
IV-2	Q-385	40	460	2	6.10	22.45	
IV-3	Q-385	215	450	4	6.10	236.07	
IV-4	Q-385	100	450	1	6.10	27.45	
IV-5	Q-385	215	450	2	6.10	118.04	
IV-6	Q-385	160	450	1	6.10	43.92	
Ukupno						8508.15	

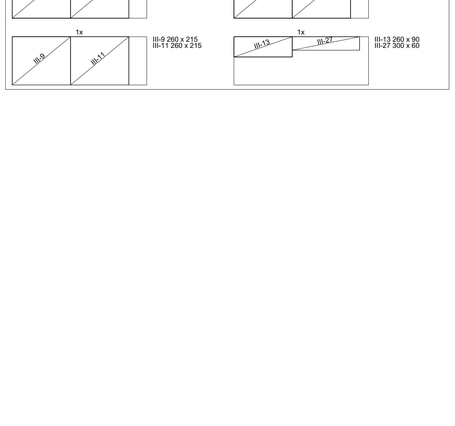
Mreže - rekapitulacija

Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-283	215	600	31	4.48	1791.55	1555.48
Q-385	215	600	18	6.10	1416.42	1043.33
Q-503	215	600	14	8.03	1450.22	1190.50
Q-785	215	600	32	12.46	5143.49	4629.65
Ukupno					9801.68	8418.95

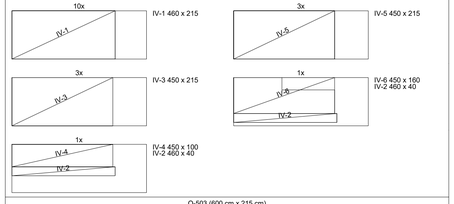
Mreže - plan rezanja

PLOČA POZ 102

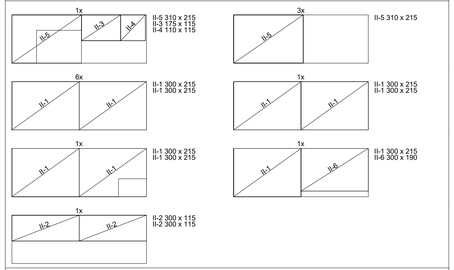
Q-283 (600 cm x 215 cm)



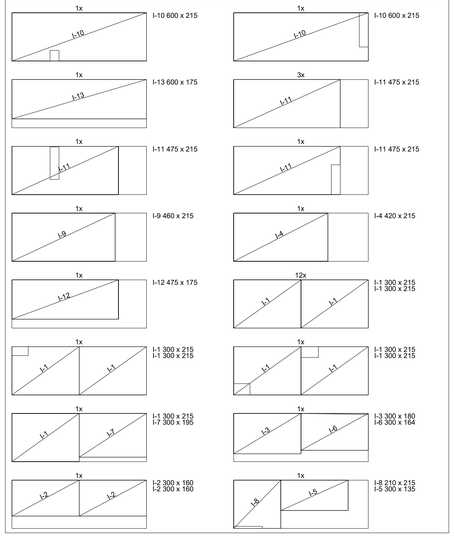
Q-385 (600 cm x 215 cm)



Q-503 (600 cm x 215 cm)



Q-785 (600 cm x 215 cm)

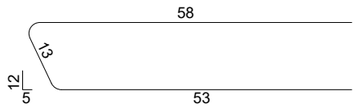


ISKAZ ARMATURE PLOČE IZNAD PODRUMA - POZ 102

ORLANDINI PROJEKT d. o. o. – SPLIT

Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

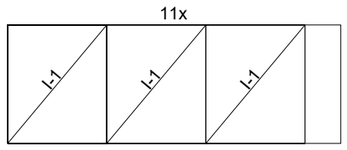
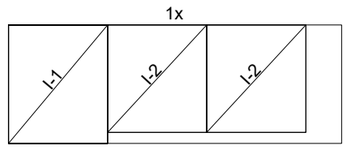
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vr. k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* ISKAZ ARMATURE PLOČE IZNAD PODRUMA - POZ 102	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_21-2024		*Broj lista :*	3.2E

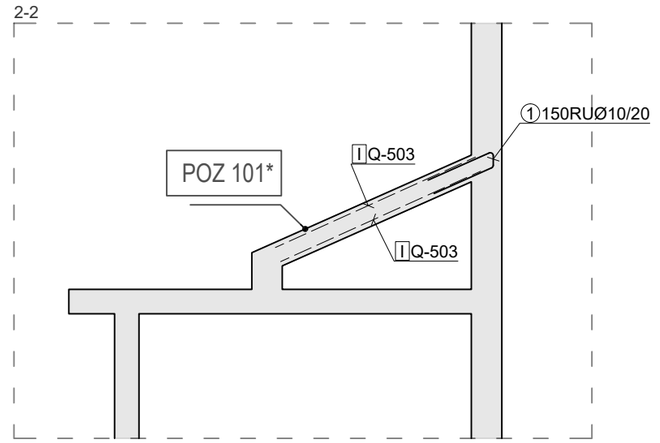
Šipke - specifikacija						
ozn	oblik i mjere [cm]	Ø	lg [m]	n [kom]	lgn [m]	Napomena
PLOČA POZ 101* (1 kom)						
1		10	1.24	150	186.00	

Šipke - rekapitulacija			
Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
B500B			
10	186.00	0.62	114.76
Ukupno (B500B)			114.76
Ukupno			114.76

Mreže - specifikacija							
Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
PLOČA POZ 101* (1 kom)							
I-1	Q-503	215	180	34	7.90	1039.48	
I-2	Q-503	195	180	2	7.90	55.46	
Ukupno						1094.94	

Mreže - rekapitulacija						
Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-503	215	605	12	7.90	1233.11	1094.94
Ukupno					1233.11	1094.94

Mreže - plan rezanja
PLOČA POZ 101*
Q-503 (605 cm x 215 cm)
 I-1 180 x 215 I-1 180 x 215 I-1 180 x 215
 I-1 180 x 215 I-2 180 x 195 I-2 180 x 195

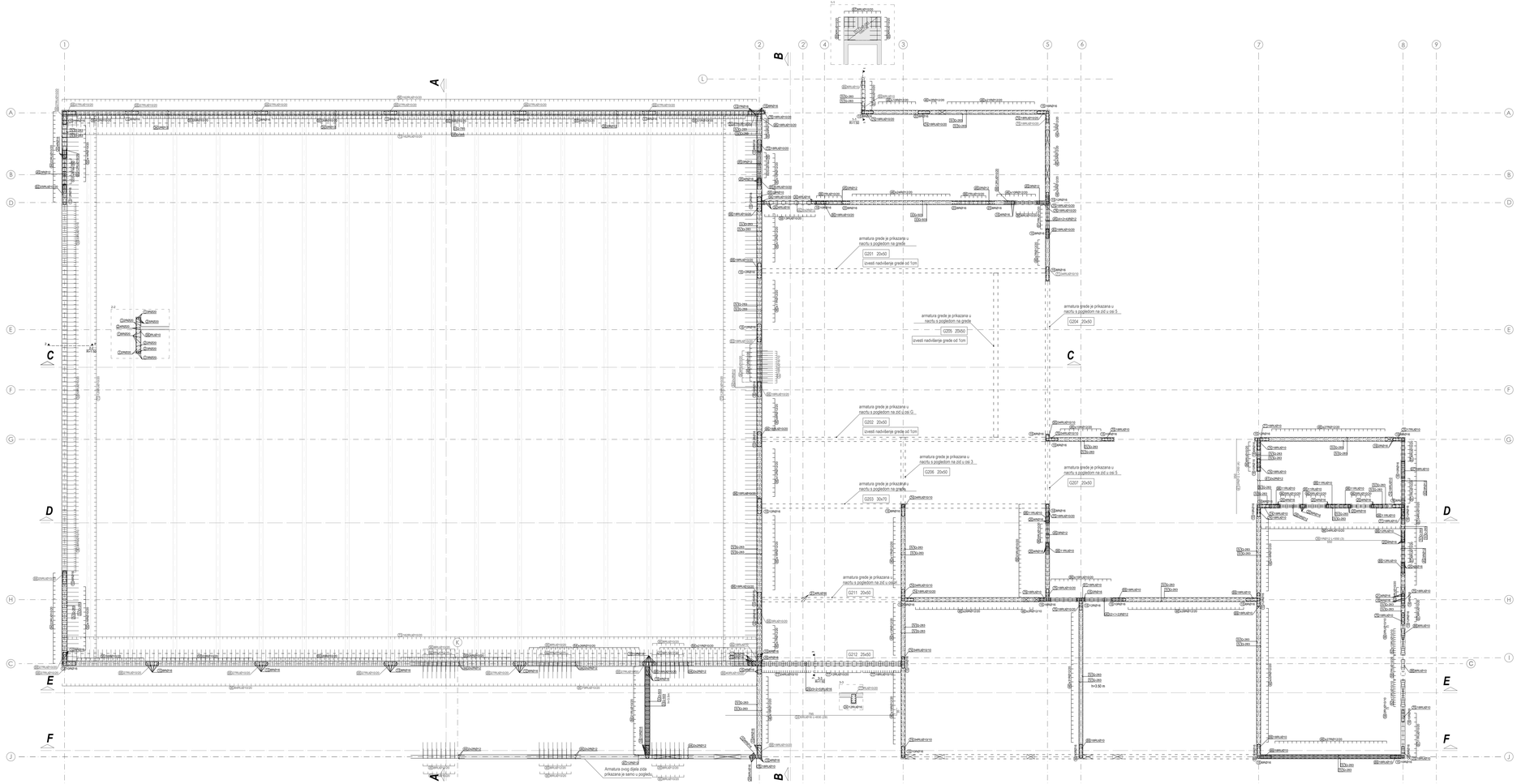


PLAN I ISKAZ ARMATURE PLOČE TRIBINA POZ 101*

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024			
Sadržaj :	PLAN I ISKAZ ARMATURE PLOČE TRIBINA - POZ 101*	*Faza projekta :*	IZVEDBENI PROJEKT
		Broj lista :	3.3

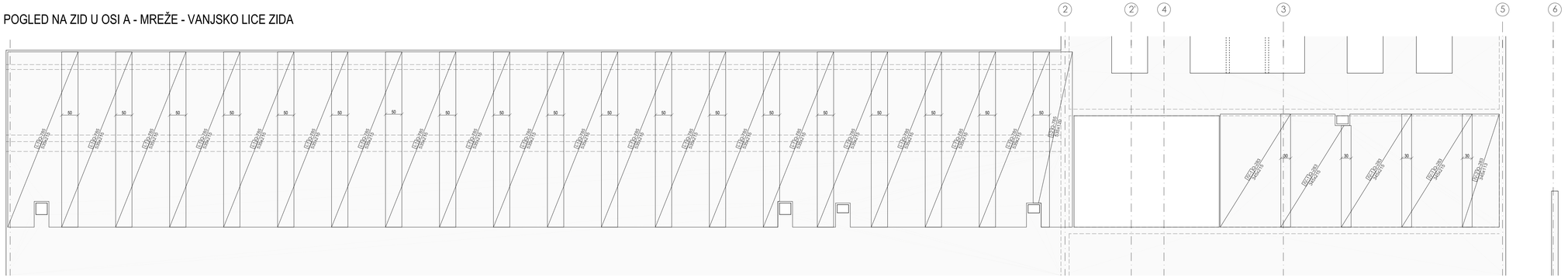


PLAN ARMATURE ZIDOVA PRIZEMLJA
TLOCRT

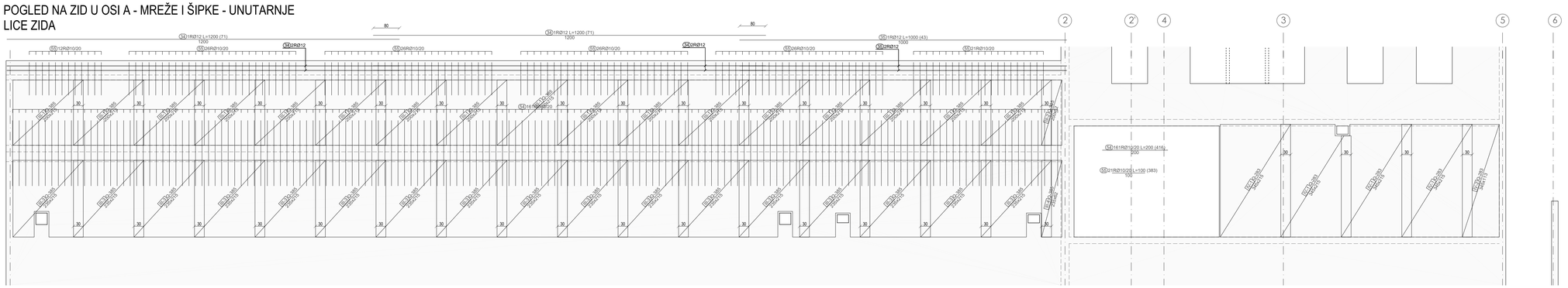
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d.o.o. – SPLIT Adresa: Hrvatskih vladara bb, 21 210 SOLIN SPLIT Ime i prezime ovlaštenog inženjera: Ivana Orlandini, dipl.ing.arh.			OIB: 64758429629
Investitor	OSNOVNA ŠKOLA PRVOLAVA, Ivana Pavla II 12, 23233 Prvolava, OIB: 62233501548	Projektant (naziv/ime prezime projektanta)	IVO ORLANDINI mag.ing.aedif.
Građevina	SKLOPOVSKA OBNOVNA OSNOVNA ŠKOLA	Suradnici	
Lokacija	VI, k.č. 4368, 4369, 4370, 4371/1 k.o. VI (katastarska k.o. 42771 k.o. VI)	Surađuju	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo: 1:50 Datum: listopad 2020. Oznaka projekta: 19_21-2020	Sadržaj: PLAN ARMATURE ZIDOVA PRIZEMLJA - TLOCRT	Faza projekta: IZVEDBENI PROJEKT	Broj lista: 4.2.

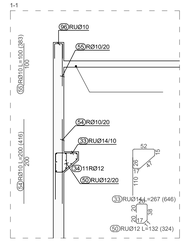
POGLED NA ZID U OSI A - MREŽE - VANJSKO LICE ZIDA



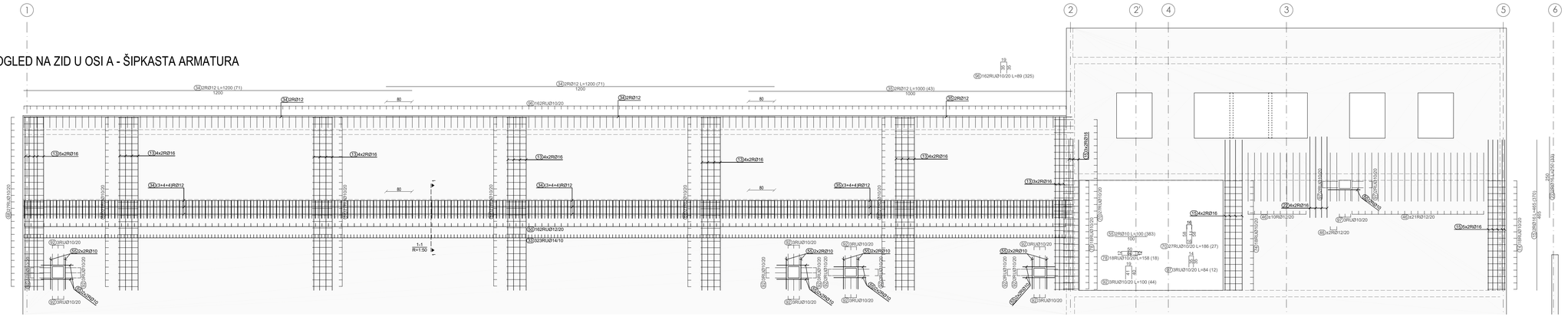
POGLED NA ZID U OSI A - MREŽE I ŠIPKE - UNUTARNJE LICE ZIDA



vilice su iskazane na nacrtu ploče



POGLED NA ZID U OSI A - ŠIPKASTA ARMATURA

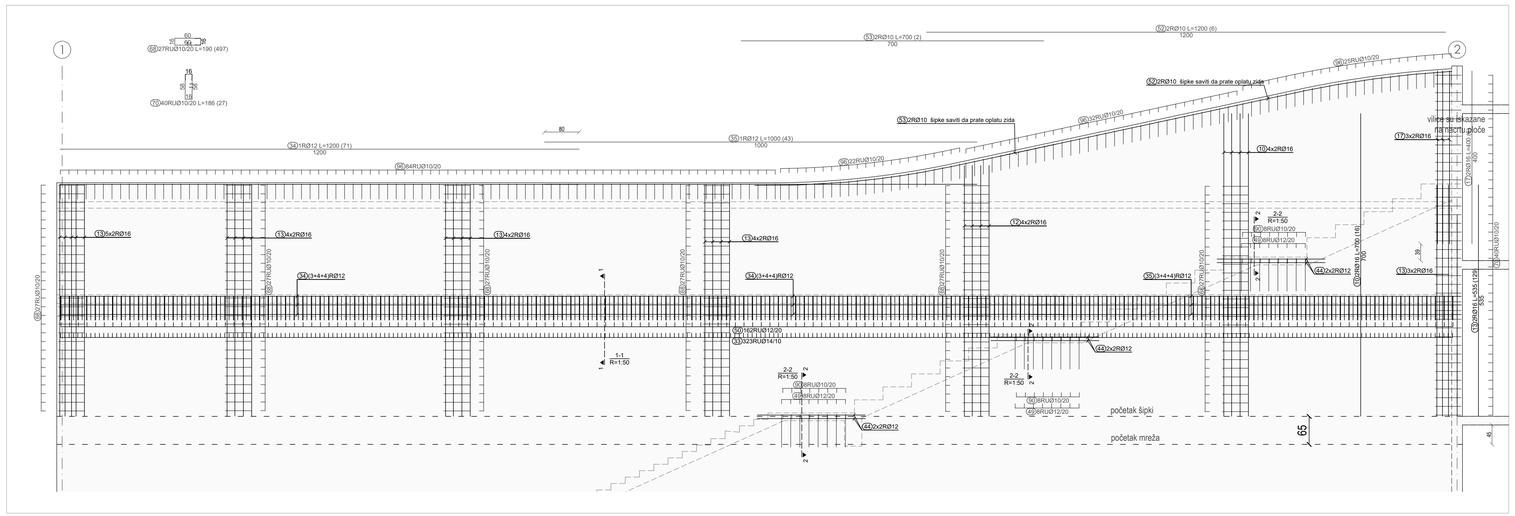


ZIDOVI PRIZEMLJA
PLAN ARMATURE ZIDA U OSI A

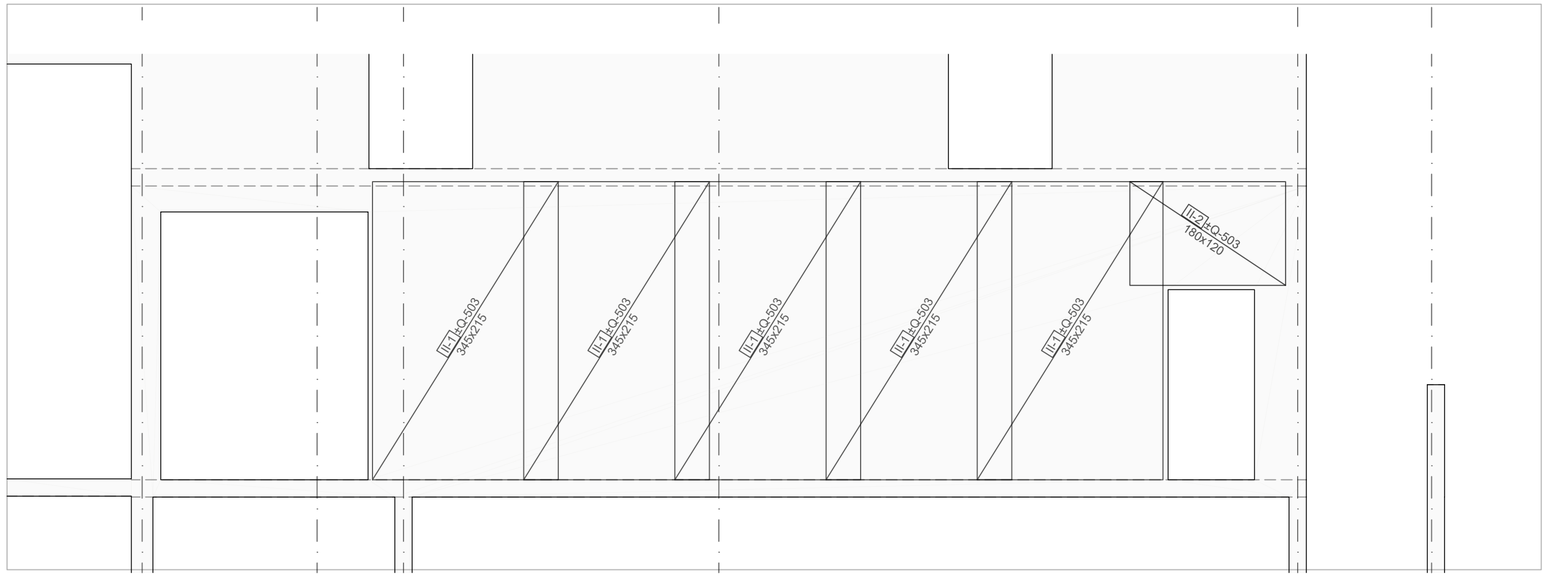
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT			
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT		OIB: 64758426529	
Investitor:	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501048	Projektant izvedbenog projekta:	IVO ORLANDINI mag.ing.aedif.
Građevina:	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	Suradnici:	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija:	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo: 1:50			
Datum: listopad, 2025.		Faza projekta:	IZVEDBENI PROJEKT
Oznaka projekta: TD_09-2025_IZV	Sadržaj: ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI A		Broj lista: 4.1

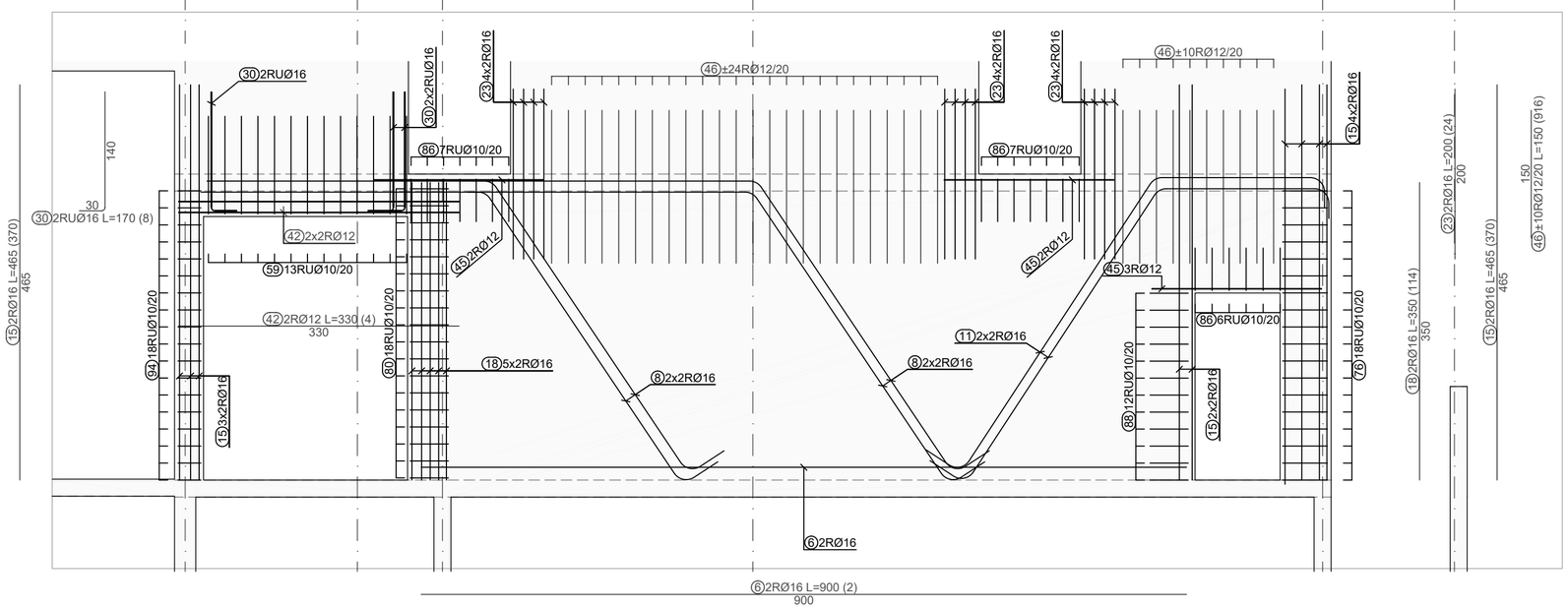
POGLED NA ZID U OSI C - ŠIPKASTA ARMATURA

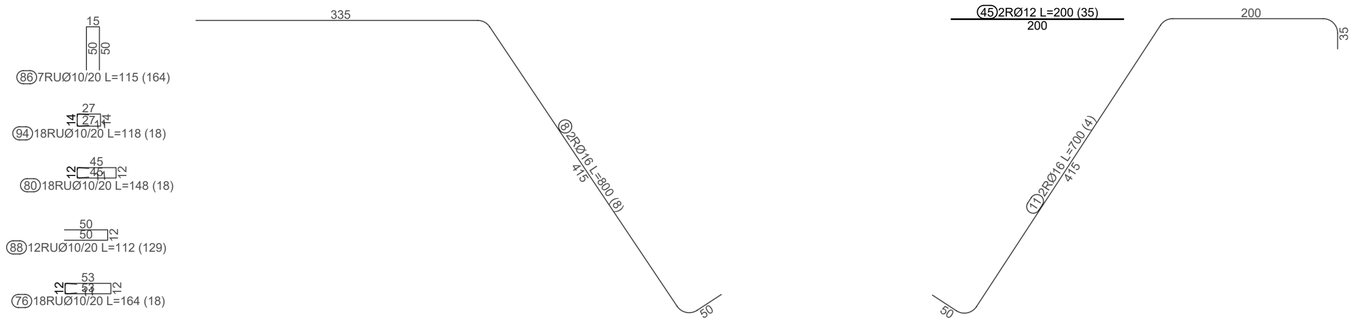

1
2
(68)27RUØ10/20 L=190 (497)
(70)40RUØ10/20 L=186 (27)
(53)2RØ10 L=700 (2)
700
(52)2RØ10 L=1200 (6)
1200
(69)15RUØ10/20
(52)2RØ10 šipke saviti da prate oplatu zida
(53)2RØ10 šipke saviti da prate oplatu zida
(69)12RUØ10/20
vilice se isklazane na mjestu ploče
(17)3x2RØ16
(52)1RØ12 L=1200 (71)
1200
(53)1RØ12 L=1000 (43)
1000
(69)22RUØ10/20
(69)84RUØ10/20
(11)4x2RØ16
(13)5x2RØ16
(13)4x2RØ16
(13)4x2RØ16
(1)4x2RØ16
(12)4x2RØ16
(55)3+4+4JRØ12
(55)3+4+4JRØ12
(55)3+4+4JRØ12
(70)RUØ10/20
(70)RUØ10/20
(70)RUØ10/20

ZID U OSI D - MREŽE U OBA LICA ZIDA



ZID U OSI D - ŠIPKASTA ARMATURA





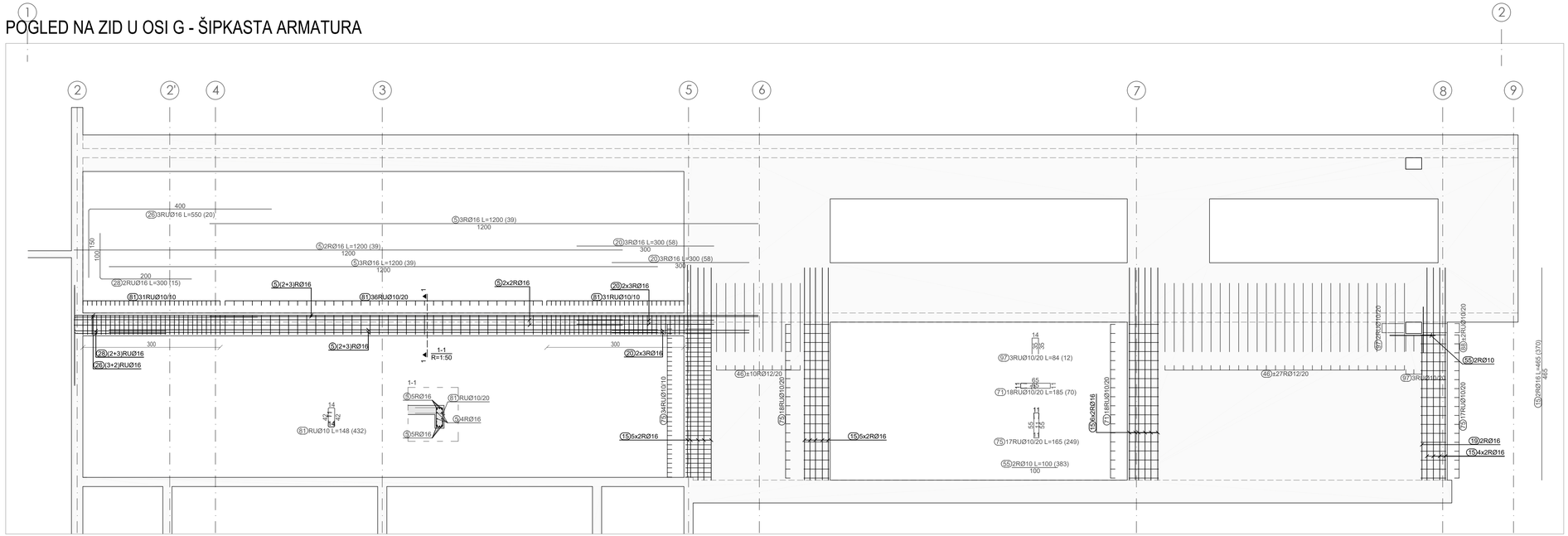
ZIDOVI PRIZEMLJA
PLAN ARMATURE ZIDA
U OSI D

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

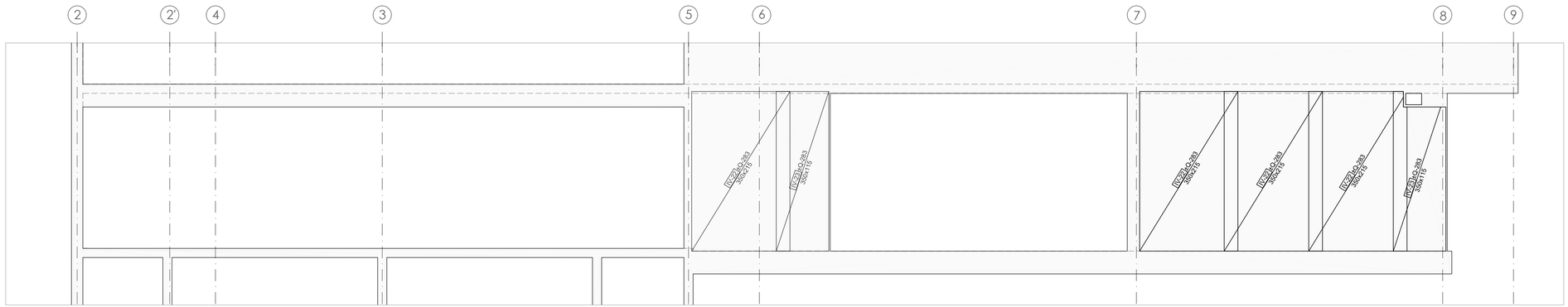
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI D	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 4.3

POGLED NA ZID U OSI G - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI G - MREŽE - OBA LICA ZIDA



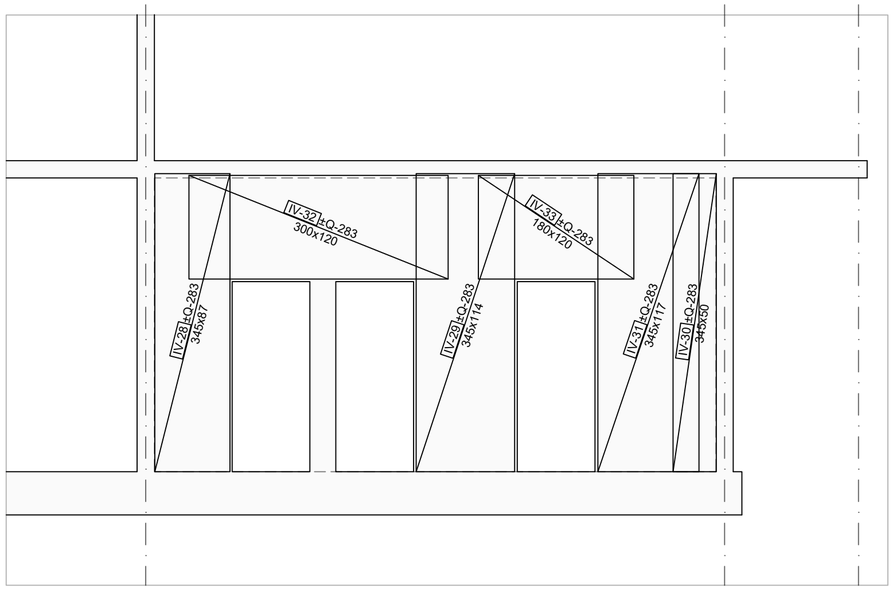
ZIDOVI PRIZEMLJA
PLAN ARMATURE ZIDA
U OSI G

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT OIB: 6475826529			
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Sadržaj :	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI G	*Faza projekta :*	IZVEDBENI PROJEKT
Mjerilo : 1:50		*Broj lista :*	4.4
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV			

