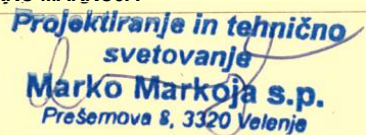
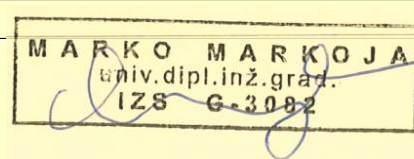


PRILOGA 1C

NASLOVNA STRAN NAČRTA

PODATKI O GRADNJI	
naziv gradnje	Večnamenski center Čatež
kratek opis gradnje	Investitor bo izvedel rekonstrukcijo obstoječe dvorane, ter prizidal pokriti jeklen nadstrešek s podestom, betonski objekt v katerem se bodo nahajale garderobe s kletnim prostorom in dostopno rampo s stopniščem.
VRSTE GRADNJE	☐ NOVOGRADNJA - NOVOZGRAJEN OBJEKT
<i>označiti vse ustrezne vrste gradnje</i>	☒ NOVOGRADNJA - PRIZIDAVA
	☒ REKONSTRUKCIJA
	☒ SPREMEMBA NAMEMBNOSTI
	☐ ODSTRANITEV CELOTNEGA OBJEKTA
	☐ LEGALIZACIJA
	☐ MANJŠA REKONSTRUKCIJA
PODATKI O PROJEKTNi DOKUMENTACIJI	
vrsta dokumentacije	PZI
številka projekta	14/2025
PODATKI O NAČRTU	
strokovno področje načrta	2. Načrt s področja gradbeništva
naziv načrta	2.1 Načrt s področja gradbeništva
številka načrta	13/2026
datum izdelave	April 2026
datum spremembe	
PODATKI O PROJEKTANTU NAČRTA	
projektant načrta (naziv družbe)	MARKO MARKOJA s.p.
naslov	Prešernova cesta 8, 3320 Velenje
odgovorna oseba projektanta načrta	MARKO MARKOJA
podpis odgovorne osebe projektanta načrta	 Projektiliranje in tehnično svetovanje Marko Markoja s.p. Prešernova 8, 3320 Velenje
PODATKI O IZDELOVALCU NAČRTA	
ime in priimek pooblaščenega arhitekta, pooblaščenega inženirja	Marko Markoja, univ.dipl.inž.grad.
identifikacijska številka	IZS G-3082
podpis pooblaščenega arhitekta, pooblaščenega inženirja	 MARKO MARKOJA univ.dipl.inž.grad. IZS G-3082

PRILOGA 2C

IZJAVA PROJEKTANTA NAČRTA IN POOBLAŠČENEGA STOKOVNJAKA, KI JE IZDELAL NAČRT V PZI IN PID

PROJEKTANT NAČRTA

projektant načrta (naziv družbe)	MARKO MARKOJA s.p.
naslov	Prešernova cesta 8, 3320 Velenje
odgovorna oseba projektanta načrta	MARKO MARKOJA

IN POOBLAŠČENI STROKOVNJAK, KI JE IZDELAL NAČRT

pooblaščen strokovnjak	Marko Markoja, univ.dipl.inž.grad.
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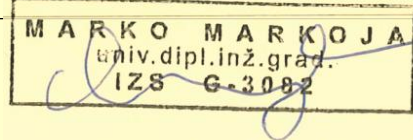
IZJAVLJAVA:

da načrt

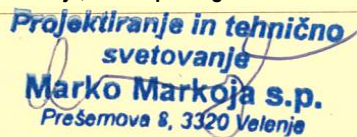
vrsta dokumentacije	PZI
strokovno področje načrta	2. Načrt s področja gradbenih konstrukcij
naziv načrta	2.1 Načrt s področja gradbenih konstrukcij
številka načrta	13/2026
datum izdelave	April 2026

upošteva relevantne predpise in druge normativne dokumente ter da so upoštewane ustrezne bistvene in druge zahteve.

pooblaščen strokovnjak	Marko Markoja, univ.dipl.inž.grad.
identifikacijska številka	IZS G-3082
podpis pooblaščenega strokovnjaka	



odgovorna oseba projektanta načrta	Marko Markoja, univ.dipl.inž.grad.
podpis odgovorne osebe projektanta načrta	





2.0 NASLOVNA STRAN

2.1 – GRADBENE KONSTRUKCIJE

Investitor:
Občina Trebnje
Goliev trg 5
8210 Trebnje

Objekt:
Kulturni center Čatež

Vrsta projektne dokumentacije:
PROJEKTNNA DOKUMENTACIJA ZA IZVEDBO

Za gradnjo:
Novogradnja – prizidava
Rekonstrukcija
Sprememba namembnosti

Projektant:
MARKO MARKOJA s.p., Prešernova 8, 3320 VELENJE

Odgovorna oseba projektanta:
Marko MARKOJA u.d.i.g. (G-3082)
(žig, podpis)

*Projektiranje in tehnično
svetovanje*
Marko Markoja s.p.
Prešernova 8, 3320 Velenje

Odgovorni projektant:
Marko MARKOJA u.d.i.g. (G-3082)
(žig, podpis)



Številka projekta:
14/2025

Številka načrta:
13/2026

Kraj in datum izdelave načrta:
Velenje, april 2026





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2. TEHNIČNO POROČILO

2.1. SPLOŠNO

Investitor želi renovirati in spremeniti namembnost obstoječemu objektu. Prvotno je šlo za industrijski objekt oziroma prostor z garderobami in jedilnico, sedaj želi investitor preurediti objekt v vrtec.

Zunanja ureditev in ostali pomožni nezahtevni objekti niso predmet tega načrta!

2.2. DOKUMENTACIJA

Posredovana nam je bila sledeča dokumentacija.:

- Gradbeno dovoljenje številka 351-34/75-3 z dne 15.12.1975 in dopnilo gradbenega dovoljenja z dne 16.11.1977,
- Fotografije arhitekturnih načrtov in opaznih risb s strani podjetja Gradbeni biro Ljubljana, št. projekta 124/75 kjer niso bili zajeti armaturni načrti,
- Arhitekturni načrti PZIs strani podjetja As teprom d.o.o., št. Projekta 14/2025, datum izdelave april 2026

Opravljen je bil tudi vizualni pregled konstrukcije na licu mesta.

2.3. OBSTOJEČA KONSTRUKCIJA

Objekt je etažnosti P in je pravilne tlorisne oblike.

Objekt je temeljen na pasovnih temeljih.

Nosilne zidane stene so debeline 30 cm. Vertikalna nosilna konstrukcija je sestavljena iz zidanega zidovja in AB stebrov dimenzij 24/60 in 40/60cm, ki so postavljeni na rastru 3,60m

Streha je lesena dvokapnica z dvema čopoma pokrita z opečnim kritino. Pri ogledu samega ostrešja ni bilo zaznati prekomernih povosov, zato sklepamo, da je le to ustrezno dimenzionirano za prevzem obtežbe, je pa potrebno zamenjati vse dotrajane lesene elemente, ki so kakorkoli poškodovani.



2.4. NOVI OBJEKT PRIZIDEK

Gre za prizidavo k obstoječemu objektu in sicer gre za dva objekta in sicer, za Armirano betonski objekt etažnosti K+P, kjer se v kletnih prostorih nahaja shramba in v pritličju se nahajajo garderobe. Drugi objekt je jeklene izvedbe, gre za pokrit vhod z medetažo. V medetaži se nahaja prostor za shrambo športnih pripomočkov.

Objekt z garderobami je kombiniran sistem z nosilnimi AB stenami in AB okvirji sestavljenih iz nosilcev in stebrov. Ab stene so debeline 25 in 20cm, stebri so prereza 25/25, 25/30, 25/35, 25/40 in 25/80cm. Ab nosilci so sledečih prerezov, 25/35, 25/40, 20/55, 25/75. Strešna konstrukcija je izvedena kot ravna AB streha s konzolo dolžine 247cm. Objekt je v kleti temeljen na AB temeljni plošči debeline 30cm. Nepodkleten del objekta je temeljen na pasovnih temeljih dimenzije 50/30cm. Plošča nad kletjo je debeline 20cm, prav tako je strešna plošča debeline 20cm. Zunaj objekta bo potekal novi podporni zid z dostopno rampo in zunanjim stopniščem

Pokrit vhod z medetažo je temeljen na pasovnih temeljih prereza 40/80 in 50/80 cm, dolžine 255cm. Stebri so členkasto vpeti v temelji in so prereza HEA140, primarni togi okvir na rastru 3,59 in 3,84m sestavljajo stebri in primarni nosilci HEA 100, po obodu je konstrukcija delno toga priključena z sekundarnimi nosilci HEA 100, sekundarni nosilci podesta in strešne konstrukcije so HEA 100 na rastru 0,5785m. Na strehi se nahaja zavetrovanje natežno zavetrovanje iz zateg premara 12mm. Višina medetaže je 2,70m in višina strehe se nahaja na 5,95m nad temelji.

2.5. TEMELJENJE

Pri dimenzioniranju temeljenja smo se posluževali Geološko – geomehanskega poročila s strani podjetja GEO svet, št. Poročila GP – 2-1/2023, avtor Ana Marinc, univ. dipl. inž. geol., datum izdelave december 2022, v Celju.

Temeljenje bo, kot je že omenjeno v točki 2, izvedeno na AB temeljni plošči debeline 30 cm in pasovnih temeljih. Do globine zmrzali mora biti vgrajen zmrzlinško odporen material po navodilih geološko geomehanskega poročila.

Pri izračunu smo uporabili sledečo sestavo tal:

Sloj	Kohezija [kPa]	Strižni kot [°]	Prostorninska teža [kN/m ³]	Globina sloja [m]
Melj z gruščem (MG)	3	28	19,5	0-1,5
Kompaktna podlaga	100	30	25	1,5-

Za dopustno napetost tal je privzeto 250,00 kN/m², za tip tal pa "A", za strižni kot 30 st., kar se preveri ob izkopu. Za modul reakcije tal pa 20000 kN/m³, kar se tudi preveri ob izkopu. Pri sami izvedbi je potreben geomehanski nadzor.

Vsi objekti morajo biti temeljeni na homogenih temeljnih tleh!

Vse mehanske karakteristike tal je potrebno preveriti ob izkopu in se posvetovati z odgovornim projektantom v primeru odstopanj!!!

2.6. PREDVIDENI POSEGI V KONSTRUKCIJO

V objektu so predvideni sledeči rušitveni posegi v nosilno gradbeno konstrukcijo:

- Večanje odprt in izdelava novih odprt, ki so širine do 2m in ne predstavljajo tretjino površine obstoječe stene.
- Rušitev čopa strehe

Dodatno se v objekt vgradijo sledeči elementi:

- Vgradnja dodatnih špirovce in rok za podpiranje lege, ter ojačitev obstoječih leg z oblogo. Ojačitev razpirač z oblaganjem in ojačitev stikov razpirač z veznikom in soho.
- Dozidava sten, do vrha nove strešne konstrukcije (na mestu odstranitve čopa)
- Vgradnja preklad nad novimi in razširjenimi odprtinami
- Izvedba novih garderob s kletnimi skladiščnimi prostori
- Novi jekleni nadstrešek nad vhodom in klančino

2.7. OBTEŽBE

Pri izračunu objekta smo se posluževali sledečih podatkov po pravilih EC0, EC1 in EC8. Objekt je bil preverjen na potres z referenčnim pospeškom tal $a_g=0,225g$, predviden tip tal A in pomembnost objekta je 3 kategorije. Zaradi nepoznavanja dejanskega stanja horizontalnih in vertikalnih vezi so bile le te predpostavljene.

Glede na vizualen ogled objekta, je bilo ocenjeno da je objekt grajen kakovostno, in se predvideva, da je bil grajen po načelih stroke tistega časa.

Za izračun so bile uporabljene sledeče obteže:

- Sneg $s_k=1,8kN/m^2$, cona A2
- Veter cona 1, osnovna hitrost vetra $v=20m/s$
- Potres $a_g=0,225g$, tip tal A, kat. pomembnosti III.

2.8. MATERIALI

Ker na objektu niso bile opravljene raziskave konstrukcijskih elementov, smo prevzeli sledeče vrednosti za materiale po italjanskem standardu za opeko zidano z apneno cementno malto in povečano rego za malto, faktor zaupanja 1,35:

f_k - karakteristična tlačna trdnost zidovja	1.35 Mpa
f_{vmax} - maksimalna strižna trdnost zidovja	0.0878 Mpa
f_{vk0} - začetna strižna trdnost	0.0674 Mpa
Modul Elastičnost	889 Mpa
Strižni modul	296 Mpa
Specifična teža	18 kN/m ³

- Beton v stebrih in nosilcih C20/25

Betoni novozgrajenih konstrukcij so kvalitete C30/37, razred izpostavljenosti je označen v armaturnih načrtih. Armaturno jeklo je kvalitete B500B.

Projekt betona bo izdelal izbran izvajalec glede na uporabljen material in na svojo tehnologijo, pri čemer mora upoštevati zahteve za odpornost proti soli in mrazu, obrabi...

Armaturno jeklo mora biti vgrajeno po armaturnih načrtih z zahtevano zaščitno plastjo, ter pred vgradnjo ustrezno očiščeno.

Pri izdelavi projekta betona je potrebno posvetiti posebno pozornost na eventualne dodatke betonom (OMO, OSMO), na eventualne zahteve po vidnem betonu ter vodotesnem betonu (bela kad), načinu vgradnje in transporta glede na velikost armiranobetonskih konstrukcij, ki delujejo kot celota.

Prav tako je potrebna pozornost pri kvalitetni izdelavi opaža, predvsem pri eventualnih zahtevah po nadvišanih nosilnih armiranobetonskih konstrukcijah.

Zidovje za nadzidavo obstoječega zidu mora imeti sledeče lastnosti:

- Opeka: $f_b=10$ MPa
- Malta: $f_m=5$ MPa

Novozgrajeni jekleni elementi so iz jekla kvalitete S355 J2.

Delavniške načrte in PZI načrte jeklene konstrukcije naredi izbrani izvajalec in jih da v potrditev odgovornemu projektantu konstrukcij.

Izdelavo in montažo jeklene konstrukcije je potrebno opraviti v skladu s SIST EN 1090-2, zahtevani razred izdelave naj bo EXC2.

Požarna zaščita se izvede v skladu z Načrtom požarne varnosti.

AKZ se izvede v skladu z elaboratom AKZ, ki ga izdela izbrani izvajalec.

AKZ : vročecinkano ali C5-I H.

Masiven les je kvalitete C24 ter eksploatacijskega razreda 2.



2.9. IZRAČUN

Ker nismo imeli zadostnih podatkov o dejansko vgrajenih horizontalnih in vertikalnih vezeh, ter nismo posedovali armaturnih načrtov iz katerih bi lahko razbrali dejansko količino vgrajene armature v ploščah, nismo mogli izvesti natančne statične analize dejanskega stanja.

Izvedena je bila Pushover analiza objekta, kjer smo predpostavili vgrajene horizontalne in vertikalne vezi glede na ustaljene gradbene prakse.

Vendar glede na predhodno namembnost objekta, tlorisno pravilnost objekta, gradbeno prakso v času graditve objekta, sklepamo da objekt izkazuje dovoljšno togost konstrukcije za prevzem obremenitev.

Nove garderobe so preračunane v programu Tower 8

Jeklena konstrukcija nadstreška je bila izračunana v programu SCIA Engineer.

Podporni zid dostopne rampe je bil preračunan v programu GEO5.

2.10. DODATNI UKREPI

Za zagotovitev potresne varnosti objekta **preveriti dejansko stanje horizontalnih in vertikalnih AB elementov** in javiti projektantu.

Preveriti je potrebno tudi **dejanske mehanske lastnosti zidovja**.

Vse **dotrajane elemente na ostrešju** je potrebno zamenjati.

Vsi vgrajeni materiali ustrezati veljavnim standardom in predpisom, za kar je odgovoren izvajalec konstrukcije.

Ni dovoljeno naknadno prebijanje nosilnih elementov brez soglasja odgovornega projektanta konstrukcij.

Velenje, april 2026

Marko Markoja u.d.i.g.





3. PRILOGE

V nadaljevanju dokumenta so priložene naslednje priloge:

- Poročilo »Pushover« analize programa Amquake
- Izračun ostrešja SCIA engineer in izračun ojačitev Hilti profis
- Statično poročilo izračuna prizidka garderob
- Statično poročilo izračuna nadstreška s podestom v programu SCIA Engineer 24
- Izračun detajlov v programu Idea statica
- Izračun podpornega zidu klančine GEO 5
- Načrti:
 - P01-P04 – Pozicijski načrt
 - D01-D02 - Detajli
 - A01-A02 – Armaturni načrti
 - I-Izvleček armature
 - A03 – Armaturni načrt
 - II – Izvleček armature
 - A04 – Armaturni načrt
 - III – Izvleček armature





4. TEHNIČNE ZAHTEVE ZA IZDELAVO IN MONTAŽO NOSILNIH JEKLENIH KONSTRUKCIJ

4.1. SPLOŠNO

Jeklena konstrukcija mora biti izdelana in montirana v skladu s projektno dokumentacijo in določili standarda: SIST EN 1090-2:2008. Prav tako je potrebno upoštevati tudi določila še veljavnega jugoslovanskega pravilnika "Pravilnik o tehničnih predpisih za pregled in preizkušanje nosilnih jeklenih konstrukcij (UL.SFRJ 6/65)", ki predpisuje, da je potrebno pred pričetkom uporabe izvršiti tehnični pregled nove nosilne jeklene konstrukcije z namenom, da se ugotovi skladnost konstrukcije s projektom in ali je kvaliteta izdelave ter montaža konstrukcije v skladu s tehničnimi predpisi in tehničnimi pogoji.