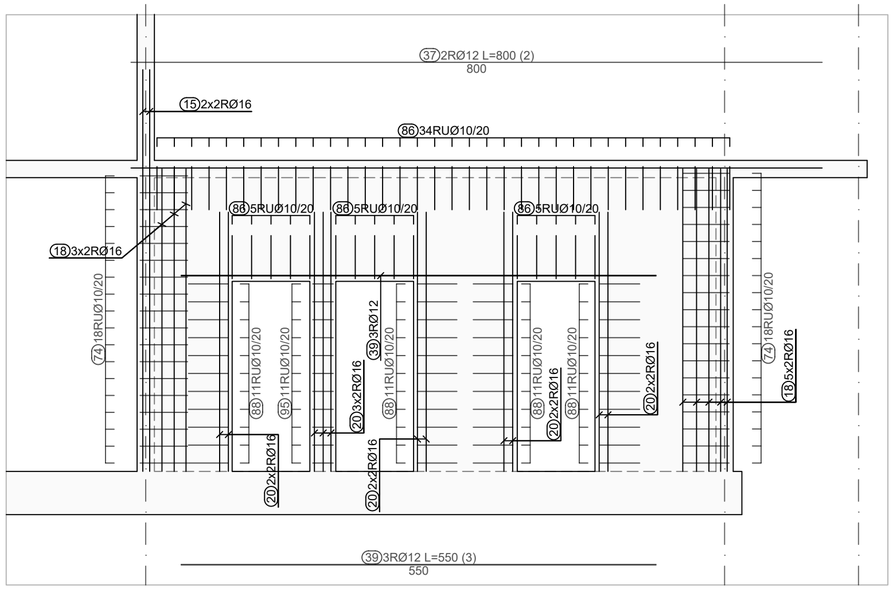
7 8 9

POGLED NA ZID IZMEĐU OSI G i H - MREŽE - OBA LICA ZIDA



7 8 9

POGLED NA ZID IZMEĐU OSI G i H - ŠIPKASTA ARMATURA





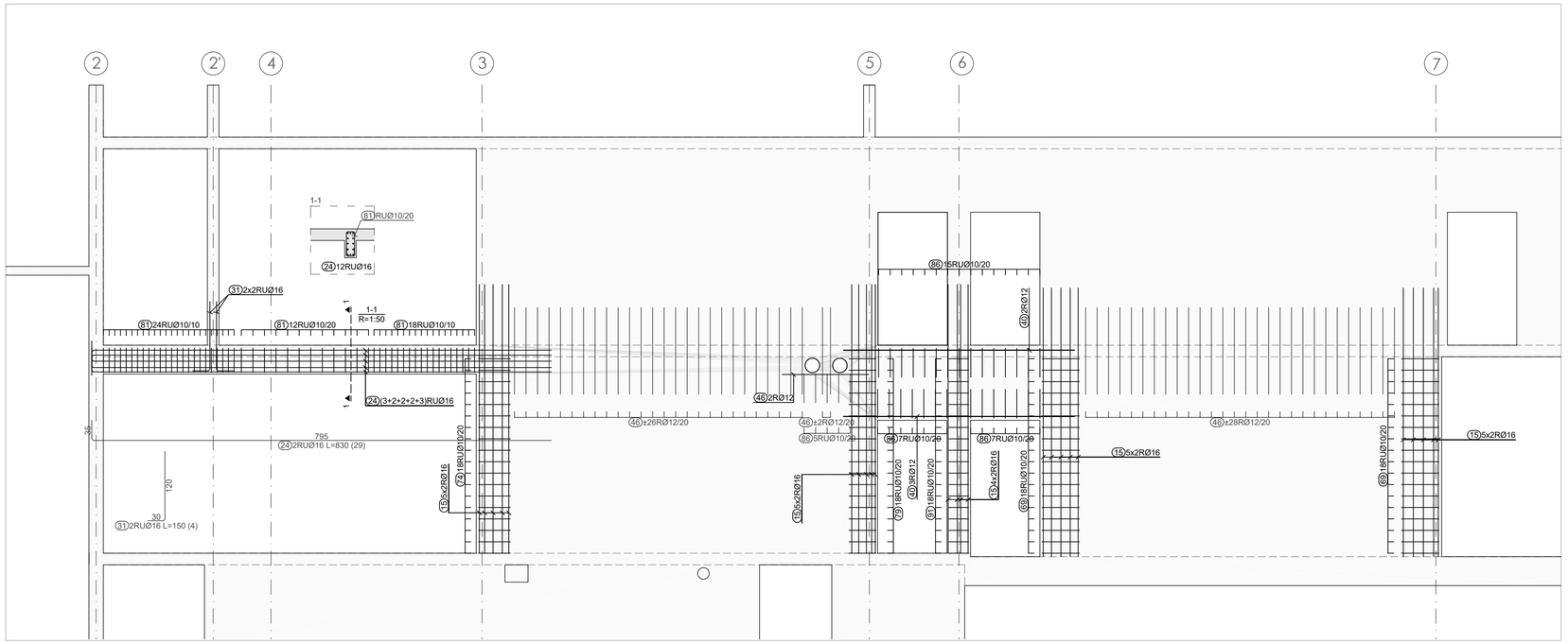
ZIDOVI PRIZEMLJA
PLAN ARMATURE ZIDA
IZMEĐU OSI G i H

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT OIB: 64758426529

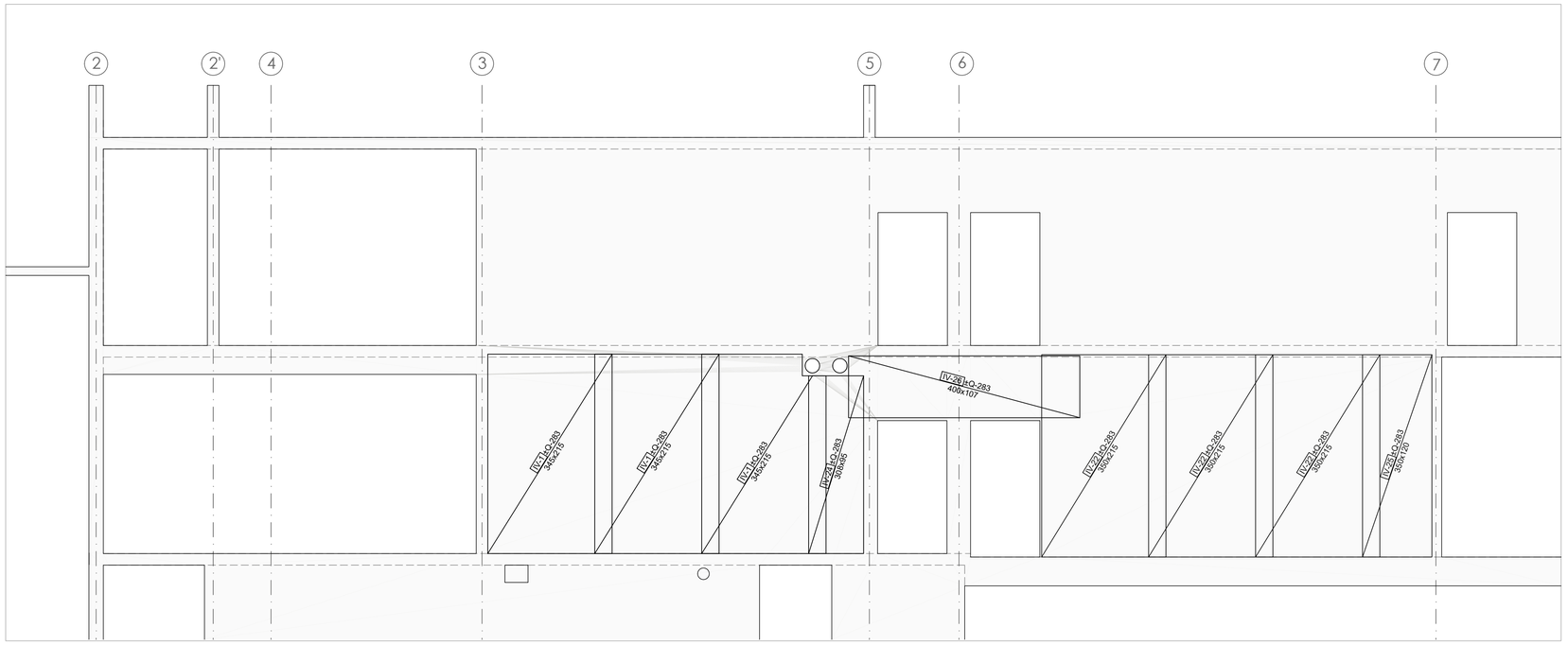
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA IZMEĐU OSI G i H	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 4.5

POGLED NA ZID U OSI H - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI H - MREŽE - OBA LICA ZIDA

40 3RØ12 L=400 (10)
400

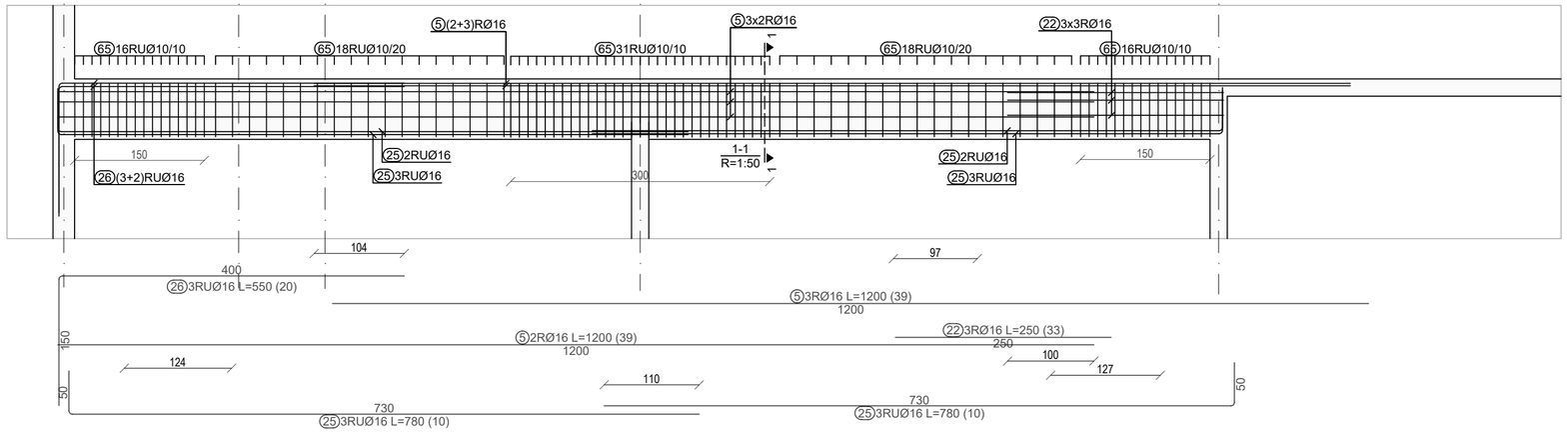


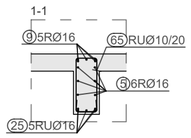
ZIDOVI PRIZEMLJA
PLAN ARMATURE ZIDA
U OSI H

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

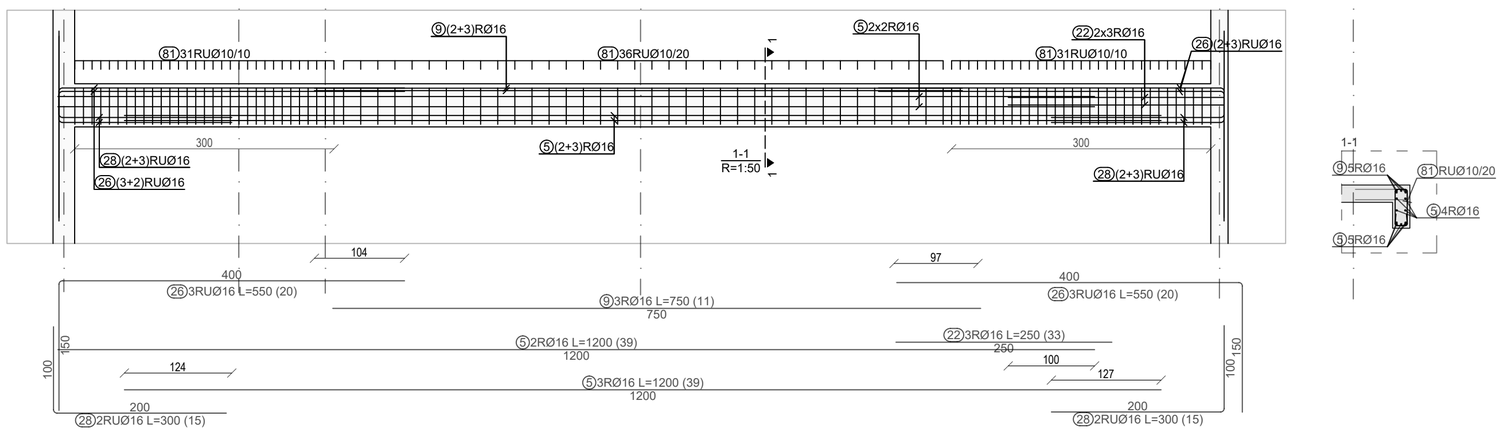
	ORLANDINI PROJEKT d. o. o. – SPLIT Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT OIB: 64758426529		
	Investitor : OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
	Građevina : DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50	*Lokacija :* VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Datum : listopad, 2025.	*Sadržaj :* ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI H	*Faza projekta :*	IZVEDBENI PROJEKT *Broj lista :* 4.6
Oznaka projekta: TD_28-2025_IZV			

POGLED NA GREDU G203 30x70cm

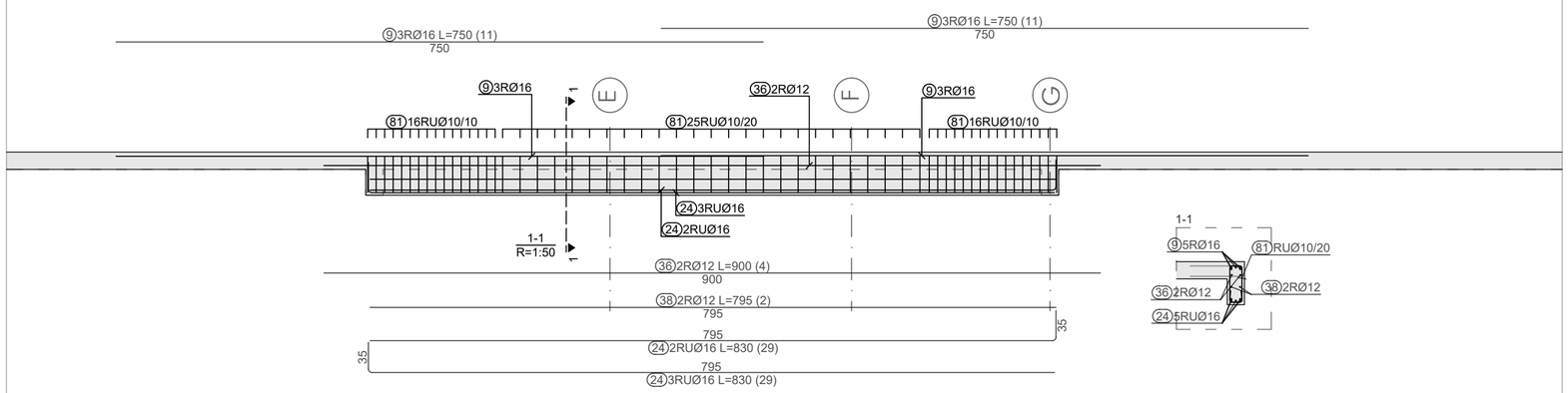




POGLED NA GREDU G201 20x50cm



POGLED NA GREDU G205 20x50cm



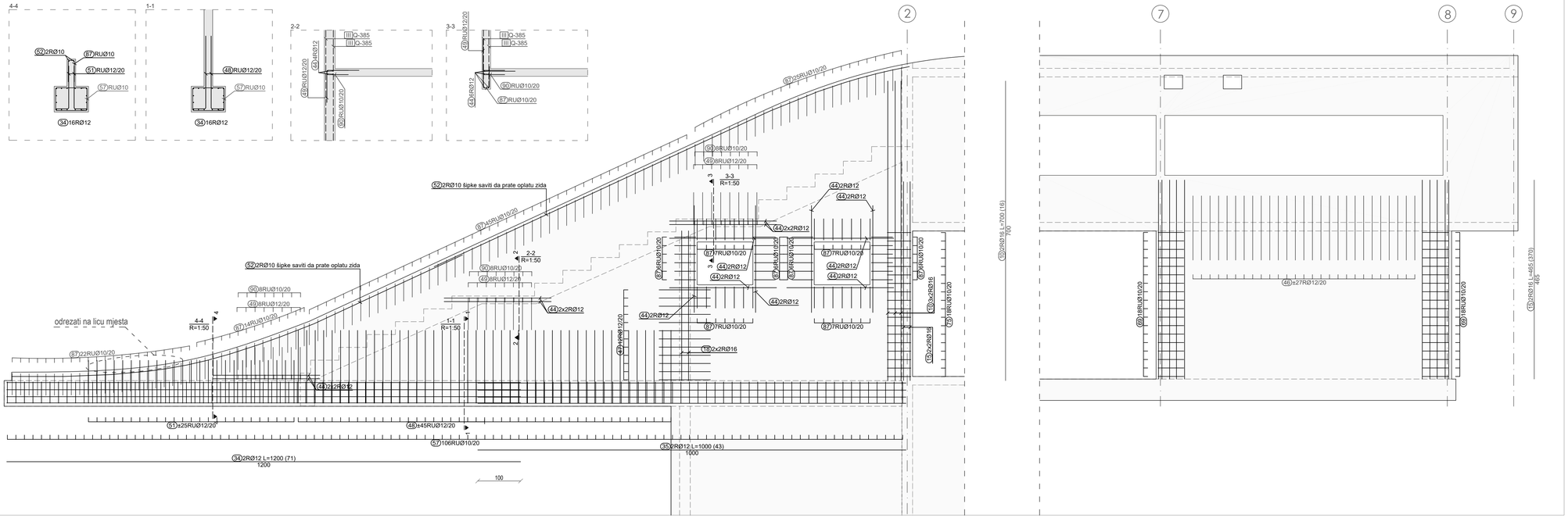
ZIDOVI PRIZEMLJA
PLAN ARMATURE GREDA KOJE NISU CRTANE U SKLOPU ZIDA

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

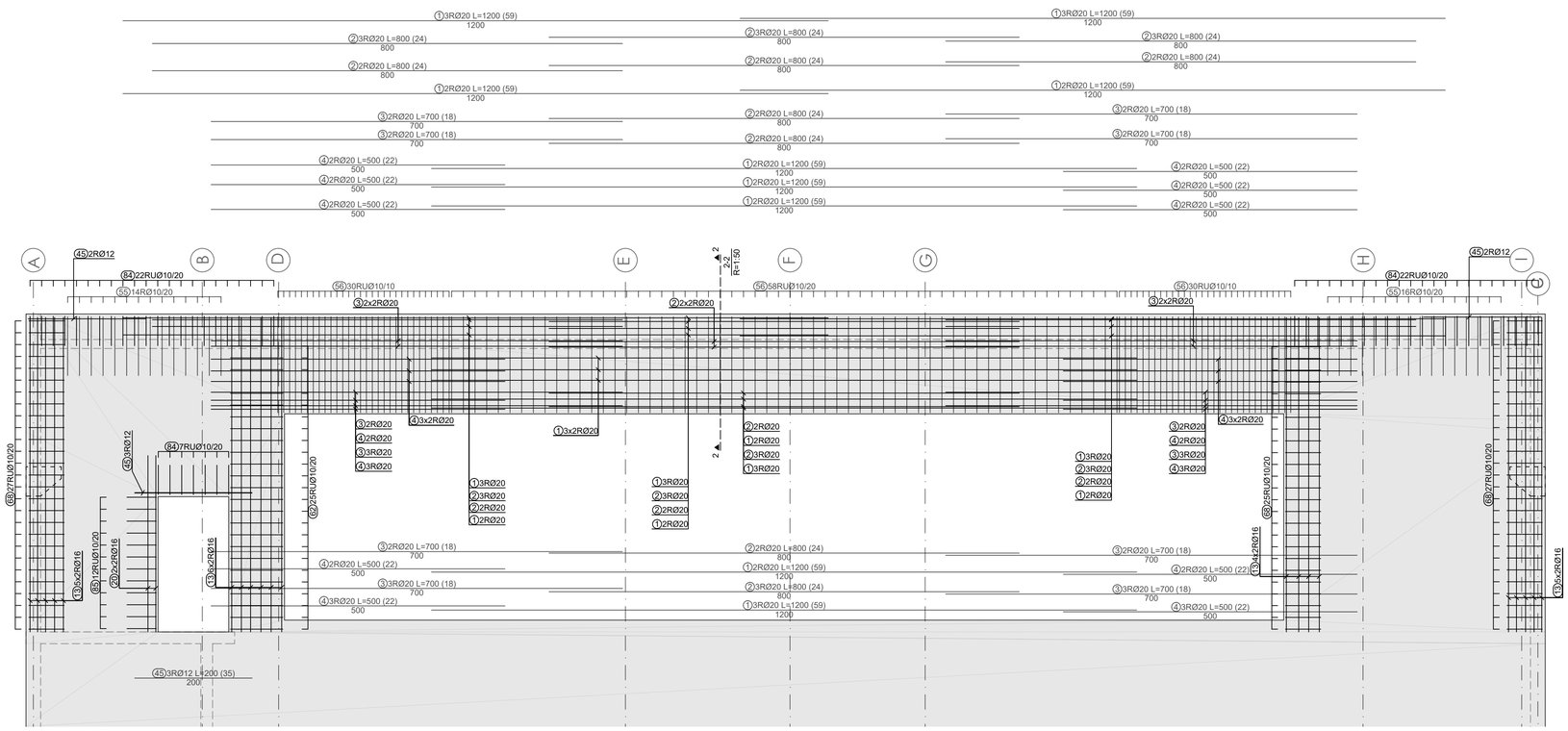
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

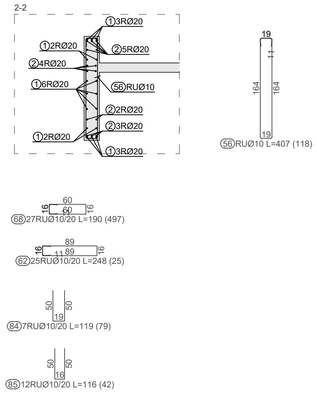
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI PRIZEMLJA - PLAN ARMATURE GREDA KOJE NISU CRTANE U SKLOPU ZIDA	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 4.7

POGLED NA ZID U OSI J - ŠIPKASTA ARMATURA

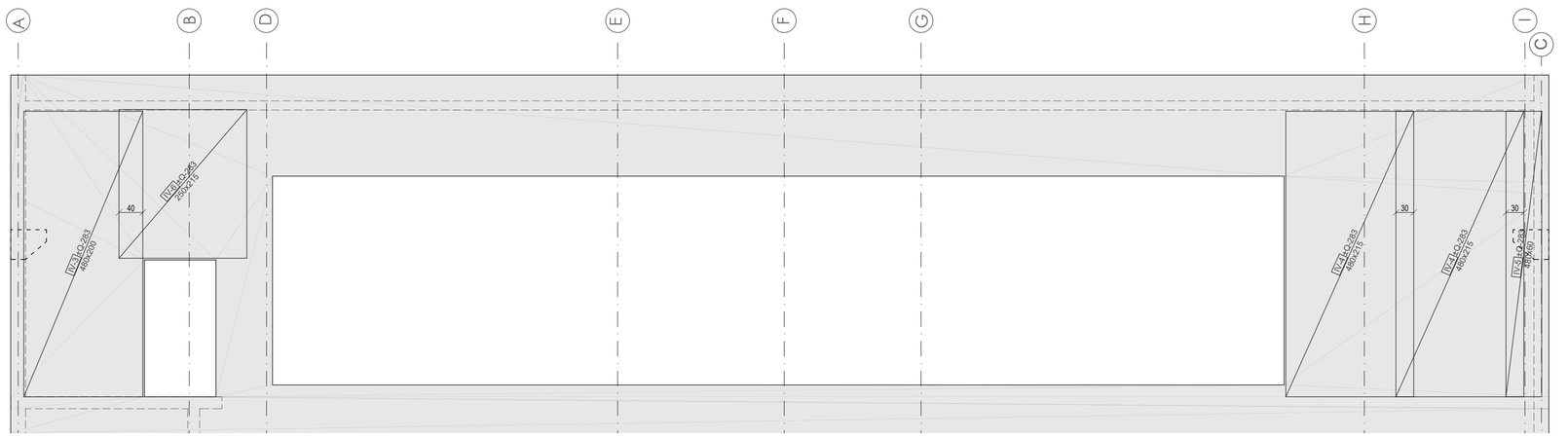

4-4
62)2RØ10
87)RUØ10
51)RUØ12/20
57)RUØ10
34)16RØ12
1-1
48)RUØ12/20
57)RUØ10
34)16RØ12
2-2
III)Q-385
III)Q-385
49)RUØ12/20
45)4RØ12
50)RUØ10/20
3-3
49)RUØ12/20
III)Q-385
III)Q-385
45)4RØ12
90)RUØ10/20
87)RUØ10/20
2
7
8
9
87)25RUØ10/20
90)8RUØ10/20
49)8RUØ12/20
3-3
R=1:50
52)2RØ10 šipke saviti da prate oplatu zida
44)2RØ12
44)2RØ12
44)2x2RØ12
87)RUØ10/20
2-2
R=1:50
52)2RØ10 šipke saviti da prate oplatu zida
90)8RUØ10/20
49)8RUØ12/20
90)8RUØ10/20
49)8RUØ12/20
87)14RUØ10/20
4-4
R=1:50
odrezati na licu mjesta
1-1
R=1:50
44)2x2RØ12
87)22RUØ10/20
87)7RUØ10/20
87)7RUØ10/20
87)7RUØ10/20
87)7RUØ10/20
87)7RUØ10/20
44)2RØ12
44)2RØ12
44)2RØ12
44)2RØ12
44)2RØ12
44)2RØ12
44)2RØ12
44)2RØ12
44)2x2RØ12
87)7RUØ10/20
87)7RUØ10/20
87)7RUØ10/20
87)7RUØ10/20
87)7RUØ10/20

POGLED NA ZID U OSI 1 - ŠIPKASTA ARMATURA





POGLED NA ZID U OSI 1 - MREŽE - OBA LICA ZIDA



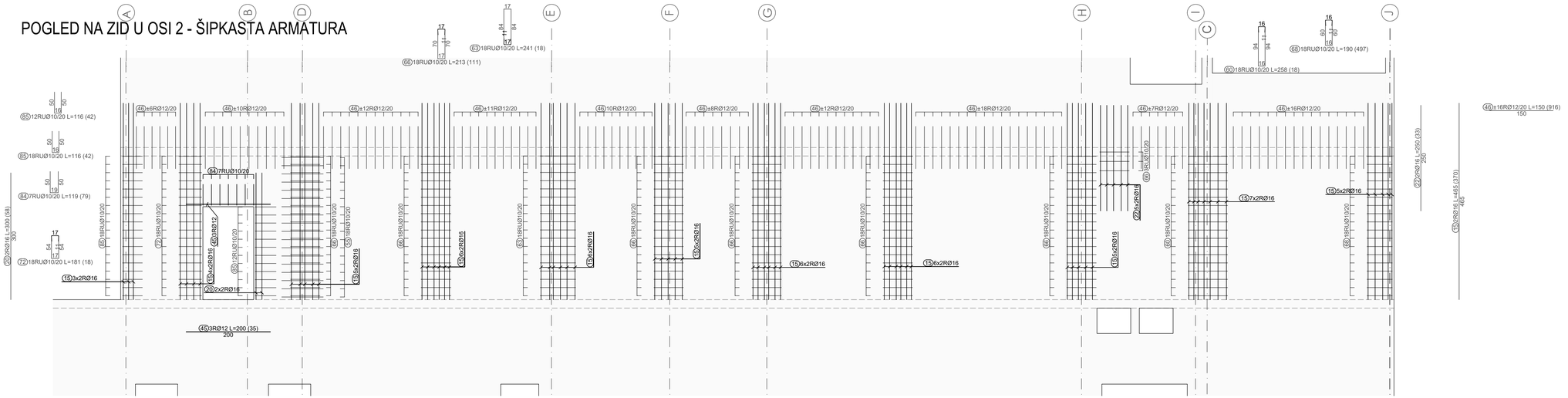
ZIDOVI PRIZEMLJA
PLAN ARMATURE ZIDA
U OSI 1

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

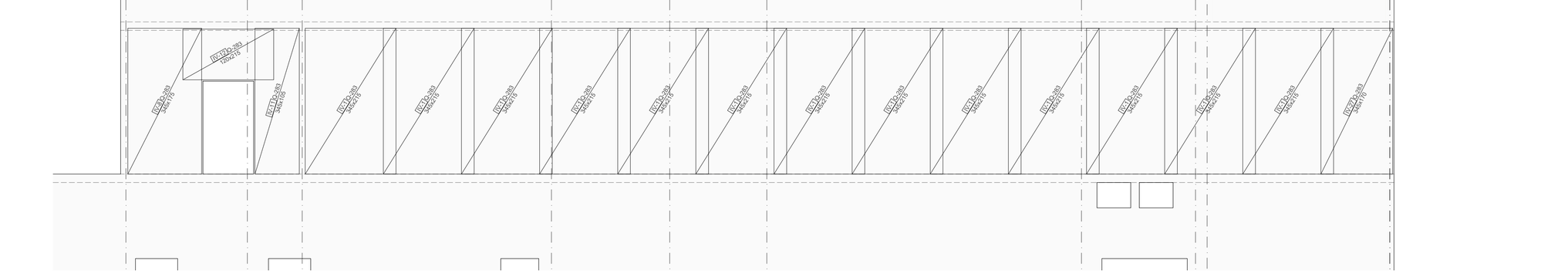
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 1	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 4.9

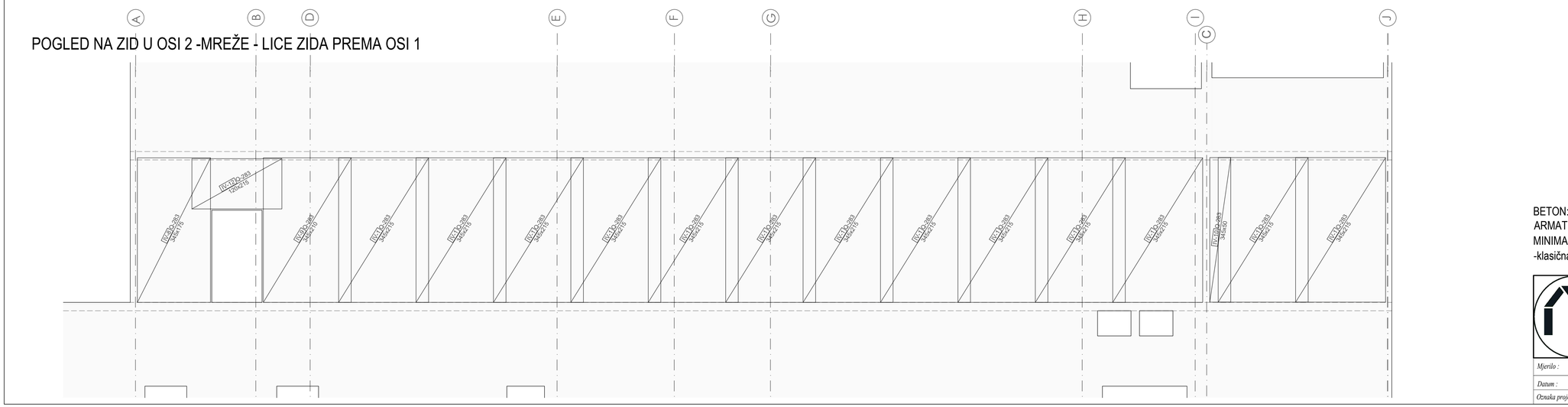
POGLED NA ZID U OSI 2 - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 2 -MREŽE - LICE ZIDA PREMA OSI 2'



POGLED NA ZID U OSI 2 -MREŽE - LICE ZIDA PREMA OSI 1



ZIDOVI PRIZEMLJA
PLAN ARMATURE ZIDA
U OSI 2

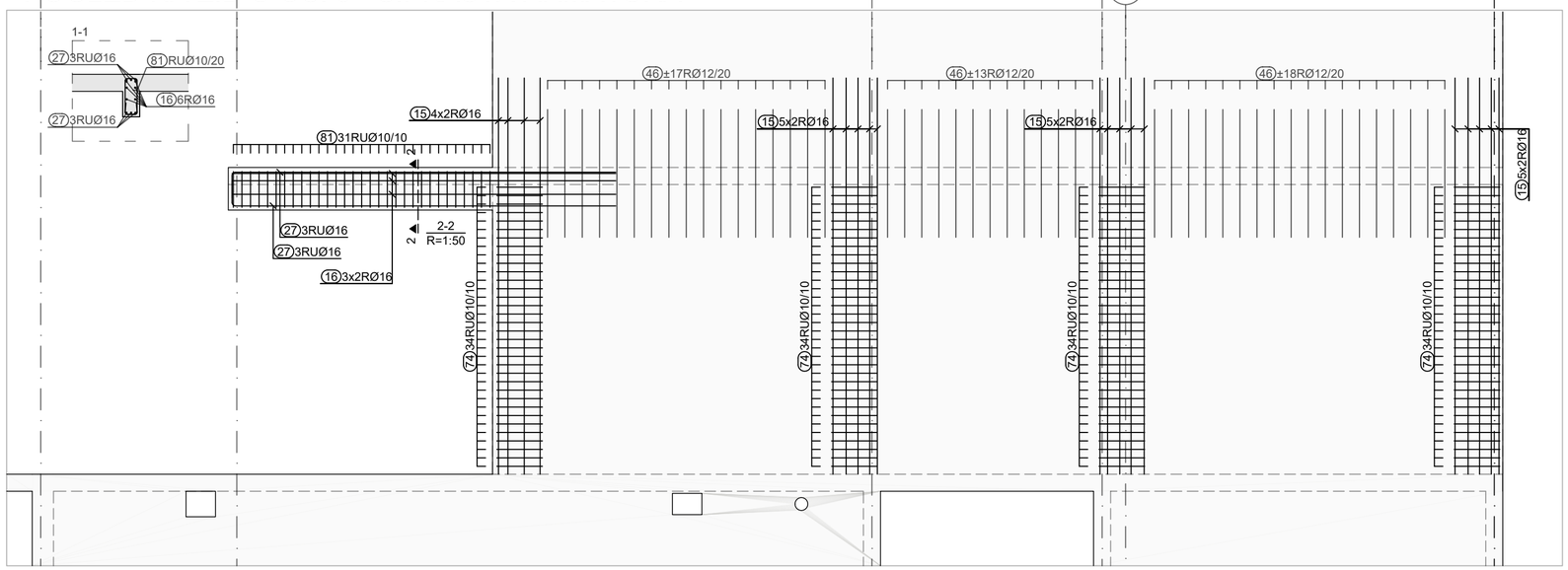
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