4.2. IZVEDBENI RAZRED

Razred izdelave nosilne konstrukcije je EXC 2.

4.3. USPOSOBLJENOST IZVAJALCA

Delavnica za proizvodnjo jeklenih konstrukcij mora biti certificirana po SIST EN 1090-1 ali DIN 18800-7.

Izvajalec mora predložiti naslednja dokazila:

- da je v podjetju vzpostavljen sistem vodenja kakovosti v skladu s standardom SIST EN ISO 9001:2008 Sistemi vodenja kakovosti - Zahteve;
- da je podjetje usposobljeno za varilska dela v skladu s standardom SIST EN ISO 3834 1-6:2006 Zahteve za kakovost pri talilnem varjenju kovinskih materialov;
- da je notranja kontrola izvajalca organizirana in usposobljena tako, da izpolnjuje zahteve standarda SIST EN 1090-2:2008 Izvedba jeklenih in aluminijastih konstrukcij - 2. del: Tehnične zahteve za izvedbo jeklenih konstrukcij.

Pri izdelavi in montaži jeklene konstrukcije je potrebno upoštevati tudi druge standarde, ki jih krovni standard SIST EN 1090-2:2008 uvaja ali se na njih sklicuje.



4.4. DOKUMENTACIJA IZVAJALCA

Pred pričetkom izdelave jeklene konstrukcije mora izvajalec pripraviti naslednjo dokumentacijo:

- delavniško dokumentacijo,
- varilni plan in plan sestave,
- plan kontrole kvalitete,
- projekt montaže,
- elaborat protikorozijske zaščite,
- kontrolno (dokazno) dokumentacijo:
 - o potrdila o kvaliteti osnovnega materiala, dodatnega materiala, spojnega materiala,
 - o spričevala o usposobljenosti varilcev,
 - o varilski in montažni dnevnik,
 - o merski protokoli,
 - o poročila o rezultatih kontrol kvalitete zvarov,
 - o protokoli privijanja vijakov,
 - o protokoli poskusne montaže delov konstrukcije v delavnici,
 - o rezultati geometrijskih kontrol montirane konstrukcije,
 - o rezultati kontrol protikorozijske zaščite,
 - o potrdila o kvaliteti uporabljenih premazov AKZ,
 - o pisne potrditve sprememb,...

Vse morebitne nejasnosti je potrebno razčistiti s projektantom pred samo izvedbo ter za vsako spremembo dobiti njegovo soglasje.

4.5. MATERIAL

Splošno

Ves vgrajen material mora biti opremljen s potrdili o kvaliteti v skladu z zakonom o standardizaciji.

V vseh fazah izdelave in montaže mora biti zagotovljena sledljivost materiala.

Izdelki za izdelavo elementov nosilne jeklene konstrukcije, ki so izdelani v skladu s spodaj navedenimi harmoniziranimi standardi, morajo biti ustrezno opremljeni s CE znakom in dobavljeni z ustrezno izjavo oziroma certifikatom o skladnosti (Zakon o gradbenih proizvodih):

- SIST EN 10025-1:2004 Vroče valjani izdelki iz konstrukcijskih jekel – 1.del: Splošni in tehnični dobavni pogoji,
- SIST EN 10210-1:2006 Vroče valjani votli profile iz nelegiranih in drobnnozrnatih konstrukcijskih jekel – 1.del: Tehnični dobavni pogoji,
- -SIST EN 10219-1:2006 Hladno oblikovani varjeni votli konstrukcijski profili iz nelegiranih in drobnnozrnatih jekel – 1.del: Tehnični dobavni pogoji,
- -SIST EN 13479:2006 Dodajni material za varjenje – Splošni produktni standard za dodatne materiale in praške za talilno varjenje kovinskih materialov,
- -SIST EN 14399-1:2005 Visokotrdnostne prednapete vijačne zveze za kovinske konstrukcije – 1.del: Splošne zahteve,
- SIST EN 15048-1:2007 Vijačne sestave brez predhodne strukturne obremenitve – 1.del: Splošne zahteve.



Kvaliteta vgrajenih materialov

- Osnovni material je kvalitete S355J2
- Vijačni spoji:
 - o predvideni vijaki so kvalitete 8.8 in 10.9, standard SIST EN 15048-1; Glede privijanja je potrebno upoštevati standard SIST EN 1090-2. Vsi vijačeni spoji morajo biti vizuelno pregledani. Izvajalec mora ob pritegovanju vijakov po posameznih fazah montaže izdelati pisne protokole privijanja vijakov. Vijaki kv. 10.9 se morajo prednapeti.
 - o Pritrditve tehnoloških elementov se izvajajo skladno usmeritvami podanimi v tehnoloških projektih.
- Sidra:
 - o predhodno vgrajena sidra, kot je opisano v armaturnih načrtih

4.6. IZDELAVA IN MONTAŽA

Izdelava

Pri izdelavi je potrebno upoštevati sledeče:

- sledljivost materiala mora biti zagotovljena v vseh fazah izdelave in montaže;
- sestava in varjenje se mora izvajati v skladu s planom varjenja in sestave;
- pri izdelavi posameznih elementov je potrebno posebno pozornost posvetiti dimenzijski kontroli posameznih elementov in izdelavi zvarnih žlebov;
- mere na izvedbenih načrtih ne upoštevajo tehnoloških zahtev, varilne deformacije in tolerance valjanih profilov mora upoštevati izdelovalec.
- kontrola pločevin na dvoplastnost skladno s standardom SIST EN 1090-2:2008 in razredom izdelave: sočelne pločevina na spoju s stebri

Montaža

Montaža se mora izvajati v skladu s projektom montaže, ki mora zagotoviti stabilnost konstrukcije v času montaže.

Med izdelavo in montažo jeklene konstrukcije mora biti s strani izvajalca zagotovljena stalna ustrezna kontrola glavnih dimenzij. Prav tako morajo biti za vse faze montaže izdelani ustrezni merski protokoli. Po posameznih fazah montaže in po končani montaži mora biti zapisniško preverjena glavna geometrija montirane nosilne jeklene konstrukcije. Geometrija montirane konstrukcije mora biti v okviru predpisanih toleranc.





4.7. VARJENJE

Varjenje se mora izvajati v skladu z zahtevami standarda SIST EN ISO 3834 1-6:2006

Varjenje se mora izvajati v skladu z varilnim planom, ki ga izdela izvajalec jeklene konstrukcije. Pred izvajanjem varilskih del mora izvajalec določiti odgovornega koordinatorskega varilskih del, ki mora biti ustrezno usposobljen in imeti ustrezna pooblastila, pri čemer je potrebno upoštevati standard SIST EN ISO 14731:2007 Koordinacija varilskih del – naloge in odgovornost.

Varijo lahko le varilci z uspešno opravljenim preizkusom za uporabljeni način in položaj varjenja. Varilci morajo opraviti preizkušnjo v skladu s standardom SIST EN 287-1:2011 Preizkušanje varilcev – Talilno varjenje – 1. del: Jekla.

Vse zware je potrebno 100% vizualno pregledati.

Obseg kontrole je odvisen od tipa zvara, izvedbenega razreda in debelin zvarjencev v skladu z EN 1090-2 tabela 24. Če je potrebno nosilce zaradi različnih trgovskih dolžin variti na pravo dolžino s sočelnimi zvari morajo biti le-ti 100% UZ ali RT kontrolirani.

Kvaliteta zvarov je C.

Pri izdelavi posameznih elementov jeklene konstrukcije je potrebno posebno pozornost posvetiti dimenzijski kontroli posameznih elementov in pripravi zvarnih robov.

Vsi sočelni zvari (K, V, 1/2K, Y,...) morajo biti izvedeni s prevaritvijo korena. Varilne deformacije predvidi izvajalec.

Vsi neoznačeni zvari so:

- $a_{min} = 3 \text{ mm}$
- preklonni spoji (enostranski kotni zvar) $a = 0,7 \times t_{min}$ (t_{min} je tanjša pločevina v spoju)
- T-spoji:
 - o S235: $a = 0,5 \times t_{min}$
 - o S355: $a = 0,6 \times t_{min}$

4.8. PROTIKOROZIJSKA ZAŠČITA

AKZ mora biti izvedena po standardu SIST EN 12944.

Vsi deli opreme morajo biti neposredno po izdelavi zaščiteni proti koroziji na način in s sredstvi, ki ustrezajo lokalnim pogojem in pogojem med obratovanjem.

Sistem zaščite za jeklene konstrukcije, cevovode, podpore ipd., ki niso izdelani iz nerjavečega jekla, vroče pocinkani ali toplotno izolirani:

- odstranitev rje: peskanje Sa 2 ½
- Elaborat AKZ naj upošteva:
 - o korozijski razred C2 trajnost H(nad 15 let), torej C2-H – notranja jeklena konstrukcija
 - o korozijski razred C5 trajnost H(nad 15 let), torej C5-H – zunanja jeklena konstrukcija
 - o vroče cinkanje: po standardu EN ISO 1461

Določiti stopnjo agresivnosti okolja po SIST EN 12944 ter kontrolo AKZ skladno s SIST EN 12944-7.





Ponudnik lahko ponudi tudi kakšen drug sistem zaščite, ki je preverjen na podobnih aplikacijah. Podati mora njegov natančen opis z navedbo vrste in lastnosti premazov, zahtevanimi debelinami, pripravo površine ter načinom in pogoji nanašanja.

Zaščitni premazi morajo biti ustrezno temperaturno obstojni in odporni proti topilom, kot so maziva in čistila, ki se uporabljajo pri vzdrževanju.

Zvarni robovi posameznih delov opreme, ki se bo varila med montažo, morajo biti kratkotrajno zaščiteni pred korozijo z ustreznim premazom (Shopprimer). Neposredno po varjenju jih bo potrebno očistiti in zaščititi z osnovnim in vrhnjim premazom.

V okvir montažnih del spada popravilo poškodb zaščitnih premazov. Upoštevati je potrebno, da je nanašanje premazov na gradbišču dovoljeno le z valjčki in čopiči. Material za zaščito pred korozijo je v obsegu dobav opreme.

Nesprejemljivi so premazi, ki predstavljajo kakršnokoli nevarnost za zdravje ljudi ali pa so na podobnih aplikacijah nepreverjeni.

Finalni oplesk konstrukcije se izvede po izvedeni montaži.

4.9. POŽARNA ZAŠČITA

Požarno zaščito je potrebno izvesti v skladu z načrtom požarne varnosti.

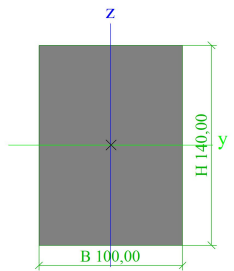


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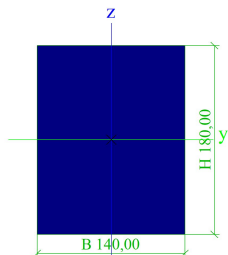
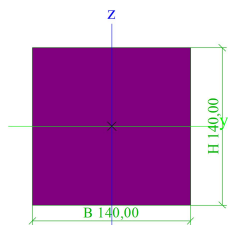


2. Prerezi elementov

Špirovce		
Type	RECT	
Detailed	100,00; 140,00	
Shape type	Thick-walled	
Item material	C24 (EN 338)	
Fabrication	timber	
Colour		
A [mm ²]	1,4000e+04	
A _y [mm ²], A _z [mm ²]	1,1673e+04	1,1670e+04
A _L [m ² /m], A _D [m ² /m]	4,8000e-01	4,8000e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	50,00	70,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	2,2867e+07	1,1667e+07
i _y [mm], i _z [mm]	40,41	28,87
W _{el,y} [mm ³], W _{el,z} [mm ³]	3,2667e+05	2,3333e+05
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	4,0028e+05	2,8592e+05
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	8405915,49	8405915,49
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	6004225,35	6004225,35
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	2,6176e+07	2,2997e+09
β _y [mm], β _z [mm]	0,00	0,00
Picture		
Lega 1		
Type	RECT	
Detailed	140,00; 180,00	
Shape type	Thick-walled	
Item material	C24 (EN 338)	
Fabrication	timber	
Colour		
A [mm ²]	2,5200e+04	
A _y [mm ²], A _z [mm ²]	2,1010e+04	2,1006e+04
A _L [m ² /m], A _D [m ² /m]	6,4000e-01	6,4000e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	70,00	90,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	6,8040e+07	4,1160e+07
i _y [mm], i _z [mm]	51,96	40,41
W _{el,y} [mm ³], W _{el,z} [mm ³]	7,5600e+05	5,8800e+05
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	9,2637e+05	7,2051e+05
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	19453690,14	19453690,14
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	15130647,89	15130647,89
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	8,6748e+07	8,6395e+09
β _y [mm], β _z [mm]	0,00	0,00

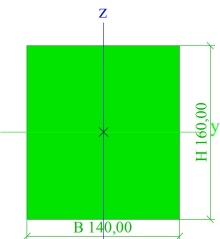
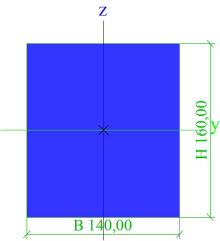


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Picture			
Soha 1			
Type	RECT		
Detailed	140,00; 140,00		
Shape type	Thick-walled		
Item material	C24 (EN 338)		
Fabrication	timber		
Colour			
A [mm ²]	1,9600e+04		
A _y [mm ²], A _z [mm ²]	1,6339e+04	1,6339e+04	
A _L [m ² /m], A _D [m ² /m]	5,6000e-01	5,6000e-01	
C _{y,UCS} [mm], C _{z,UCS} [mm]	70,00	70,00	
α [deg]	0,00		
I _y [mm ⁴], I _z [mm ⁴]	3,2013e+07	3,2013e+07	
i _y [mm], i _z [mm]	40,41	40,41	
W _{el,y} [mm ³], W _{el,z} [mm ³]	4,5733e+05	4,5733e+05	
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	5,6039e+05	5,6039e+05	
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	11768281,69	11768281,69	
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	11768281,69	11768281,69	
d _y [mm], d _z [mm]	0,00	0,00	
I _t [mm ⁴], I _w [mm ⁶]	5,4026e+07	1,0134e+09	
β _y [mm], β _z [mm]	0,00	0,00	
Picture			
Opirača 1			
Type	RECT		
Detailed	140,00; 160,00		
Shape type	Thick-walled		
Item material	C24 (EN 338)		
Fabrication	timber		
Colour			
A [mm ²]	2,2400e+04		
A _y [mm ²], A _z [mm ²]	1,8675e+04	1,8673e+04	
A _L [m ² /m], A _D [m ² /m]	6,0000e-01	6,0000e-01	
C _{y,UCS} [mm], C _{z,UCS} [mm]	70,00	80,00	
α [deg]	0,00		
I _y [mm ⁴], I _z [mm ⁴]	4,7787e+07	3,6587e+07	
i _y [mm], i _z [mm]	46,19	40,41	
W _{el,y} [mm ³], W _{el,z} [mm ³]	5,9733e+05	5,2267e+05	
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	7,3194e+05	6,4045e+05	
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	15370816,90	15370816,90	
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	13449464,79	13449464,79	
d _y [mm], d _z [mm]	0,00	0,00	
I _t [mm ⁴], I _w [mm ⁶]	6,9982e+07	2,8378e+09	

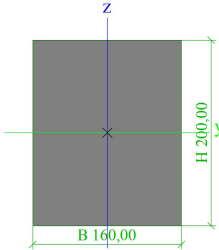
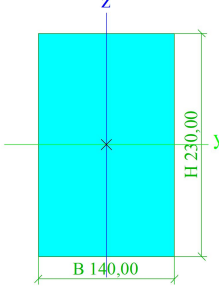


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β_y [mm], β_z [mm] Picture	0,00	0,00
		
Razpirač 1		
Type	RECT	
Detailed	140,00; 160,00	
Shape type	Thick-walled	
Item material	C24 (EN 338)	
Fabrication	timber	
Colour		
A [mm ²]	2,2400e+04	
A _y [mm ²], A _z [mm ²]	1,8675e+04	1,8673e+04
A _L [m ² /m], A _D [m ² /m]	6,0000e-01	6,0000e-01
c _{y,ucs} [mm], c _{z,ucs} [mm]	70,00	80,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	4,7787e+07	3,6587e+07
i _y [mm], i _z [mm]	46,19	40,41
W _{el,y} [mm ³], W _{el,z} [mm ³]	5,9733e+05	5,2267e+05
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	7,3194e+05	6,4045e+05
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	15370816,90	15370816,90
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	13449464,79	13449464,79
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	6,9982e+07	2,8378e+09
β_y [mm], β_z [mm] Picture	0,00	0,00
		
Veznik		
Type	RECT	
Detailed	160,00; 200,00	
Shape type	Thick-walled	
Item material	C24 (EN 338)	
Fabrication	timber	
Colour		
A [mm ²]	3,2000e+04	
A _y [mm ²], A _z [mm ²]	2,6676e+04	2,6673e+04
A _L [m ² /m], A _D [m ² /m]	7,2000e-01	7,2000e-01
c _{y,ucs} [mm], c _{z,ucs} [mm]	80,00	100,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	1,0667e+08	6,8267e+07
i _y [mm], i _z [mm]	57,74	46,19
W _{el,y} [mm ³], W _{el,z} [mm ³]	1,0667e+06	8,5333e+05
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	1,3070e+06	1,0456e+06
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	27447887,32	27447887,32
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	21958309,86	21958309,86
d _y [mm], d _z [mm]	0,00	0,00