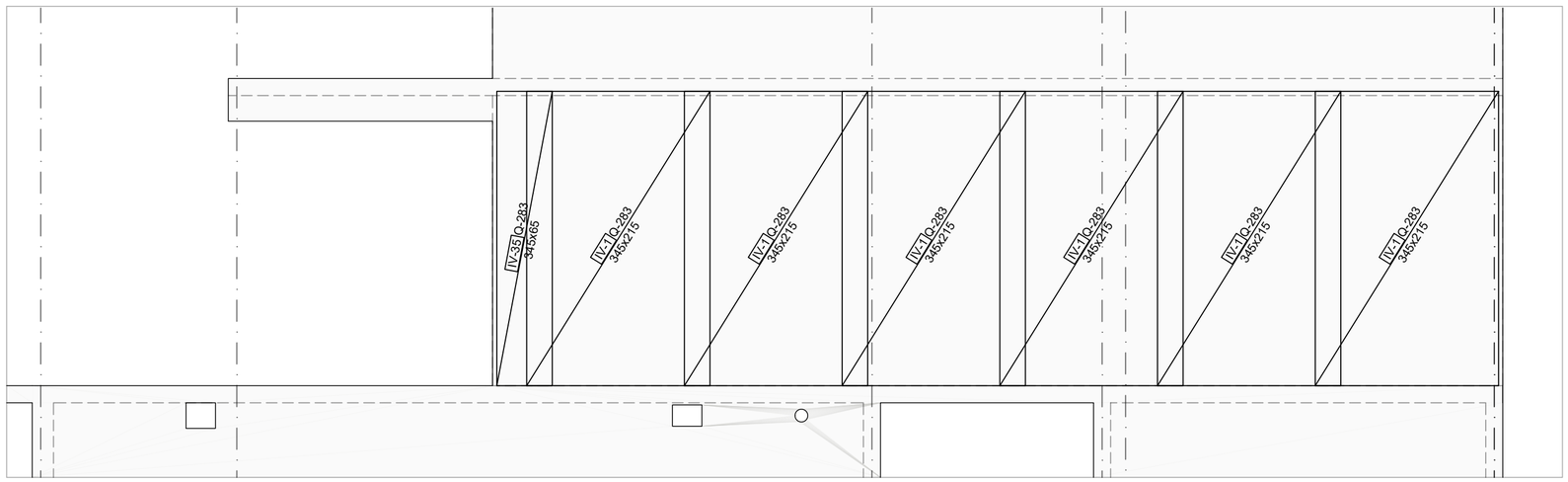
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Sadržaj :	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 2	*Faza projekta :*	IZVEDBENI PROJEKT
Broj lista :	4.10		
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_28-2025_IZV		

F G H I C J

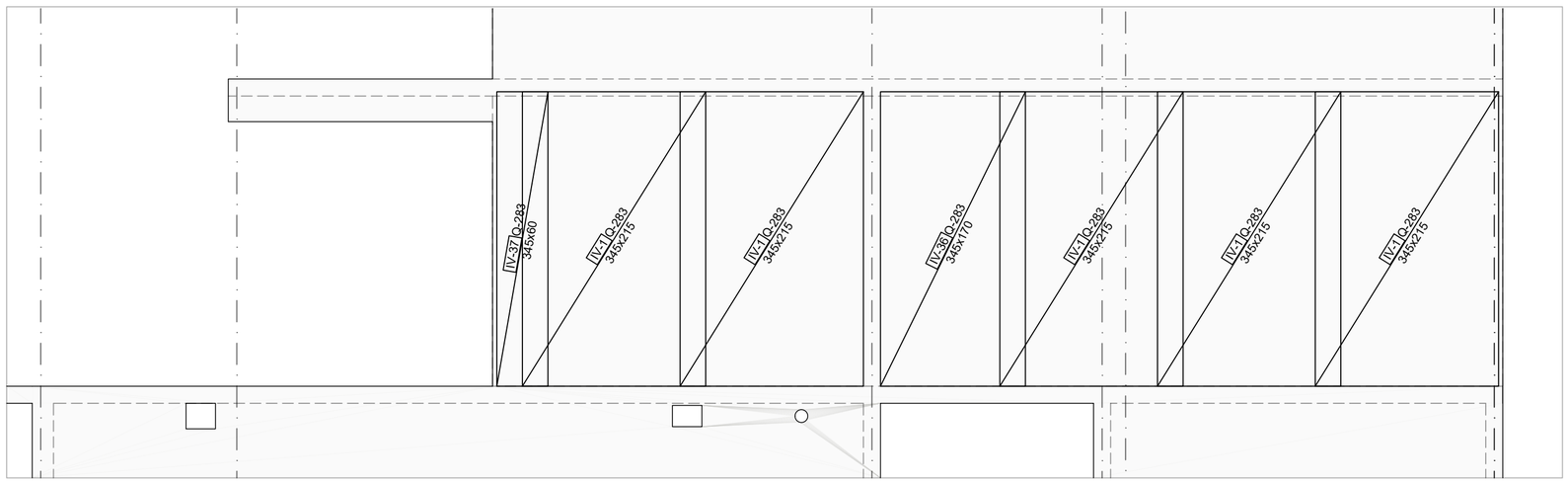
POGLED NA ZID U OSI 3 - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 3 - MREŽE - LICE ZIDA PREMA OSI 4



POGLED NA ZID U OSI 3 - MREŽE - LICE ZIDA PREMA OSI 5



ZIDOVI PRIZEMLJA

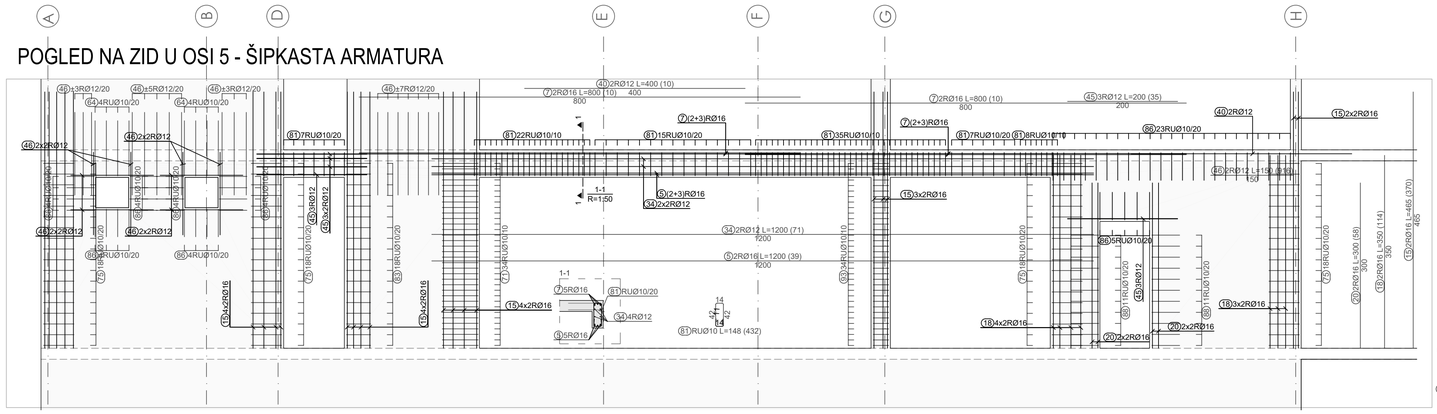
PLAN ARMATURE ZIDA U OSI 3

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

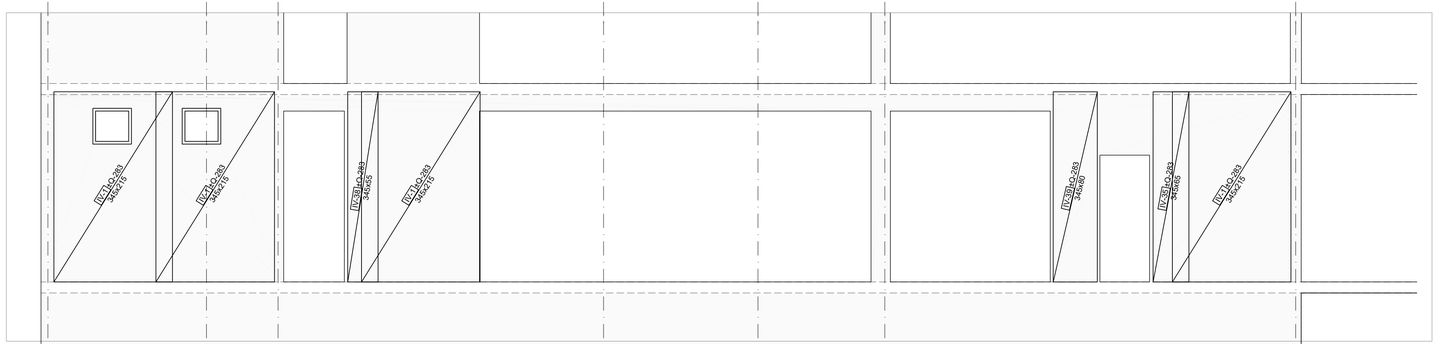
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_28-2025_IZV		
Sadržaj :	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 3	*Faza projekta :*	IZVEDBENI PROJEKT
		Broj lista :	4.11

POGLED NA ZID U OSI 5 - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 5 - MREŽE - OBA LICA ZIDA



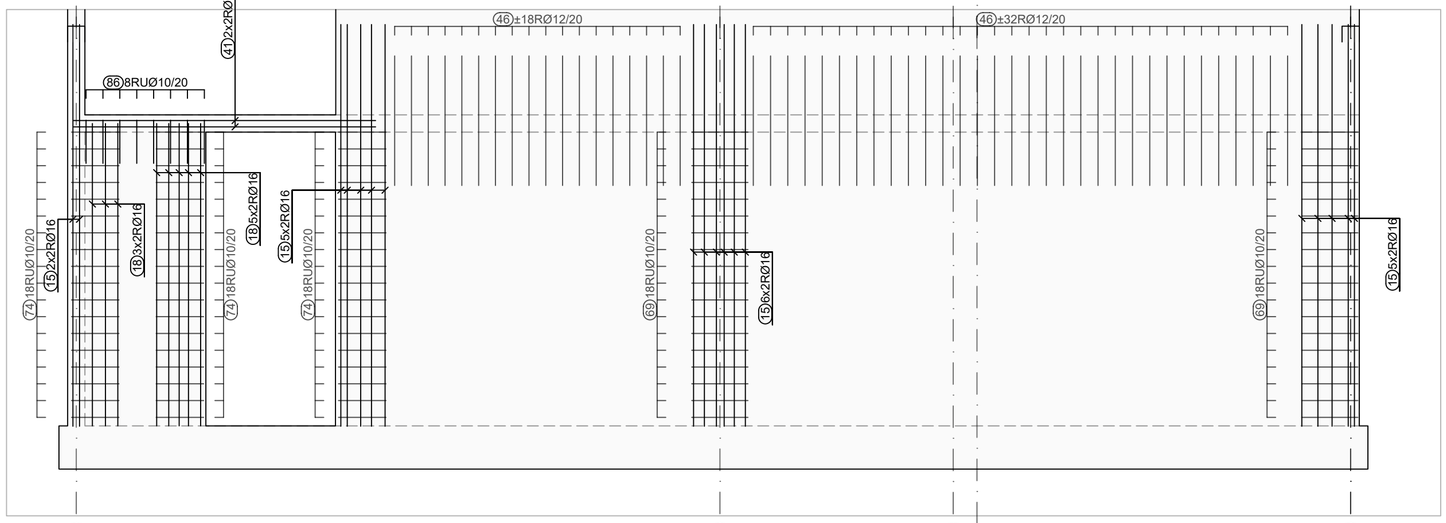
ZIDOVI PRIZEMLJA

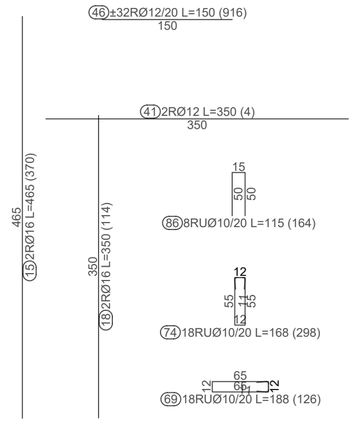
PLAN ARMATURE ZIDA
U OSI 5

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

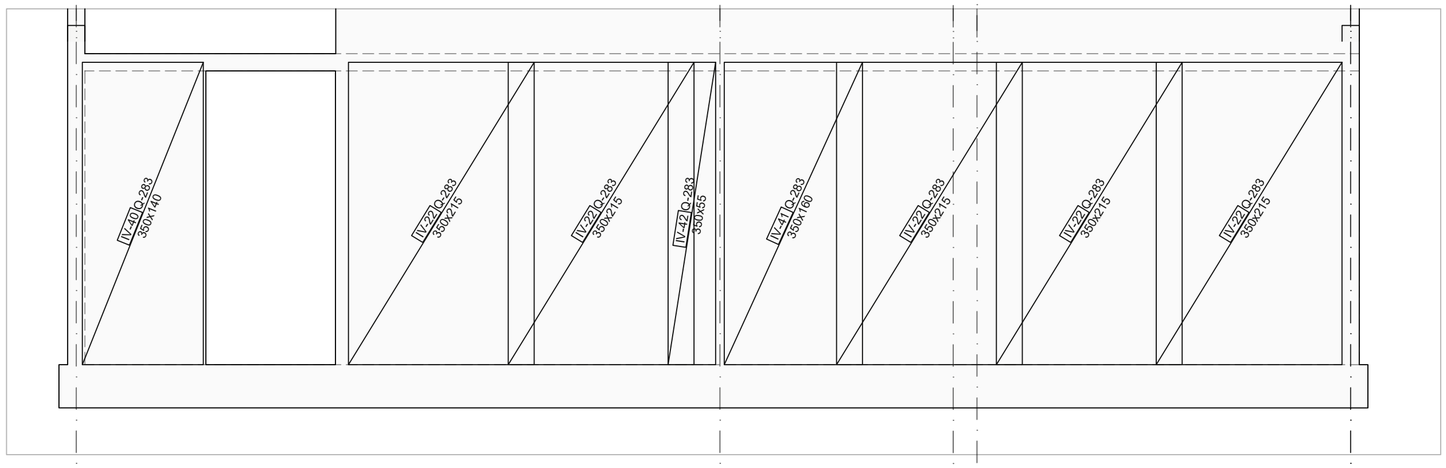
	ORLANDINI PROJEKT d. o. o. – SPLIT Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/II kat; 21000 SPLIT OIB: 64758426529		
	Investitor : OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
	Građevina : DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
	Lokacija : VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50	*Sadržaj :* ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 5	*Faza projekta :*	IZVEDBENI PROJEKT
Datum : listopad, 2025.		*Broj lista :*	4.12
Oznaka projekta: TD_28-2025_IZV			

POGLED NA ZID U OSI 7 - ŠIPKASTA ARMATURA

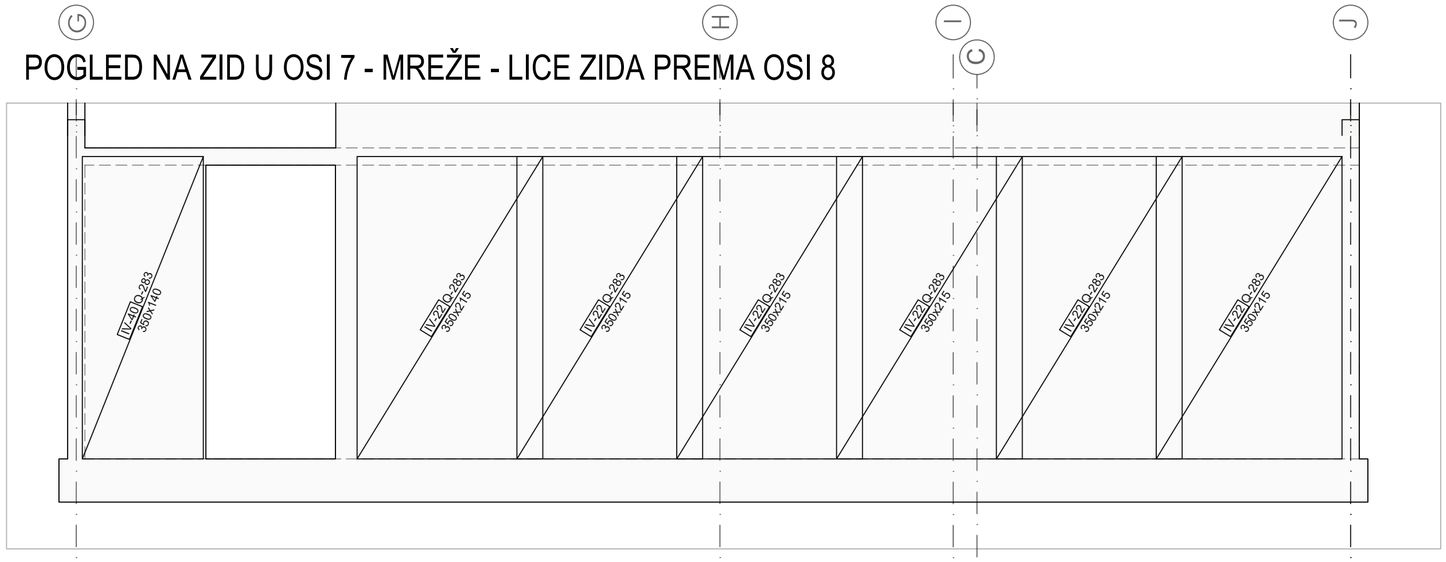




POGLED NA ZID U OSI 7 - MREŽE - LICE ZIDA PREMA OSI 6



POGLED NA ZID U OSI 7 - MREŽE - LICE ZIDA PREMA OSI 8



ZIDOVI PRIZEMLJA

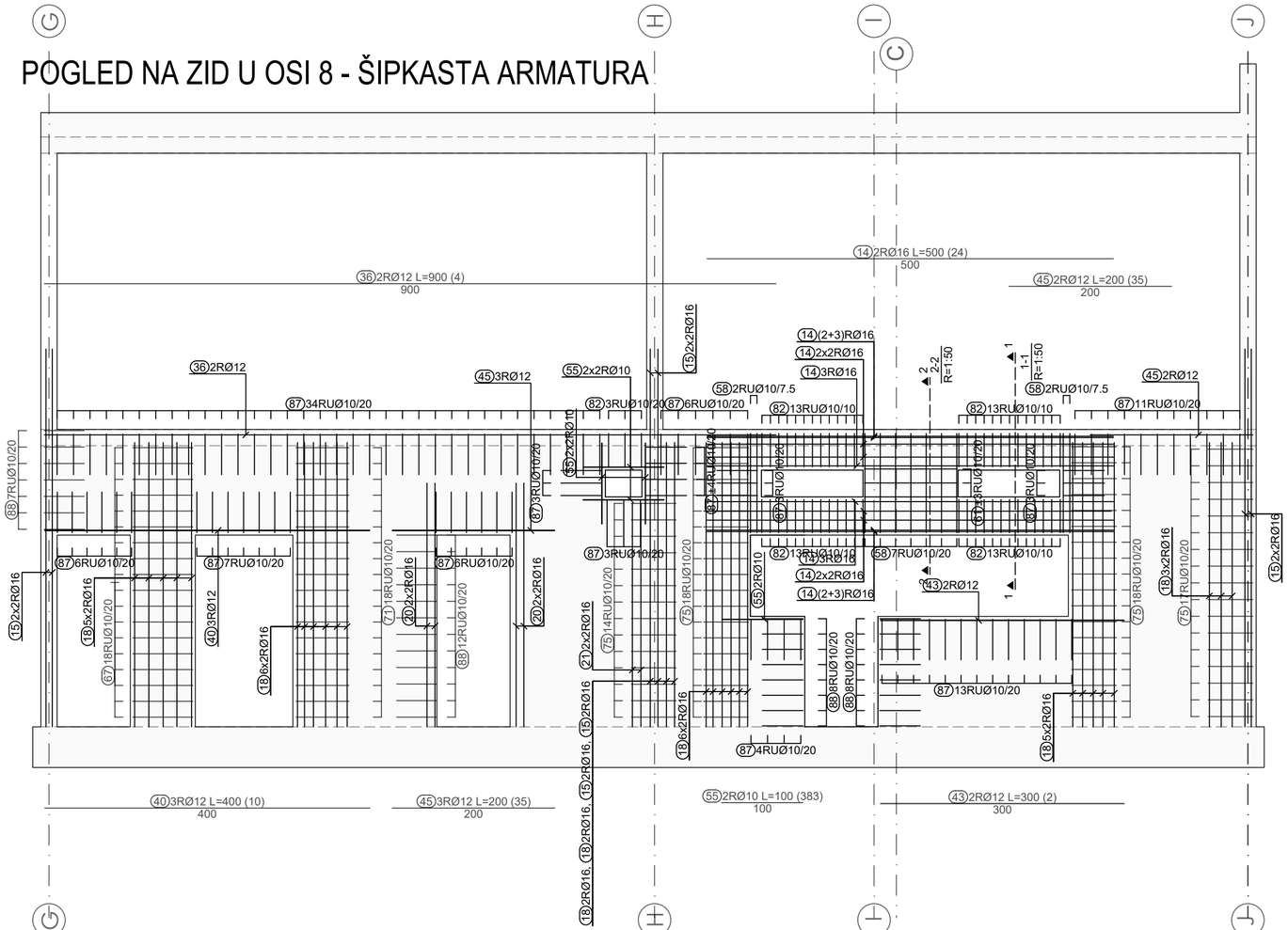
PLAN ARMATURE ZIDA U OSI 7

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

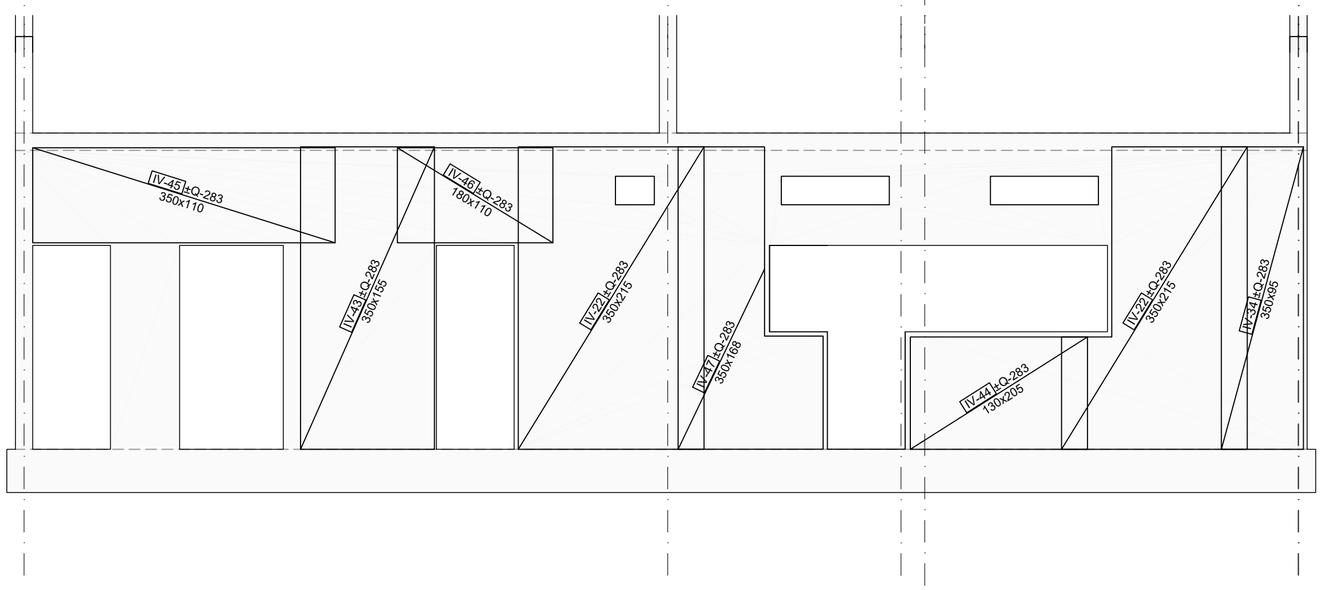
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

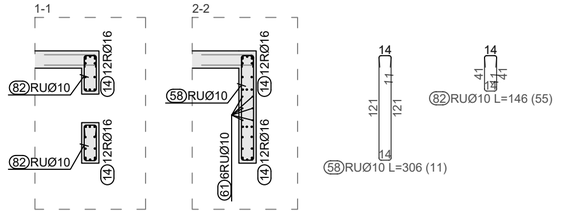
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 7	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 4.13

POGLED NA ZID U OSI 8 - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 8 - MREŽE - OBA LICA ZIDA





ZIDOVI PRIZEMLJA

PLAN ARMATURE ZIDA U OSI 8

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_28-2025_IZV	*Faza projekta :*	IZVEDBENI PROJEKT
Sadržaj :	ZIDOVI PRIZEMLJA - PLAN ARMATURE ZIDA U OSI 8	*Broj lista :*	4.14

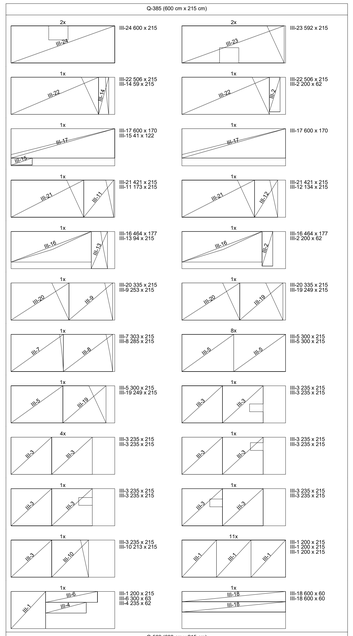
Šipke - specifikacija

ozn	oblik i mjere [cm]	Ø [mm]	lg [m]	n [kom]	lgn [m]	Napomena
	ZIDOVI PRIZEMLJA (1 kom)					
1	1200	20	12.00	59	708.00	
2	800	20	8.00	24	192.00	
3	700	20	7.00	18	126.00	
4	500	20	5.00	22	110.00	
5	1200	16	12.00	39	468.00	
6	900	16	9.00	2	18.00	
7	800	16	8.00	10	80.00	
8	7, 50, 415, 100, 187, 278	16	8.00	8	64.00	
9	750	16	7.50	11	82.50	
10	700	16	7.00	16	112.00	
11	109, 50, 415, 200, 50, 50, 50	16	7.00	4	28.00	
12	580	16	5.80	8	46.40	
13	535	16	5.35	129	690.15	
14	500	16	5.00	24	120.00	
15	465	16	4.65	370	1720.50	
16	450	16	4.50	6	27.00	
17	400	16	4.00	6	24.00	
18	350	16	3.50	114	399.00	
19	315	16	3.15	2	6.30	
20	300	16	3.00	58	174.00	
21	275	16	2.75	4	11.00	
22	250	16	2.50	33	82.50	
23	200	16	2.00	24	48.00	
24	30, 795	16	8.30	29	240.70	
25	30, 750	16	7.80	10	78.00	
26	400, 100	16	5.50	20	110.00	
27	30, 450	16	4.80	6	28.80	
28	100, 200	16	3.00	15	45.00	
29	170, 30	16	2.00	6	12.00	
30	140, 30, 120	16	1.70	8	13.60	
31	30, 120	16	1.50	4	6.00	
32	75, 75	16	1.50	16	24.00	
33	110, 25, 50, 50, 20, 50, 15	14	2.67	646	1724.82	
34	1200	12	12.00	71	852.00	
35	1000	12	10.00	43	430.00	
36	900	12	9.00	4	36.00	
37	800	12	8.00	2	16.00	
38	795	12	7.95	2	15.90	
39	550	12	5.50	3	16.50	
40	500	12	4.00	10	40.00	
41	350	12	3.50	4	14.00	
42	330	12	3.30	4	13.20	
43	300	12	3.00	2	6.00	
44	250	12	2.50	44	110.00	
45	200	12	2.00	35	70.00	
46	150	12	1.50	916	1374.00	
47	120	12	1.20	12	14.40	
48	30, 170	12	2.00	90	180.00	
49	75, 75	12	1.50	48	72.00	
50	20, 20, 17, 20, 20, 38	12	1.32	324	427.68	
51	30, 100	12	1.30	50	65.00	
52	1200	10	12.00	6	72.00	
53	700	10	7.00	2	14.00	
54	200	10	2.00	416	832.00	
55	100	10	1.00	383	383.00	
56	164, 11, 11, 11, 11, 164	10	4.07	118	480.26	
57	73, 11, 11, 11, 11, 11, 11	10	3.27	106	346.62	
58	73, 121, 11, 11, 14, 14	10	3.06	11	33.66	
59	121, 115, 13	10	2.45	13	31.85	
60	115, 94, 11, 11, 16, 16	10	2.58	18	46.44	
61	94, 110, 11	10	2.31	6	13.86	
62	110, 89, 24, 11, 11, 16, 16	10	2.48	25	62.00	
63	89, 84, 11, 11, 17, 17	10	2.41	18	43.38	
64	84, 100, 15	10	2.15	8	17.20	
65	100, 62, 11, 11, 14, 14	10	2.18	99	215.82	
66	62, 70, 11, 11, 12, 12	10	2.13	111	236.43	
67	70, 74, 11, 11, 16, 16	10	2.12	18	38.16	
68	74, 60, 11, 11, 16, 16	10	1.90	497	944.30	
69	60, 65, 11, 11, 12, 12	10	1.88	126	236.88	
70	65, 58, 11, 11, 16, 16	10	1.86	27	50.22	
71	58, 65, 11, 11, 11, 11	10	1.85	70	129.50	
72	65, 54, 11, 11, 17, 17	10	1.81	18	32.58	
73	54, 75, 25	10	1.50	580	870.00	
74	75, 55, 11, 11, 12, 12	10	1.68	298	500.64	
75	55, 55, 11, 11, 17, 17	10	1.65	249	410.85	
76	55, 53, 11, 11, 12, 12	10	1.64	18	29.52	
77	53, 42, 11, 11, 19, 19	10	1.63	54	88.02	
78	42, 50, 11, 11, 12, 12	10	1.58	18	28.44	
79	50, 47, 11, 11, 12, 12	10	1.52	18	27.36	
80	47, 45, 11, 11, 12, 12	10	1.48	18	26.64	
81	45, 42, 11, 11, 14, 14	10	1.48	432	639.36	
82	42, 41, 11, 11, 14, 14	10	1.46	55	80.30	
83	41, 44, 11, 11, 11, 11	10	1.43	18	25.74	
84	44, 50, 19, 50	10	1.19	79	94.01	
85	50, 50, 16, 50, 50	10	1.16	42	48.72	
86	50, 50, 10, 50, 50	10	1.15	164	188.60	
87	50, 50, 14, 50, 50	10	1.14	273	311.22	
88	50, 50, 12, 50, 50	10	1.12	129	144.48	
89	50, 50, 11, 50, 50	10	1.11	12	13.32	
90	50, 50, 10, 50, 50	10	1.10	56	61.60	
91	34, 17, 11, 11, 12, 12	10	1.26	18	22.68	
92	34, 41, 19, 40	10	1.00	44	44.00	
93	29, 17, 11, 11, 29, 29	10	1.22	34	41.48	
94	27, 14, 11, 11, 14, 14, 27	10	1.18	18	21.24	
95	24, 14, 11, 11, 14, 14, 24	10	1.12	11	12.32	
96	35, 19, 35	10	0.89	325	289.25	
97	35, 12, 35	10	0.84	12	10.08	

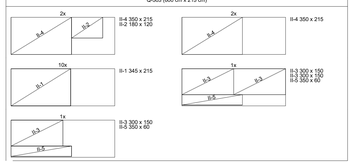
Šipke - rekapitulacija

Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
	B500B		
10	8290.03	0.62	5114.95
12	3752.68	0.89	3332.38
14	1724.82	1.21	2087.03
16	4759.45	1.58	7519.93
20	1136.00	2.47	2805.92
Ukupno (B500B)			20860.21
Ukupno			20860.21

Q-385 (600 cm x 215 cm)



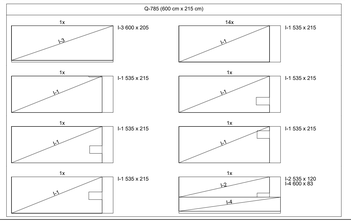
Q-503 (600 cm x 215 cm)



Mreže - specifikacija

Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
	ZIDOVI PRIZEMLJA (1 kom)						
I	Q-785	215	600	18	12.46	2893.21	
I-1	Q-785	215	535	19	12.46	2723.10	
I-2	Q-785	120	535	1	12.46	79.99	
I-3	Q-785	205	600	1	12.46	153.26	
I-4	Q-785	83	600	1	12.46	62.00	
II-1	Q-503	215	345	10	8.03	595.63	
II-2	Q-503	120	180	2	8.03	34.74	
II-3	Q-503	150	300	3	8.03	108.41	
II-4	Q-503	215	350	4	8.03	241.70	
II-5	Q-503	60	350	2	8.03	33.72	
III	Q-385	215	600	2	6.10	157.38	
III-1	Q-385	215	200	34	6.10	891.82	
III-2	Q-385	62	200	2	6.10	15.11	
III-3	Q-385	215	235	17	6.10	523.94	
III-4	Q-385	62	235	1	6.10	8.88	
III-5	Q-385	215	300	17	6.10	668.86	
III-6	Q-385	63	300	1	6.10	11.52	
III-7	Q-385	215	303	1	6.10	39.68	
III-8	Q-385	215	285	1	6.10	37.40	
III-9	Q-385	215	253	1	6.10	33.17	
III-10	Q-385	215	213	1	6.10	27.96	
III-11	Q-385	215	173	1	6.10	22.75	
III-12	Q-385	215	134	1	6.10	17.54	
III-13	Q-385	215	94	1	6.10	12.33	
III-14	Q-385	215	59	1	6.10	7.76	
III-15	Q-385	122	41	1	6.10	3.06	
III-16	Q-385	177	464	2	6.10	100.04	
III-17	Q-385	170	600	2	6.10	124.44	
III-18	Q-385	60	600	2	6.10	43.96	
III-19	Q-385	215	249	2	6.10	65.43	
III-20	Q-385	215	335	2	6.10	87.87	
III-21	Q-385	215	421	2	6.10	110.31	
III-22	Q-385	215	506	2	6.10	132.76	
III-23	Q-385	215	592	2	6.10	155.20	
III-24	Q-385	215	600	2	6.10	157.38	
IV-1	Q-283	215	345	59	4.48	1960.59	
IV-2	Q-283	113	345	2	4.48	34.92	
IV-3	Q-283	200	480	2	4.48	86.02	
IV-4	Q-283	215	480	4	4.48	184.93	
IV-5	Q-283	60	480	2	4.48	25.81	
IV-6	Q-283	215	250	2	4.48	48.16	
IV-7	Q-283	135	106	2	4.48	12.82	
IV-8	Q-283	175	345	2	4.48	54.02	
IV-9	Q-283	210	345	1	4.48	32.46	
IV-10	Q-283	50	345	1	4.48	7.74	
IV-11	Q-283	105	345	1	4.48	16.22	
IV-12	Q-283	215	120	2	4.48	23.12	
IV-13	Q-283	215	303	1	4.48	29.14	
IV-14	Q-283	215	285	1	4.48	27.47	
IV-15	Q-283	215	253	1	4.48	24.36	
IV-16	Q-283	215	213	1	4.48	20.53	
IV-17	Q-283	215	173	1	4.48	16.71	
IV-18	Q-283	215	134	1	4.48	12.88	
IV-19	Q-283	215	94	1	4.48	9.05	
IV-20	Q-283	215	59	1	4.48	5.70	
IV-21	Q-283	122	41	1	4.48	2.27	
IV-22	Q-283	215	350	41	4.48	1382.19	
IV-23	Q-283	115	350	4	4.48	72.13	
IV-24	Q-283	95	308	2	4.48	26.17	
IV-25	Q-283	120	350	2	4.48	37.63	
IV-26	Q-283	107	400	2	4.48	38.35	
IV-27	Q-283	170	345	1	4.48	26.27	
IV-28	Q-283	87	345	2	4.48	26.89	
IV-29	Q-283	114	345	2	4.48	35.24	
IV-30	Q-283	50	345	2	4.48	15.46	
IV-31	Q-283	117	345	2	4.48	36.17	
IV-32	Q-283	120	300	2	4.48	32.26	
IV-33	Q-283	120	180	2	4.48	19.35	
IV-34	Q-283	95	350	4	4.48	59.58	
IV-35	Q-283	65	345	3	4.48	30.14	
IV-36	Q-283	170	345	1	4.48	26.28	
IV-37	Q-283	60	345	1	4.48	9.27	
IV-38	Q-283	55	345	2	4.48	17.00	
IV-39	Q-283	80	345	2	4.48	24.73	
IV-40	Q-283	140	350	2	4.48	43.90	
IV-41	Q-283	160	350	1	4.48	25.09	
IV-42	Q-283	55	350	1	4.48	8.62	
IV-43	Q-283	155	350	2	4.48	48.61	
IV-44	Q-283	205	130	2	4.48	23.88	
IV-45	Q-283	110	350	2	4.48	34.50	
IV-46	Q-283	110	180	2	4.48	17.74	
IV-47	Q-283	168	350	2	4.48	52.61	
IV-48	Q-283	170	350	2	4.48	53.31	
Ukupno						15240.21	