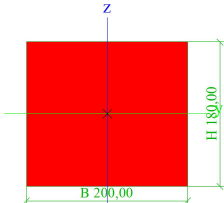


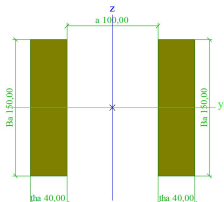
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I_t [mm ⁴], I_w [mm ⁶]	1,4073e+08	1,4969e+10
β_y [mm], β_z [mm]	0,00	0,00
Picture		
Opirača 2		
Type	RECT	
Detailed	140,00; 230,00	
Shape type	Thick-walled	
Item material	C24 (EN 338)	
Fabrication	timber	
Colour		
A [mm ²]	3,2200e+04	
A_y [mm ²], A_z [mm ²]	2,6846e+04	2,6838e+04
A_L [m ² /m], A_D [m ² /m]	7,4000e-01	7,4000e-01
$c_{y,ucs}$ [mm], $c_{z,ucs}$ [mm]	70,00	115,00
α [deg]	0,00	
I_y [mm ⁴], I_z [mm ⁴]	1,4195e+08	5,2593e+07
i_y [mm], i_z [mm]	66,40	40,41
$W_{el,y}$ [mm ³], $W_{el,z}$ [mm ³]	1,2343e+06	7,5133e+05
$W_{pl,y}$ [mm ³], $W_{pl,z}$ [mm ³]	1,5125e+06	9,2065e+05
$M_{pl,y,+}$ [Nmm], $M_{pl,y,-}$ [Nmm]	31762352,11	31762352,11
$M_{pl,z,+}$ [Nmm], $M_{pl,z,-}$ [Nmm]	19333605,63	19333605,63
d_y [mm], d_z [mm]	0,00	0,00
I_t [mm ⁴], I_w [mm ⁶]	1,3062e+08	5,1586e+10
β_y [mm], β_z [mm]	0,00	0,00
Picture		
Lega 2		
Type	RECT	
Detailed	200,00; 180,00	
Shape type	Thick-walled	
Item material	C24 (EN 338)	
Fabrication	timber	
Colour		
A [mm ²]	3,6000e+04	
A_y [mm ²], A_z [mm ²]	3,0009e+04	3,0007e+04
A_L [m ² /m], A_D [m ² /m]	7,6000e-01	7,6000e-01
$c_{y,ucs}$ [mm], $c_{z,ucs}$ [mm]	100,00	90,00
α [deg]	0,00	
I_y [mm ⁴], I_z [mm ⁴]	9,7200e+07	1,2000e+08
i_y [mm], i_z [mm]	51,96	57,74
$W_{el,y}$ [mm ³], $W_{el,z}$ [mm ³]	1,0800e+06	1,2000e+06
$W_{pl,y}$ [mm ³], $W_{pl,z}$ [mm ³]	1,3234e+06	1,4704e+06
$M_{pl,y,+}$ [Nmm], $M_{pl,y,-}$ [Nmm]	27790985,92	27790985,92



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[Nmm]		
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	30878873,24	30878873,24
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	1,8130e+08	9,7149e+09
β _y [mm], β _z [mm]	0,00	0,00
Picture		

Škarje 2		
Type	2 Rect	
Detailed	40,00; 150,00; 100,00	
Shape type	Thick-walled	
Item material	C24 (EN 338)	
Fabrication	timber	
Colour		
A [mm ²]	1,2000e+04	
A _y [mm ²], A _z [mm ²]	1,0014e+04	1,0001e+04
A _L [m ² /m], A _D [m ² /m]	7,6000e-01	7,6000e-01
C _{Y,UCS} [mm], C _{Z,UCS} [mm]	90,00	75,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	2,2500e+07	6,0400e+07
i _y [mm], i _z [mm]	43,30	70,95
W _{el,y} [mm ³], W _{el,z} [mm ³]	3,0000e+05	6,7111e+05
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	3,6761e+05	6,1034e+05
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	7719718,31	7719718,31
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	12817183,10	12817183,10
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	5,3294e+06	1,1249e+11
β _y [mm], β _z [mm]	0,00	0,00
Picture		

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

Explanations of symbols	
	system
I_y	Second moment of area about the principal y-axis
I_z	Second moment of area about the principal z-axis
i_y	Radius of gyration about the principal y-axis
i_z	Radius of gyration about the principal z-axis
$W_{el,y}$	Elastic section modulus about the principal y-axis
$W_{el,z}$	Elastic section modulus about the principal z-axis
$W_{pl,y}$	Plastic section modulus about the principal y-axis
$W_{pl,z}$	Plastic section modulus about the principal z-axis
$M_{pl,y,+}$	Plastic moment about the principal

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Explanations of symbols	
	y-axis for a positive My moment
$M_{pl.y,-}$	Plastic moment about the principal y-axis for a negative My moment
$M_{pl.z,+}$	Plastic moment about the principal z-axis for a positive Mz moment
$M_{pl.z,-}$	Plastic moment about the principal z-axis for a negative Mz moment
d_y	Shear center coordinate in principal y-direction measured from the centroid - Calculated by 2D FEM analysis

Explanations of symbols	
d_z	Shear center coordinate in principal z-direction measured from the centroid - Calculated by 2D FEM analysis
I_t	Torsional constant - Calculated by 2D FEM analysis
I_w	Warping constant - Calculated by 2D FEM analysis
β_y	Mono-symmetry constant about the principal y-axis
β_z	Mono-symmetry constant about the principal z-axis

3. Materiali

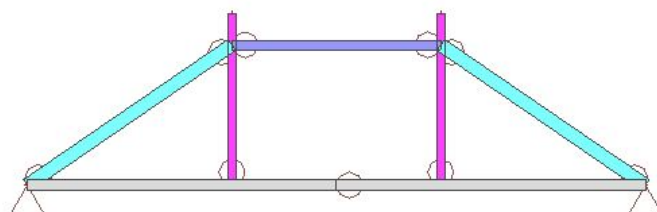
Timber EC5

Name	Type of timber	μ [-]	E_{mod} [MPa]	$f_{m,k}$ [MPa]	$f_{t,0,k}$ [MPa]	$f_{t,90,k}$ [MPa]	$f_{c,0,k}$ [MPa]	$f_{c,90,k}$ [MPa]	$f_{v,k}$ [MPa]	Colour
	ρ [kg/m ³]	α [m/mK]	G_{mod} [MPa]							
C24 (EN 338)	Solid	0,00	1,1000e+04	24,0	14,5	0,4	21,0	2,5	4,0	
	420,00	5,00e-06	6,9000e+02							

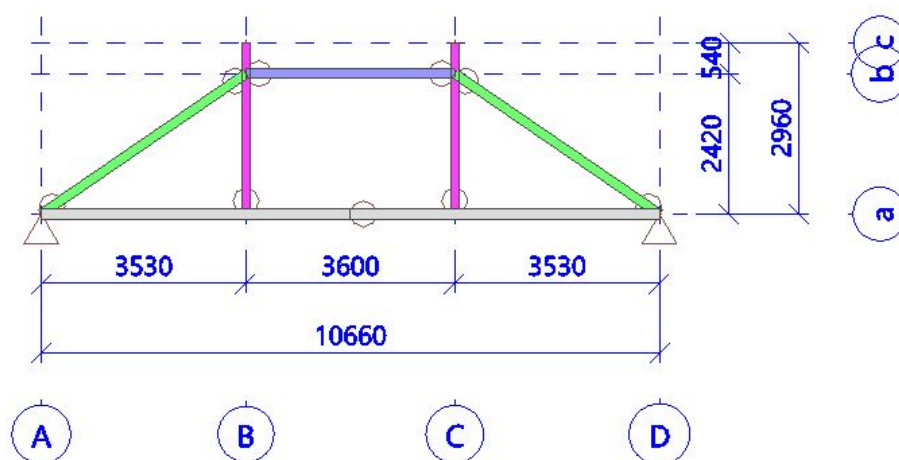


4. Modeli strešne konstrukcije

4.1. Vešalo elementi

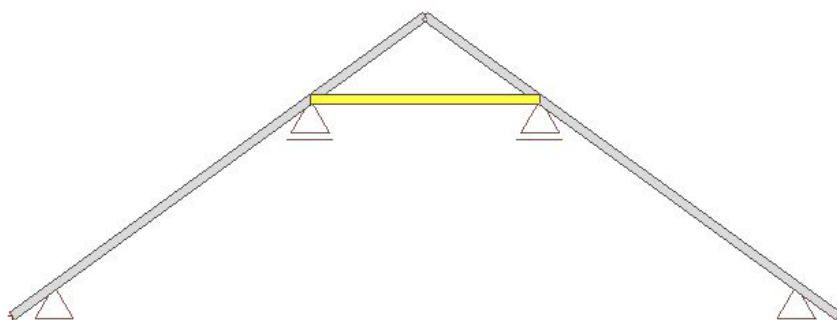
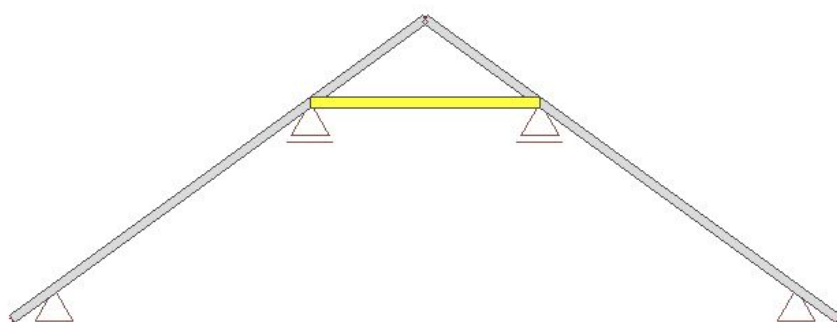


Grid3





4.2. Špirovci elementi





4.3. Model lege



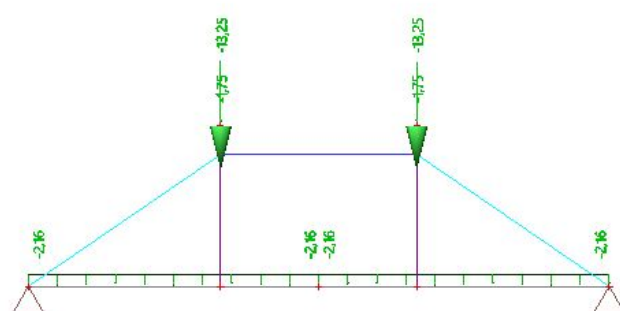
5. Obtežni primeri

5.1. Obtežni primeri - Stalna

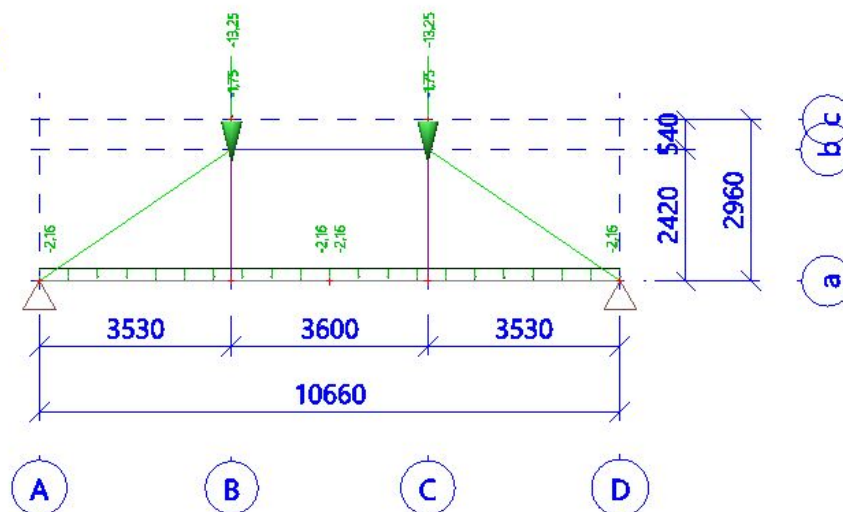
Name	Description Spec	Action type Load type	Load group
Stalna		Permanent	Lastna in stalna
		Standard	



5.1.1. Vešalo Obtežbe

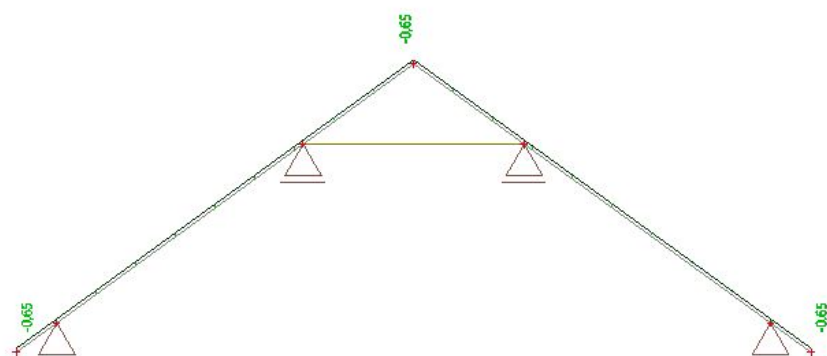
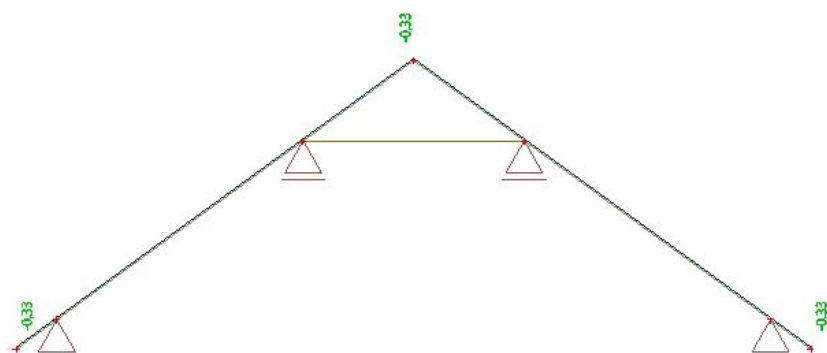


Grid3



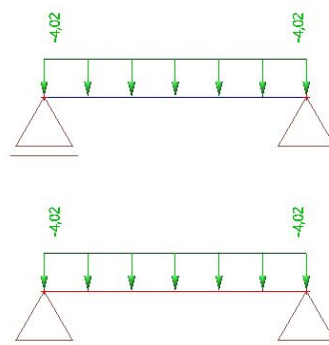


5.1.2. Špirovci obtežbe





5.1.3. Lege obtežbe

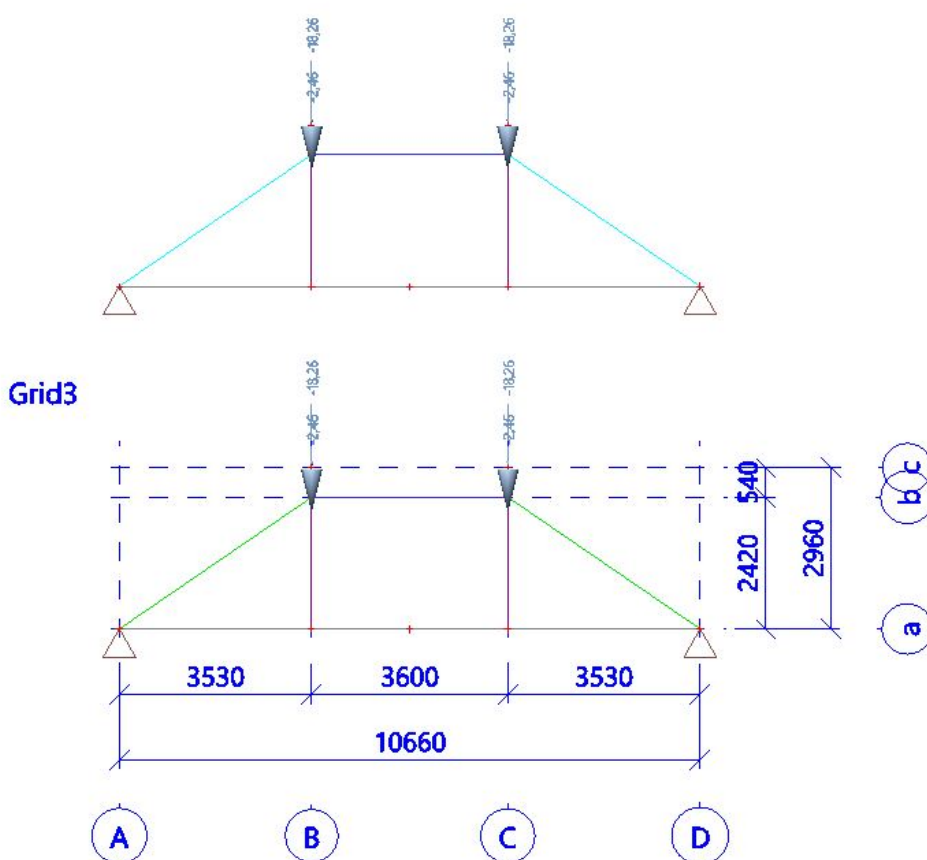


5.2. Obtežni primeri - Sneg

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

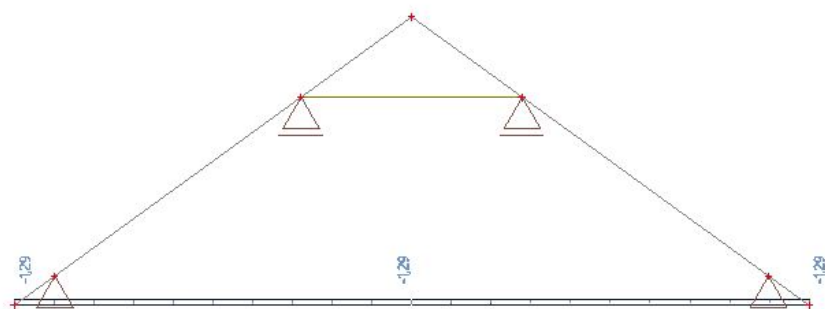
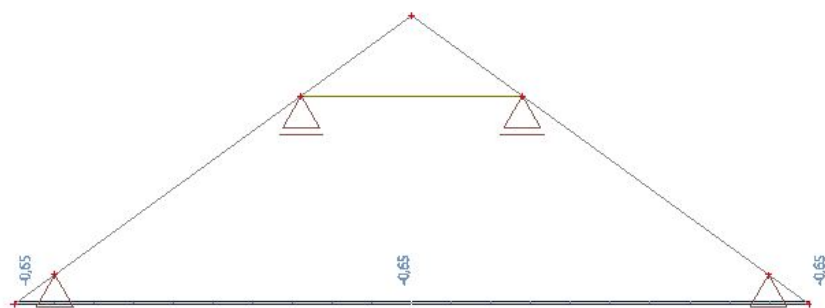


5.2.1. Vešalo Obtežbe



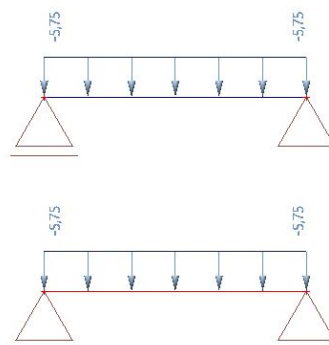


5.2.2. Špirovci obtežbe





5.2.3. Lege obtežbe

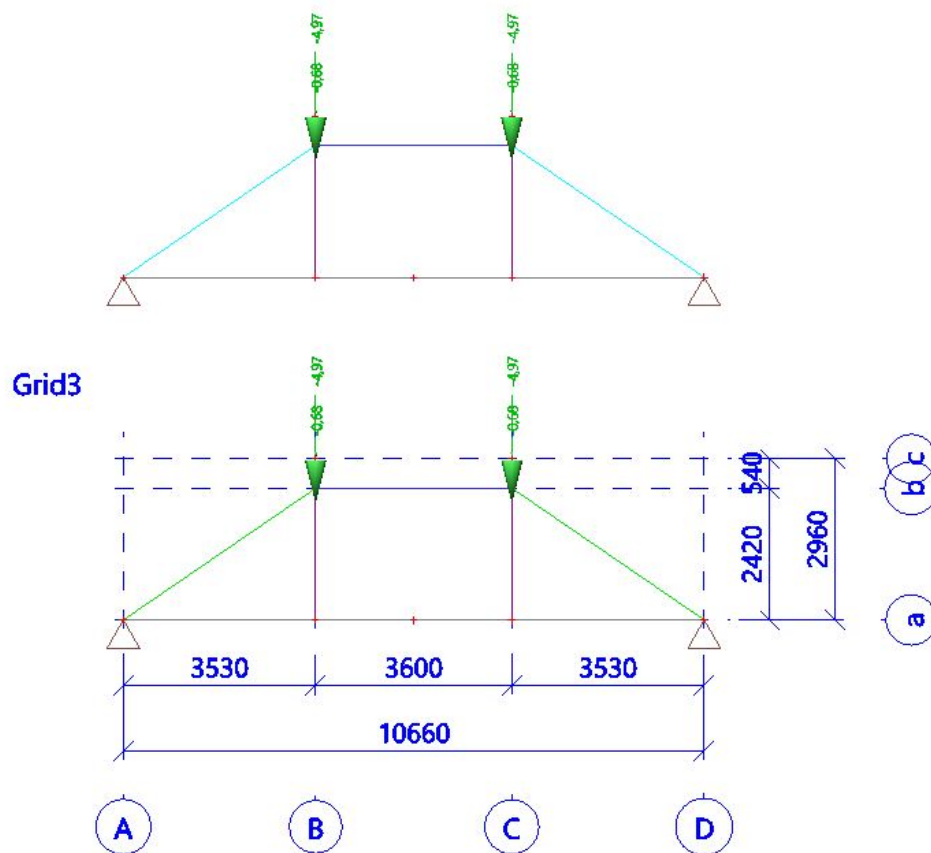


5.3. Obtežni primeri - Veter tlak

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

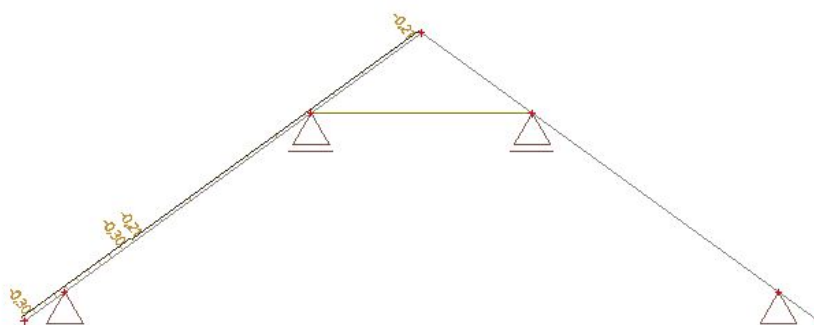
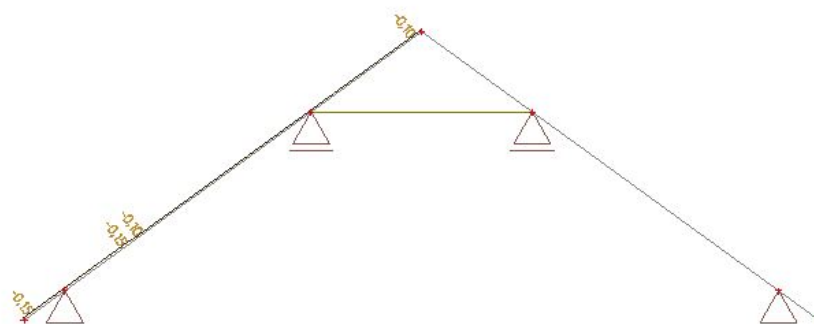


5.3.1. Vešalo Obtežbe



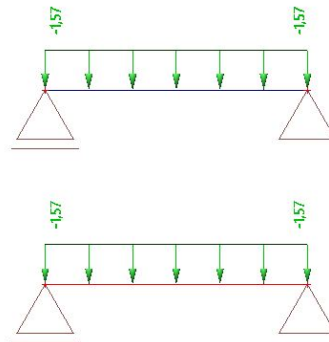


5.3.2. Špirovci obtežbe





5.3.3. Lege obtežbe



6. Obtežne kombinacije

6.1. Obtežne kombinacije - ULS-Set B (auto)

Name	Description	Type	Load cases	Coeff. [-]
ULS-Set B (auto)		EN-ULS (STR/GEO) Set B	Lastna	1,000
			Stalna	1,000
			Sneg	1,000
			Veter tlak	1,000
			Koristna	1,000

**Project Kulturni center Čatež****6.1.1. N**Values: **N**

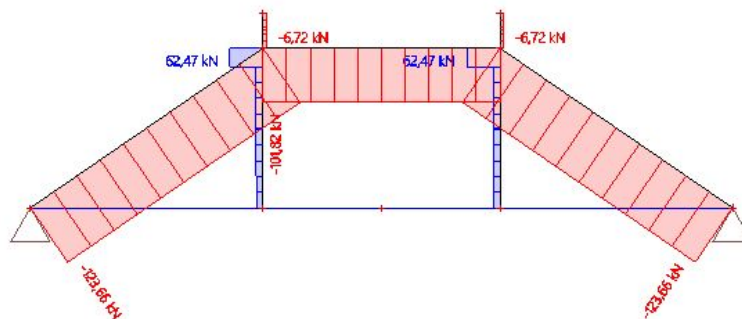
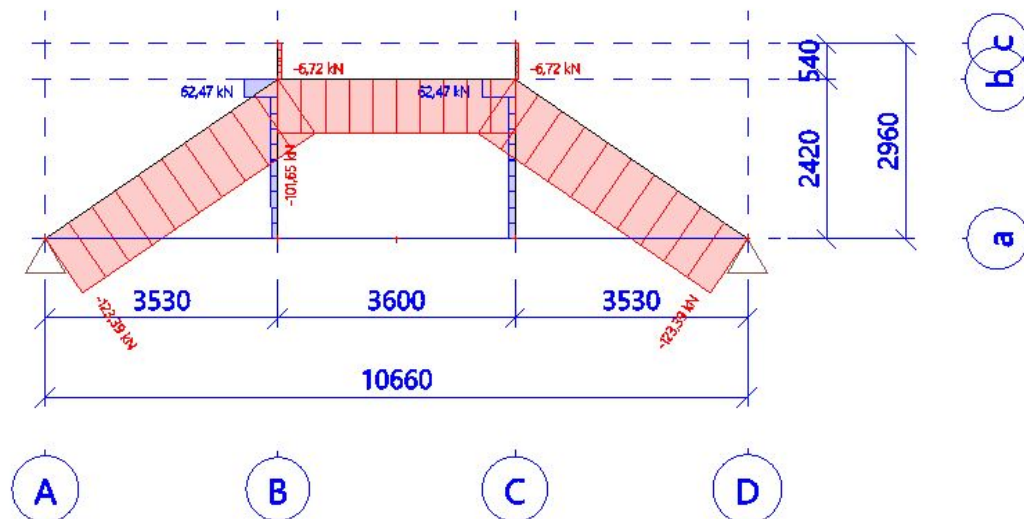
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All

**Grid3**



Values: **N**

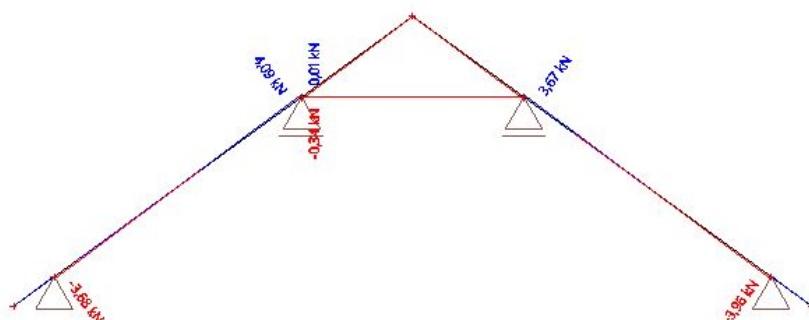
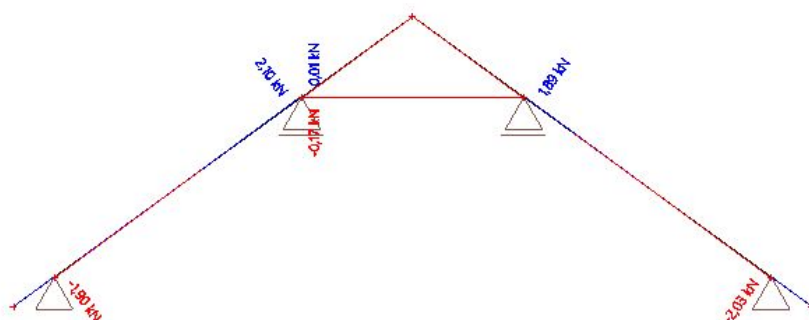
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All



**Project Kulturni center Čatež**Values: **N**

Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All





Project Kulturni center Čatež

6.1.2. V_z Values: V_z

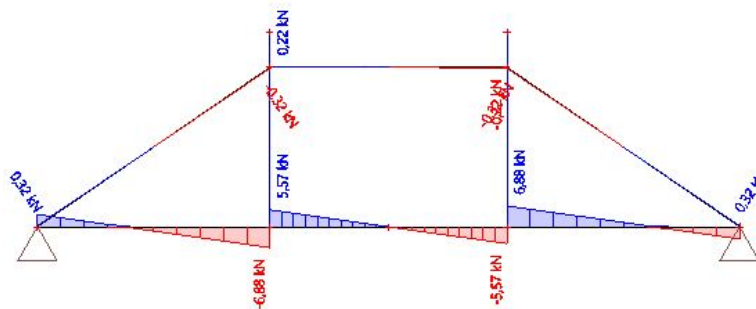
Linear calculation

Combination: ULS-Set B (auto)

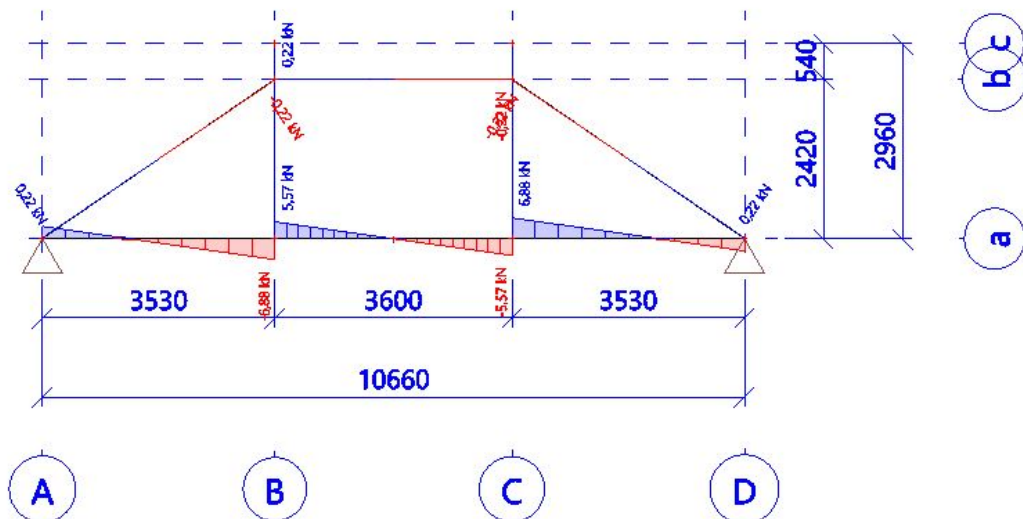
Coordinate system: Member

Extreme 1D: Member

Selection: All

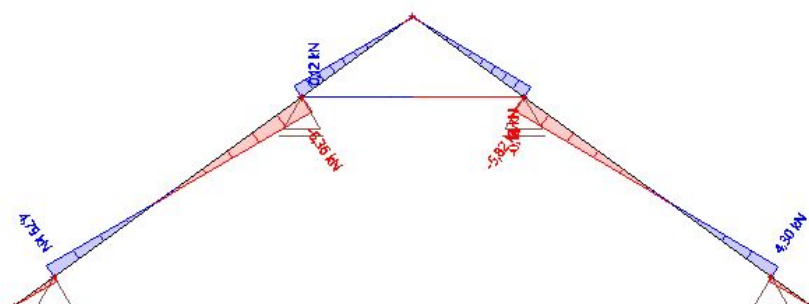
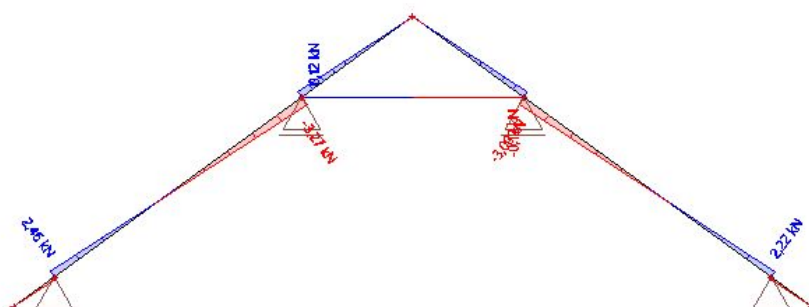


Grid3



**Project Kulturni center Čatež**

Values: V_z
Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Member
Extreme 1D: Member
Selection: All



**Project Kulturni center Čatež**Values: V_z

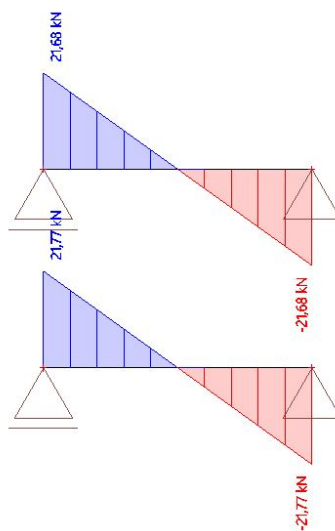
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All



6.1.3. M_y Values: M_y

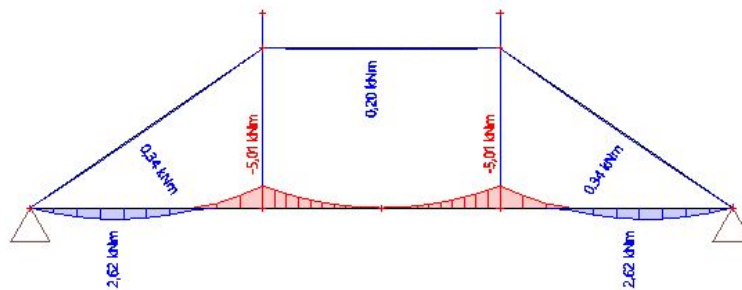
Linear calculation

Combination: ULS-Set B (auto)