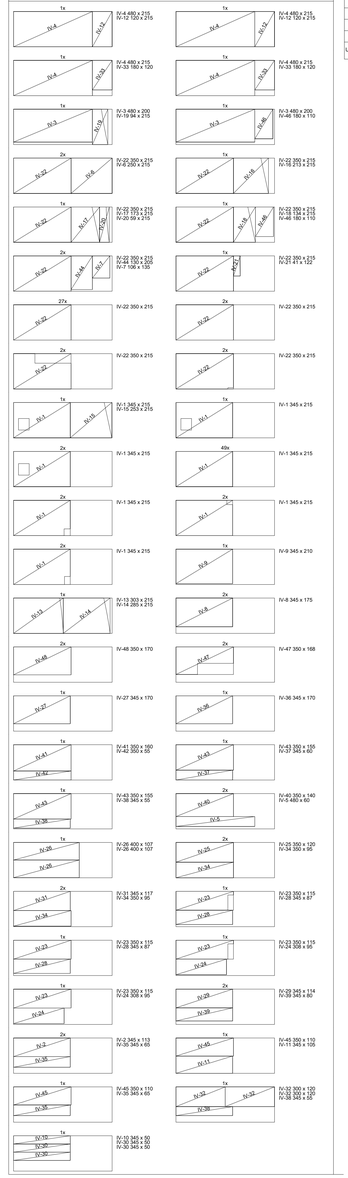
Q-785 (600 cm x 215 cm)



Mreže - plan nezarja

ZIDOVI PRIZEMLJA

Q-283 (600 cm x 215 cm)



Mreže - rekapitulacija

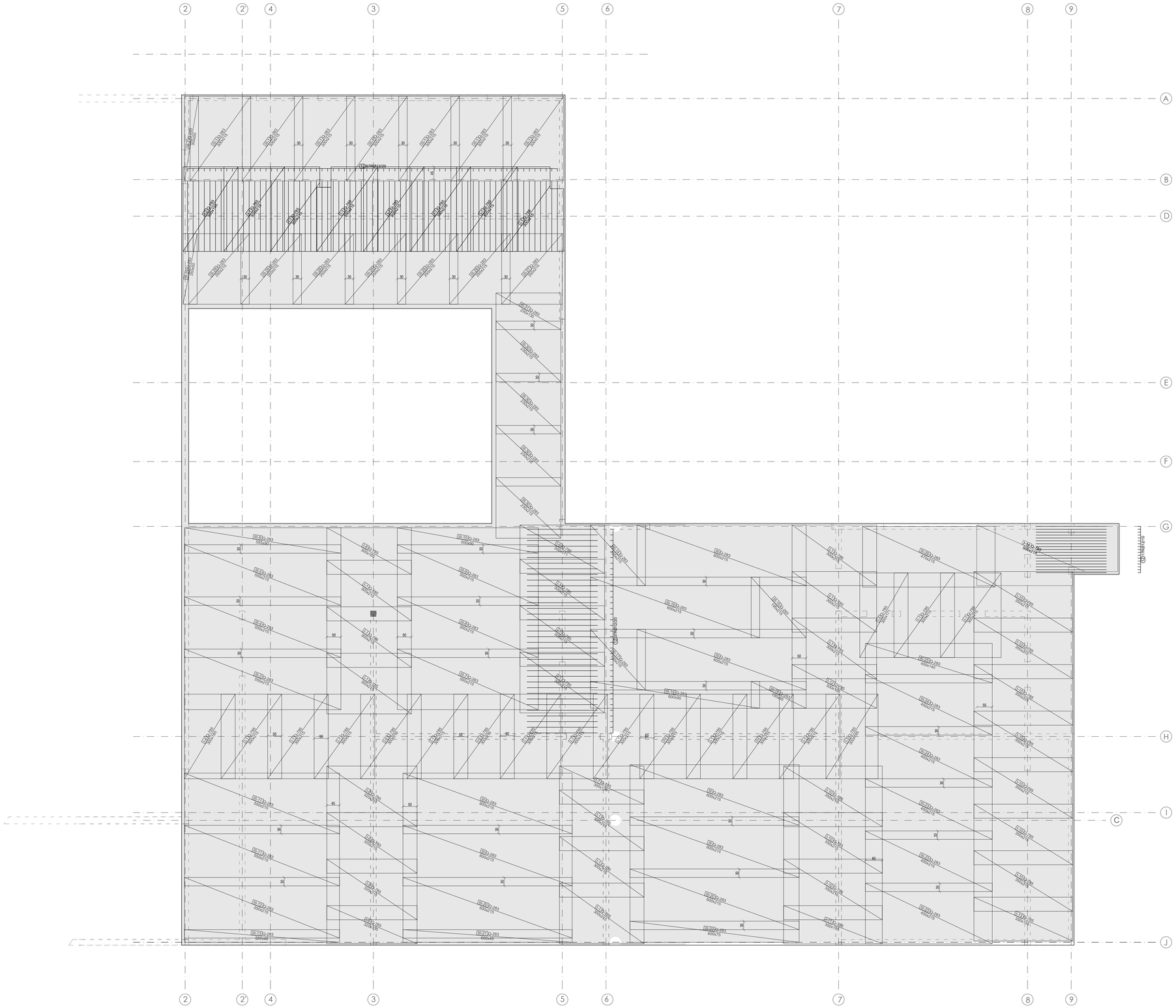
Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-283	215	600	138	4.48	7975.30	4803.88
Q-385	215	600	48	6.10	3758.08	3220.60
Q-503	215	600	16	8.03	1657.39	1014.19
Q-785	215	600	39	12.46	6268.63	5891.73
Ukupno					19659.39	14930.40

ISKAZ ARMATURE ZIDOVA PRIZEMLJA

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d.o.o. - SPLIT
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

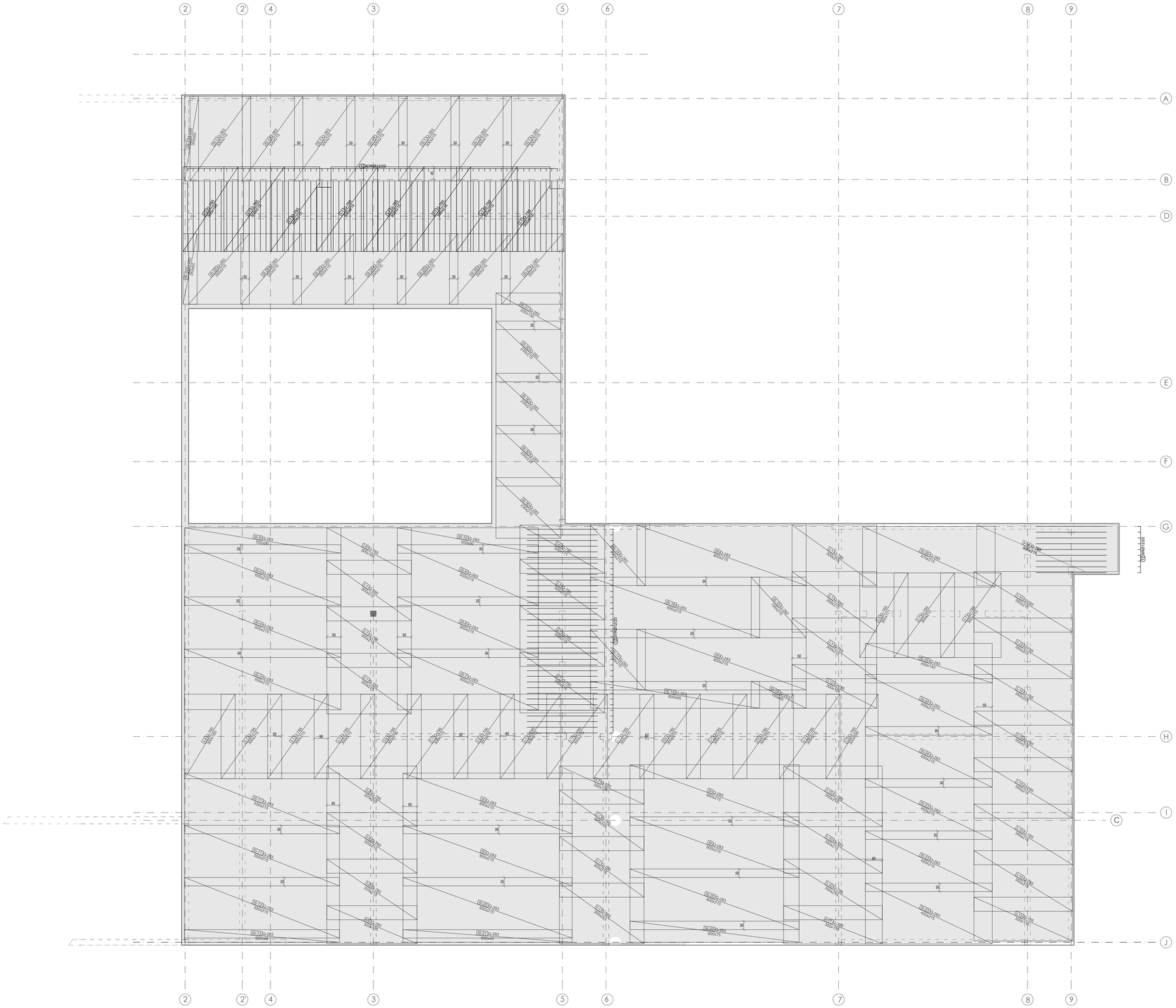
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501546	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	Suradnici :	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	Sadržaj : ISKAZ ARMATURE ZIDOVA PRIZEMLJA	Faza projekta : IZVEDBENI PROJEKT	Broj lista : 4.15



PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201
GORNJA ZONA - MREŽE I OJAČANJA

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

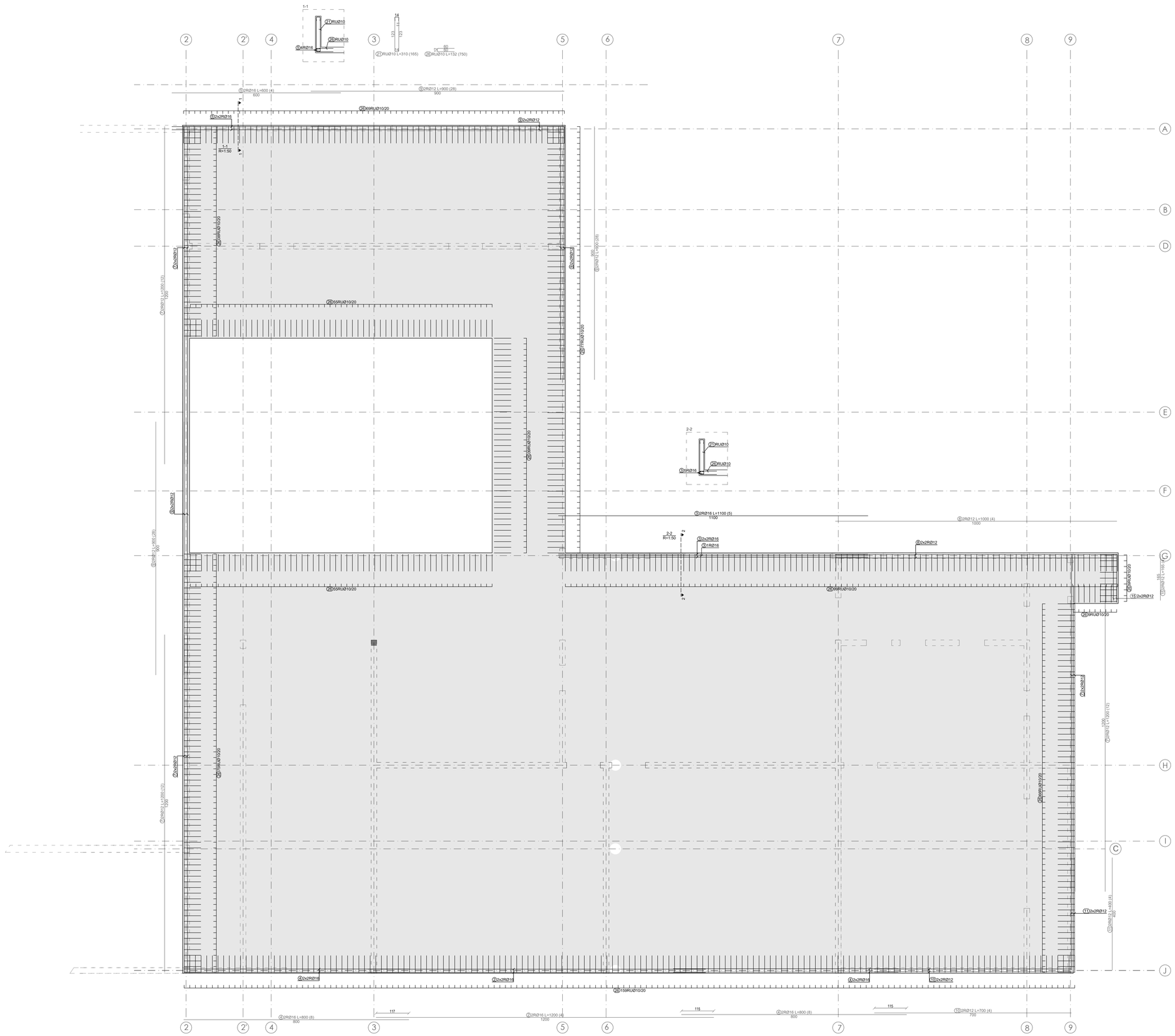
	ORLANDINI PROJEKT d. o. o. – SPLIT				
	Sjedište: Hrvatskih iseljenika 10, 21000 SPLIT Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT		**OIB: 64750426529**		
	Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka, OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.	
	Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA			
	Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.	
Mjerilo : 1:50					
Datum : listopad, 2025.	*Sadržaj :*	PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201 - GORNJA ZONA - MREŽE I OJAČANJA	*Faza projekta :*	IZVEDBENI PROJEKT	*Broj lista :* 5.1B
Oznaka projekta: TD_21-2024					



PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201
GORNJA ZONA - MREŽE I OJAČANJA

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT			
Sjedište: Hrvatskih iseljenika 10, 21000 SPLIT Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT		**OIB: 64750426529**	
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka, OIB: 63333501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201 - GORNJA ZONA - MREŽE I OJAČANJA	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 5.1B
Oznaka projekta: TD_21-2024			



PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201
VILICE I KONSTRUKTIVNE ŠIPKE

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT D.O.O. – SPLIT
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

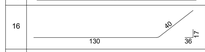
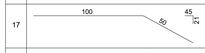
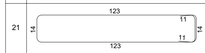
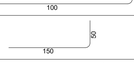
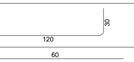
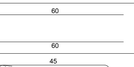
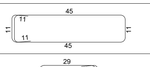
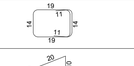
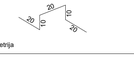
Investitor :	OSNOVNA ŠKOLA PRVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233001548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo :	1:50	*Faza projekta :*	IZVEDBENI PROJEKT
Datum :	listopad, 2025.	*Broj lista*	5.1C
Oznaka projekta:	10_21-2024		
Sadržaj :	PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201 - VILICE I KONSTRUKTIVNE ŠIPKE		

PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201 ANKERI I GREDE

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d.o.o. – SPLIT Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT			OIB: 64758426529
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	PLAN ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201 - ANKERI I GREDE	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD.21-2024			*Broj lista :* 5.1D

Šipke - specifikacija

ozn	oblik i mjere [cm]	Ø	lg [m]	n [kom]	lgn [m]	Napomena
PLOČA POZ 201 (1 kom)						
1		12	2.50	10	25.00	
2	1200	16	12.00	4	48.00	
3	1100	16	11.00	5	55.00	
4	800	16	8.00	8	64.00	
5	600	16	6.00	4	24.00	
6		16	1.50	88	132.00	
7	1200	12	12.00	12	144.00	
8	1000	12	10.00	4	40.00	
9	900	12	9.00	28	252.00	
10	700	12	7.00	4	28.00	
11	400	12	4.00	4	16.00	
12	250	12	2.50	121	302.50	
13	215	12	2.15	16	34.40	
14	200	12	2.00	8	16.00	
15	165	12	1.65	4	6.60	
16		12	1.70	10	17.00	
17		12	1.50	57	85.50	
18		12	1.00	56	56.00	
19	150	10	1.50	14	21.00	
20	100	10	1.00	556	556.00	
21		10	3.10	165	511.50	
22		10	3.04	28	85.12	
23		10	2.58	45	116.10	
24		10	2.00	124	248.00	
25		10	1.50	136	204.00	
26		10	1.32	750	990.00	
27		10	1.45	9	13.05	
28		10	1.22	1	1.22	
29		10	1.12	1	1.12	
30		10	1.02	1	1.02	
31	 3D geometrija	10	0.80	850	680.00	

Šipke - rekapitulacija

Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
RA1			
12	25.00	0.92	23.00
Ukupno (RA1)			23.00
B500B			
10	3428.13	0.62	2115.16
12	998.00	0.89	886.22
16	323.00	1.58	510.34
Ukupno (B500B)			3511.72
Ukupno			3534.72

Mreže - specifikacija

Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
PLOČA POZ 201 (1 kom)							
I-1	Q-785	215	300	34	12.46	2732.48	
I-2	Q-785	195	300	1	12.46	72.89	
I-3	Q-785	185	300	1	12.46	69.15	
I-4	Q-785	180	300	1	12.46	67.28	
I-5	Q-785	171	300	2	12.46	128.14	
I-6	Q-785	165	300	1	12.46	61.68	
I-7	Q-785	135	300	1	12.46	50.46	
I-8	Q-785	215	320	3	12.46	257.17	
I-9	Q-785	135	320	1	12.46	53.83	
I-10	Q-785	215	350	10	12.46	937.62	
I-11	Q-785	135	350	1	12.46	58.87	
I-12	Q-785	155	300	1	12.46	57.94	
I-13	Q-785	155	350	1	12.46	67.60	
I-14	Q-785	215	500	1	12.46	133.95	
II	Q-503	215	600	29	8.03	3004.02	
II-1	Q-503	215	410	7	8.03	495.49	
II-2	Q-503	100	410	1	8.03	32.92	
II-3	Q-503	215	305	7	8.03	368.60	
II-4	Q-503	100	305	1	8.03	24.49	
II-5	Q-503	215	160	8	8.03	220.99	
II-6	Q-503	115	600	3	8.03	166.22	
II-7	Q-503	115	160	2	8.03	29.55	
II-8	Q-503	215	175	4	8.03	120.85	
II-9	Q-503	115	175	1	8.03	16.16	
II-10	Q-503	195	175	1	8.03	27.40	
II-11	Q-503	195	600	1	8.03	93.95	
II-12	Q-503	215	100	9	8.03	155.38	
II-13	Q-503	210	100	1	8.03	16.86	
II-14	Q-503	210	600	1	8.03	101.18	
II-15	Q-503	215	95	8	8.03	131.21	
II-16	Q-503	65	600	1	8.03	31.34	
II-17	Q-503	65	95	1	8.03	4.96	
II-18	Q-503	105	600	1	8.03	50.59	
II-19	Q-503	105	100	1	8.03	8.43	
II-20	Q-503	215	300	3	8.03	155.38	
II-21	Q-503	135	300	1	8.03	32.52	
II-22	Q-503	215	230	4	8.03	158.85	
II-23	Q-503	73	230	1	8.03	13.48	
II-24	Q-503	215	155	7	8.03	187.34	
II-25	Q-503	75	155	1	8.03	9.34	
II-26	Q-503	215	145	1	8.03	25.04	
III	Q-283	215	600	6	4.48	346.75	
III-1	Q-283	215	300	7	4.48	202.25	
III-2	Q-283	50	300	1	4.48	6.72	
III-3	Q-283	215	555	1	4.48	53.46	
III-4	Q-283	215	555	1	4.48	53.46	
III-5	Q-283	215	555	1	4.48	53.46	
III-6	Q-283	90	555	1	4.48	22.38	
III-7	Q-283	215	500	1	4.48	48.16	
III-8	Q-283	215	500	1	4.48	48.16	
III-9	Q-283	215	500	1	4.48	48.16	
III-10	Q-283	90	500	1	4.48	20.16	
III-11	Q-283	215	550	2	4.48	105.95	
III-12	Q-283	215	550	1	4.48	52.98	
III-13	Q-283	45	550	1	4.48	11.09	
III-14	Q-283	215	195	1	4.48	18.78	
III-15	Q-283	215	195	1	4.48	18.78	
III-16	Q-283	215	600	1	4.48	57.79	
III-17	Q-283	215	195	1	4.48	18.78	
III-18	Q-283	95	195	1	4.48	8.30	
III-19	Q-283	95	600	1	4.48	25.54	
III-20	Q-283	215	600	2	4.48	115.58	
III-21	Q-283	45	600	1	4.48	12.10	
III-22	Q-283	75	600	1	4.48	20.16	
III-23	Q-283	215	450	3	4.48	130.03	
III-24	Q-283	215	450	2	4.48	86.69	
III-25	Q-283	140	450	1	4.48	28.22	
III-26	Q-283	215	470	1	4.48	45.27	
III-27	Q-283	215	250	1	4.48	24.07	
III-28	Q-283	215	250	6	4.48	144.48	
III-29	Q-283	50	250	1	4.48	5.60	
III-30	Q-283	215	230	4	4.48	88.61	
III-31	Q-283	130	230	1	4.48	13.39	
III-32	Q-283	170	165	1	4.48	12.57	
Ukupno						12379.49	

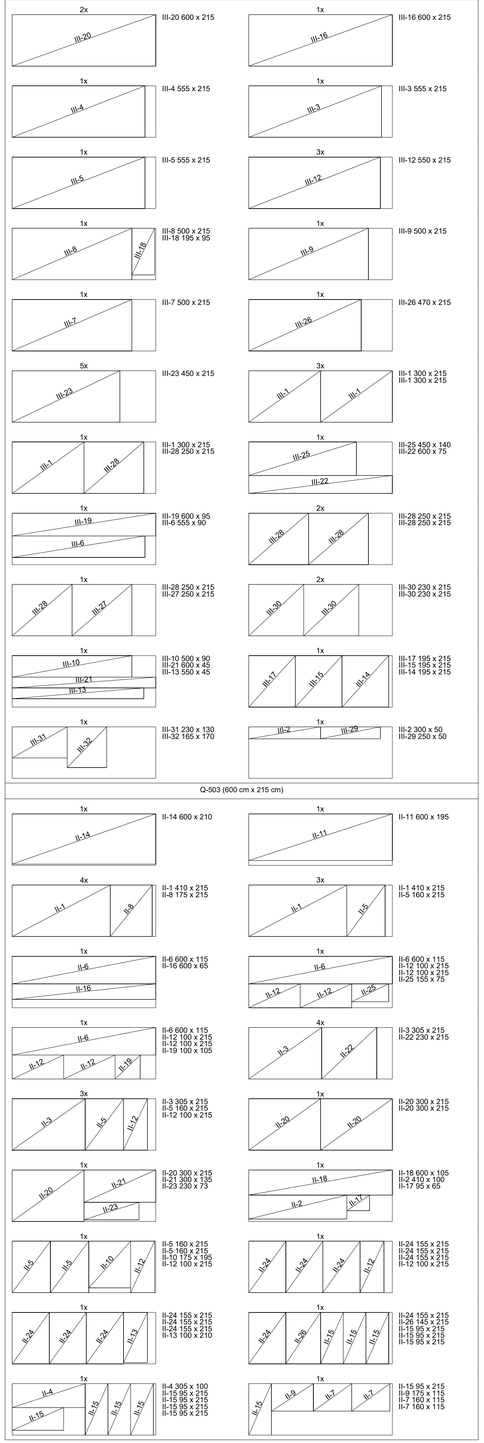
Mreže - rekapitulacija

Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-283	215	600	39	4.48	2253.89	1947.87
Q-503	215	600	57	8.03	5904.46	5682.56
Q-785	215	600	38	12.46	6107.89	4726.29
Ukupno					14266.24	12356.72

Mreže - plan rezanja

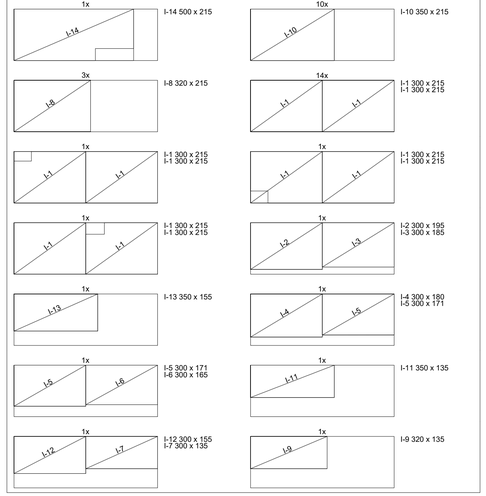
PLOČA POZ 201

Q-283 (600 cm x 215 cm)



Q-503 (600 cm x 215 cm)

Q-785 (600 cm x 215 cm)

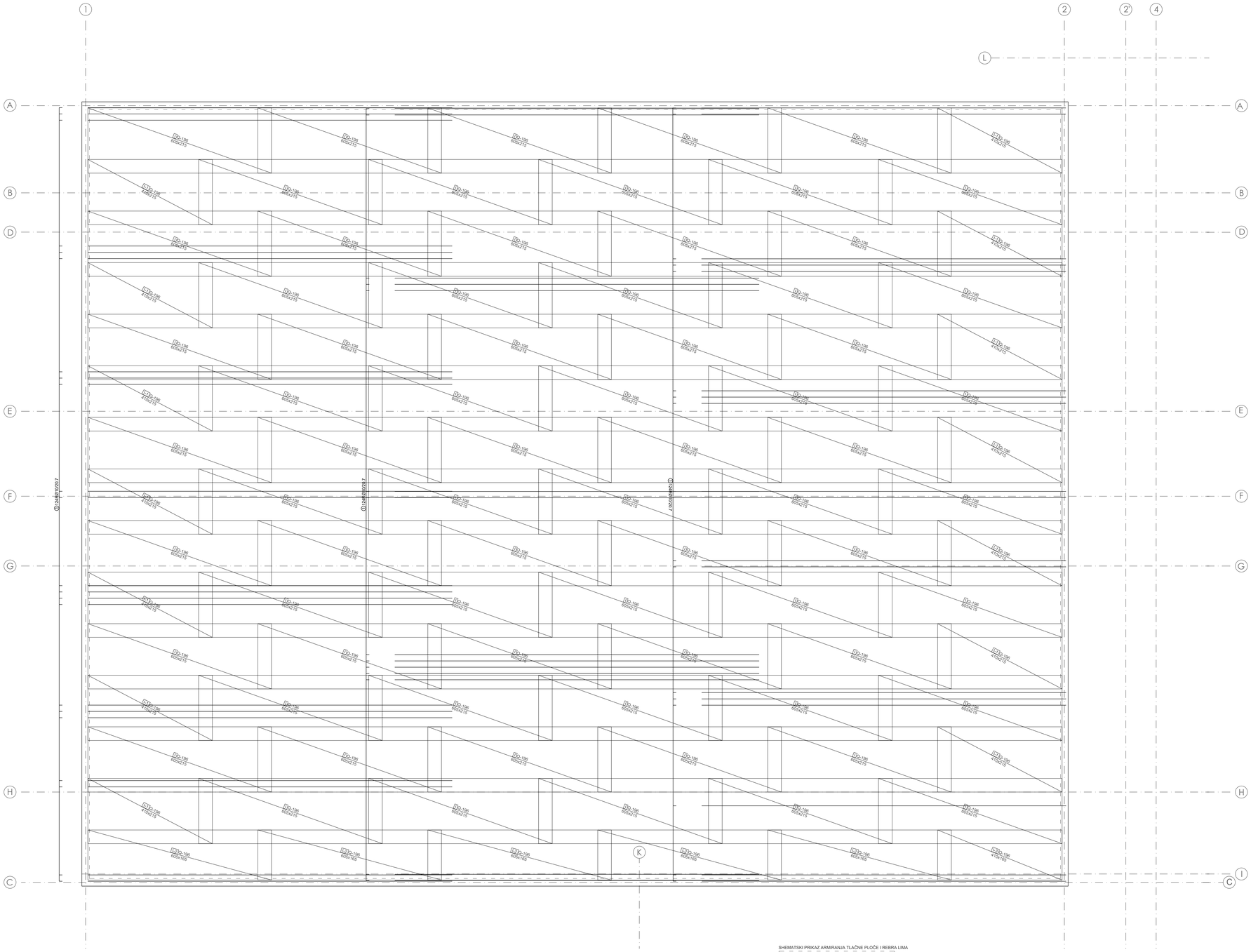


ISKAZ ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201

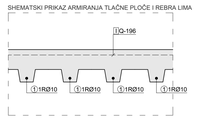
ORLANDINI PROJEKT d. o. o. – SPLIT

Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo :	1:50		
Datum :	listopad, 2025.	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta:	TD_21-2024	*Broj lista :*	5.1E
Sadržaj :	ISKAZ ARMATURE PLOČE IZNAD PRIZEMLJA - POZ 201		



SHEMATSKI PRIKAZ ARMIRANJA TLAČNE PLOČE I REBRA LIMA



NAPOMENA: Šipke poz ①1RØ10 postavljaju se u svako rebro lima u donju zonu, prema skici iznad

PLAN I ISKAZ ARMATURE PLOČE POZ 202

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 10, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63333501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.		*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_21-2024	*Sadržaj :* PLAN I ISKAZ ARMATURE PLOČE POZ 202	*Broj lista :*	5.2A

Šipke - specifikacija						
ozn	oblik i mjere [cm]	Ø	lg [m]	n [kom]	lgn [m]	Napomena
PLOČA POZ 202 (1 kom)						
1	1200	10	12.00	372	4464.00	

Šipke - rekapitulacija			
Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
B500B			
10	4464.00	0.62	2754.29
Ukupno (B500B)			2754.29
Ukupno			2754.29

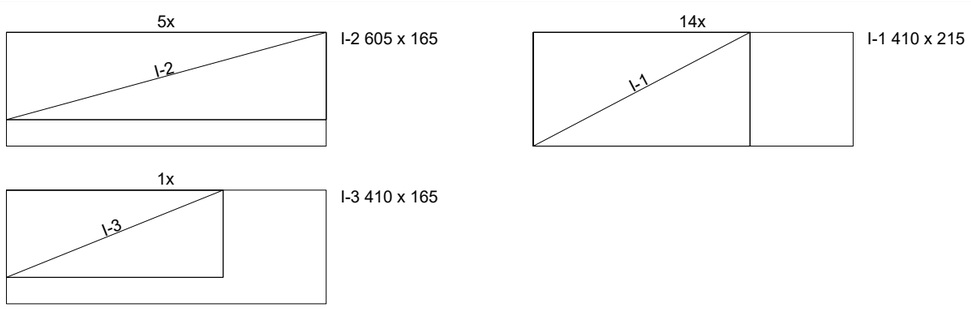
Mreže - specifikacija							
Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
PLOČA POZ 202 (1 kom)							
I	Q-196	215	605	70	3.08	2804.42	
I-1	Q-196	215	410	14	3.08	380.10	
I-2	Q-196	165	605	5	3.08	153.73	
I-3	Q-196	165	410	1	3.08	20.84	
Ukupno						3359.09	

Mreže - rekapitulacija						
Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-196	215	605	90	3.08	3605.68	3359.09
Ukupno					3605.68	3359.09

Mreže - plan rezanja

PLOČA POZ 202

Q-196 (605 cm x 215 cm)



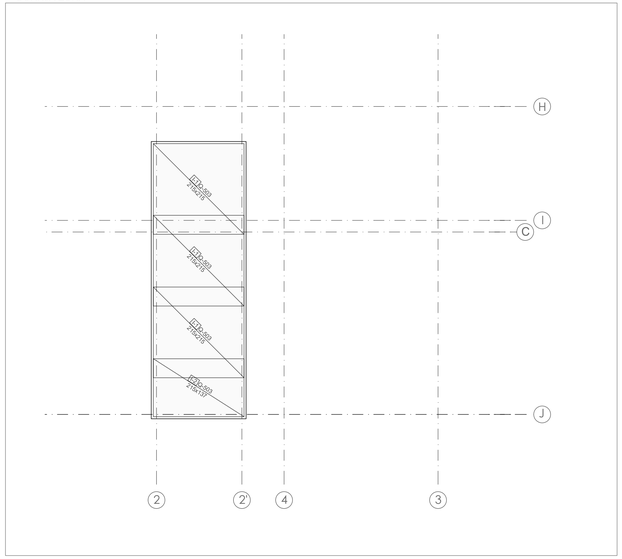
PLAN I ISKAZ ARMATURE PLOČE POZ 202

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

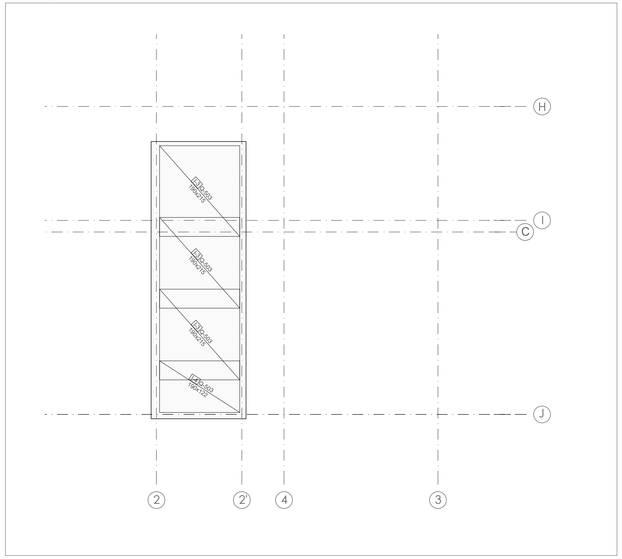
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	*Sadržaj :* PLAN I ISKAZ ARMATURE PLOČE POZ 202	*Faza projekta :*	IZVEDBENI PROJEKT — *Broj lista :* 5.2B

GORNJA ZONA



DONJA ZONA



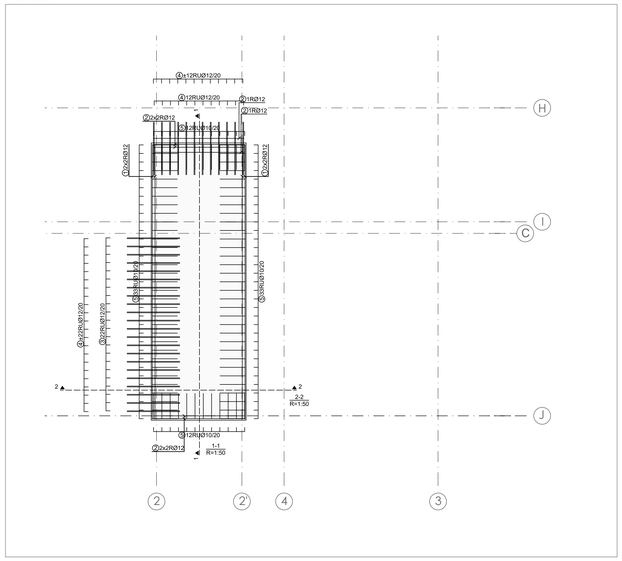
Šipke - specifikacija

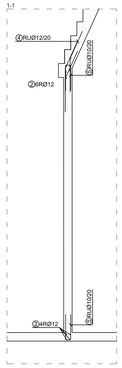
ozn	oblik i mjere [cm]	Ø	lg [m]	n [kom]	lgn [m]	Napomena
PLOČA POZ 203 (1 kom)						
1	650	12	6.50	8	52.00	
2	215	12	2.15	10	21.50	
3	18, 10, 98, 71, 90, 4	12	1.97	22	43.34	
4	64, 20, 10, 80	12	1.50	80	120.00	
5	60, 15, 60	10	1.32	90	118.80	
6	20, 10, 10, 20, 3D geometrija	10	0.80	10	8.00	

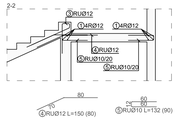
Šipke - rekapitulacija

Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
B500B			
10	126.80	0.62	78.24
12	236.84	0.89	210.31
Ukupno (B500B)			288.55
Ukupno			288.55

ANKERI







Mreže - specifikacija

Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
PLOČA POZ 203 (1 kom)							
I-1	Q-503	215	215	3	7.90	109.55	
I-2	Q-503	137	215	1	7.90	23.32	
I-3	Q-503	215	190	3	7.90	96.81	
I-4	Q-503	122	190	1	7.90	18.36	
Ukupno						248.03	

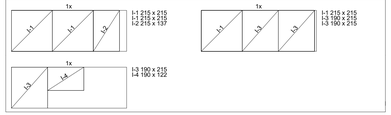
Mreže - rekapitulacija

Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-503	215	605	3	7.90	308.28	248.03
Ukupno					308.28	248.03

Mreže - plan rezanja

PLOČA POZ 203

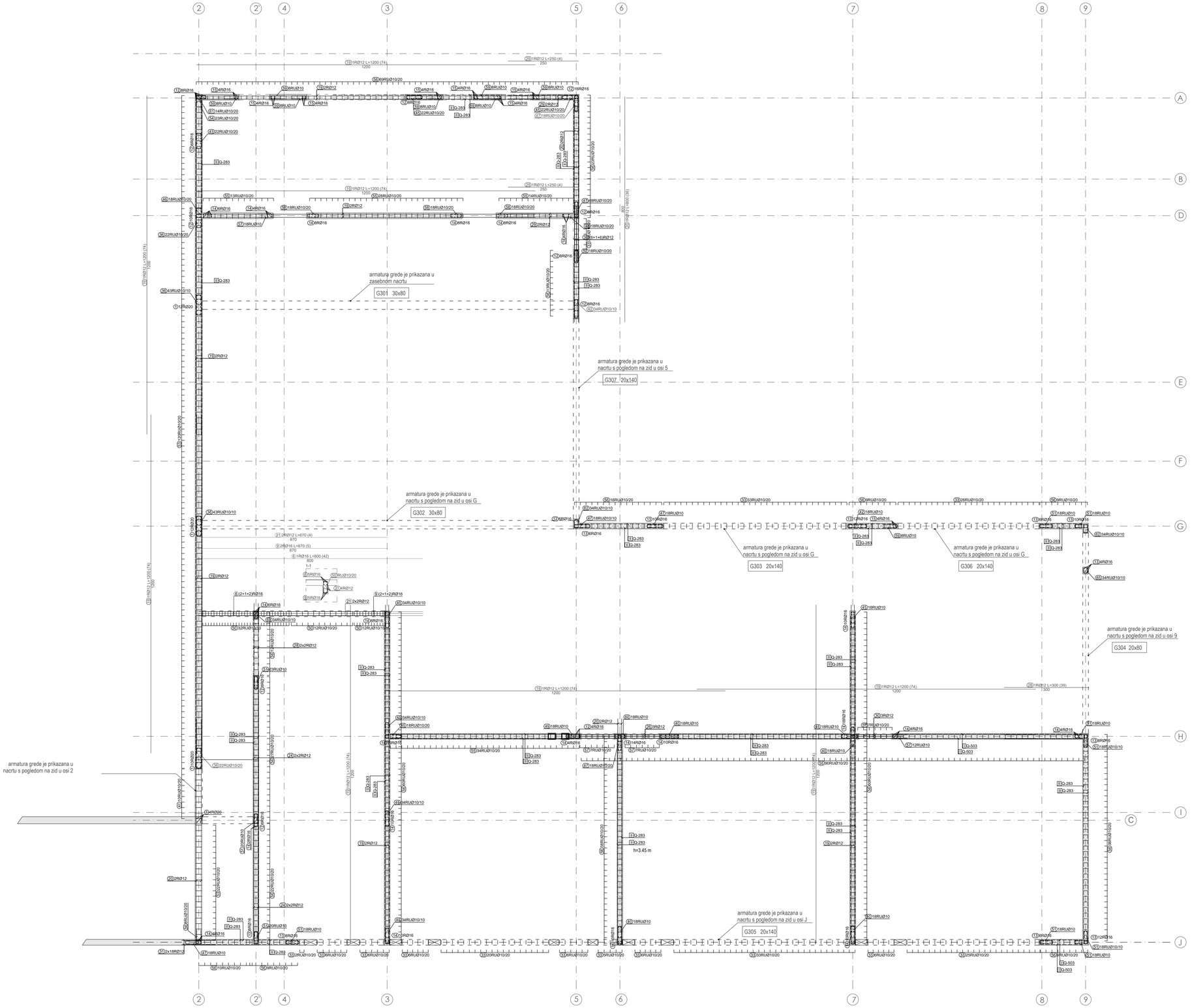
Q-503 (605 cm x 215 cm)



PLAN I ISKAZ ARMATURE PLOČE POZ 203

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

	ORLANDINI PROJEKT d. o. o. – SPLIT Sjedište: Hrvatskih ljetnika 13, 21000 SPLIT Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT OIB: 64758426529		
	Investitor :	OSNOVNA ŠKOLA PRIVLAKA, Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :* IVO ORLANDINI mag.ing.aedif.
	Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	
	Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :* MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50	*Sadržaj :*	PLAN I ISKAZ ARMATURE PLOČE POZ 203	*Faza projekta :* IZVEDBENI PROJEKT *Broj lista :* 5.3
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024			



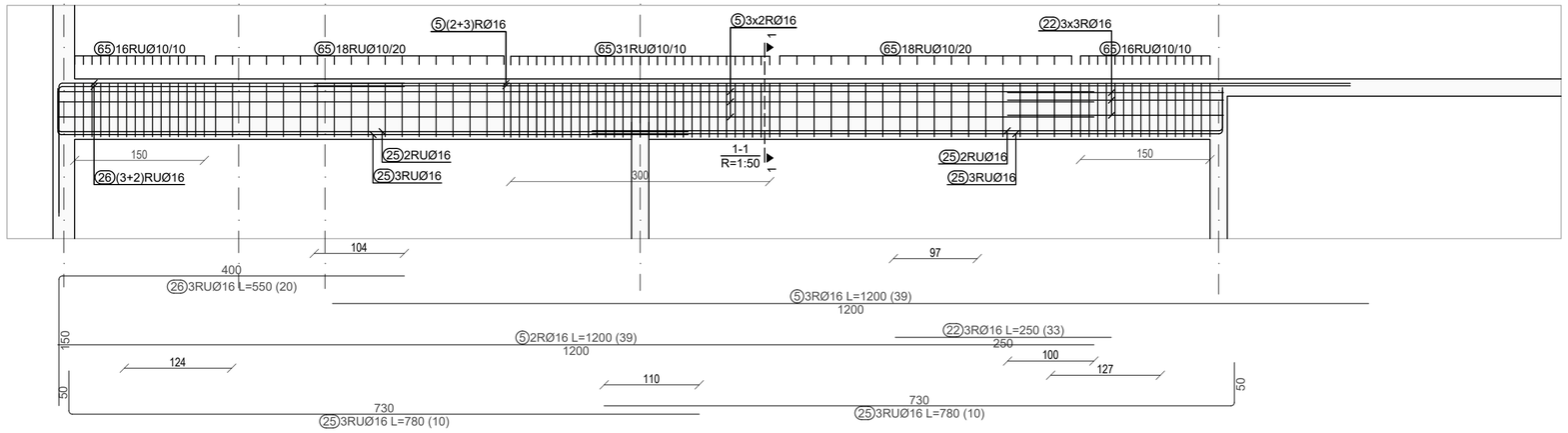
PLAN ARMATURE ZIDOVA 1. KATA
TLOCRT

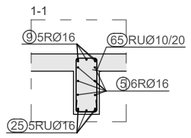
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426529

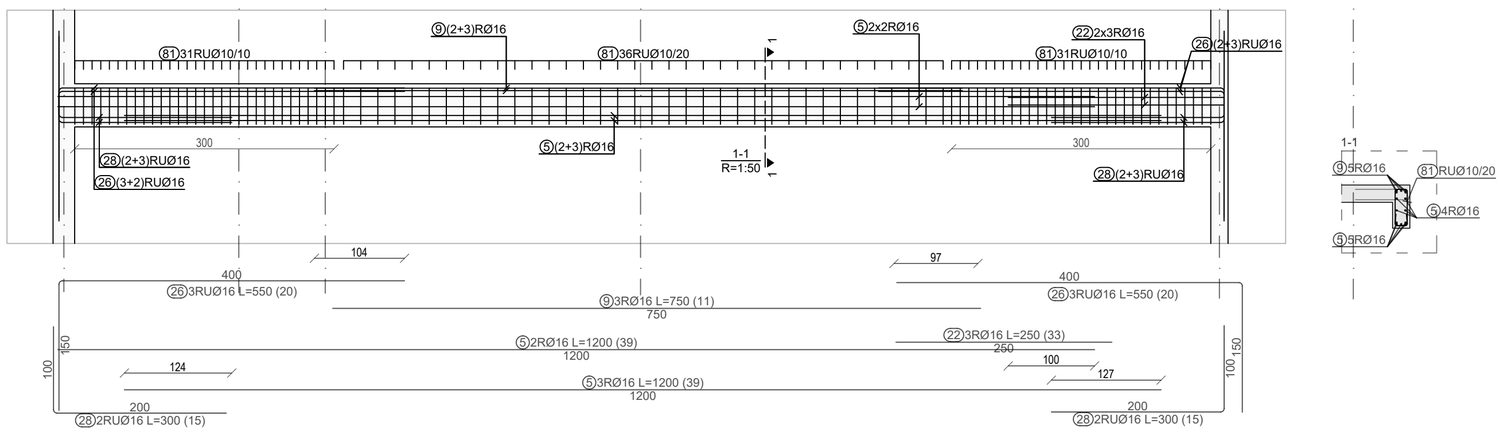
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* PLAN ARMATURE ZIDOVA 1. KATA - TLOCRT	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_21-2024		*Broj lista :*	6.0

POGLED NA GREDU G203 30x70cm





POGLED NA GREDU G201 20x50cm



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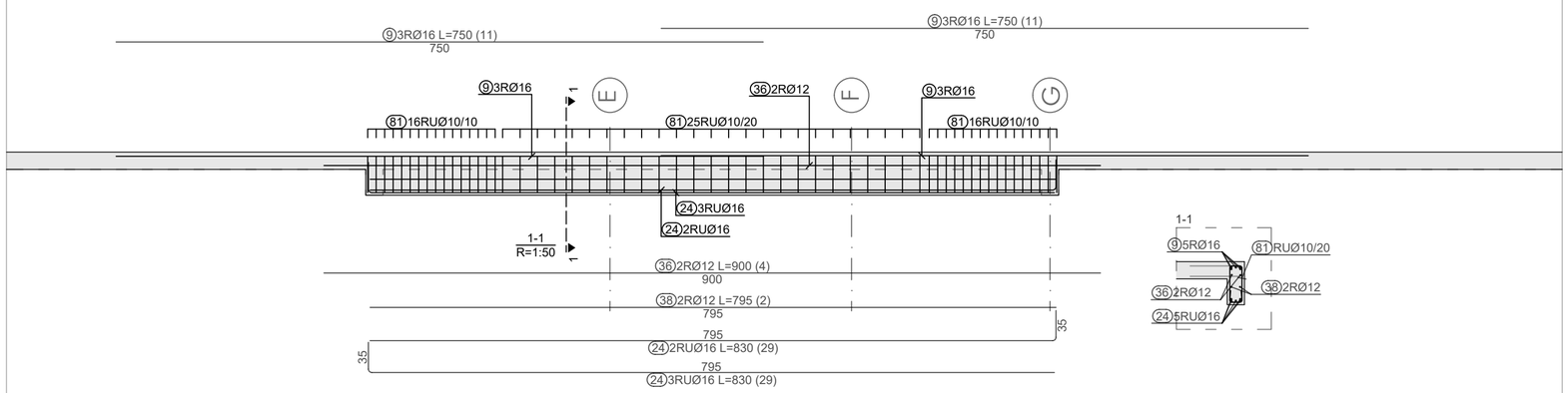


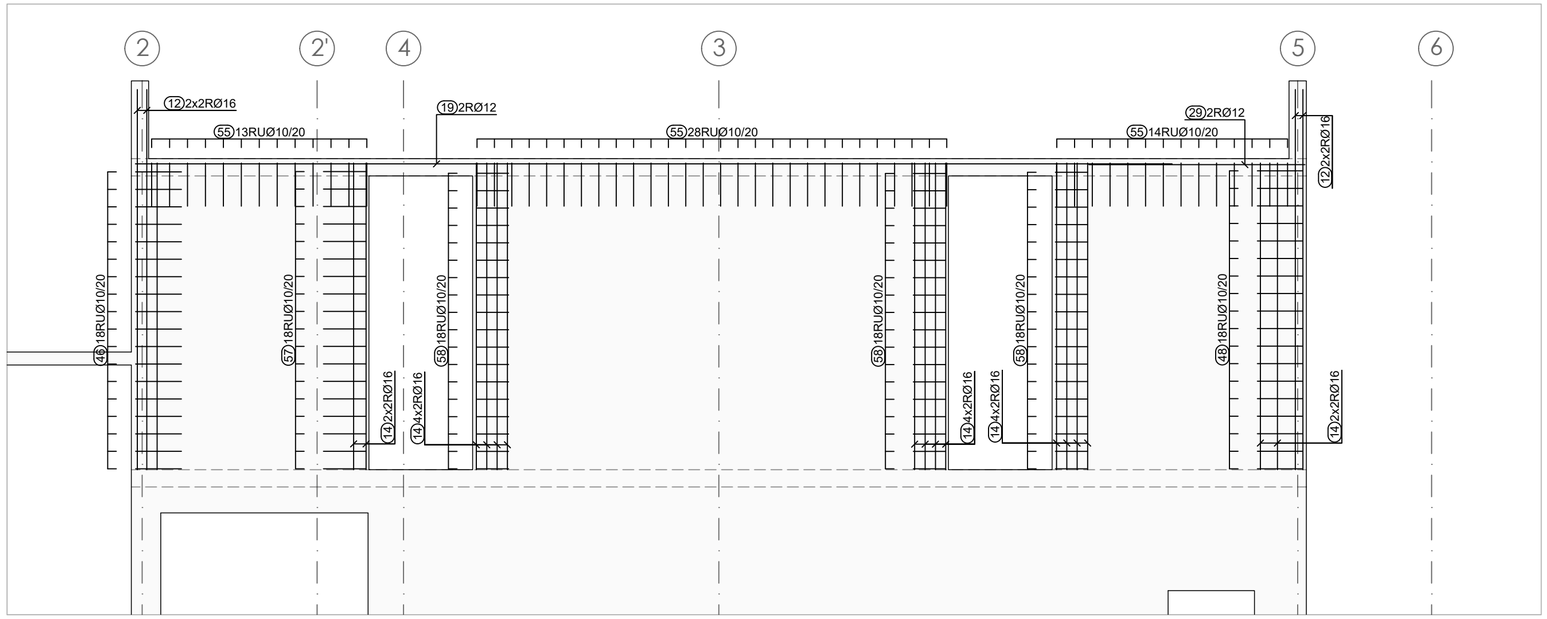
ZIDOVI PRIZEMLJA
PLAN ARMATURE GREDA KOJE NISU CRTANE U SKLOPU ZIDA

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

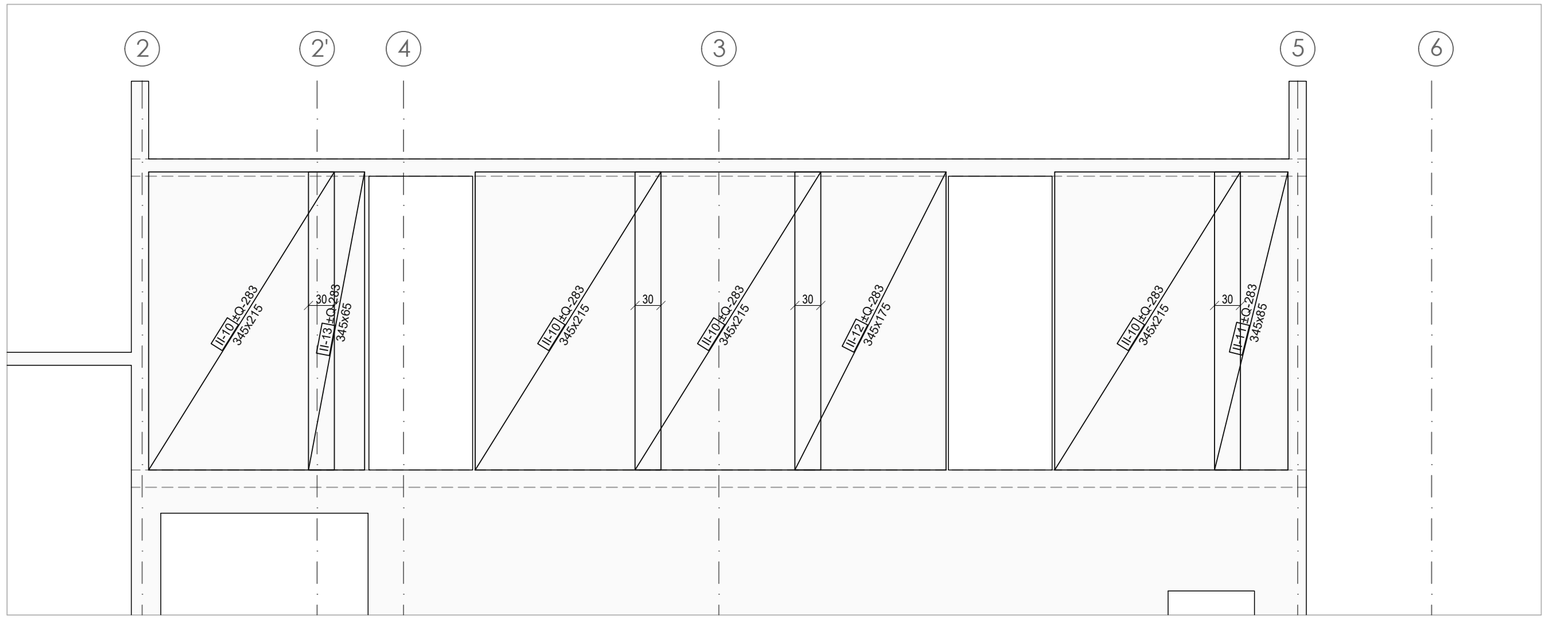
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI PRIZEMLJA - PLAN ARMATURE GREDA KOJE NISU CRTANE U SKLOPU ZIDA	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 4.7

ZID U OSI D - ŠIPKASTA ARMATURA



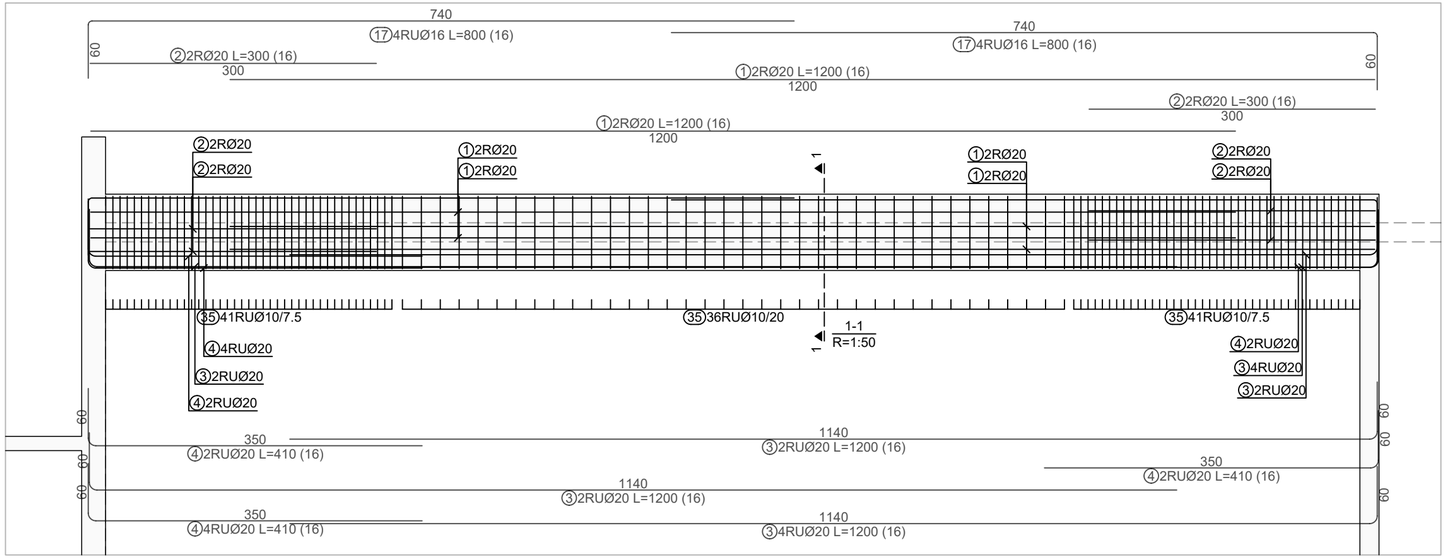
ZID U OSI D - MREŽE - OBA LICA ZIDA

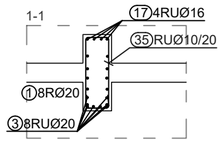


ZIDOVI KATA
PLAN ARMATURE ZIDA
U OSI D

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT			**OIB: 64758426529**	
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.	
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.	
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)			
Mjerilo : 1:50		*Faza projekta :*	IZVEDBENI PROJEKT	*Broj lista :* 6.2
Datum : listopad, 2025.				
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI D			





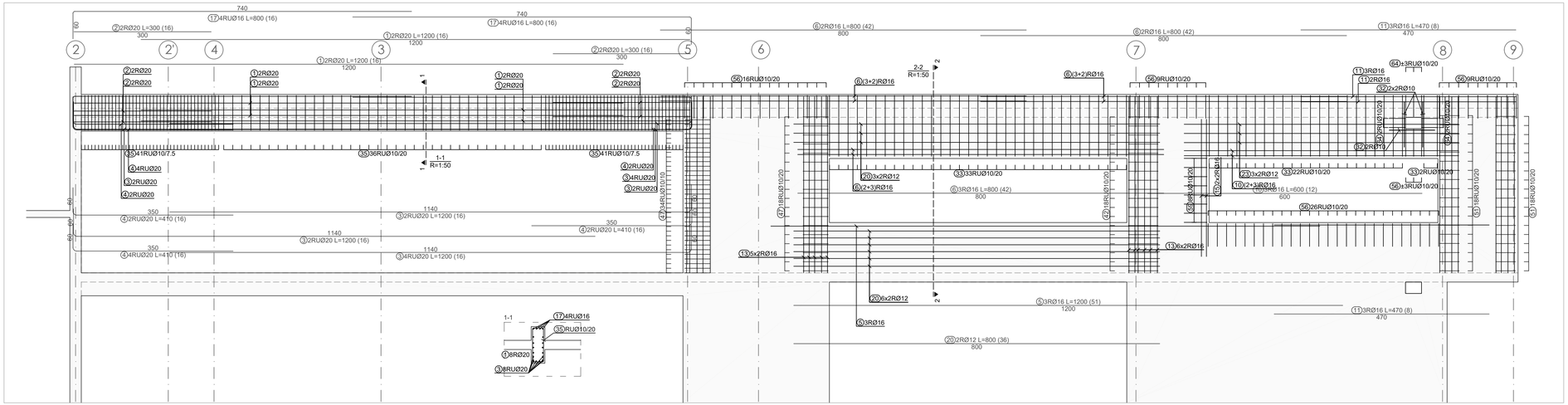
ZIDOVI KATA
PLAN ARMATURE GREDE
POZ 301

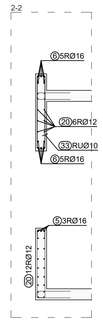
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

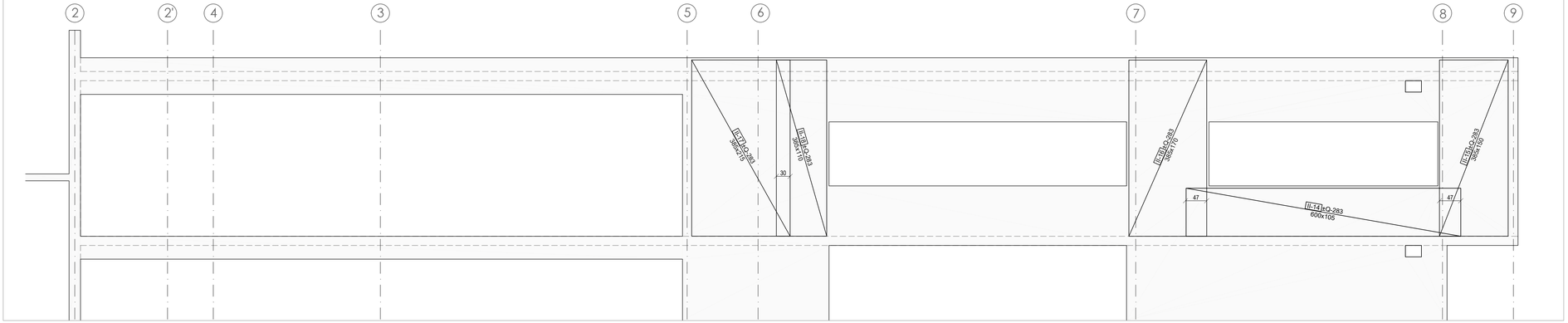
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI KATA - PLAN ARMATURE GREDE POZ 301	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 6.3

POGLED NA ZID U OSI G - ŠIPKASTA ARMATURA





POGLED NA ZID U OSI G - MREŽE - OBA LICA ZIDA



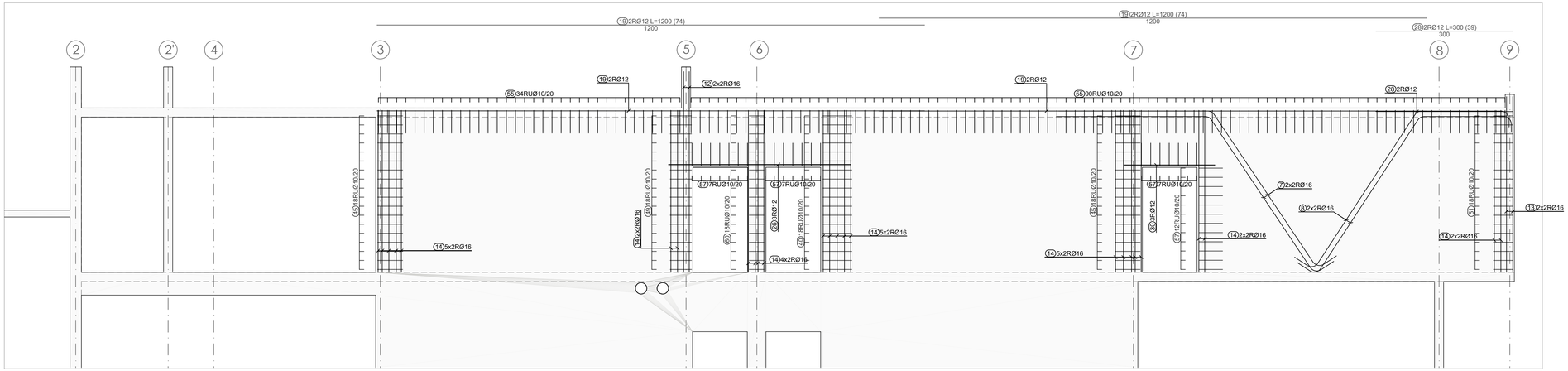
ZIDOVI KATA
PLAN ARMATURE ZIDA
U OSI G

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

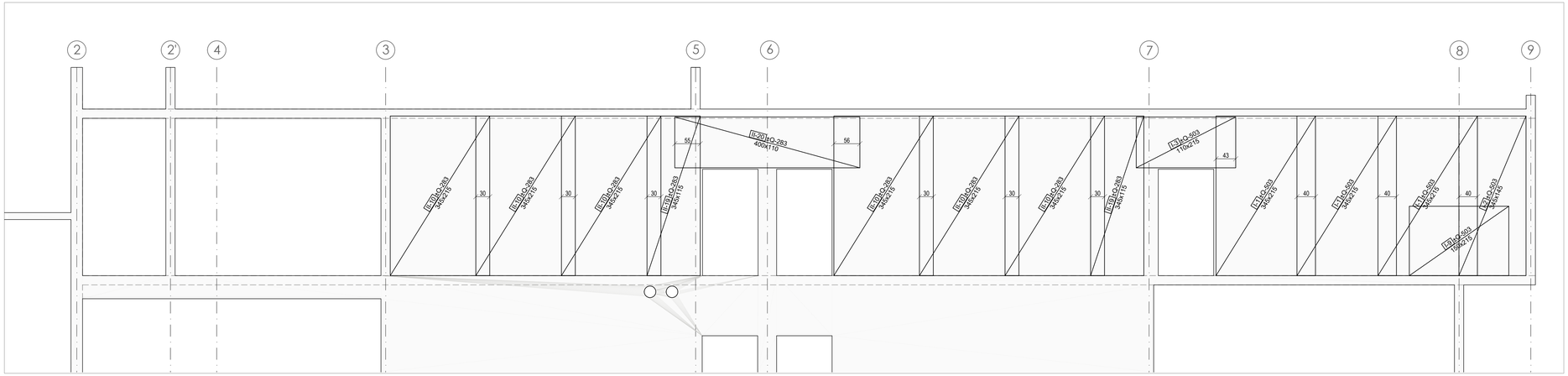
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/II kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Sadržaj :	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI G	*Faza projekta :*	IZVEDBENI PROJEKT
Mjerilo :	1:50	*Broj lista :*	6.4
Datum :	listopad, 2025.		
Oznaka projekta:	TD_28-2025_IZV		

POGLED NA ZID U OSI H - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI H - MREŽE - OBA LICA ZIDA