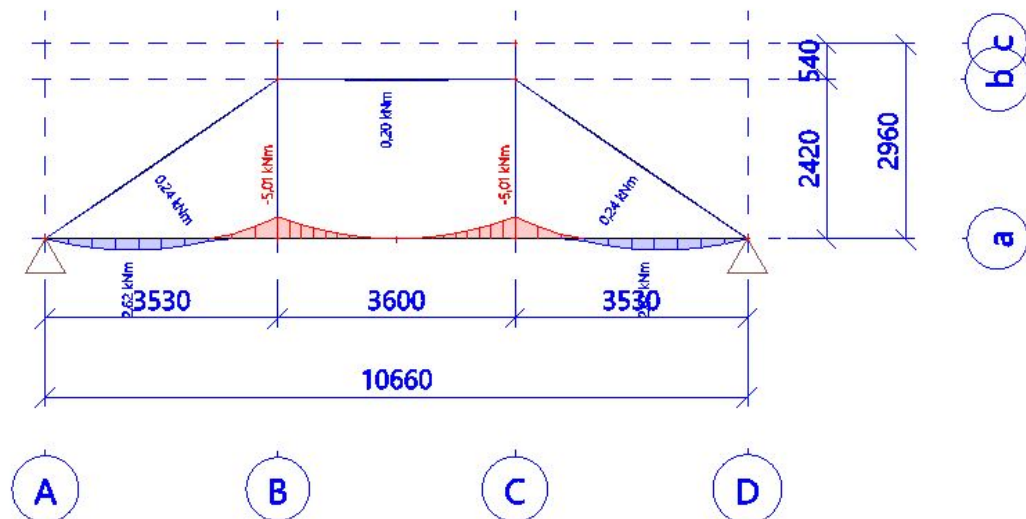
Coordinate system: Member

Extreme 1D: Member

Selection: All

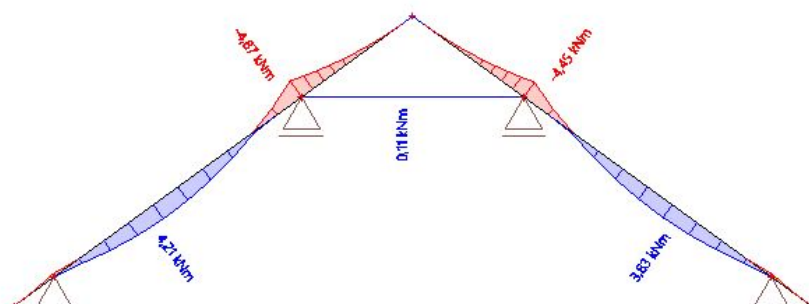
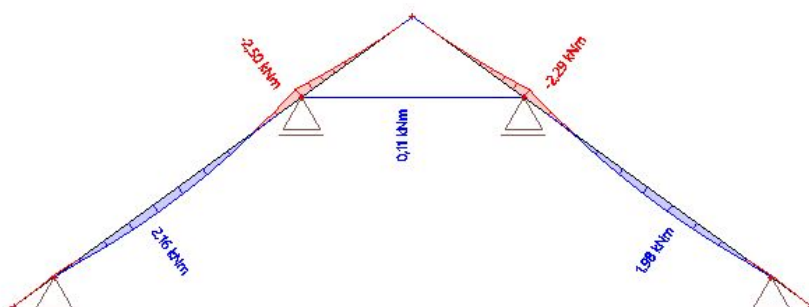


Grid3



**Project Kulturni center Čatež**

Values: M_y
Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Member
Extreme 1D: Member
Selection: All



**Project Kulturni center Čatež**Values: M_y

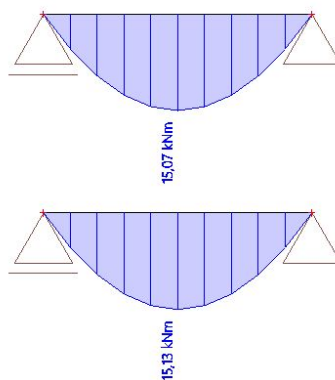
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All





Project Kulturni center Čatež

6.1.4. U_{total} Values: U_{total}

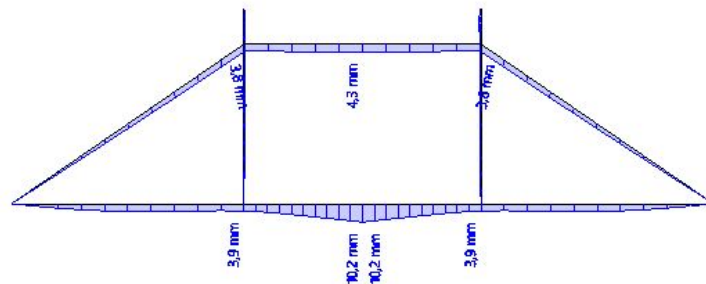
Linear calculation

Combination: ULS-Set B (auto)

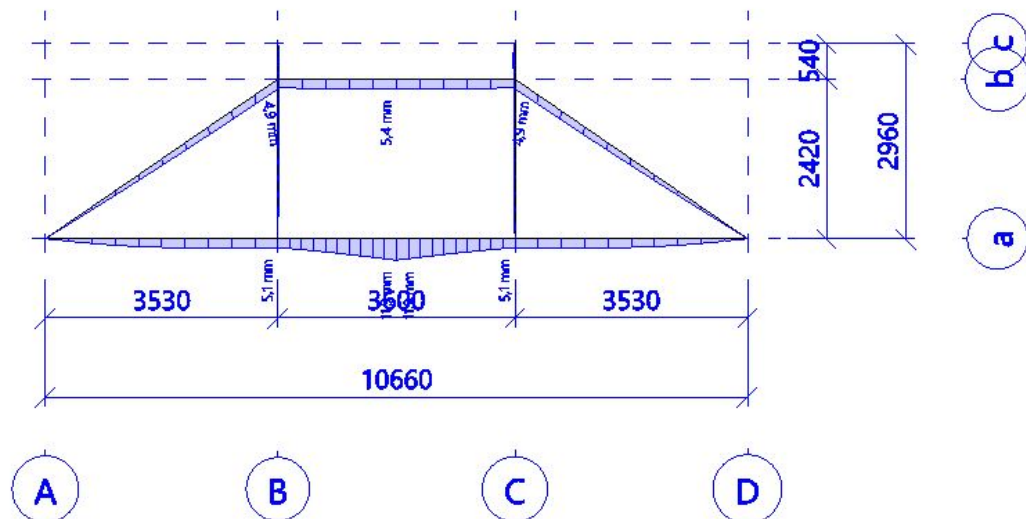
Coordinate system: Global

Extreme 1D: Member

Selection: All

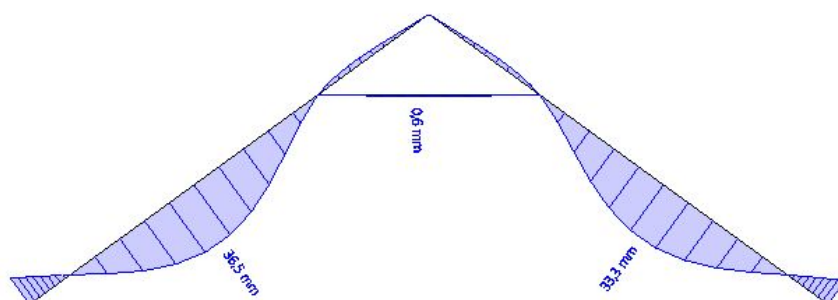
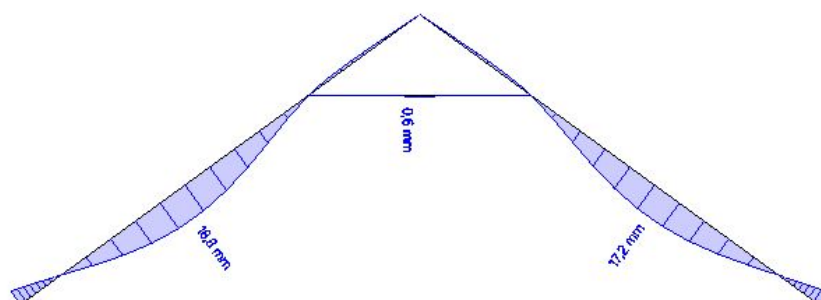


Grid3





Values: U_{total}
Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Global
Extreme 1D: Member
Selection: All



Values: U_{total}

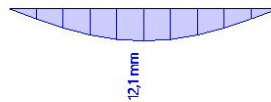
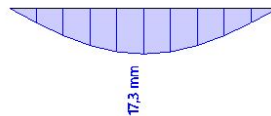
Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Global

Extreme 1D: Member

Selection: All



6.2. Obtežne kombinacije - SLS-Char (auto)

Name	Description	Type	Load cases	Coeff. [-]
SLS-Char (auto)		EN-SLS Characteristic	Lastna	1,000
			Stalna	1,000
			Sneg	1,000
			Veter tlak	1,000
			Koristna	1,000



6.2.1. N

Values: N

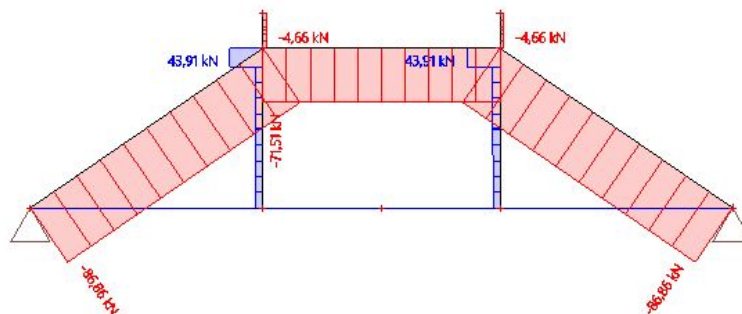
Linear calculation

Combination: SLS-Char (auto)

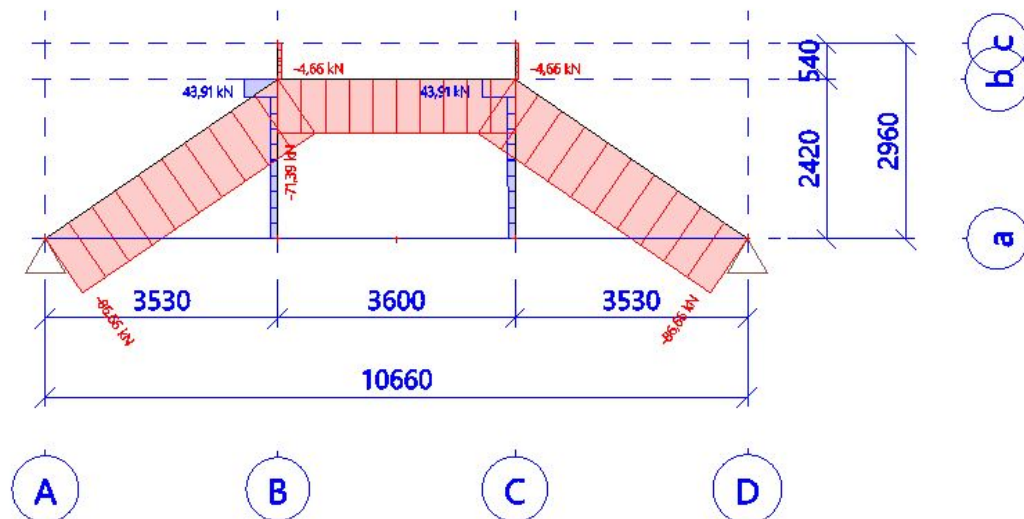
Coordinate system: Member

Extreme 1D: Member

Selection: All



Grid3





Project Kulturni center Čatež

Values: **N**

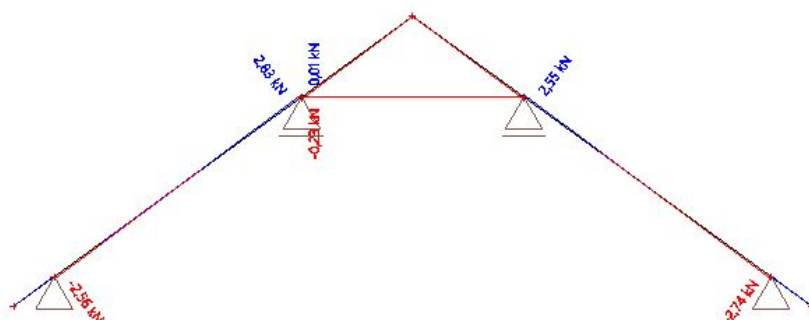
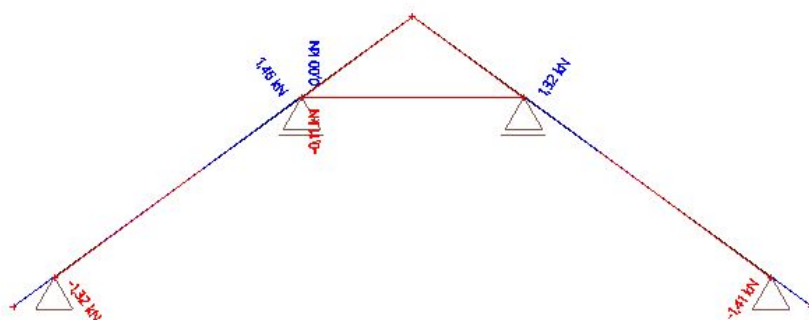
Linear calculation

Combination: SLS-Char (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All



**Project Kulturni center Čatež**Values: **N**

Linear calculation

Combination: SLS-Char (auto)

Coordinate system: Member

Extreme 1D: Member

Selection: All





Project Kulturni center Čatež

6.2.2. V_z Values: V_z

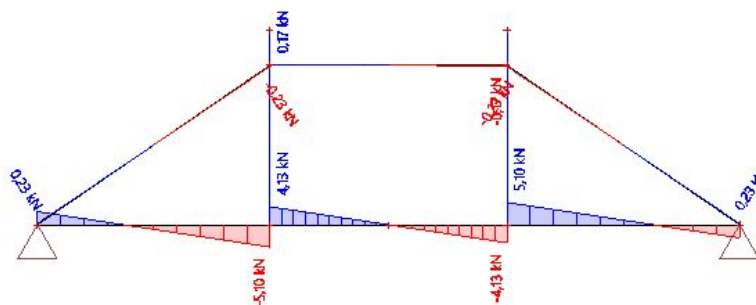
Linear calculation

Combination: SLS-Char (auto)

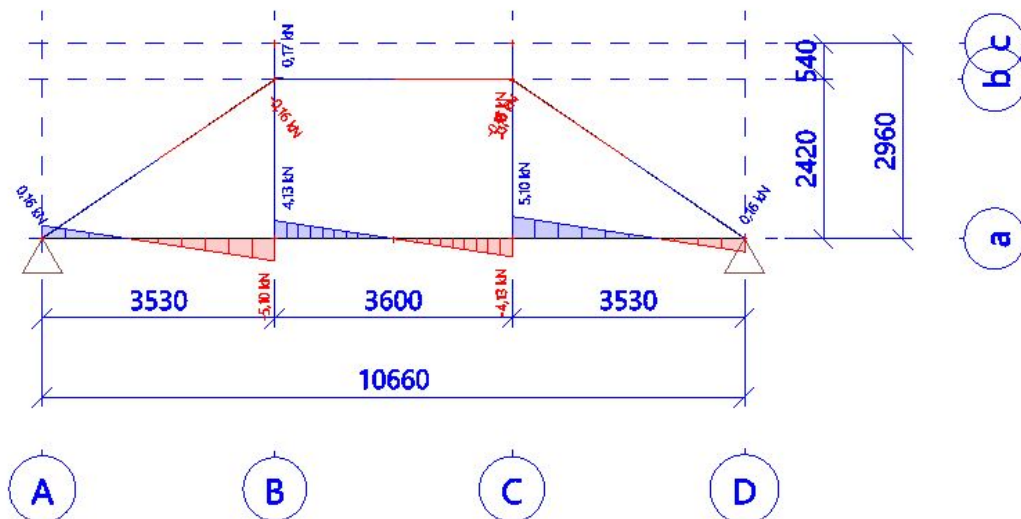
Coordinate system: Member

Extreme 1D: Member

Selection: All

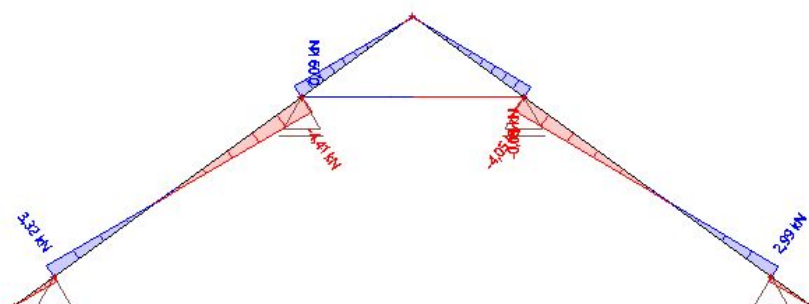
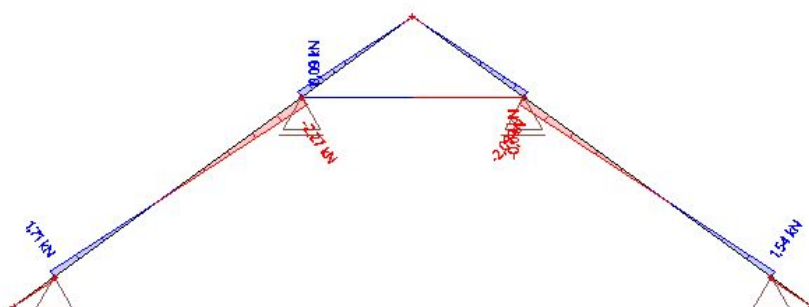


Grid3



**Project Kulturni center Čatež**

Values: V_z
Linear calculation
Combination: SLS-Char (auto)
Coordinate system: Member
Extreme 1D: Member
Selection: All





Project Kulturni center Čatež

Values: V_z

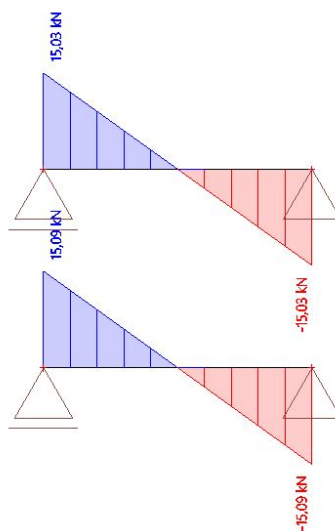
Linear calculation

Combination: SLS-Char (auto)

Coordinate system: Member

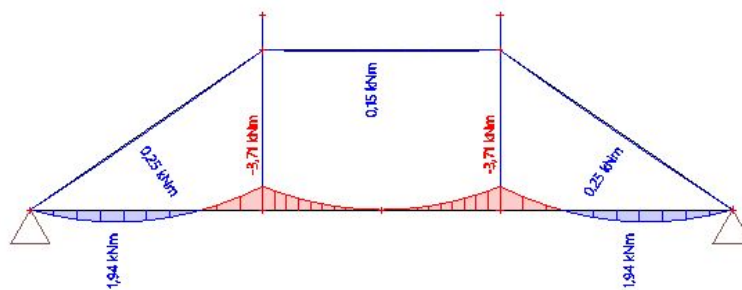
Extreme 1D: Member

Selection: All

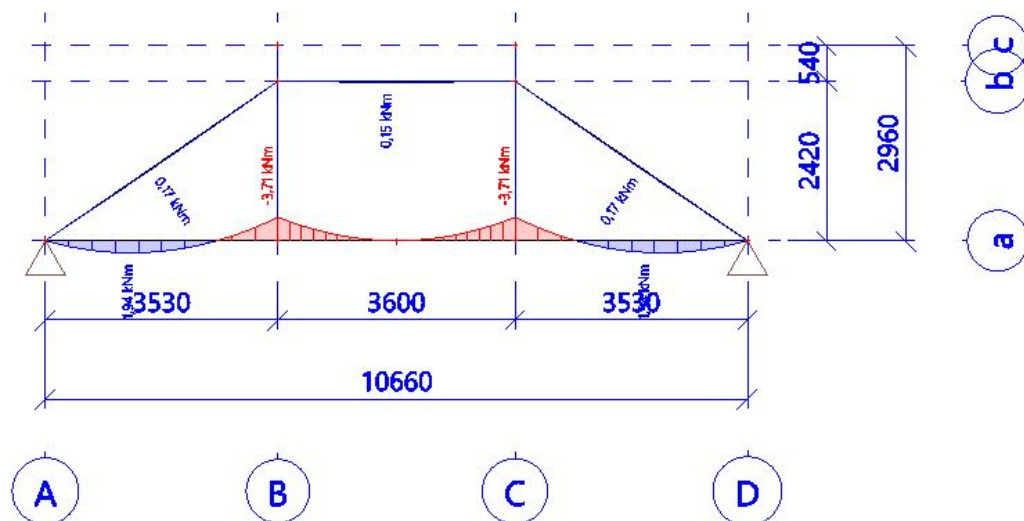


6.2.3. M_y

Values: M_y
 Linear calculation
 Combination: SLS-Char (auto)
 Coordinate system: Member
 Extreme 1D: Member
 Selection: All

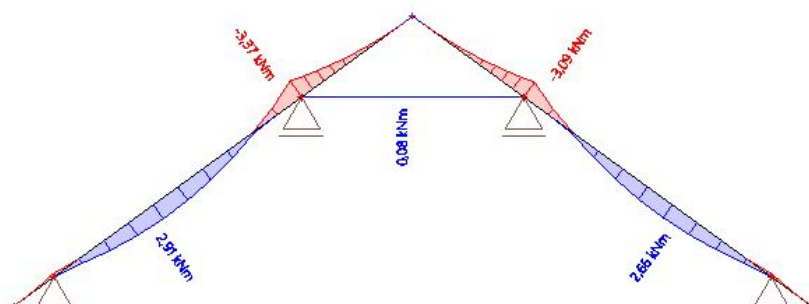
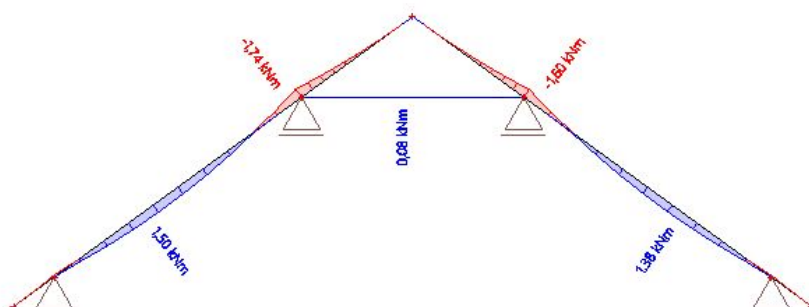


Grid3



**Project Kulturni center Čatež**

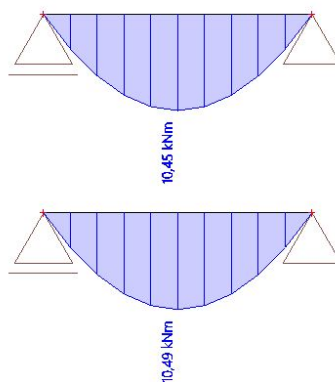
Values: M_y
Linear calculation
Combination: SLS-Char (auto)
Coordinate system: Member
Extreme 1D: Member
Selection: All





Project Kulturni center Čatež

Values: M_y
Linear calculation
Combination: SLS-Char (auto)
Coordinate system: Member
Extreme 1D: Member
Selection: All



6.2.4. U_{total} Values: U_{total}

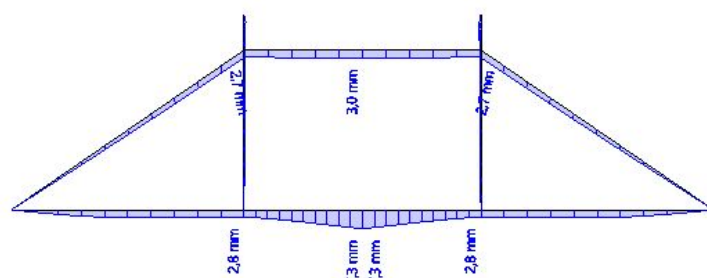
Linear calculation

Combination: SLS-Char (auto)

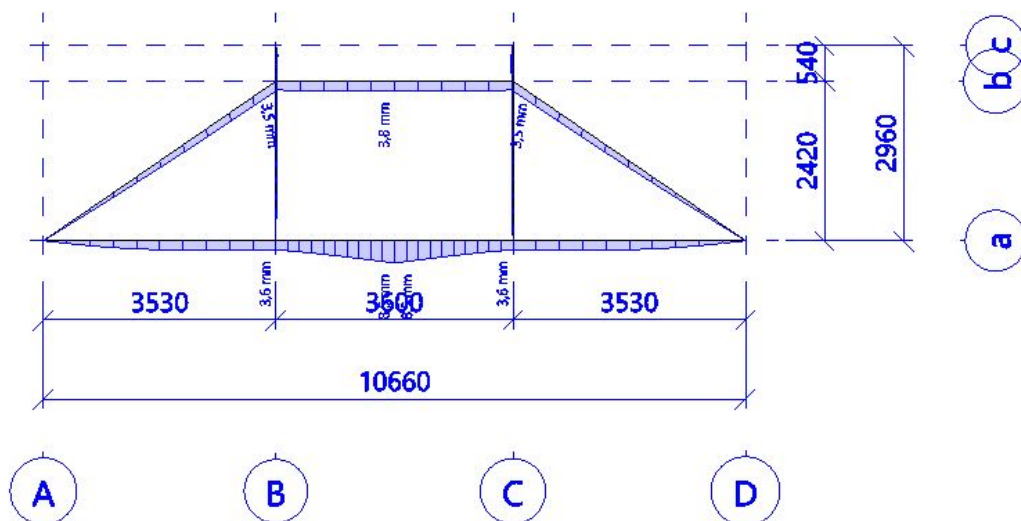
Coordinate system: Global

Extreme 1D: Member

Selection: All

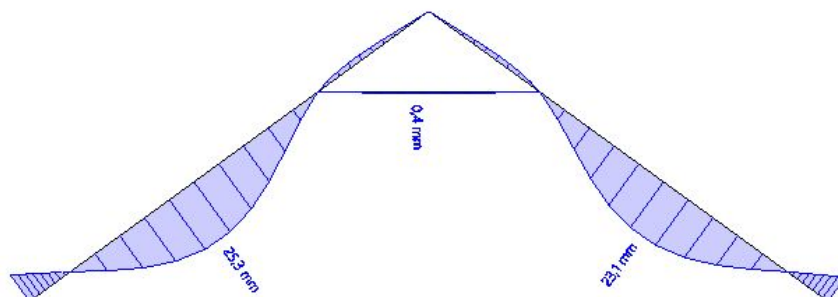
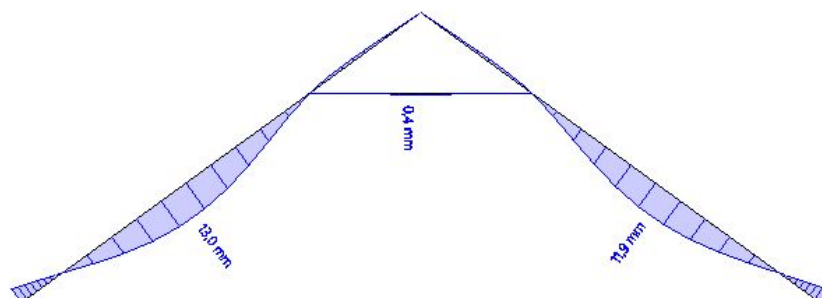


Grid3



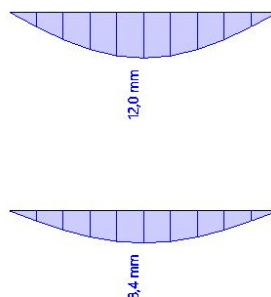
**Project Kulturni center Čatež**

Values: U_{total}
Linear calculation
Combination: SLS-Char (auto)
Coordinate system: Global
Extreme 1D: Member
Selection: All



**Project Kulturni center Čatež**

Values: U_{total}
 Linear calculation
 Combination: SLS-Char (auto)
 Coordinate system: Global
 Extreme 1D: Member
 Selection: All

**7. Dimenzioniranje po MSN****7.1. Dimenzioniranje po MSN**

Linear calculation, Extreme : Cross-section

Selection : All

Combinations : ULS-Set B (auto)

EN 1995-1-1 Code Check

Beam B1	7,996 m	Špirovec - RECT (100,00; 140,00)	C24 (EN 338)	ULS-Set B (auto)	1,20 -
---------	---------	-------------------------------------	--------------	------------------	--------

Combination key

ULS-Set B (auto) / 1.35*Lastna + 1.35*Stalna + 1.50*Sneg
 + 0.90*Veter tlak

Basic data

Partial safety factor γ_M for Solid timber 1,30

Material data

Bending ($f_{m,k}$)	24,0	MPa
Tension ($f_{t,0,k}$)	14,5	MPa
Tension ($f_{t,90,k}$)	0,4	MPa
Compression ($f_{c,0,k}$)	21,0	MPa
Compression ($f_{c,90,k}$)	2,5	MPa
Shear ($f_{v,k}$)	4,0	MPa
Type of timber	Solid	

The critical check is on position **5,771 m**.

**Project Kulturni center Čatež**

Internal forces		
N_{Ed}	-3,68	kN
$V_{y,Ed}$	0,00	kN
$V_{z,Ed}$	4,67	kN
T_{Ed}	0,00	kNm
$M_{y,Ed}$	-4,87	kNm
$M_{z,Ed}$	0,00	kNm

Modification factor	
Service Class	2
Load duration	Short-term
Modification factor k_{mod}	0,90

...: SECTION CHECK ...:**Compression parallel to the grain**

According to EN 1995-1-1 article 6.1.4 and formula (6.2)

$\sigma_{c,0,d}$	0,3	MPa
$f_{c,0,d}$	14,5	MPa
Unity check	0,02	-

Compression perpendicular to the grain

According to EN 1995-1-1 article 6.1.5 and formula (6.3)

$F_{c,90,d}$	11,03	kN
l	140,00	mm
l_{ef}	200,00	mm
b	100,00	mm
A_{ef}	20000,00	mm ²
$\sigma_{c,90,d}$	0,6	MPa
Support condition	Discrete	
h	140,00	mm
$k_{c,90}$	1,500	-
$f_{c,90,d}$	1,7	MPa
Unity check	0,21	-

Bending

According to EN 1995-1-1 article 6.1.6 and formula (6.11),(6.12)

$\sigma_{m,y,d}$	14,9	MPa
$k_{h,y}$	1,01	
$f_{m,y,d}$	16,8	MPa
k_m	0,70	

Unity check (6.11) = 0,89 + 0,00 = 0,89 -

Unity check (6.12) = 0,62 + 0,00 = 0,62 -

Shear

According to EN 1995-1-1 article 6.1.7 and formula (6.13)

k_{cr}	0,67	
$T_{z,d}$	0,7	MPa
$f_{v,d}$	2,8	MPa
Unity check τ_z	0,27	-

Combined Bending and Axial Compression

According to EN 1995-1-1 article 6.2.4 and formula (6.19),(6.20)

$f_{c,0,d}$	14,5	MPa
$f_{m,y,d}$	16,8	MPa
k_m	0,70	

Unity check (6.19) = 0,00 + 0,89 + 0,00 = 0,89 -

Unity check (6.20) = 0,00 + 0,62 + 0,00 = 0,62 -

The member satisfies the section check.

...: STABILITY CHECK ...:**Columns subjected to compression or combined compression and bending**

According to EN 1995-1-1 article 6.3.2 and formula (6.23),(6.24)

**Project Kulturni center Čatež**

Buckling parameters	yy	zz	
Sway type	sway	non-sway	
System length L	2,225	7,996	m
Buckling factor k	1,00	1,00	
Buckling length L_{cr}	2,225	7,996	m
Slenderness λ	55,053	276,994	-
Relative slenderness λ	0,934	4,697	-
Limit slenderness	0,300	0,300	-
Imperfection β_c	0,200	0,200	-
Reduction factor k_c	0,738	0,044	-

Unity check (6.23) = 0,02 + 0,89 + 0,00 = 0,91 -

Unity check (6.24) = 0,42 + 0,62 + 0,00 = **1,04** -

Warning: The slenderness 276,994 is larger than the limit value 200,000!

Beams subjected to bending or combined bending and compression

According to EN 1995-1-1 article 6.3.3 and formula (6.33),(6.35)

LTB Parameters		
Elastic critical moment $M_{y,crit}$	15,88	kNm
Critical bending stress $\sigma_{m,crit}$	48,6	MPa
Relative slenderness $\lambda_{rel,m}$	0,703	-
Reduction factor k_{crit}	1,000	-

Unity check (6.33) = 0,89 -

Unity check (6.35) = 0,78 + 0,42 = **1,20** -

$M_{y,crit}$ Parameters		
$G_{0,05}$	462,5	MPa
LTB length L	7,996	m
L_{eff}/L	0,80	
Effective length L_{ef}	6,397	m
Influence of load position	no influence	

The member does NOT satisfy the stability check!

EN 1995-1-1 Code Check

Beam B46	3,600 m	Škarje 2 - 2 Rect (40,00; 150,00; 100,00)	C24 (EN 338)	ULS-Set B (auto)	0,03 -
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Combination key	
ULS-Set B (auto) / 1.35*Lastna + 1.35*Stalna	

Basic data	
Partial safety factor γ_M for Solid timber	1,30

Material data		
Bending ($f_{m,k}$)	24,0	MPa
Tension ($f_{t,0,k}$)	14,5	MPa
Tension ($f_{t,90,k}$)	0,4	MPa
Compression ($f_{c,0,k}$)	21,0	MPa
Compression ($f_{c,90,k}$)	2,5	MPa
Shear ($f_{v,k}$)	4,0	MPa
Type of timber	Solid	

The critical check is on position **1,800 m**.

Internal forces		
N_{Ed}	0,00	kN
$V_{y,Ed}$	0,00	kN
$V_{z,Ed}$	0,00	kN
T_{Ed}	0,00	kNm
$M_{y,Ed}$	0,00	kNm
$M_{z,Ed}$	0,11	kNm

Note: Axis definition:

- Principal y axis in this code check is referring to the principal z axis in SCIA Engineer.
- Principal z axis in this code check is referring to the principal y axis in SCIA Engineer.

**Project Kulturni center Čatež**

Modification factor		
Service Class		2
Load duration		Permanent
Modification factor k_{mod}		0,60

...: SECTION CHECK ...**Tension parallel to the grain**

According to EN 1995-1-1 article 6.1.2 and formula (6.1)

$\sigma_{t,0,d}$	0,0	MPa
k_h	1,00	
$f_{t,0,d}$	6,7	MPa
Unity check	0,00	-

Bending

According to EN 1995-1-1 article 6.1.6 and formula (6.11),(6.12)

$\sigma_{m,z,d}$	0,4	MPa
$k_{h,z}$	1,00	
$f_{m,z,d}$	11,1	MPa
k_m	1,00	

Unity check (6.11) = 0,00 + 0,03 = 0,03 -

Unity check (6.12) = 0,00 + 0,03 = 0,03 -

Combined Bending and Axial Tension

According to EN 1995-1-1 article 6.2.3 and formula (6.17),(6.18)

$f_{t,0,d}$	6,7	MPa
$f_{m,z,d}$	11,1	MPa
k_m	1,00	

Unity check (6.17) = 0,00 + 0,00 + 0,03 = 0,03 -

Unity check (6.18) = 0,00 + 0,00 + 0,03 = 0,03 -

The member satisfies the section check.