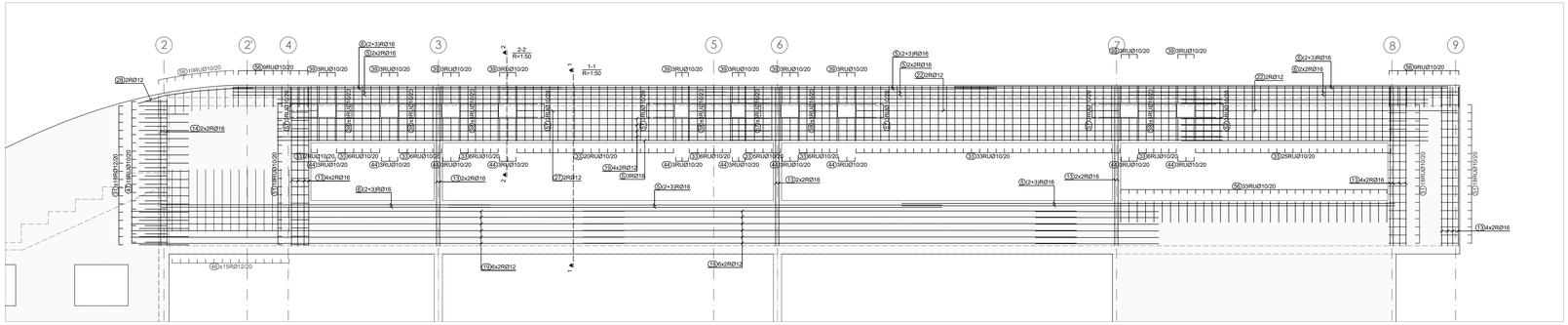


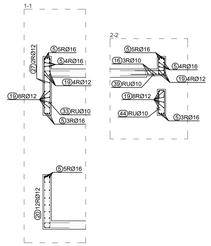
ZIDOVI KATA
PLAN ARMATURE ZIDA
U OSI H

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

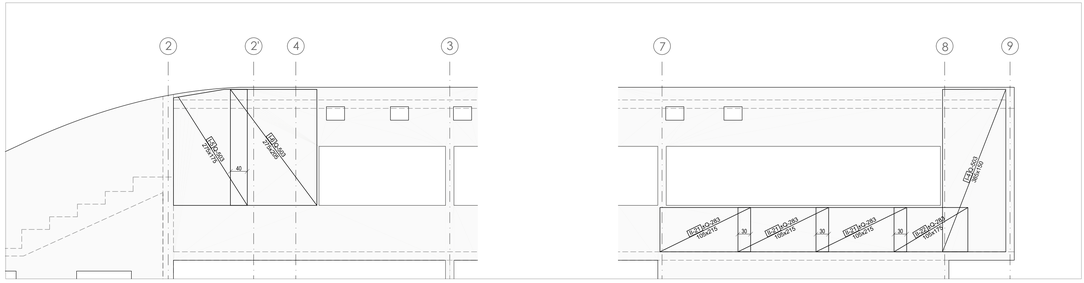
	ORLANDINI PROJEKT d. o. o. – SPLIT Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT OIB: 64758426529		
	Investitor : OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
	Građevina : DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
	Lokacija : VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
	Sadržaj : ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI H	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 6.5
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV			

POGLED NA ZID U OSI J - ŠIPKASTA ARMATURA

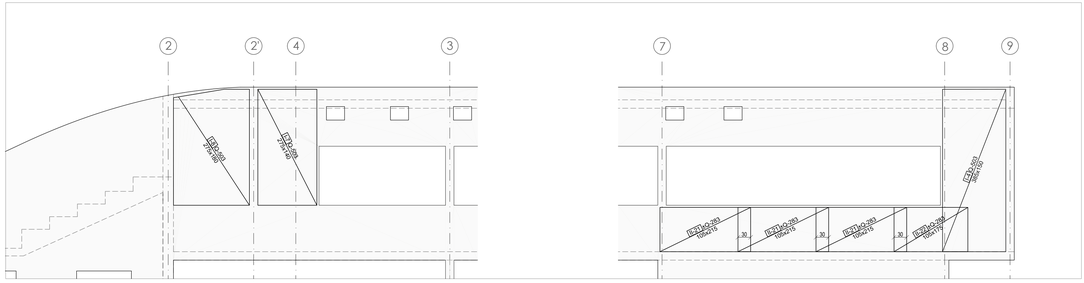




POGLED NA ZID U OSI J - MREŽE - VANJSKO LICE ZIDA



POGLED NA ZID U OSI J - LICE ZIDA PREMA OSI C

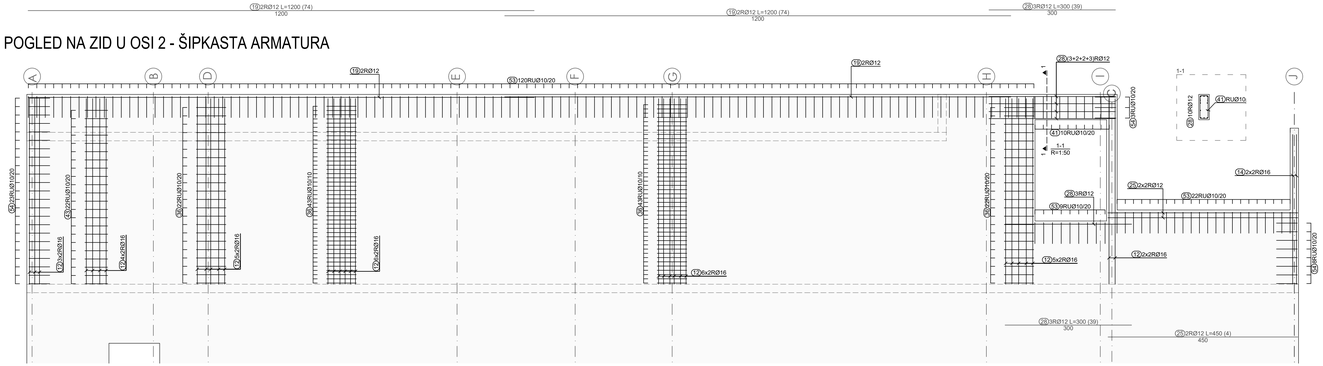


ZIDOVI KATA
PLAN ARMATURE ZIDA
U OSI J

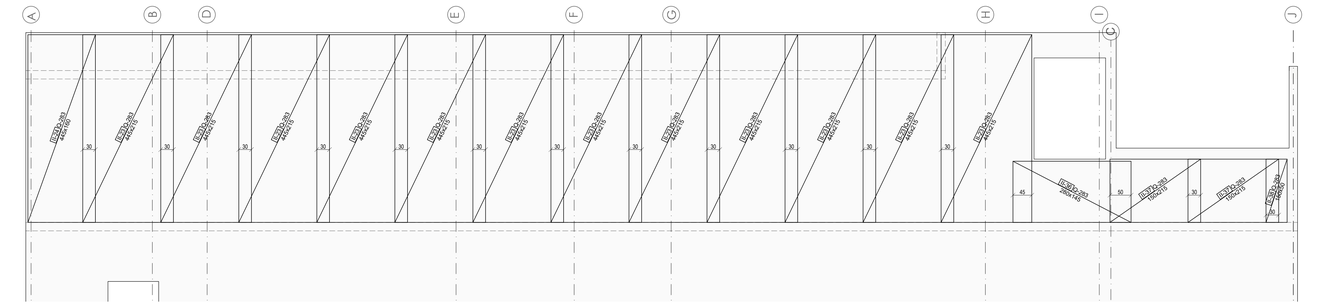
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT			
Sjedište: Hrvatskih ljetnjaka 13, 21000 SPLIT Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT		**OIB: 64758426529**	
Investitor :	OSNOVNA ŠKOLA PRIVLAKA, Ivana Pavla II 53, 23233 Privlaka; OIB: 63033501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI J	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_28-2025_IZV		*Broj lista :*	6.6

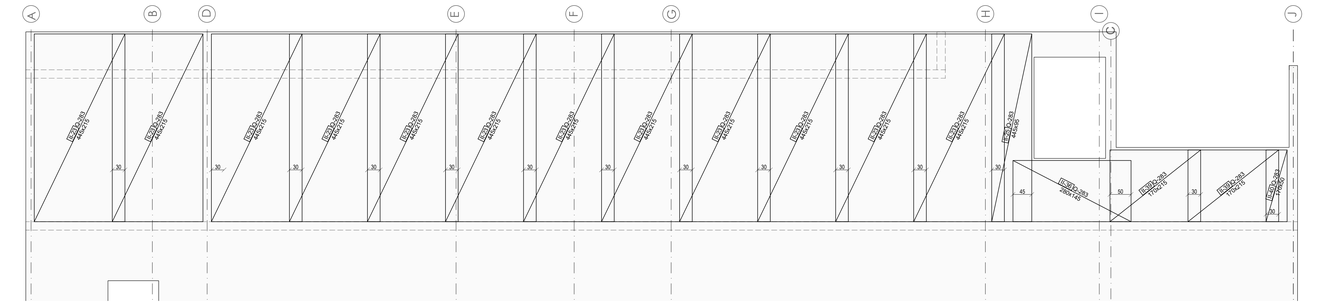
POGLED NA ZID U OSI 2 - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 2 - MREŽE - LICE ZIDA PREMA OSI 1



POGLED NA ZID U OSI 2 - MREŽE - LICE ZIDA PREMA OSI 4

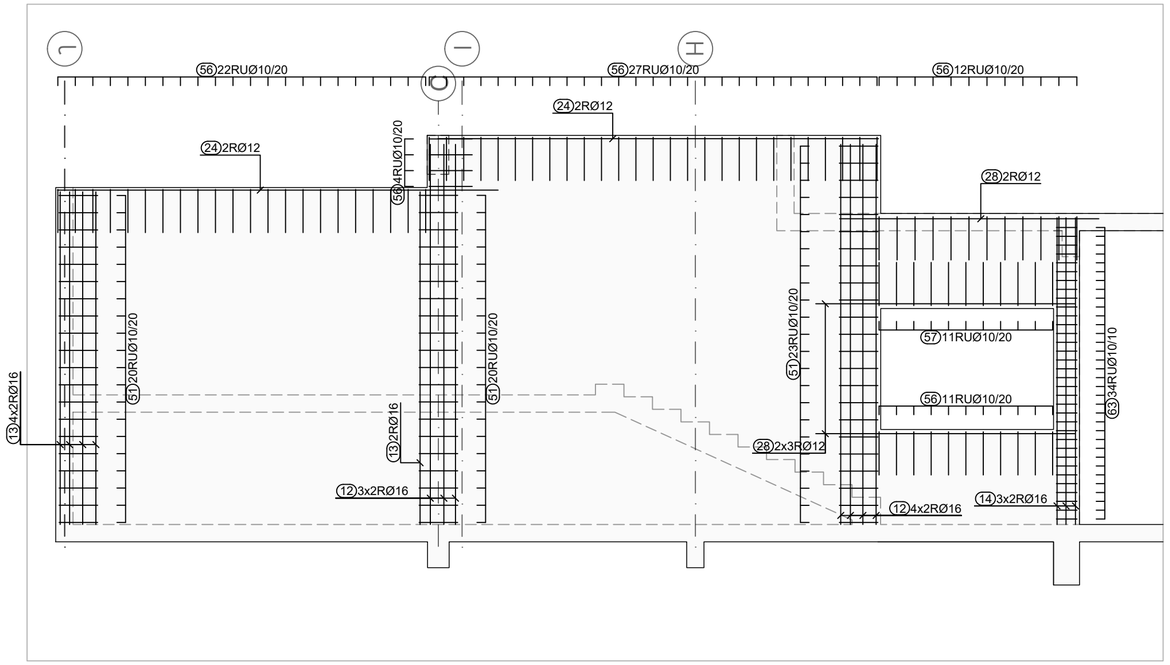


ZIDOVI KATA
PLAN ARMATURE ZIDA U OSI 2

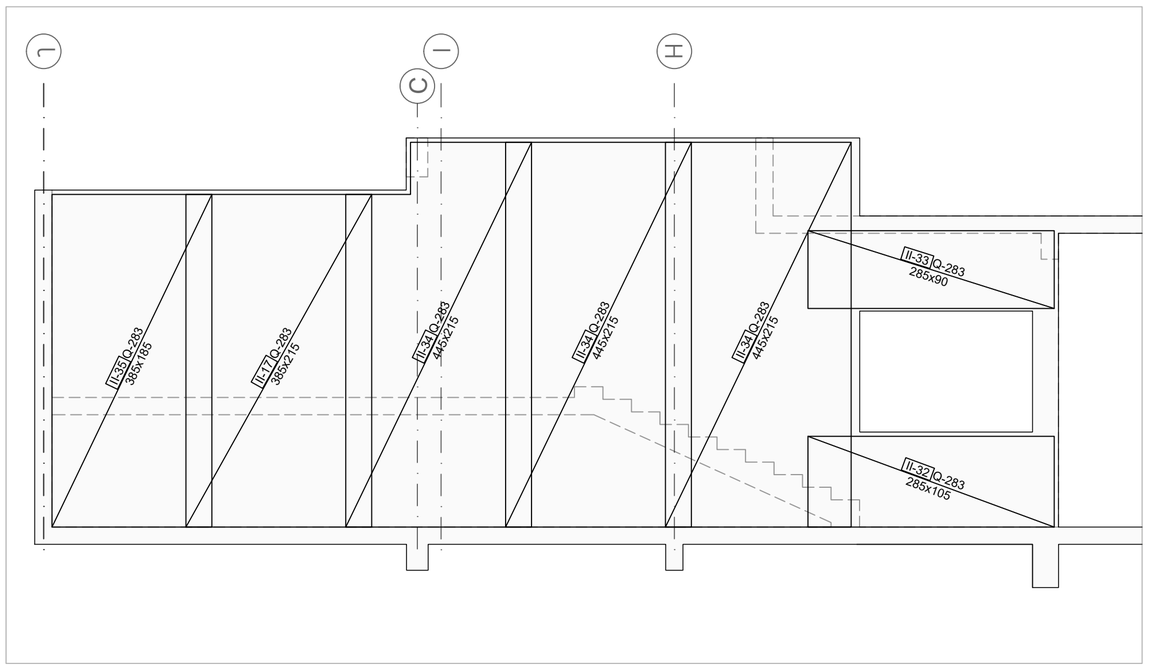
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT			
Sjedište: Hrvatskih ljetnika 13, 21000 SPLIT Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT		**OIB: 64758426529**	
Investitor :	OSNOVNA ŠKOLA PRIVLAKA, Ivana Pavla II 53, 23233 Privlaka; OIB: 63333501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Sadržaj :	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 2	*Faza projekta :*	IZVEDBENI PROJEKT
Mjerilo : 1:50			*Broj lista :* 6.7
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV			

POGLED NA ZID U OSI 2* - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 2* - ŠIPKASTA ARMATURA



ZIDOVI KATA

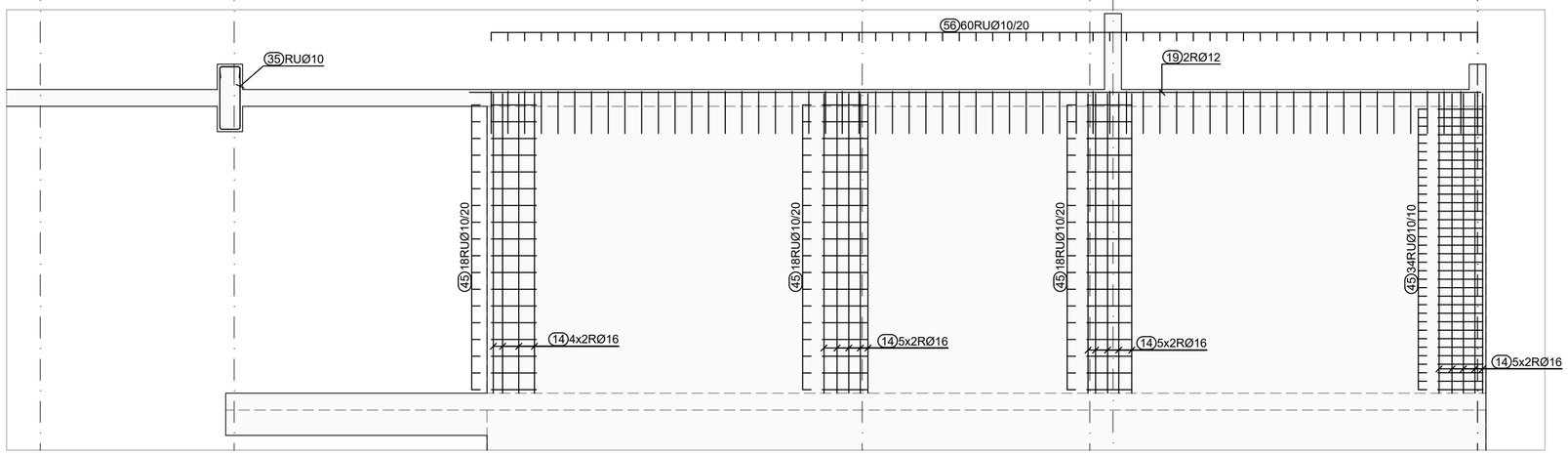
PLAN ARMATURE ZIDA U OSI 2*

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

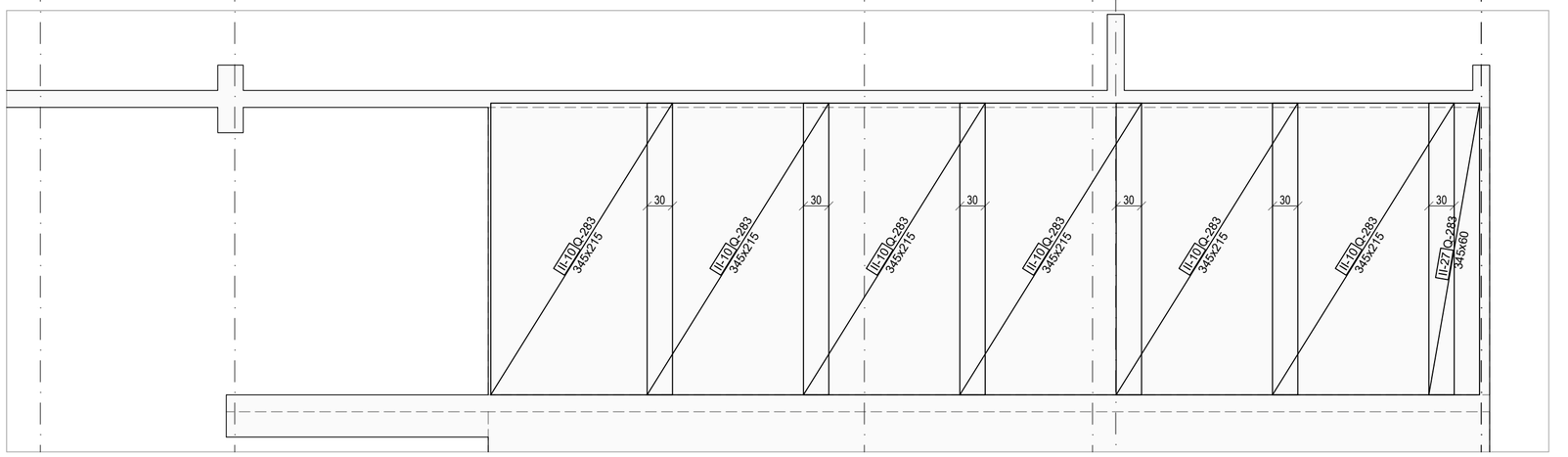
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_28-2025_IZV		
Sadržaj :	ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 2*	*Faza projekta :*	IZVEDBENI PROJEKT
		Broj lista :	6.8

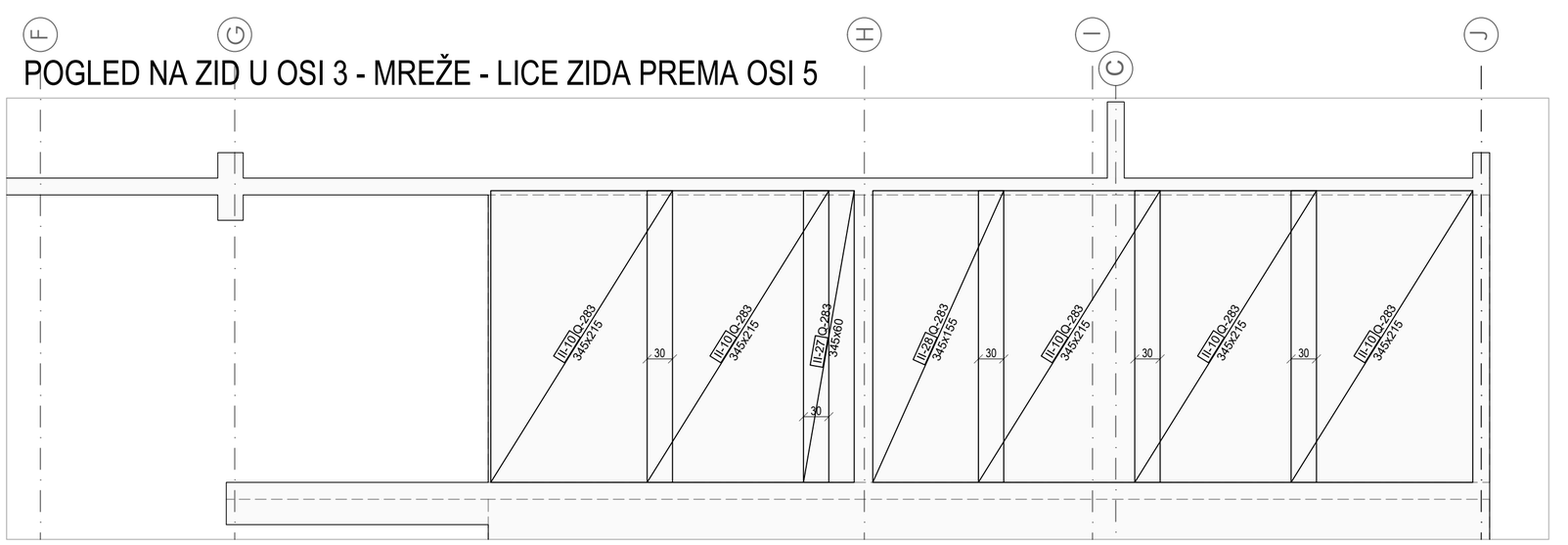
POGLED NA ZID U OSI 3 - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 3 - MREŽE - LICE ZIDA PREMA OSI 4



POGLED NA ZID U OSI 3 - MREŽE - LICE ZIDA PREMA OSI 5



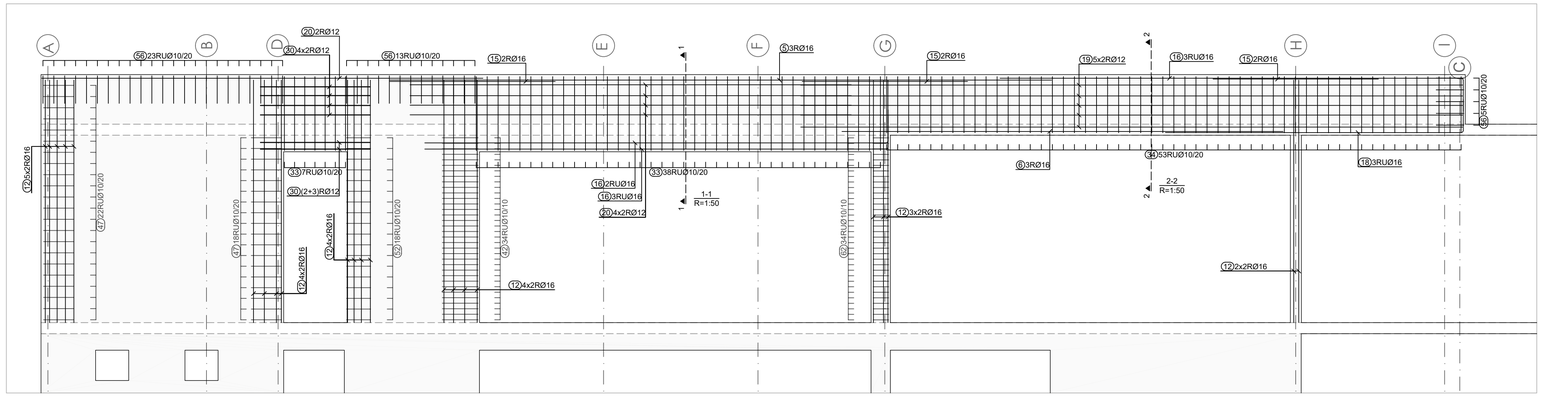
ZIDOVI KATA

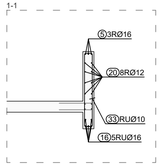
PLAN ARMATURE ZIDA U OSI 3

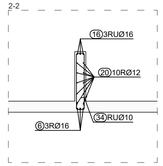
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT OIB: 64758426529				
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.	
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.	
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)			
Mjerilo : 1:50				
Datum : listopad, 2025.		*Faza projekta :*	IZVEDBENI PROJEKT	*Broj lista :* 6.9
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 3			

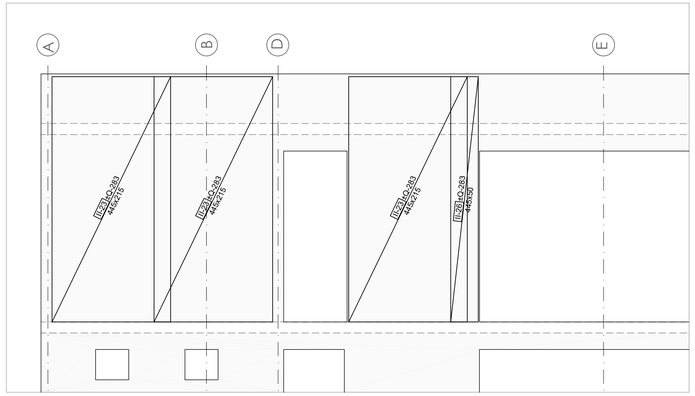
POGLED NA ZID U OSI 5 - ŠIPKASTA ARMATURA







POGLED NA ZID U OSI 5 - MREŽE - OBA LICA ZIDA



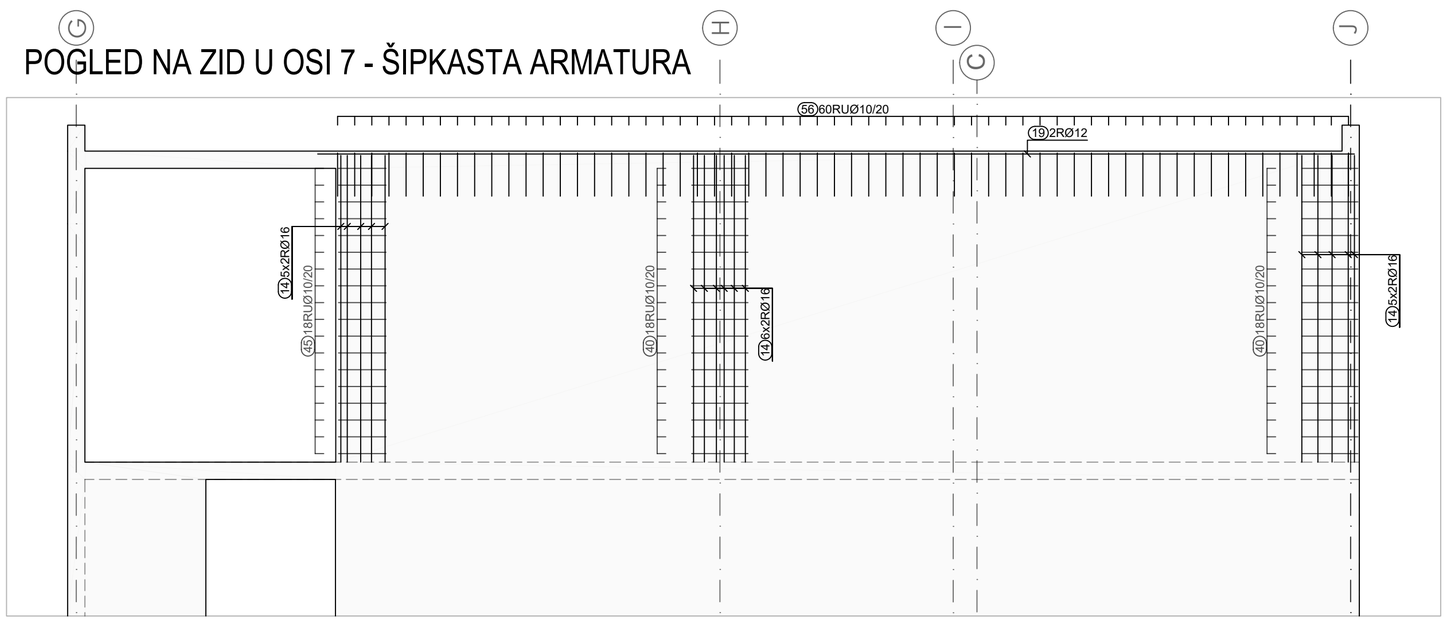
ZIDOVI KATA

PLAN ARMATURE ZIDA
U OSI 5

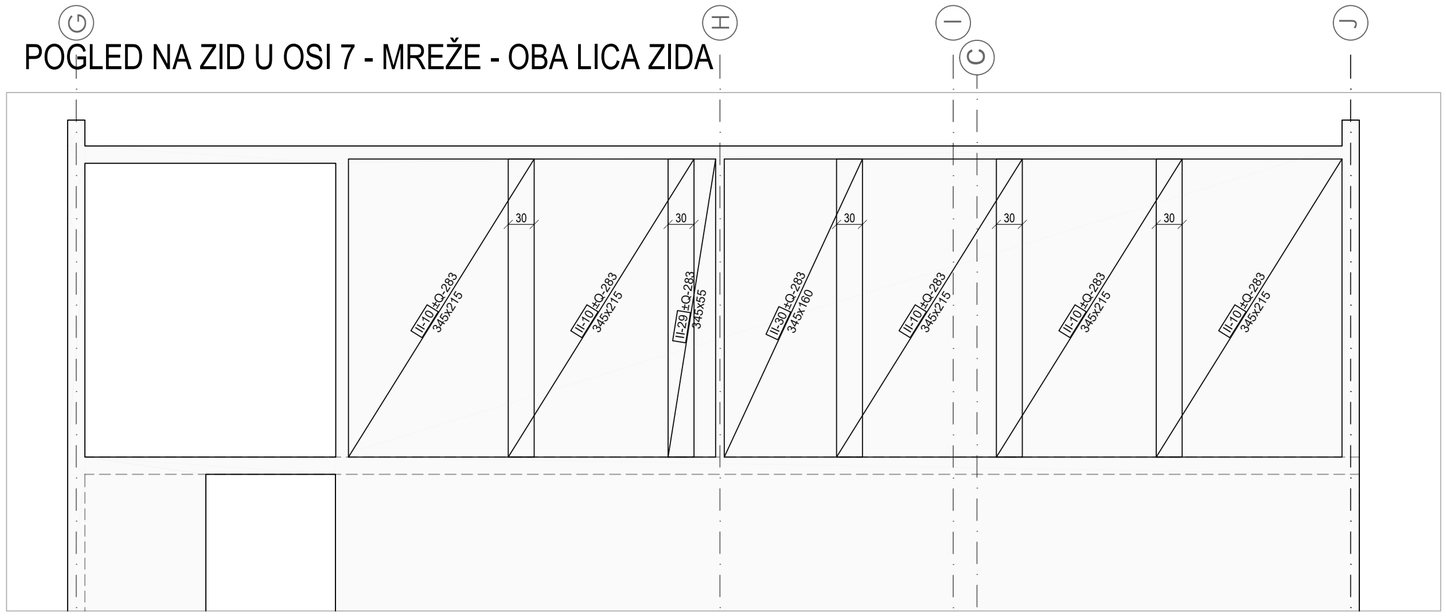
BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

	ORLANDINI PROJEKT d. o. o. – SPLIT Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT OIB: 64758426529		
	Investitor : OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
	Građevina : DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
	Lokacija : VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50	*Sadržaj :* ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 5	*Faza projekta :*	IZVEDBENI PROJEKT
Datum : listopad, 2025.			*Broj lista :* 6.10
Oznaka projekta: TD_28-2025_IZV			

POGLED NA ZID U OSI 7 - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 7 - MREŽE - OBA LICA ZIDA



ZIDOVI KATA

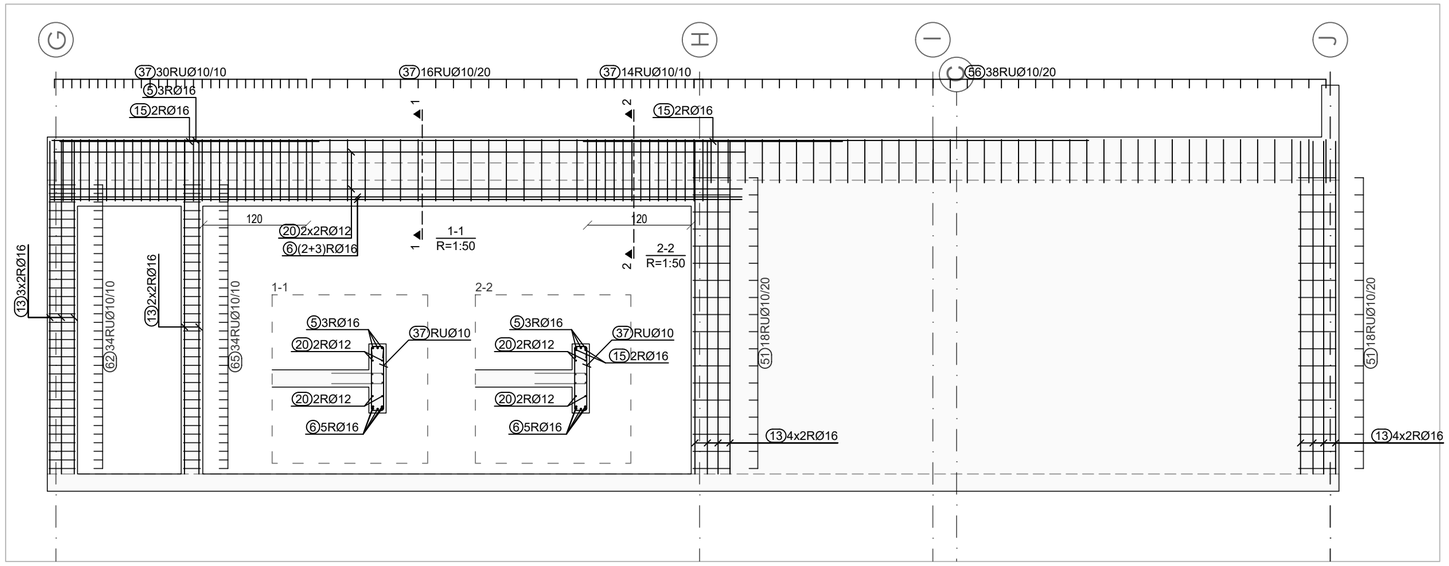
PLAN ARMATURE ZIDA U OSI 7

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

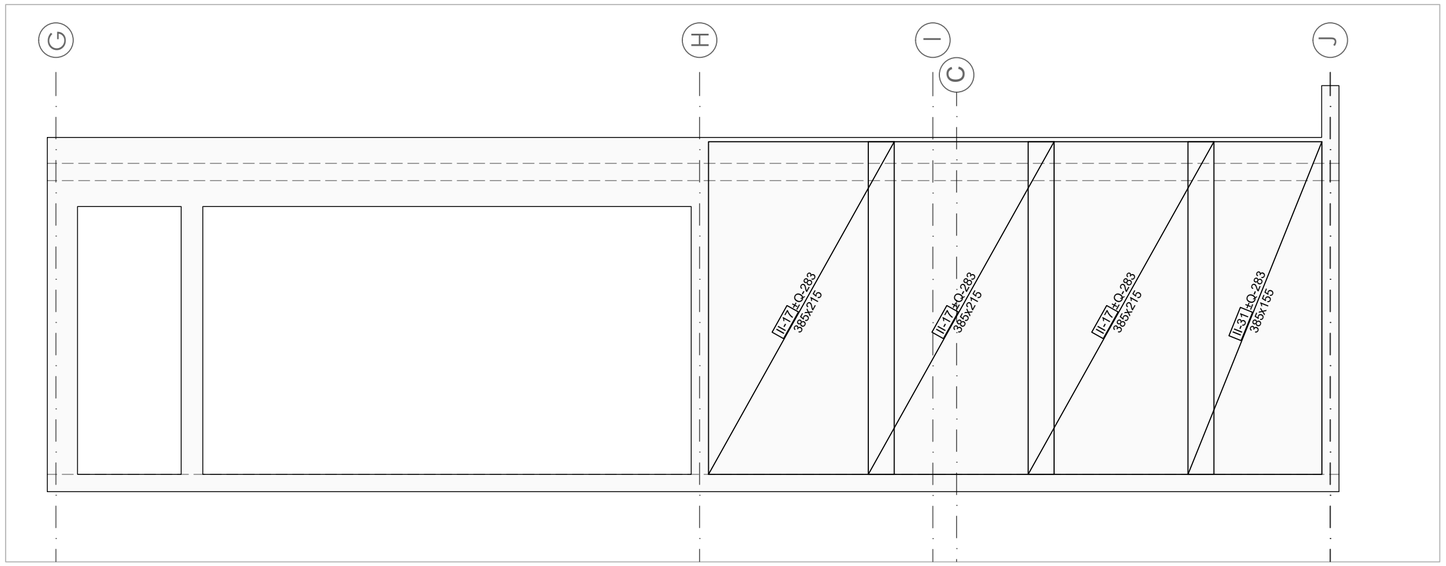
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 7	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 6.11