...: STABILITY CHECK ...

The member satisfies the stability check.

EN 1995-1-1 Code Check

Beam B95	5,330 m	Veznik - RECT (160,00; 200,00)	C24 (EN 338)	ULS-Set B (auto)	0,42 -
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Combination key

ULS-Set B (auto) / 1.35*Lastna + 1.35*Stalna

Basic dataPartial safety factor γ_M for Solid timber 1,30**Material data**

Bending ($f_{m,k}$)	24,0	MPa
Tension ($f_{t,0,k}$)	14,5	MPa
Tension ($f_{t,90,k}$)	0,4	MPa
Compression ($f_{c,0,k}$)	21,0	MPa
Compression ($f_{c,90,k}$)	2,5	MPa
Shear ($f_{v,k}$)	4,0	MPa
Type of timber	Solid	

The critical check is on position **3,530 m**.**Internal forces**

N_{Ed}	0,00	kN
$V_{y,Ed}$	0,00	kN
$V_{z,Ed}$	-6,88	kN
T_{Ed}	0,00	kNm
$M_{y,Ed}$	-5,01	kNm
$M_{z,Ed}$	0,00	kNm

**Project Kulturni center Čatež**

Modification factor	
Service Class	2
Load duration	Permanent
Modification factor k_{mod}	0,60

...: SECTION CHECK ...**Compression perpendicular to the grain**

According to EN 1995-1-1 article 6.1.5 and formula (6.3)

$F_{c,90,d}$	12,45	kN
l	140,00	mm
l_{ef}	200,00	mm
b	160,00	mm
A_{ef}	32000,00	mm ²
$\sigma_{c,90,d}$	0,4	MPa
Support condition	Discrete	
h	200,00	mm
$k_{c,90}$	1,500	-
$f_{c,90,d}$	1,2	MPa
Unity check	0,22	-

Bending

According to EN 1995-1-1 article 6.1.6 and formula (6.11),(6.12)

$\sigma_{m,y,d}$	4,7	MPa
$k_{h,y}$	1,00	
$f_{m,y,d}$	11,1	MPa
k_m	0,70	

Unity check (6.11) = $0,42 + 0,00 = 0,42$ -Unity check (6.12) = $0,30 + 0,00 = 0,30$ -**Shear**

According to EN 1995-1-1 article 6.1.7 and formula (6.13)

k_{cr}	0,67	
$\tau_{z,d}$	0,5	MPa
$f_{v,d}$	1,8	MPa
Unity check τ_z	0,26	-

The member satisfies the section check.

...: STABILITY CHECK ...**Beams subjected to bending or combined bending and compression**

According to EN 1995-1-1 article 6.3.3 and formula (6.33),(6.35)

LTB Parameters			
Elastic critical moment $M_{y,crit}$	133,60	kNm	
Critical bending stress $\sigma_{m,crit}$	125,2	MPa	
Relative slenderness $\lambda_{rel,m}$	0,438	-	
Reduction factor k_{crit}	1,000	-	

Unity check (6.33) = $0,42$ -

$M_{y,crit}$ Parameters		
$G_{0,05}$	462,5	MPa
LTB length L	5,330	m
L_{eff}/L	0,80	
Effective length L_{ef}	4,264	m
Influence of load position	no influence	

The member satisfies the stability check.

EN 1995-1-1 Code Check

Beam B98	4,280 m	Opirača 1 - RECT (140,00; 160,00)	C24 (EN 338)	ULS-Set B (auto)	1,39 -
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**Project Kulturni center Čatež****Combination key**

ULS-Set B (auto) / 1.35*Lastna + 1.35*Stalna + 1.50*Sneg
+ 0.90*Veter tlak

Basic data

Partial safety factor γ_m for Solid timber 1,30

Material data

Bending ($f_{m,k}$)	24,0	MPa
Tension ($f_{t,0,k}$)	14,5	MPa
Tension ($f_{t,90,k}$)	0,4	MPa
Compression ($f_{c,0,k}$)	21,0	MPa
Compression ($f_{c,90,k}$)	2,5	MPa
Shear ($f_{v,k}$)	4,0	MPa
Type of timber	Solid	

The critical check is on position **2,140 m**.

Internal forces

N_{Ed}	-123,24	kN
$V_{y,Ed}$	0,00	kN
$V_{z,Ed}$	0,00	kN
T_{Ed}	0,00	kNm
$M_{y,Ed}$	0,24	kNm
$M_{z,Ed}$	0,00	kNm

Modification factor

Service Class	2
Load duration	Short-term
Modification factor k_{mod}	0,90

...: SECTION CHECK ...**Compression parallel to the grain**

According to EN 1995-1-1 article 6.1.4 and formula (6.2)

$\sigma_{c,0,d}$	5,5	MPa
$f_{c,0,d}$	14,5	MPa
Unity check	0,38	-

Bending

According to EN 1995-1-1 article 6.1.6 and formula (6.11),(6.12)

$\sigma_{m,y,d}$	0,4	MPa
$k_{h,y}$	1,00	
$f_{m,y,d}$	16,6	MPa
k_m	0,70	

Unity check (6.11) = 0,02 + 0,00 = 0,02 -

Unity check (6.12) = 0,02 + 0,00 = 0,02 -

Combined Bending and Axial Compression

According to EN 1995-1-1 article 6.2.4 and formula (6.19),(6.20)

$f_{c,0,d}$	14,5	MPa
$f_{m,y,d}$	16,6	MPa
k_m	0,70	

Unity check (6.19) = 0,14 + 0,02 + 0,00 = 0,17 -

Unity check (6.20) = 0,14 + 0,02 + 0,00 = 0,16 -

The member satisfies the section check.

...: STABILITY CHECK ...**Columns subjected to compression or combined compression and bending**

According to EN 1995-1-1 article 6.3.2 and formula (6.23),(6.24)

Buckling parameters	yy	zz	
Sway type	sway	non-sway	
System length L	4,280	4,280	m
Buckling factor k	1,00	1,00	
Buckling length L_{cr}	4,280	4,280	m
Slenderness λ	92,662	105,899	-

**Project Kulturni center Čatež**

Relative slenderness λ	1,571	1,796	-
Limit slenderness	0,300	0,300	-
Imperfection β_c	0,200	0,200	-
Reduction factor k_c	0,350	0,275	-

Unity check (6.23) = 1,08 + 0,02 + 0,00 = **1,11** -

Unity check (6.24) = 1,38 + 0,02 + 0,00 = **1,39** -

Beams subjected to bending or combined bending and compression

According to EN 1995-1-1 article 6.3.3 and formula (6.33),(6.35)

LTB Parameters		
Elastic critical moment $M_{y,crit}$	76,35	kNm
Critical bending stress $\sigma_{m,crit}$	127,8	MPa
Relative slenderness $\lambda_{rel,m}$	0,433	-
Reduction factor k_{crit}	1,000	-

Unity check (6.33) = 0,02 -

Unity check (6.35) = 0,00 + 1,38 = **1,38** -

$M_{y,crit}$ Parameters		
$G_{0,05}$	462,5	MPa
LTB length L	4,280	m
L_{eff}/L	0,90	
Effective length L_{ef}	3,852	m
Influence of load position	no influence	

The member does NOT satisfy the stability check!

EN 1995-1-1 Code Check

Beam B113	3,600 m	Razpirač 1 - RECT (140,00; 160,00)	C24 (EN 338)	ULS-Set B (auto)	0,85 -
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Combination key	
ULS-Set B (auto) / 1.35*Lastna + 1.35*Stalna + 1.50*Sneg + 0.90*Veter tlak	

Basic data	
Partial safety factor γ_M for Solid timber	1,30

Material data		
Bending ($f_{m,k}$)	24,0	MPa
Tension ($f_{t,0,k}$)	14,5	MPa
Tension ($f_{t,90,k}$)	0,4	MPa
Compression ($f_{c,0,k}$)	21,0	MPa
Compression ($f_{c,90,k}$)	2,5	MPa
Shear ($f_{v,k}$)	4,0	MPa
Type of timber	Solid	

The critical check is on position **1,800** m.

Internal forces		
N_{Ed}	-101,82	kN
$V_{y,Ed}$	0,00	kN
$V_{z,Ed}$	0,00	kN
T_{Ed}	0,00	kNm
$M_{y,Ed}$	0,20	kNm
$M_{z,Ed}$	0,00	kNm

Modification factor	
Service Class	2
Load duration	Short-term
Modification factor k_{mod}	0,90

... SECTION CHECK ...

Compression parallel to the grain

According to EN 1995-1-1 article 6.1.4 and formula (6.2)

**Project Kulturni center Čatež**

$\sigma_{c,0,d}$	4,5	MPa
$f_{c,0,d}$	14,5	MPa
Unity check	0,31	-

Bending

According to EN 1995-1-1 article 6.1.6 and formula (6.11),(6.12)

$\sigma_{m,y,d}$	0,3	MPa
$k_{h,y}$	1,00	
$f_{m,y,d}$	16,6	MPa
k_m	0,70	

Unity check (6.11) = 0,02 + 0,00 = 0,02 -

Unity check (6.12) = 0,01 + 0,00 = 0,01 -

Combined Bending and Axial Compression

According to EN 1995-1-1 article 6.2.4 and formula (6.19),(6.20)

$f_{c,0,d}$	14,5	MPa
$f_{m,y,d}$	16,6	MPa
k_m	0,70	

Unity check (6.19) = 0,10 + 0,02 + 0,00 = 0,12 -

Unity check (6.20) = 0,10 + 0,01 + 0,00 = 0,11 -

The member satisfies the section check.

...: STABILITY CHECK ...**Columns subjected to compression or combined compression and bending**

According to EN 1995-1-1 article 6.3.2 and formula (6.23),(6.24)

Buckling parameters	yy	zz	
Sway type	sway	non-sway	
System length L	3,600	3,600	m
Buckling factor k	1,00	1,00	
Buckling length L_{cr}	3,600	3,600	m
Slenderness λ	77,942	89,077	-
Relative slenderness λ	1,322	1,510	-
Limit slenderness	0,300	0,300	-
Imperfection β_c	0,200	0,200	-
Reduction factor k_c	0,469	0,375	-

Unity check (6.23) = 0,67 + 0,02 + 0,00 = 0,69 -

Unity check (6.24) = 0,83 + 0,01 + 0,00 = 0,85 -

Beams subjected to bending or combined bending and compression

According to EN 1995-1-1 article 6.3.3 and formula (6.33),(6.35)

LTB Parameters		
Elastic critical moment $M_{y,crit}$	90,77	kNm
Critical bending stress $\sigma_{m,crit}$	152,0	MPa
Relative slenderness $\lambda_{rel,m}$	0,397	-
Reduction factor k_{crit}	1,000	-

Unity check (6.33) = 0,02 -

Unity check (6.35) = 0,00 + 0,83 = 0,83 -

$M_{y,crit}$ Parameters		
$G_{0,05}$	462,5	MPa
LTB length L	3,600	m
L_{eff}/L	0,90	
Effective length L_{eff}	3,240	m
Influence of load position	no influence	

The member satisfies the stability check.

EN 1995-1-1 Code Check

Beam B101	2,960 m	Soha 1 - RECT (140,00; 140,00)	C24 (EN 338)	ULS-Set B (auto)	0,31 -
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**Project Kulturni center Čatež****Combination key**

ULS-Set B (auto) / 1.35*Lastna + 1.35*Stalna + 1.50*Sneg
+ 0.90*Veter tlak

Basic data

Partial safety factor γ_M for Solid timber 1,30

Material data

Bending ($f_{m,k}$)	24,0	MPa
Tension ($f_{t,0,k}$)	14,5	MPa
Tension ($f_{t,90,k}$)	0,4	MPa
Compression ($f_{c,0,k}$)	21,0	MPa
Compression ($f_{c,90,k}$)	2,5	MPa
Shear ($f_{v,k}$)	4,0	MPa
Type of timber	Solid	

The critical check is on position **2,420 m**.

Internal forces

N_{Ed}	62,47	kN
$V_{y,Ed}$	0,00	kN
$V_{z,Ed}$	0,00	kN
T_{Ed}	0,00	kNm
$M_{y,Ed}$	0,00	kNm
$M_{z,Ed}$	0,00	kNm

Modification factor

Service Class	2
Load duration	Short-term
Modification factor k_{mod}	0,90

...: SECTION CHECK ...**Tension parallel to the grain**

According to EN 1995-1-1 article 6.1.2 and formula (6.1)

$\sigma_{t,0,d}$	3,2	MPa
k_h	1,01	
$f_{t,0,d}$	10,2	MPa
Unity check	0,31	-

The member satisfies the section check.

...: STABILITY CHECK ...

The member satisfies the stability check.

EN 1995-1-1 Code Check

Beam B107	2,780 m	Lega 1 - RECT (140,00; 180,00)	C24 (EN 338)	ULS-Set B (auto)	1,20 -
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Combination key

ULS-Set B (auto) / 1.35*Lastna + 1.35*Stalna + 1.50*Sneg
+ 0.90*Veter tlak

Basic data

Partial safety factor γ_M for Solid timber 1,30

Material data

Bending ($f_{m,k}$)	24,0	MPa
Tension ($f_{t,0,k}$)	14,5	MPa
Tension ($f_{t,90,k}$)	0,4	MPa
Compression ($f_{c,0,k}$)	21,0	MPa
Compression ($f_{c,90,k}$)	2,5	MPa
Shear ($f_{v,k}$)	4,0	MPa
Type of timber	Solid	

The critical check is on position **1,390 m**.

**Project Kulturni center Čatež****Internal forces**

N_{Ed}	0,00	kN
$V_{y,Ed}$	0,00	kN
$V_{z,Ed}$	0,00	kN
T_{Ed}	0,00	kNm
$M_{y,Ed}$	15,07	kNm
$M_{z,Ed}$	0,00	kNm

Modification factor

Service Class	2
Load duration	Short-term
Modification factor k_{mod}	0,90

...: SECTION CHECK ...**Bending**

According to EN 1995-1-1 article 6.1.6 and formula (6.11),(6.12)

$\sigma_{m,y,d}$	19,9	MPa
$k_{h,y}$	1,00	
$f_{m,y,d}$	16,6	MPa
k_m	0,70	

Unity check (6.11) = $1,20 + 0,00 = 1,20$ -

Unity check (6.12) = $0,84 + 0,00 = 0,84$ -

The member does NOT satisfy the section check!

...: STABILITY CHECK ...**Beams subjected to bending or combined bending and compression**

According to EN 1995-1-1 article 6.3.3 and formula (6.33),(6.35)

LTB Parameters

Elastic critical moment $M_{y,crit}$	138,80	kNm
Critical bending stress $\sigma_{m,crit}$	183,6	MPa
Relative slenderness $\lambda_{rel,m}$	0,362	-
Reduction factor k_{crit}	1,000	-

Unity check (6.33) = $1,20$ -

 $M_{y,crit}$ Parameters

$G_{0,05}$	462,5	MPa
LTB length L	2,780	m
L_{eff}/L	0,90	
Effective length L_{ef}	2,502	m
Influence of load position	no influence	

The member does NOT satisfy the stability check!

EN 1995-1-1 Code Check

Beam B108	2,780 m	Lega 2 - RECT (200,00; 180,00)	C24 (EN 338)	ULS-Set B (auto)	0,84 -
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Combination key

ULS-Set B (auto) / $1.35 \cdot \text{Lastna} + 1.35 \cdot \text{Stalna} + 1.50 \cdot \text{Sneg} + 0.90 \cdot \text{Veter tlak}$

Basic data

Partial safety factor γ_M for Solid timber	1,30
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Material data

Bending ($f_{m,k}$)	24,0	MPa
Tension ($f_{t,0,k}$)	14,5	MPa
Tension ($f_{t,90,k}$)	0,4	MPa
Compression ($f_{c,0,k}$)	21,0	MPa
Compression ($f_{c,90,k}$)	2,5	MPa
Shear ($f_{v,k}$)	4,0	MPa
Type of timber	Solid	

**Project Kulturni center Čatež**

The critical check is on position **1,390 m**.

Internal forces		
N _{Ed}	0,00	kN
V _{y,Ed}	0,00	kN
V _{z,Ed}	0,00	kN
T _{Ed}	0,00	kNm
M _{y,Ed}	0,00	kNm
M _{z,Ed}	15,13	kNm

Note: Axis definition:

- Principal y axis in this code check is referring to the principal z axis in SCIA Engineer.
- Principal z axis in this code check is referring to the principal y axis in SCIA Engineer.

Modification factor	
Service Class	2
Load duration	Short-term
Modification factor k _{mod}	0,90

...: SECTION CHECK ...**Bending**

According to EN 1995-1-1 article 6.1.6 and formula (6.11),(6.12)

σ _{m,z,d}	14,0	MPa
k _{h,z}	1,00	
f _{m,z,d}	16,6	MPa
k _m	0,70	

Unity check (6.11) = 0,00 + 0,59 = 0,59 -

Unity check (6.12) = 0,00 + 0,84 = 0,84 -

The member satisfies the section check.

...: STABILITY CHECK ...

The member satisfies the stability check.