POGLED NA ZID U OSI 9 - ŠIPKASTA ARMATURA



POGLED NA ZID U OSI 9 - MREŽE - OBA LICA ZIDA



ZIDOVI KATA

PLAN ARMATURE ZIDA U OSI 9

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ZIDOVI KATA - PLAN ARMATURE ZIDA U OSI 9	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 6.12

Špke - specifikacija

ozn	oblik i mjere [cm]	Ø	lg [m]	n [kom]	lgn [m]	Napomena
ZIDOVI KATA (1 kom)						
1	1200	20	12.00	16	192.00	
2	300	20	3.00	16	48.00	
3	60 / 1140	20	12.00	16	192.00	
4	60 / 300	20	4.10	16	65.60	
5	1200	16	12.00	51	612.00	
6	800	16	8.00	42	336.00	
7	90 / 50 / 415 / 320 / 187 / 216	16	8.00	4	32.00	
8	109 / 90 / 415 / 320 / 187 / 75 / 30 / 29	16	7.00	4	28.00	
9	670	16	6.70	5	33.50	
10	600	16	6.00	12	72.00	
11	470	16	4.70	8	37.60	
12	440	16	4.40	98	431.20	
13	385	16	3.85	94	361.90	
14	355	16	3.55	174	617.70	
15	300	16	3.00	42	126.00	
16	60 / 840	16	9.00	8	72.00	
17	60 / 740	16	8.00	16	128.00	
18	60 / 540	16	6.00	3	18.00	
19	1200	12	12.00	74	888.00	
20	800	12	8.00	36	288.00	
21	670	12	6.70	4	26.80	
22	635	12	6.35	4	25.40	
23	600	12	6.00	28	168.00	
24	510	12	5.10	8	40.80	
25	450	12	4.50	4	18.00	
26	400	12	4.00	3	12.00	
27	380	12	3.80	2	7.60	
28	300	12	3.00	39	117.00	
29	250	12	2.50	4	10.00	
30	200	12	2.00	15	30.00	
31	120	12	1.20	36	43.20	
32	100	10	1.00	6	6.00	
33	133 / 14 / 11 / 11 / 14 / 133	10	3.30	225	742.50	
34	102 / 14 / 11 / 11 / 14 / 102	10	2.66	53	142.04	
35	74 / 24 / 11 / 11 / 24 / 74	10	2.42	236	571.12	
36	70 / 17 / 11 / 11 / 17 / 70	10	2.13	130	276.90	
37	74 / 14 / 11 / 11 / 14 / 74	10	2.12	60	127.20	
38	88 / 12 / 12 / 88	10	1.88	36	67.68	
39	14 / 40 / 11 / 11 / 14 / 80	10	1.99	30	59.70	
40	65 / 12 / 11 / 11 / 12 / 65	10	1.88	72	135.36	
41	54 / 19 / 11 / 11 / 19 / 54	10	1.87	10	18.70	
42	65 / 17 / 11 / 11 / 17 / 65	10	1.85	52	96.20	
43	54 / 17 / 11 / 11 / 17 / 54	10	1.81	22	39.82	
44	56 / 14 / 11 / 11 / 14 / 56	10	1.76	30	52.80	
45	55 / 12 / 11 / 11 / 12 / 55	10	1.68	234	393.12	
46	54 / 12 / 11 / 11 / 12 / 54	10	1.66	18	29.88	
47	55 / 11 / 11 / 11 / 11 / 55	10	1.65	108	178.20	
48	53 / 12 / 11 / 11 / 12 / 53	10	1.64	18	29.52	
49	47 / 12 / 11 / 11 / 12 / 47	10	1.52	18	27.36	
50	42 / 14 / 11 / 11 / 14 / 42	10	1.48	56	82.88	
51	45 / 11 / 11 / 11 / 11 / 45	10	1.45	207	300.15	
52	44 / 11 / 11 / 11 / 11 / 44	10	1.43	18	25.74	
53	50 / 19 / 50	10	1.19	151	179.69	
54	50 / 16 / 50	10	1.16	34	39.44	
55	50 / 15 / 50	10	1.15	179	205.85	
56	50 / 14 / 50	10	1.14	537	612.18	
57	50 / 22 / 50	10	1.12	86	96.32	
58	38 / 12 / 11 / 11 / 12 / 38	10	1.34	54	72.36	
59	50 / 11 / 50	10	1.11	101	112.11	
60	34 / 12 / 11 / 11 / 12 / 34	10	1.26	18	22.68	
61	33 / 12 / 11 / 11 / 12 / 33	10	1.24	14	17.36	
62	29 / 14 / 11 / 11 / 14 / 29	10	1.22	68	82.96	
63	24 / 14 / 11 / 11 / 14 / 24	10	1.12	34	38.08	
64	35 / 14 / 36	10	0.84	10	8.40	
65	19 / 14 / 11 / 11 / 14 / 19	10	1.02	34	34.68	

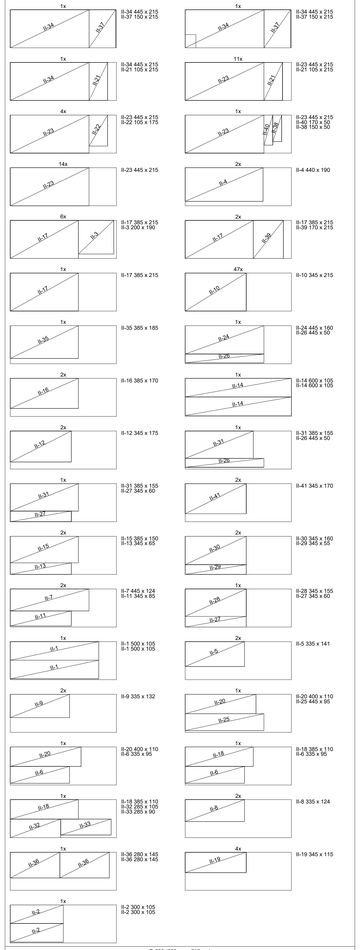
Špke - rekapitulacija

Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
B500B			
10	4924.98	0.62	3038.71
12	1674.80	0.89	1487.22
16	2905.90	1.58	4591.32
20	497.60	2.47	1229.07
Ukupno (B500B)			10346.33
Ukupno			10346.33

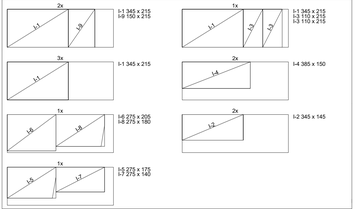
Mreže - plan rezanja

ZIDOVI KATA

Q-283 (600 cm x 215 cm)



Q-503 (600 cm x 215 cm)



Mreže - specifikacija

Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
ZIDOVI KATA (1 kom)							
I-1	Q-503	215	345	6	8.03	357.36	
I-2	Q-503	145	345	2	8.03	80.34	
I-3	Q-503	215	110	2	8.03	37.96	
I-4	Q-503	150	385	2	8.03	92.75	
I-5	Q-503	175	275	1	8.03	38.64	
I-6	Q-503	205	275	1	8.03	45.27	
I-7	Q-503	140	275	1	8.03	30.92	
I-8	Q-503	180	275	1	8.03	39.75	
I-9	Q-503	215	150	2	8.03	51.79	
II-1	Q-283	105	500	2	4.48	47.04	
II-2	Q-283	105	300	2	4.48	28.22	
II-3	Q-283	190	200	6	4.48	102.15	
II-4	Q-283	190	440	2	4.48	74.91	
II-5	Q-283	141	335	2	4.48	42.18	
II-6	Q-283	95	335	2	4.48	28.66	
II-7	Q-283	134	445	2	4.48	49.44	
II-8	Q-283	124	335	2	4.48	37.22	
II-9	Q-283	132	335	2	4.48	39.62	
II-10	Q-283	215	345	47	4.48	1561.83	
II-11	Q-283	85	345	2	4.48	26.28	
II-12	Q-283	175	345	2	4.48	54.10	
II-13	Q-283	65	345	2	4.48	20.09	
II-14	Q-283	105	600	2	4.48	56.45	
II-15	Q-283	150	385	2	4.48	51.74	
II-16	Q-283	170	385	2	4.48	58.64	
II-17	Q-283	215	385	9	4.48	333.75	
II-18	Q-283	110	385	2	4.48	37.95	
II-19	Q-283	115	345	4	4.48	71.10	
II-20	Q-283	110	400	2	4.48	39.42	
II-21	Q-283	215	105	12	4.48	121.36	
II-22	Q-283	175	105	4	4.48	32.93	
II-23	Q-283	215	445	30	4.48	1285.87	
II-24	Q-283	160	445	1	4.48	31.90	
II-25	Q-283	95	445	1	4.48	19.94	
II-26	Q-283	50	445	2	4.48	19.94	
II-27	Q-283	60	345	2	4.48	18.55	
II-28	Q-283	155	345	1	4.48	23.96	
II-29	Q-283	55	345	2	4.48	17.00	
II-30	Q-283	160	345	2	4.48	49.46	
II-31	Q-283	155	385	2	4.48	53.47	
II-32	Q-283	105	285	1	4.48	13.41	
II-33	Q-283	90	285	1	4.48	11.49	
II-34	Q-283	215	445	3	4.48	128.68	
II-35	Q-283	185	385	1	4.48	31.91	
II-36	Q-283	145	280	2	4.48	36.38	
II-37	Q-283	215	150	2	4.48	28.90	
II-38	Q-283	50	150	1	4.48	3.36	
II-39	Q-283	215	170	2	4.48	32.75	
II-40	Q-283	50	170	1	4.48	3.81	
II-41	Q-283	170	345	2	4.48	52.55	
Ukupno						5552.20	

Mreže - rekapitulacija

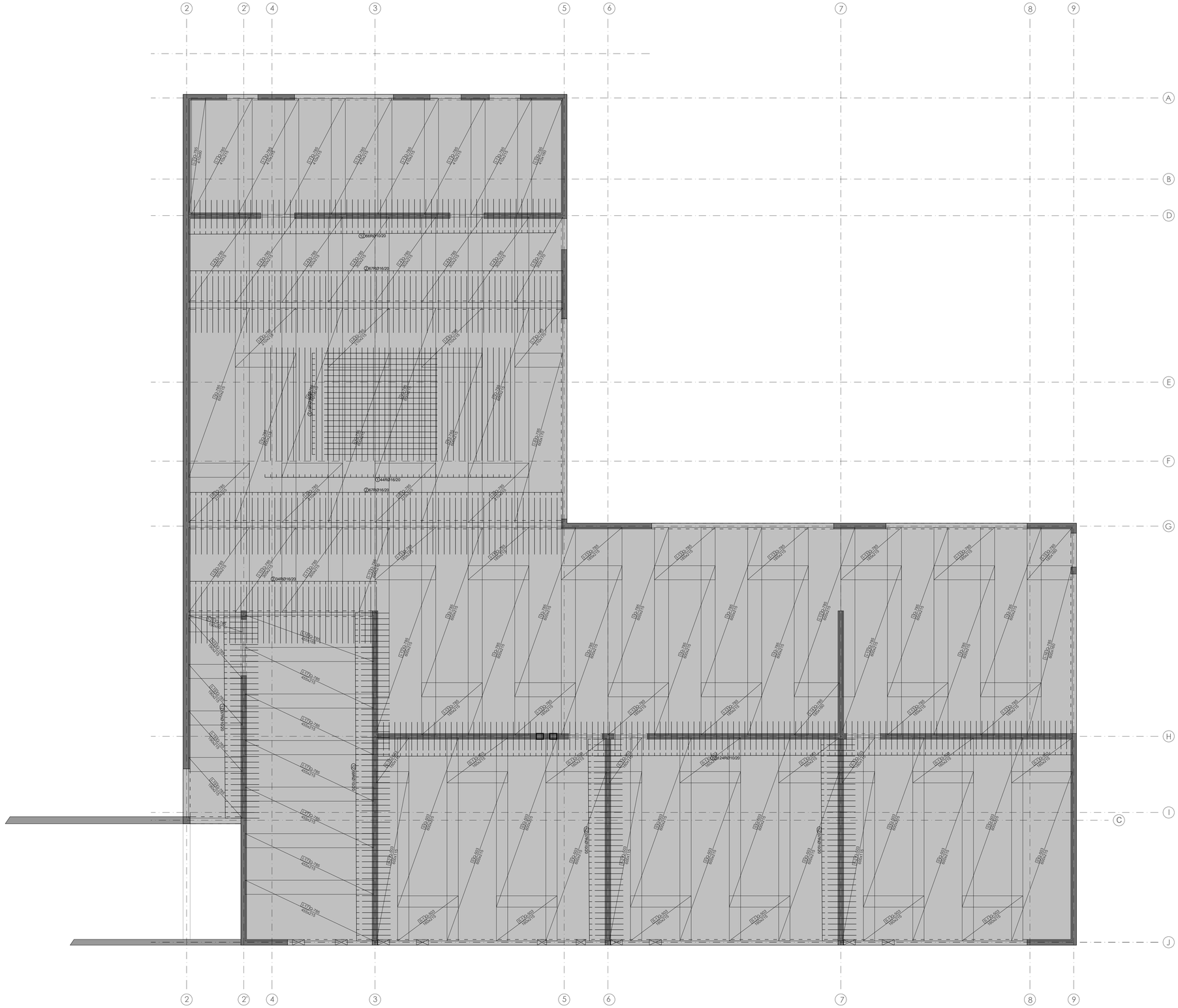
Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-283	215	600	126	4.48	7281.79	4775.36
Q-503	215	600	12	8.03	1243.04	772.89
Ukupno					8524.84	5548.24

ISKAZ ARMATURE ZIDOVA 1. KATA

ORLANDINI PROJEKT d. o. o. – SPLIT

Sjedište: Hrvatskih ljetnika 13, 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat, 21000 SPLIT
OIB: 64758426629

Mjerilo : 1:50	*Investitor :*	OSNOVNA ŠKOLA PRIVLAKA, Ivana Pavla II 53, 23233 Privlaka; OIB: 63333501548	*Projektant izvedbenog projekta :* IVO ORLANDINI mag.ing.aedif.
	Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :* MARTINA BOJČIĆ mag.ing.aedif.
Datum : listopad, 2025.	*Lokacija :*	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	
Oznaka projekta: TD_26-2025_IO	*Sadržaj :*	ISKAZ ARMATURE ZIDOVA 1. KATA	*Faza projekta :* IZVEDBENI PROJEKT — *Broj lista :* 6.13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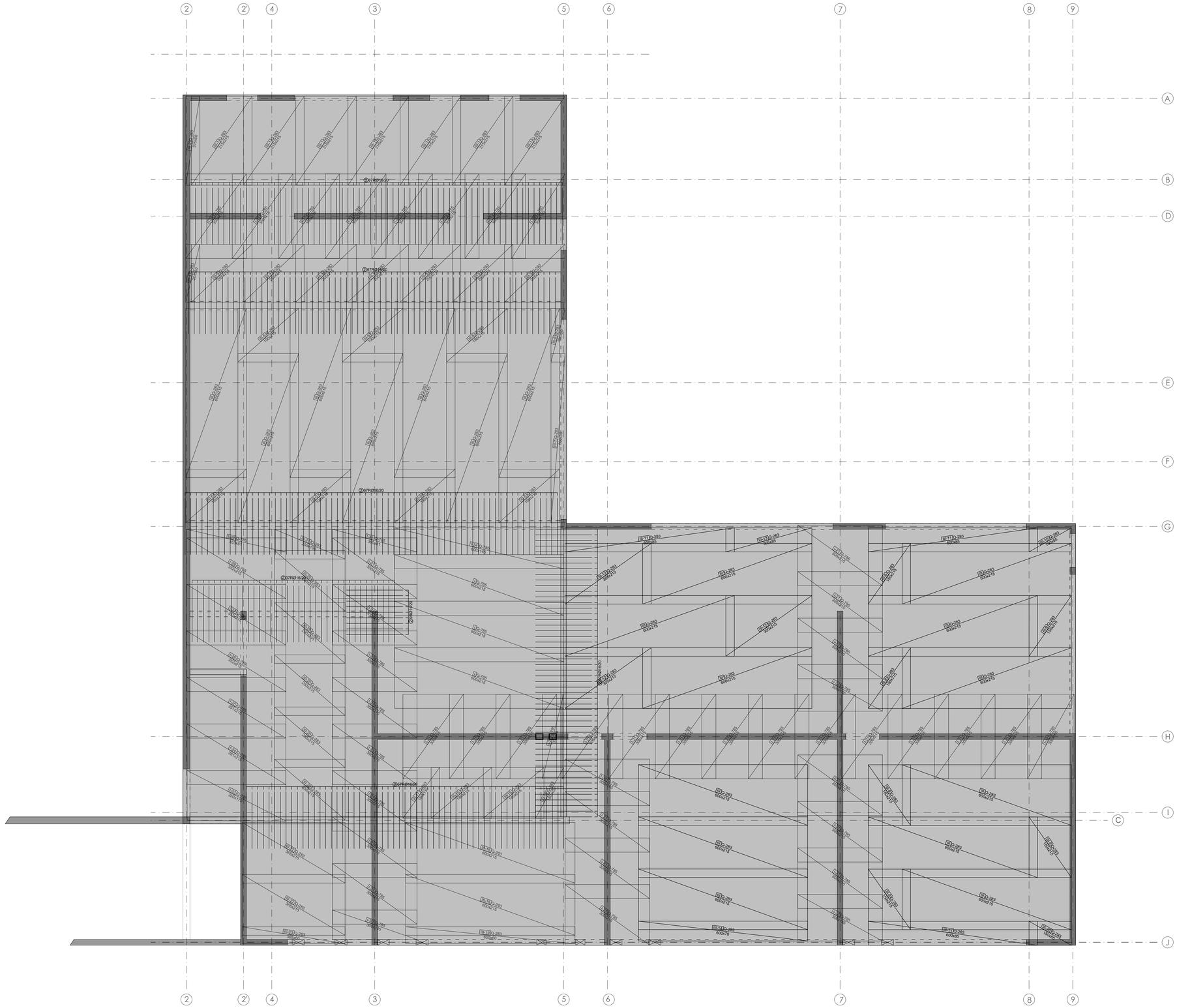
Z67R16/20
Z67R16/20
Z67R16

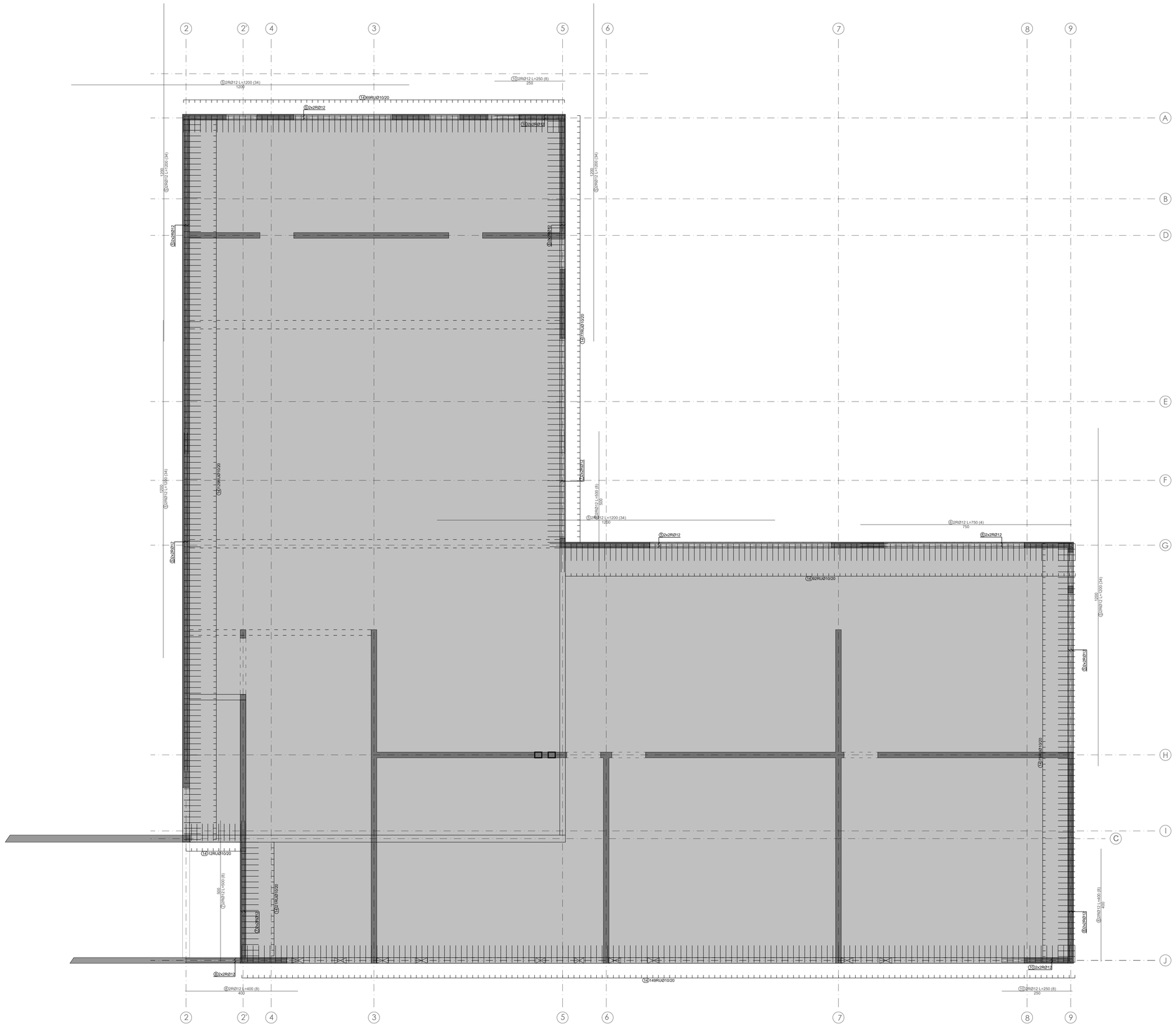


PLAN ARMATURE PLOČE IZNAD 1. KATA - POZ 301 GORNJA ZONA - MREŽE I OJAČANJA

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* PLAN ARMATURE PLOPČE IZNAD 1. KATA - POZ 301 - GORNJA ZONA - MREŽE I OJAČANJA	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD.21-2024		*Broj lista :*	7.1B



PLAN ARMATURE PLOČE IZNAD 1. KATA - POZ 301
VILICE I KONSTRUKTIVNE ŠIPKE

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT
Ured: Ivana Gundulića 29a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA: Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	*Sadržaj :* PLAN ARMATURE PLOČE IZNAD 1. KATA - POZ 301 - VILICE I KONSTRUKTIVNE ŠIPKE	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TO_21-2024		*Broj lista*	7.1C

armatura nadozida je prikazana u nacrtu s pogledom na zid u osi 5

armatura nadozida je prikazana u nacrtu s pogledom na zid u osi 5

PLAN ARMATURE PLOČE IZNAD 1. KATA - POZ 301 ANKERI I GREDE

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13, 21000 SPLIT
Ured: Ivana Gundulića 29a/III kat, 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA: Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (rezidirana k.č. 4371/1 k.o. Vir)	Suradnica :	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50			
Datum : listopad, 2025.	Sadržaj : PLAN ARMATURE PLOČE IZNAD 1. KATA - POZ 301 - ANKERI I GREDE	Faza projekta :	IZVEDBENI PROJEKT
Oznaka projekta: TO_21-2024			Broj lista : 7.10

Mreže - specifikacija

Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
PLOČA POZ 300 (1 kom)							
I	Q-785	215	600	21	12.46	3375.41	
I-1	Q-785	215	410	7	12.46	768.85	
I-2	Q-785	60	410	1	12.46	30.65	
I-3	Q-785	160	410	1	12.46	81.74	
I-4	Q-785	215	302	7	12.46	566.35	
I-5	Q-785	170	302	1	12.46	63.97	
I-6	Q-785	215	210	7	12.46	393.79	
I-7	Q-785	170	210	1	12.46	44.48	
I-8	Q-785	170	600	1	12.46	127.09	
I-9	Q-785	215	300	1	12.46	80.46	
I-10	Q-785	215	300	1	12.46	80.46	
I-11	Q-785	215	300	1	12.46	80.46	
I-12	Q-785	215	600	4	12.46	642.94	
I-13	Q-785	215	185	13	12.46	645.44	
I-14	Q-785	160	185	1	12.46	36.95	
I-15	Q-785	160	185	1	12.46	36.95	
I-16	Q-785	160	600	1	12.46	119.63	
I-17	Q-785	215	455	6	12.46	731.34	
I-18	Q-785	165	455	1	12.46	93.30	
I-19	Q-785	215	190	4	12.46	203.60	
I-20	Q-785	60	190	1	12.46	14.13	
I-21	Q-785	215	300	37	12.46	2973.59	
I-22	Q-785	75	300	1	12.46	28.03	
I-23	Q-785	179	350	1	12.46	78.30	
I-24	Q-785	215	351	1	12.46	93.97	
I-25	Q-785	215	351	1	12.46	94.08	
I-26	Q-785	215	352	1	12.46	94.19	
I-27	Q-785	215	352	1	12.46	94.30	
I-28	Q-785	215	352	1	12.46	94.41	
I-29	Q-785	81	353	1	12.46	35.42	
I-30	Q-785	105	300	1	12.46	39.11	
I-31	Q-785	81	300	1	12.46	30.15	
I-32	Q-785	165	300	4	12.46	246.71	
I-33	Q-785	190	300	1	12.46	71.02	
I-34	Q-785	145	600	1	12.46	108.37	
II	Q-503	215	600	12	8.03	1243.04	
II-1	Q-503	215	160	12	8.03	330.84	
II-2	Q-503	115	600	3	8.03	166.22	
II-3	Q-503	115	160	3	8.03	44.24	
III	Q-283	215	600	19	4.48	1098.05	
III-1	Q-283	215	315	7	4.48	212.39	
III-2	Q-283	50	315	1	4.48	7.06	
III-3	Q-283	215	205	7	4.48	138.22	
III-4	Q-283	50	205	1	4.48	4.59	
III-5	Q-283	215	190	7	4.48	128.10	
III-6	Q-283	50	190	1	4.48	4.26	
III-7	Q-283	50	600	1	4.48	13.44	
III-8	Q-283	215	150	2	4.48	28.90	
III-9	Q-283	215	150	4	4.48	57.80	
III-10	Q-283	85	150	2	4.48	11.45	
III-11	Q-283	85	600	3	4.48	68.69	
III-12	Q-283	215	305	3	4.48	88.13	
III-13	Q-283	85	305	1	4.48	11.64	
III-14	Q-283	70	600	1	4.48	18.87	
III-15	Q-283	215	180	2	4.48	34.68	
III-16	Q-283	100	180	1	4.48	8.06	
III-17	Q-283	130	180	1	4.48	10.48	
III-18	Q-283	215	600	2	4.48	115.58	
III-19	Q-283	60	600	1	4.48	16.15	
III-20	Q-283	215	250	5	4.48	120.40	
III-21	Q-283	106	250	1	4.48	11.83	
III-22	Q-283	215	365	2	4.48	70.31	
III-23	Q-283	60	365	1	4.48	9.82	
Ukupno						16372.89	

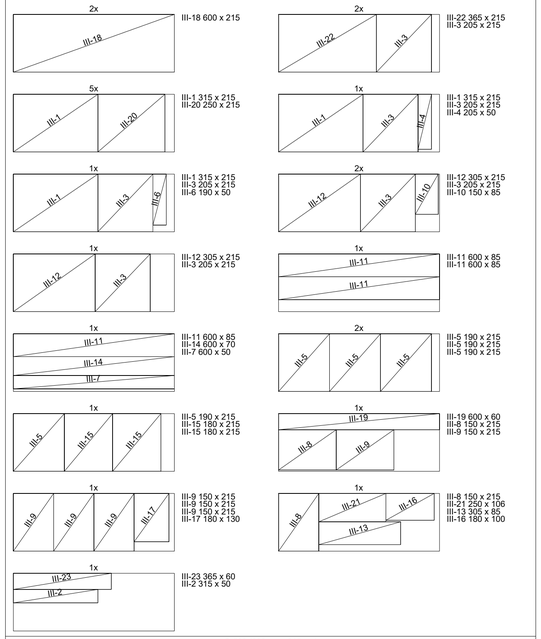
Mreže - rekapitulacija

Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-283	215	600	42	4.48	2427.26	2288.90
Q-503	215	600	19	8.03	1968.15	1784.34
Q-785	215	600	104	12.46	16716.34	12225.96
Ukupno					21111.75	16299.20

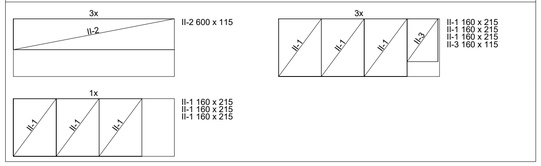
Mreže - plan rezanja

PLOČA POZ 300

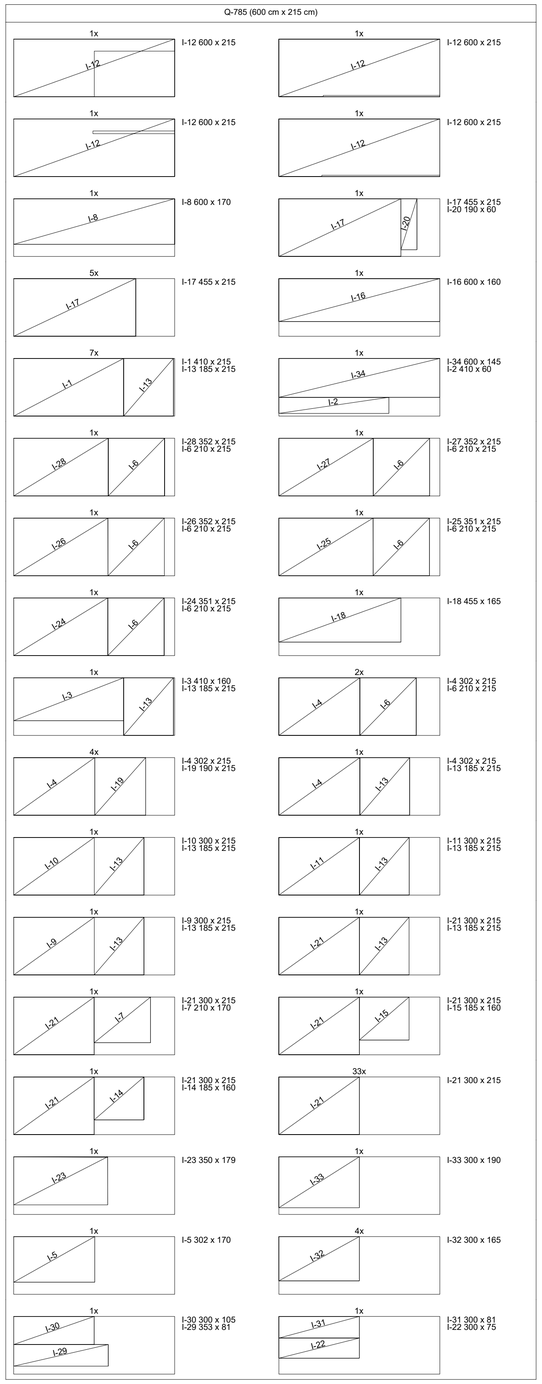
Q-283 (600 cm x 215 cm)



Q-503 (600 cm x 215 cm)



Q-785 (600 cm x 215 cm)



Šipke - specifikacija

ozn	oblik i mjere [cm]	Ø	lg [m]	n [kom]	lgn [m]	Napomena
PLOČA POZ 300 (1 kom)						
1	400	16	4.00	63	252.00	
2	200	16	2.00	524	1048.00	
3	1200	16	12.00	6	72.00	
4	300	16	3.00	6	18.00	
5	1200	12	12.00	34	408.00	
6	750	12	7.50	4	30.00	
7	500	12	5.00	8	40.00	
8	400	12	4.00	8	32.00	
9	300	12	3.00	10	30.00	
10	250	12	2.50	8	20.00	
11	30 / 70	12	1.00	30	30.00	
12	100	10	1.00	390	390.00	
13	102 / 19 / 11 / 11 / 19 / 102	10	2.83	67	189.61	
14	60 / 12 / 60	10	1.32	624	823.68	
15	20 / 10 / 20 / 10 / 20 / 3D geometrija	10	0.80	1000	800.00	

Šipke - rekapitulacija

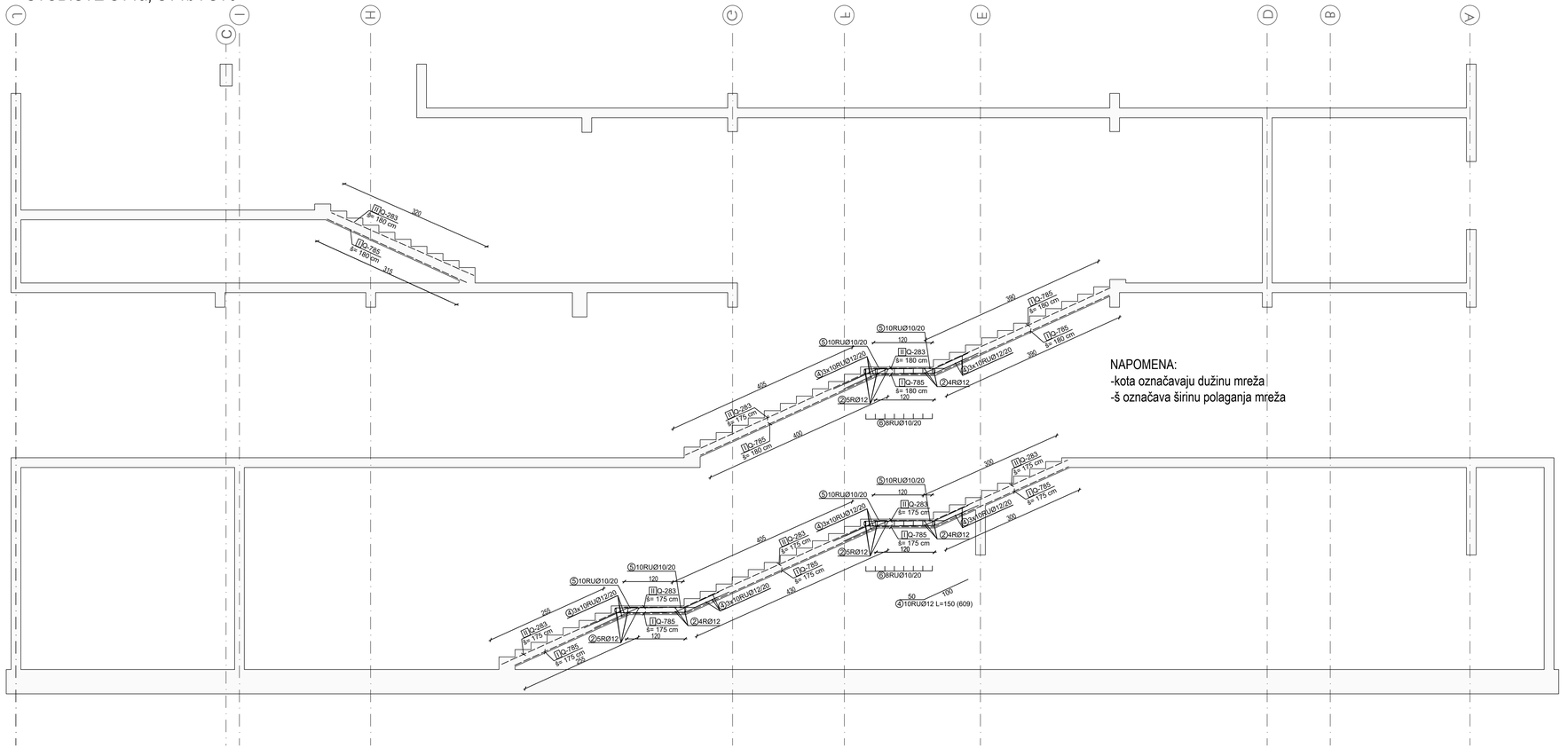
Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
B500B			
10	2203.29	0.62	1359.43
12	590.00	0.89	523.92
16	1390.00	1.58	2196.20
Ukupno (B500B)			4079.55
Ukupno			4079.55

ISKAZ ARMATURE PLOČE IZNAD 1. KATA - POZ 301

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo :	1:50		
Datum :	listopad, 2025.		
Oznaka projekta:	TD_21-2024	*Sadržaj :*	ISKAZ ARMATURE PLOČE IZNAD 1. KATA - POZ 301
Faza projekta :	IZVEDBENI PROJEKT	*Broj lista :*	7.1E

STUBIŠTE ST1a, ST1b i ST6



NAPOMENA:
-kota označavaju dužinu mreža
-š označava širinu polaganja mreža

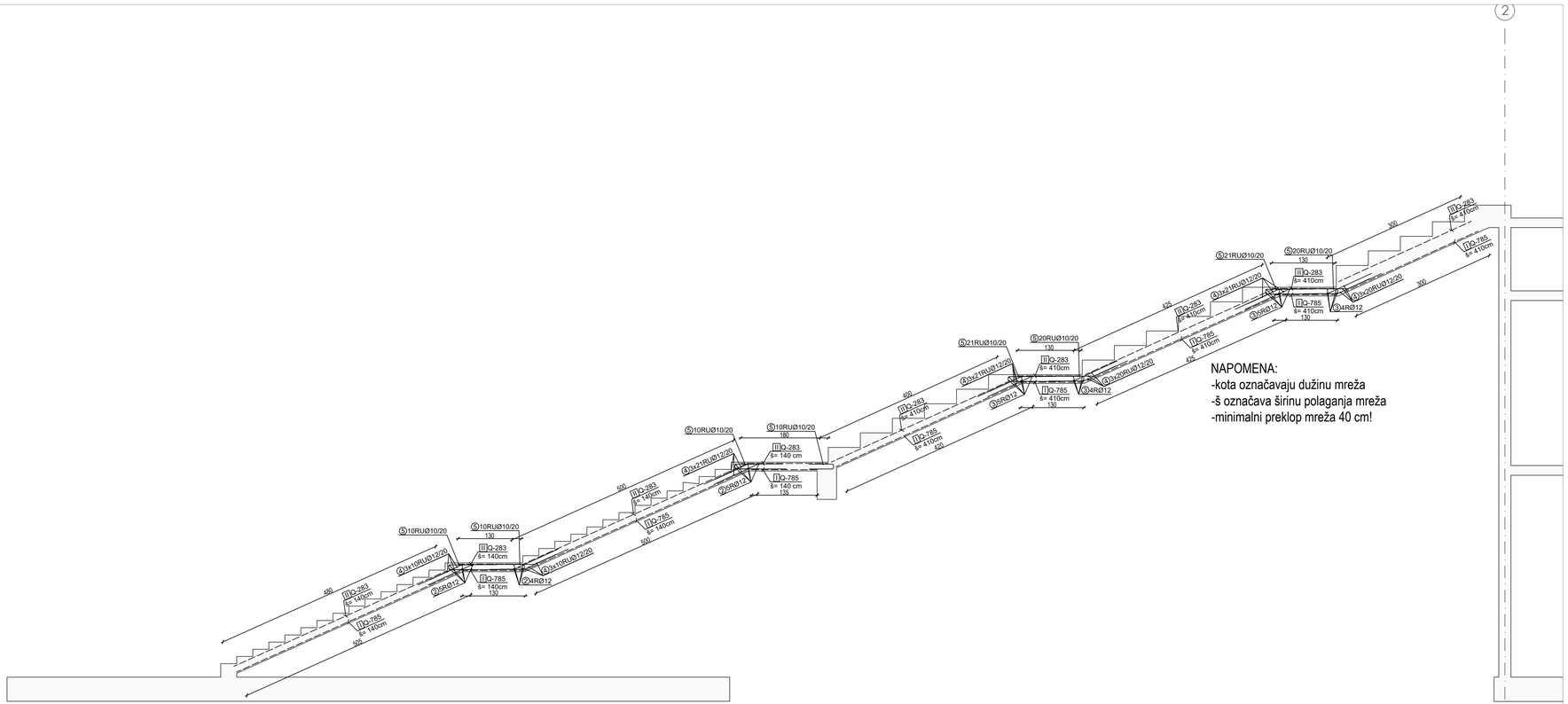
STUBIŠTA
PLAN ARMATURE STUBIŠTA
ST1a, ST1b i ST6

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
1:50			
listopad, 2025.	*Sadržaj :* STUBIŠTA - PLAN ARMATURE STUBIŠTA ST1a, ST1b i ST6	*Faza projekta :*	IZVEDBENI PROJEKT
TD_28-2025_IZV		*Broj lista :*	8.1

STUBIŠTE ST2 i ST3

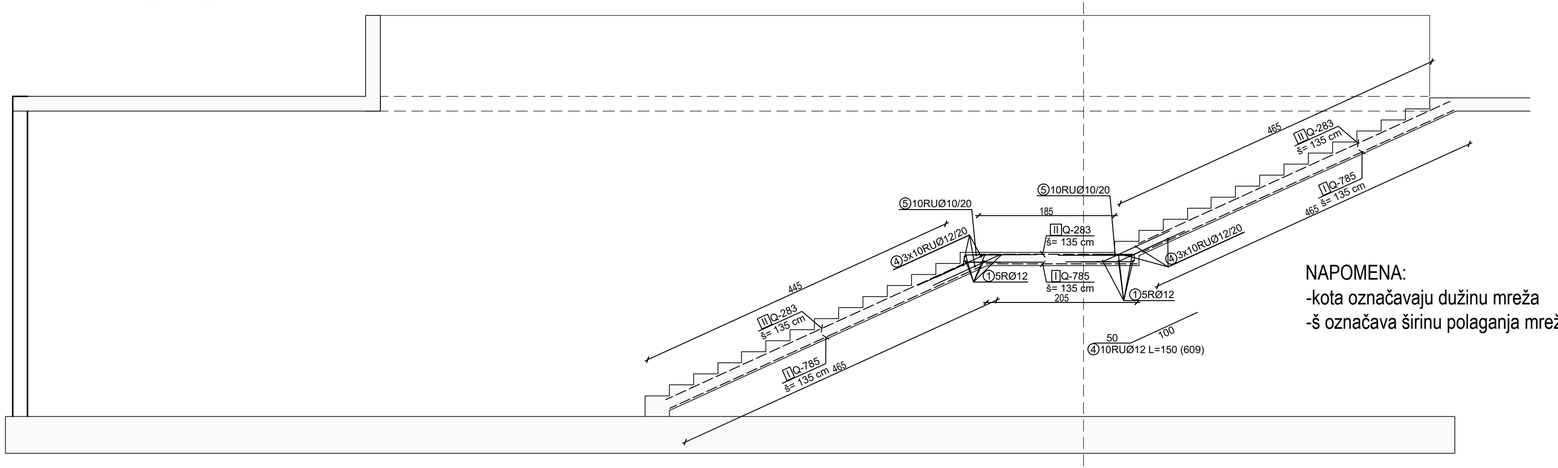


STUBIŠTA
PLAN ARMATURE STUBIŠTA
ST2 i ST3

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT			
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT		OIB: 64758426529	
Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.		*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 8.2
Oznaka projekta: TD_28-2025_IZv	*Sadržaj :* STUBIŠTA - PLAN ARMATURE STUBIŠTA ST2 i ST3		

STUBIŠTE ST4



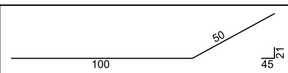
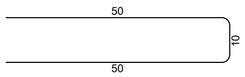
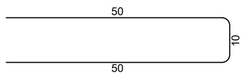
NAPOMENA:
-kota označavaju dužinu mreža
-š označava širinu polaganja mreža

STUBIŠTA
PLAN ARMATURE STUBIŠTA
ST4

BETON: C30/37, XC1, max zrno agregata D=32 mm
ARMATURA: B500B (mreže); B500B (šipke)
MINIMALNI ZAŠTITNI SLOJEVI:
-klasična armatura: c=35mm prema tlu; c=25 mm

ORLANDINI PROJEKT d. o. o. – SPLIT Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT **OIB: 64758426529**			
	Investitor : OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
	Građevina : DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:50	*Lokacija :* VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Datum : listopad, 2025.	*Sadržaj :* STUBIŠTA - PLAN ARMATURE STUBIŠTA ST4	*Faza projekta :*	IZVEDBENI PROJEKT
Oznaka projekta: TD_28-2025_IZV		*Broj lista :*	8.3

Šipke - specifikacija

ozn	oblik i mjere [cm]	Ø	lg [m]	n [kom]	lgn [m]	Napomena
STUBIŠTA (1 kom)						
1		12	1.50	609	913.50	
2		10	1.10	202	222.20	
3		12	1.65	10	16.50	
4		12	4.40	18	79.20	
5		12	1.85	41	75.85	
6		10	1.10	16	17.60	

Šipke - rekapitulacija

Ø [mm]	lgn [m]	Jedinična težina [kg/m']	Težina [kg]
B500B			
10	239.80	0.62	147.96
12	1085.05	0.89	963.52
Ukupno (B500B)			1111.48

Mreže - specifikacija

Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Napomena
STUBIŠTA (1 kom)							
I-1	Q-785	175	255	1	12.46	55.60	
I-2	Q-785	175	120	2	12.46	52.33	
I-3	Q-785	175	430	1	12.46	93.76	
I-4	Q-785	175	300	1	12.46	65.41	
I-5	Q-785	180	400	1	12.46	89.71	
I-6	Q-785	180	120	1	12.46	26.91	
I-7	Q-785	180	315	1	12.46	70.65	
I-8	Q-785	140	505	1	12.46	88.09	
I-9	Q-785	180	390	2	12.46	174.94	
I-10	Q-785	215	420	2	12.46	225.03	
I-11	Q-785	140	135	1	12.46	23.55	
I-12	Q-785	140	500	1	12.46	87.22	
I-13	Q-785	60	420	1	12.46	31.40	
I-14	Q-785	215	425	2	12.46	227.71	
I-15	Q-785	140	130	1	12.46	22.68	
I-16	Q-785	215	300	2	12.46	160.73	
I-17	Q-785	60	300	1	12.46	22.43	
I-18	Q-785	215	130	4	12.46	139.30	
I-19	Q-785	60	130	2	12.46	19.44	
I-20	Q-785	60	425	1	12.46	31.77	
I-21	Q-785	135	205	1	12.46	34.48	
I-22	Q-785	135	465	2	12.46	156.44	
II-1	Q-283	175	255	1	4.44	19.81	
II-2	Q-283	175	120	2	4.44	18.65	
II-3	Q-283	175	405	1	4.44	31.47	
II-4	Q-283	175	300	1	4.44	23.31	
II-5	Q-283	140	480	1	4.44	29.84	
II-6	Q-283	180	120	1	4.44	9.59	
II-7	Q-283	180	320	1	4.44	25.57	
II-8	Q-283	215	400	2	4.44	76.37	
II-9	Q-283	60	400	1	4.44	10.66	
II-10	Q-283	140	180	1	4.44	11.19	
II-11	Q-283	140	500	1	4.44	31.08	
II-12	Q-283	135	445	1	4.44	26.67	
II-13	Q-283	215	425	2	4.44	81.14	
II-14	Q-283	140	130	1	4.44	8.08	
II-15	Q-283	215	300	2	4.44	57.28	
II-16	Q-283	60	300	1	4.44	7.99	
II-17	Q-283	215	130	4	4.44	49.64	
II-18	Q-283	60	130	2	4.44	6.93	
II-19	Q-283	60	425	1	4.44	11.32	
II-20	Q-283	135	185	1	4.44	11.09	
II-21	Q-283	135	465	1	4.44	27.87	
II-22	Q-283	175	405	1	4.44	31.47	
Ukupno						2506.60	

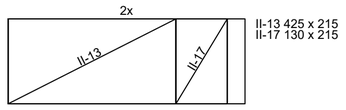
Mreže - rekapitulacija

Oznaka mreže	B [cm]	L [cm]	n	Jedinična težina [kg/m2]	Ukupna težina [kg]	Neto ugrađena težina [kg]
Q-283	215	600	13	4.44	744.59	607.01
Q-785	215	600	15	12.46	2411.01	1899.59
Ukupno					3155.60	2506.60

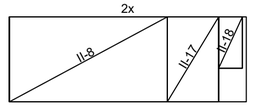
Mreže - plan rezanja

STUBIŠTA

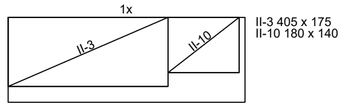
Q-283 (600 cm x 215 cm)



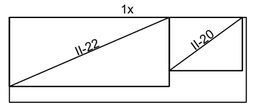
II-13 425 x 215
II-17 130 x 215



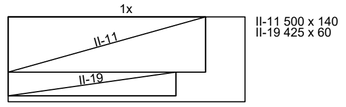
II-8 400 x 215
II-17 130 x 215
II-18 130 x 60



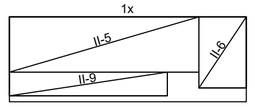
II-3 405 x 175
II-10 180 x 140



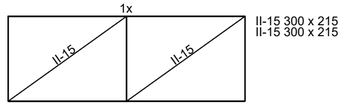
II-22 405 x 175
II-20 185 x 135



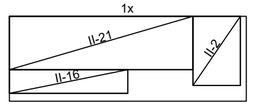
II-11 500 x 140
II-19 425 x 60



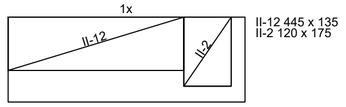
II-5 480 x 140
II-9 400 x 60
II-6 120 x 180



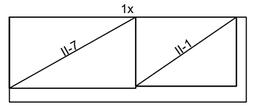
II-15 300 x 215
II-15 300 x 215



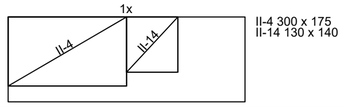
II-21 465 x 135
II-2 120 x 175
II-16 300 x 60



II-12 445 x 135
II-2 120 x 175

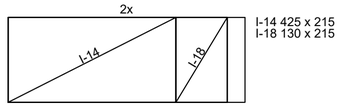


II-7 320 x 180
II-1 255 x 175

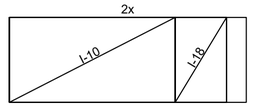


II-4 300 x 175
II-14 130 x 140

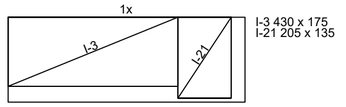
Q-785 (600 cm x 215 cm)



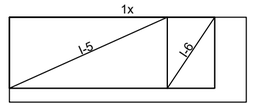
I-14 425 x 215
I-18 130 x 215



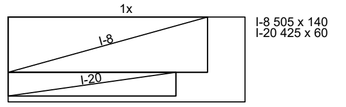
I-10 420 x 215
I-18 130 x 215



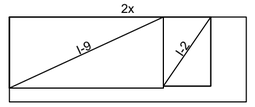
I-3 430 x 175
I-21 205 x 135



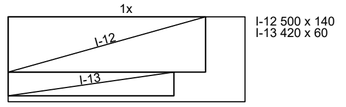
I-5 400 x 180
I-6 120 x 180



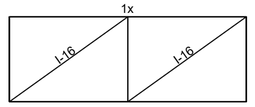
I-8 505 x 140
I-20 425 x 60



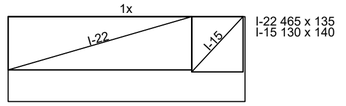
I-9 390 x 180
I-2 120 x 175



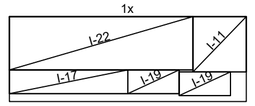
I-12 500 x 140
I-13 420 x 60



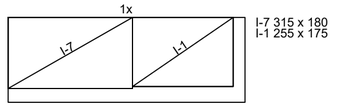
I-16 300 x 215
I-16 300 x 215



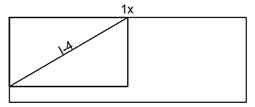
I-22 465 x 135
I-15 130 x 140



I-22 465 x 135
I-11 135 x 140
I-17 300 x 60
I-19 130 x 60
I-19 130 x 60



I-7 315 x 180
I-1 255 x 175



I-4 300 x 175

ISKAZ ARMATURE
STUBIŠTA

ORLANDINI PROJEKT d. o. o. – SPLIT

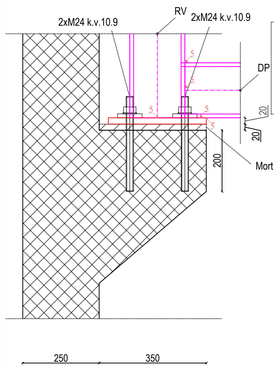
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT **OIB: 64758426529**

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA	*Suradnici :*	MARTINA BOJČIĆ mag.ing.aedif.
Lokacija :	VIR, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)		
Mjerilo : 1:50			
Datum : listopad, 2025.			
Oznaka projekta: TD_28-2025_IZV	*Sadržaj :* ISKAZ ARMATURE STUBIŠTA	*Faza projekta :* IZVEDBENI PROJEKT	*Broj lista :* 8.4

DETALJ "A" - SPOJ ČELIČNE REŠETKE I AB KONZOLE M 1:10

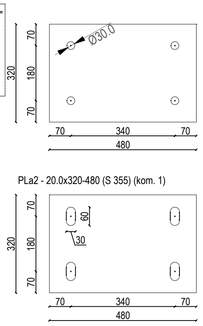
NAPOMENA: SIDRA - NAVOJNE ŠIPKE 4 x M24 k.v. 10.9 PRIPREMITI U SKLOPU BETONIRANJA KONZOLE! DUBINA SIDRENJA L=200 MM

POPREČNI PRESJEK



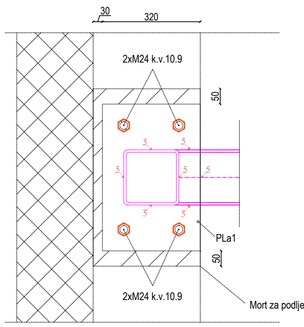
NAPOMENA:DONJU POJASNICU REŠETKE "DP" JE POTREBNO ZAVARITI SA KUTNIM ZAVAROM d=5mm NA SPOJNE PLOČICE PLa NA SVIM PLOHAMA GDJE SU NAVEDENI ELEMENTI U KONTAKTU

PLa1 - 20.0x320-480 (S 355) (kom. 1)



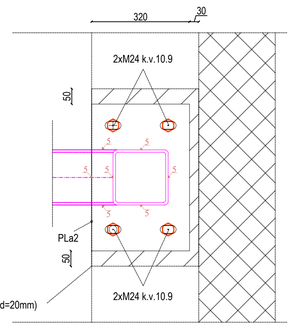
PLa2 - 20.0x320-480 (S 355) (kom. 1)

TLOCRT - DETALJ A1

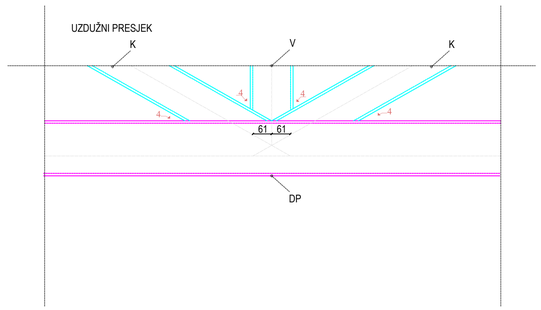


TLOCRT - DETALJ A2

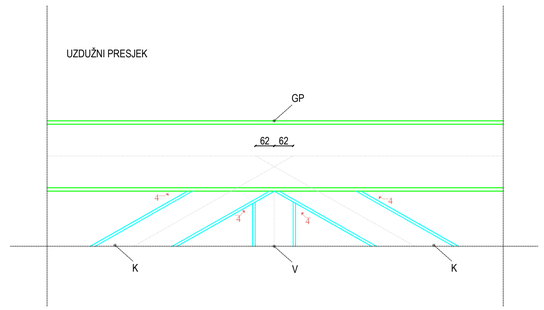
NAPOMENA: NA POZICIJI DETALJA "A2" SE POSTAVLJA SPOJNA PLOČICA "PLa2" KOJA IMA PREDVIĐENE OVALNE RUPE ZA SIDRENE VIJKE (KLIZNI SPOJ)



DETALJ "B" - SPOJ KOSE ISPUNE I DONJE POJASNICE REŠETKE M 1:10

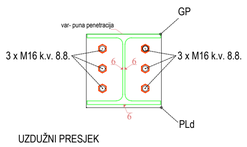


DETALJ "C" - SPOJ KOSE ISPUNE I GORNJE POJASNICE REŠETKE M 1:10

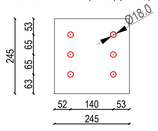


DETALJ "D" - SPOJ NASTAVKA GORNJE POJASNICE REŠETKE M 1:10

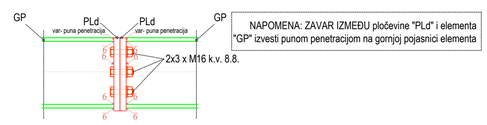
POPREČNI PRESJEK



PLd - 20.0x245-245 (S 355) (kom. 2)



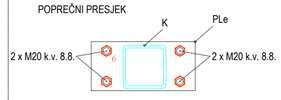
UZDUŽNI PRESJEK



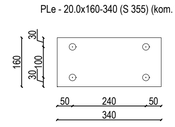
NAPOMENA: ZAVAR IZMEĐU pločevine "PLd" i elementa "GP" izvesti punom penetracijom na gornjoj pojasnici elementa

DETALJ "E" - SPOJ NASTAVKA KOSNIKA REŠETKE M 1:10

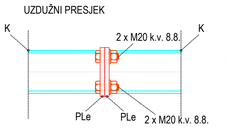
POPREČNI PRESJEK



PLe - 20.0x160-340 (S 355) (kom. 2)



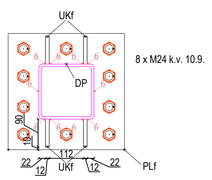
UZDUŽNI PRESJEK



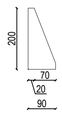
NAPOMENA: ZAVAR IZMEĐU pločevine "PLe" i elementa "K" izvesti punom penetracijom (priprema na cijevi)

DETALJ "F" - SPOJ NASTAVKA DONJE POJASNICE REŠETKE M 1:10

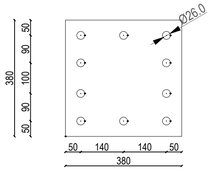
POPREČNI PRESJEK



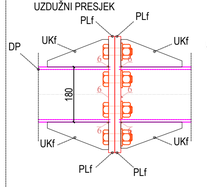
UKf - 12.0x200-90 (S 355) (kom. 8)



PLf - 20.0x380-380 (S 355) (kom. 2)

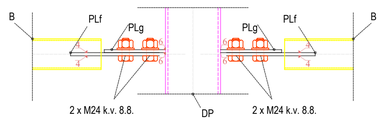


UZDUŽNI PRESJEK

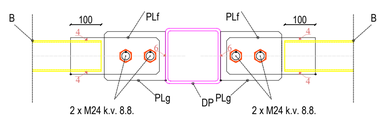


DETALJ "G" - SPOJ NASTAVKA BOČNE UKRUTE DONJE POJASNICE REŠETKE M 1:10

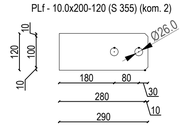
TLOCRT



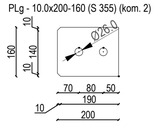
UZDUŽNI PRESJEK



PLf - 10.0x200-120 (S 355) (kom. 2)



PLg - 10.0x200-160 (S 355) (kom. 2)



LEGENDA:

B		HSS SHS 100x100x5
DP, RV		HSS RHS 180x180x8
K,V		HSS SHS 140x140x8
GP		HEA 240

Opće napomene:
-Svi elementi od čelika S355JR
-Svi elementi moraju se izvoditi prema HRN EN 1090-2
-Klasa izvedbe: EXC3
-Svi zavari a = 4 mm, ako nije drugačije naznačeno
-Visinske kote i dimenzije kontrolirati na licu mjesta
-Zaštititi konstrukciju od korozije pocinčavanjem

ČELIČNA REŠETKA - DETALJI SPOJEVA

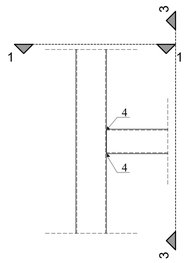
ORLANDINI PROJEKT d. o. o. – SPLIT
Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	Projektant izvedbenog projekta :	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	Suradnica :	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:10			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024			
Sadržaj :	ČELIČNA REŠETKA - DETALJI SPOJEVA	Faza projekta :	IZVEDBENI PROJEKT
		Broj lista :	9.0

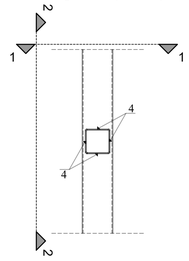
DETALJ H:

M 1:10

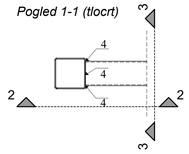
Pogled 2-2 (nacrt)



Pogled 3-3 (bokocrt)



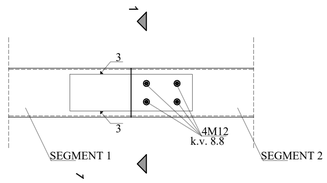
Pogled 1-1 (tlocrt)



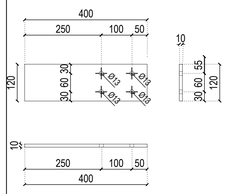
Detalj H - spoj čeličnog stupa CFRHS 100x100x3 i horizontalnog nosača CFRHS 80x80x3 vanjskog čeličnog stubišta

DETALJ I:

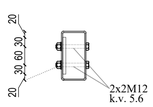
M 1:10



Pločica 120x400x10 mm



Presjek 1-1

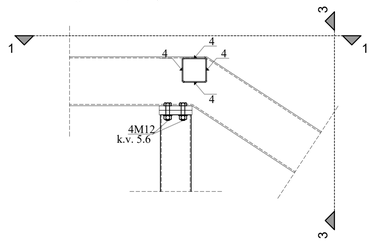


Detalj I - nastavak kraka stubišta CFRHS 160x80x4 izraditi na poziciji podesta stubišta

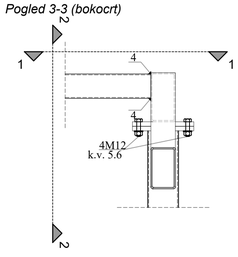
DETALJ J:

M 1:10

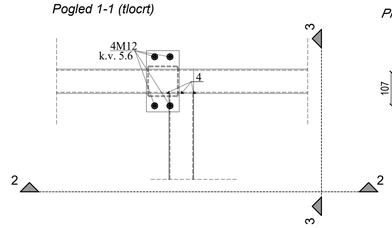
Pogled 2-2 (nacrt)



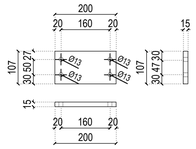
Pogled 3-3 (bokocrt)



Pogled 1-1 (tlocrt)



Pločica 200x107x15 mm



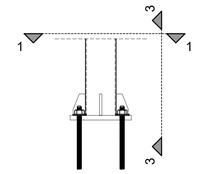
Detalj J - spoj kraka stubišta CFRHS 160x80x4 sa sekundarnim nosačem CFRHS 80x80x3 i čeličnim stupom CFRHS 100x100x3

Napomena: Detalj je potrebno prilagoditi izboru podnice!

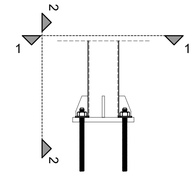
DETALJ K:

M 1:10

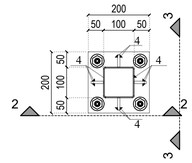
Pogled 2-2 (nacrt)



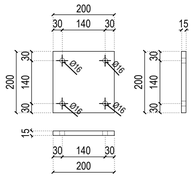
Pogled 3-3 (bokocrt)



Pogled 1-1 (tlocrt)



Pločica 200x200x15 mm



Ukruta 40x70x8 mm

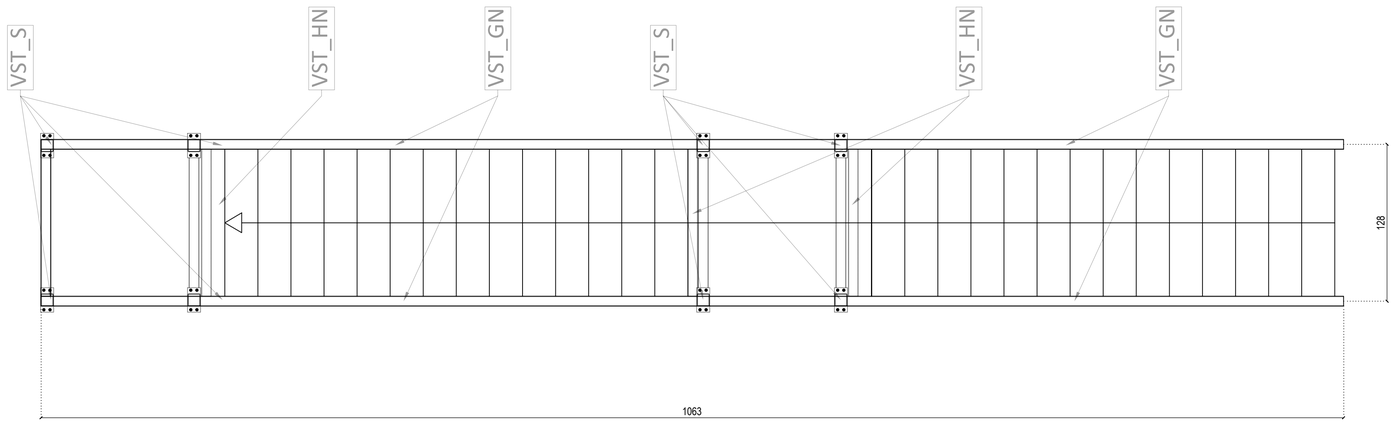


Detalj K - spoj čeličnog stupa CFRHS 100x100x3 s AB temeljom

Napomena: Navojne šipke M14 k.v. 5.6 sidriti minimalno 160 mm !

TLOCRT VANJSKOG STUBIŠTA:

M 1:25



STUBIŠTE "VST"

VST_GN	CFRHS 160 x 80 x 4 (S235)
VST_HN	CFRHS 80 x 80 x 3 (S235)
VST_S	CFRHS 100 x 100 x 3 (S235)
VST_SP	Ø14 (S235)

Opće napomene:
-Svi elementi od čelika S235J0
-Svi elementi moraju se izvoditi prema HRN EN 1090-2
-Klasa izvedbe: EXC2
-Svi zavari a = 4 mm, ako nije drugačije naznačeno
-Visinske kote i dimenzije kontrolirati na licu mjesta
-Zaštititi konstrukciju od korozije pocinčavanjem

ČELIČNO VANJSKO STUBIŠTE - DETALJI SPOJEVA

ORLANDINI PROJEKT d. o. o. – SPLIT

Sjedište: Hrvatskih iseljenika 13; 21000 SPLIT
Ured: Ivana Gundulića 26a/III kat; 21000 SPLIT
OIB: 64758426529

Investitor :	OSNOVNA ŠKOLA PRIVLAKA; Ivana Pavla II 53, 23233 Privlaka; OIB: 63233501548	*Projektant izvedbenog projekta :*	IVO ORLANDINI mag.ing.aedif.
Građevina :	DRUŠTVENA GRAĐEVINA OSNOVNA ŠKOLA		
Lokacija :	Vir, k.č. 4368, 4369, 4370, 4371/1 k.o. Vir (novoformirana k.č. 4371/1 k.o. Vir)	*Suradnica :*	MARTINA BOJČIĆ mag.ing.aedif.
Mjerilo : 1:10			
Datum : listopad, 2025.			
Oznaka projekta: TD_21-2024	*Sadržaj :* ČELIČNO VANJSKO STUBIŠTE - DETALJI SPOJEVA	*Faza projekta :*	IZVEDBENI PROJEKT
		Broj lista :	10.0