EN 1995-1-1 Code Check

Beam B109	4,280 m	Opirača 2 - RECT (140,00; 230,00)	C24 (EN 338)	ULS-Set B (auto)	0,97 -
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Combination key	
ULS-Set B (auto) / 1.35*Lastna + 1.35*Stalna + 1.50*Sneg + 0.90*Veter tlak	

Basic data	
Partial safety factor γ _M for Solid timber	1,30

Material data		
Bending (f _{m,k})	24,0	MPa
Tension (f _{t,0,k})	14,5	MPa
Tension (f _{t,90,k})	0,4	MPa
Compression (f _{c,0,k})	21,0	MPa
Compression (f _{c,90,k})	2,5	MPa
Shear (f _{v,k})	4,0	MPa
Type of timber	Solid	

The critical check is on position **2,140 m**.

Internal forces		
N _{Ed}	-123,45	kN
V _{y,Ed}	0,00	kN
V _{z,Ed}	0,00	kN
T _{Ed}	0,00	kNm
M _{y,Ed}	0,34	kNm
M _{z,Ed}	0,00	kNm

Modification factor	
Service Class	2
Load duration	Short-term
Modification factor k _{mod}	0,90

**Project Kulturni center Čatež****...: SECTION CHECK ...****Compression parallel to the grain**

According to EN 1995-1-1 article 6.1.4 and formula (6.2)

$\sigma_{c,0,d}$	3,8	MPa
$f_{c,0,d}$	14,5	MPa
Unity check	0,26	-

Bending

According to EN 1995-1-1 article 6.1.6 and formula (6.11),(6.12)

$\sigma_{m,y,d}$	0,3	MPa
$k_{h,y}$	1,00	
$f_{m,y,d}$	16,6	MPa
k_m	0,70	

Unity check (6.11) = $0,02 + 0,00 = 0,02$ -Unity check (6.12) = $0,01 + 0,00 = 0,01$ -**Combined Bending and Axial Compression**

According to EN 1995-1-1 article 6.2.4 and formula (6.19),(6.20)

$f_{c,0,d}$	14,5	MPa
$f_{m,y,d}$	16,6	MPa
k_m	0,70	

Unity check (6.19) = $0,07 + 0,02 + 0,00 = 0,09$ -Unity check (6.20) = $0,07 + 0,01 + 0,00 = 0,08$ -

The member satisfies the section check.

...: STABILITY CHECK ...**Columns subjected to compression or combined compression and bending**

According to EN 1995-1-1 article 6.3.2 and formula (6.23),(6.24)

Buckling parameters	yy	zz	
Sway type	sway	non-sway	
System length L	4,280	4,280	m
Buckling factor k	1,00	1,00	
Buckling length L_{cr}	4,280	4,280	m
Slenderness λ	64,460	105,899	-
Relative slenderness λ	1,093	1,796	-
Limit slenderness	0,300	0,300	-
Imperfection β_c	0,200	0,200	-
Reduction factor k_c	0,620	0,275	-

Unity check (6.23) = $0,43 + 0,02 + 0,00 = 0,44$ -Unity check (6.24) = $0,96 + 0,01 + 0,00 = 0,97$ -**Beams subjected to bending or combined bending and compression**

According to EN 1995-1-1 article 6.3.3 and formula (6.33),(6.35)

LTB Parameters			
Elastic critical moment $M_{y,crit}$	125,06	kNm	
Critical bending stress $\sigma_{m,crit}$	101,3	MPa	
Relative slenderness $\lambda_{rel,m}$	0,487	-	
Reduction factor k_{crit}	1,000	-	

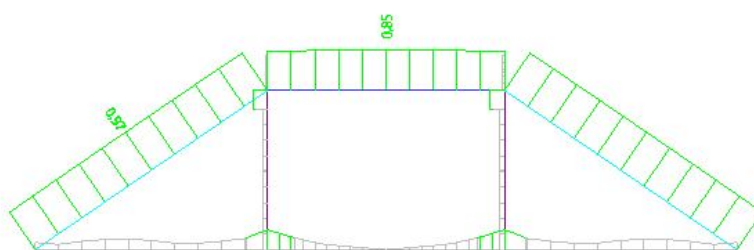
Unity check (6.33) = $0,02$ -Unity check (6.35) = $0,00 + 0,96 = 0,96$ -

$M_{y,crit}$ Parameters		
$G_{0,05}$	462,5	MPa
LTB length L	4,280	m
L_{eff}/L	0,90	
Effective length L_{eff}	3,852	m
Influence of load position	no influence	

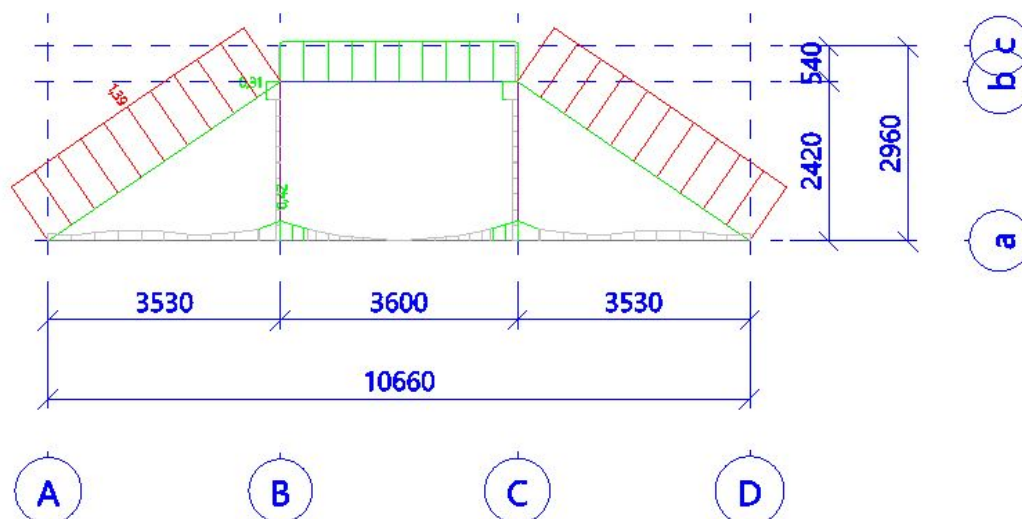
The member satisfies the stability check.

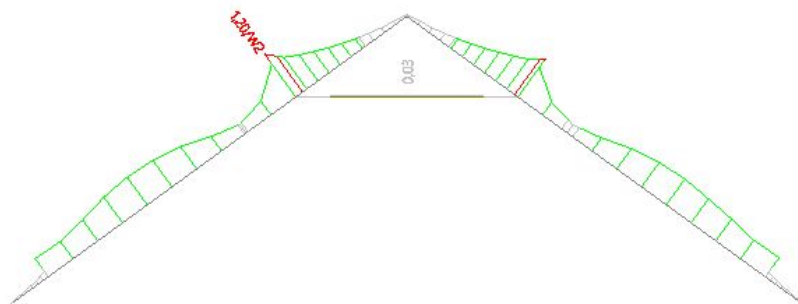
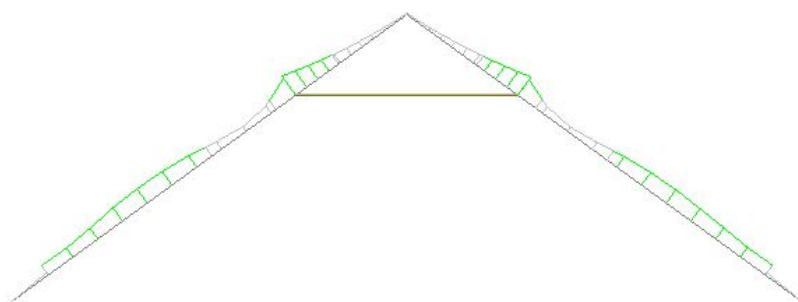


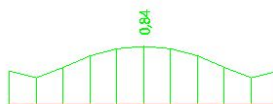
7.2. Unity check



Grid3







8. Dimenzioniranje po MSU

8.1. EC-EN 1995 Timber Check SLS

Values: **UC_{Overall}**

Linear calculation

Combination: SLS-Char (auto)

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

Overall Unity Check

Name	dx [m]	Case	Cross-section	$u_{y,inst}$ [mm]	$u_{z,inst}$ [mm]	$Lim_{u,y,inst}$ [mm]	$Lim_{u,z,inst}$ [mm]	$UC_{u,y,inst}$ [-]	$UC_{u,z,inst}$ [-]	u_c [mm]	UC_o [-]
				$u_{y,net,fin}$ [mm]	$u_{z,net,fin}$ [mm]	$Lim_{u,y,net,fin}$ [mm]	$Lim_{u,z,net,fin}$ [mm]	$UC_{u,y,net,fin}$ [-]	$UC_{u,z,net,fin}$ [-]	Camber $u_{c,c}$ [mm]	
				$u_{y,fin}$ [mm]	$u_{z,fin}$ [mm]	$Lim_{u,y,fin}$ [mm]	$Lim_{u,z,fin}$ [mm]	$UC_{u,y,fin}$ [-]	$UC_{u,z,fin}$ [-]	k_{def} [-]	
B1	3,293-	SLS-Char (auto)/1	Špirovec - RECT (100,00; 140,00)	0,0 0,0 0,0	-25,3 -32,7 -32,7	26,7 32,0 40,0	16,5 19,8 24,8	0,00 0,00 0,00	1,53 1,65 1,32	- - 0,800	
B1	0,000	SLS-Char (auto)/1	Špirovec - RECT (100,00; 140,00)	0,0 0,0 0,0	13,3 17,3 17,3	26,7 32,0 40,0	5,4 6,5 8,1	0,00 0,00 0,00	2,46 2,65 2,12	- - 0,800	
B46	1,800-	SLS-Char (auto)/2	Škarje 2 - 2 Rect (40,00; 150,00; 100,00)	0,0 0,0 0,0	-0,4 -0,8 -0,8	12,0 14,4 18,0	12,0 14,4 18,0	0,00 0,00 0,00	0,04 0,06 0,04	- - 0,800	
B46	0,000	SLS-Char (auto)/2	Škarje 2 - 2 Rect (40,00; 150,00; 100,00)	0,0 0,0 0,0	0,0 0,0 0,0	12,0 14,4 18,0	12,0 14,4 18,0	0,00 0,00 0,00	0,00 0,00 0,00	- - 0,800	
B95	5,330	SLS-Char (auto)/1	Veznik - RECT (160,00; 200,00)	0,0 0,0 0,0	-4,9 -8,2 -8,2	17,8 21,3 26,6	12,0 14,4 18,0	0,00 0,00 0,00	0,41 0,57 0,46	- - 0,800	
B97	1,800+	SLS-Char	Veznik - RECT	0,0	0,0	17,8	11,8	0,00	0,00	-	



Project Kulturni center Čatež

Name	dx [m]	Case	Cross-section	u _{y,inst} [mm]	u _{z,inst} [mm]	Lim _{u,y,inst} [mm]	Lim _{u,z,inst} [mm]	UC _{u,y,inst} [-]	UC _{u,z,inst} [-]	u _c [mm]	UC _o [-]
				u _{y,net,fin} [mm]	u _{z,net,fin} [mm]	Lim _{u,y,net,fin} [mm]	Lim _{u,z,net,fin} [mm]	UC _{u,y,net,fin} [-]	UC _{u,z,net,fin} [-]	Camber _{u,c} [mm]	
				u _{y,fin} [mm]	u _{z,fin} [mm]	Lim _{u,y,fin} [mm]	Lim _{u,z,fin} [mm]	UC _{u,y,fin} [-]	UC _{u,z,fin} [-]	k _{def} [-]	
		(auto)/1	(160,00; 200,00)	0,0 0,0	0,0 0,0	21,3 26,6	14,1 17,6	0,00 0,00	0,00 0,00	- 0,800	
B99	2,140-	SLS-Char (auto)/2	Opirača 1 - RECT (140,00; 160,00)	0,0 0,0 0,0	-0,6 -1,2 -1,2	14,3 17,1 21,4	14,3 17,1 21,4	0,00 0,00 0,00	0,05 0,07 0,05	- - 0,800	
B98	0,000	SLS-Char (auto)/2	Opirača 1 - RECT (140,00; 160,00)	0,0 0,0 0,0	0,0 0,0 0,0	14,3 17,1 21,4	14,3 17,1 21,4	0,00 0,00 0,00	0,00 0,00 0,00	- - 0,800	
B100	1,800-	SLS-Char (auto)/2	Razpirač 1 - RECT (140,00; 160,00)	0,0 0,0 0,0	-0,4 -0,7 -0,7	12,0 14,4 18,0	12,0 14,4 18,0	0,00 0,00 0,00	0,03 0,05 0,04	- - 0,800	
B100	0,000	SLS-Char (auto)/2	Razpirač 1 - RECT (140,00; 160,00)	0,0 0,0 0,0	0,0 0,0 0,0	12,0 14,4 18,0	12,0 14,4 18,0	0,00 0,00 0,00	0,00 0,00 0,00	- - 0,800	
B114	2,960	SLS-Char (auto)/1	Soha 1 - RECT (140,00; 140,00)	0,0 0,0 0,0	-0,1 -0,2 -0,2	9,9 11,8 14,8	3,6 4,3 5,4	0,00 0,00 0,00	0,03 0,04 0,03	- - 0,800	
B115	2,960	SLS-Char (auto)/1	Soha 1 - RECT (140,00; 140,00)	0,0 0,0 0,0	0,1 0,2 0,2	9,9 11,8 14,8	3,6 4,3 5,4	0,00 0,00 0,00	0,03 0,04 0,03	- - 0,800	
B107	1,390-	SLS-Char (auto)/1	Lega 1 - RECT (140,00; 180,00)	0,0 0,0 0,0	-12,0 -15,6 -15,6	9,3 11,1 13,9	9,3 11,1 13,9	0,00 0,00 0,00	1,29 1,40 1,12	- - 0,800	
B107	0,000	SLS-Char (auto)/2	Lega 1 - RECT (140,00; 180,00)	0,0 0,0 0,0	0,0 0,0 0,0	9,3 11,1 13,9	9,3 11,1 13,9	0,00 0,00 0,00	0,00 0,00 0,00	- - 0,800	
B108	1,390-	SLS-Char (auto)/1	Lega 2 - RECT (200,00; 180,00)	0,0 0,0 0,0	-8,4 -11,0 -11,0	9,3 11,1 13,9	9,3 11,1 13,9	0,00 0,00 0,00	0,91 0,99 0,79	- - 0,800	
B108	0,000	SLS-Char (auto)/2	Lega 2 - RECT (200,00; 180,00)	0,0 0,0 0,0	0,0 0,0 0,0	9,3 11,1 13,9	9,3 11,1 13,9	0,00 0,00 0,00	0,00 0,00 0,00	- - 0,800	
B109	2,140-	SLS-Char (auto)/1	Opirača 2 - RECT (140,00; 230,00)	0,0 0,0 0,0	-0,3 -0,6 -0,6	14,3 17,1 21,4	14,3 17,1 21,4	0,00 0,00 0,00	0,02 0,03 0,03	- - 0,800	
B109	0,000	SLS-Char (auto)/2	Opirača 2 - RECT (140,00; 230,00)	0,0 0,0 0,0	0,0 0,0 0,0	14,3 17,1 21,4	14,3 17,1 21,4	0,00 0,00 0,00	0,00 0,00 0,00	- - 0,800	

Name	Combination key
SLS-Char (auto)/1	Lastna + Stalna + Sneg + 0.60*Veter tlak
SLS-Char (auto)/2	Lastna + Stalna



8.2. UC_Overall

Values: $UC_{Overall}$

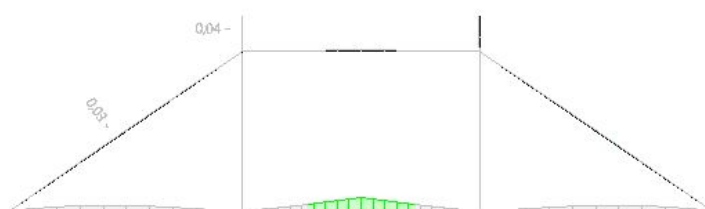
Linear calculation

Combination: SLS-Char (auto)

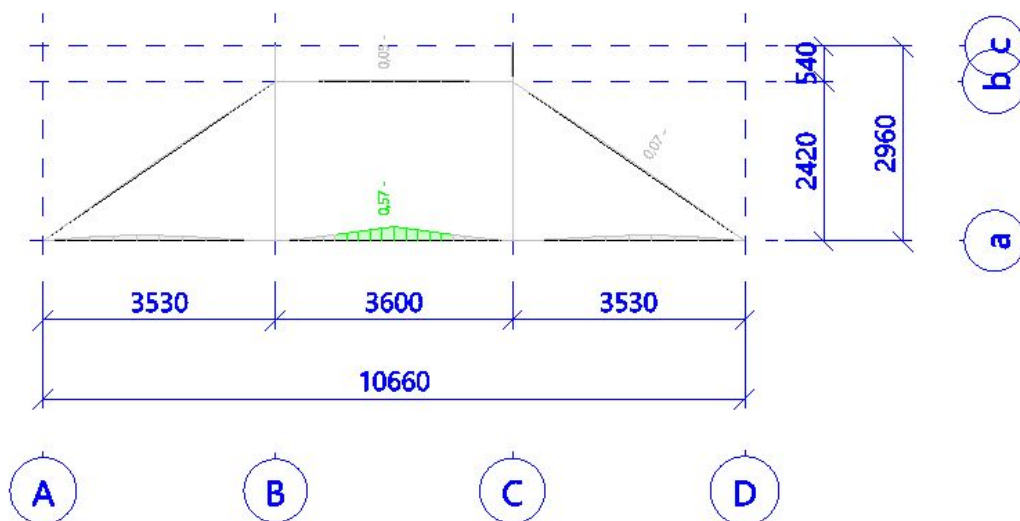
Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All



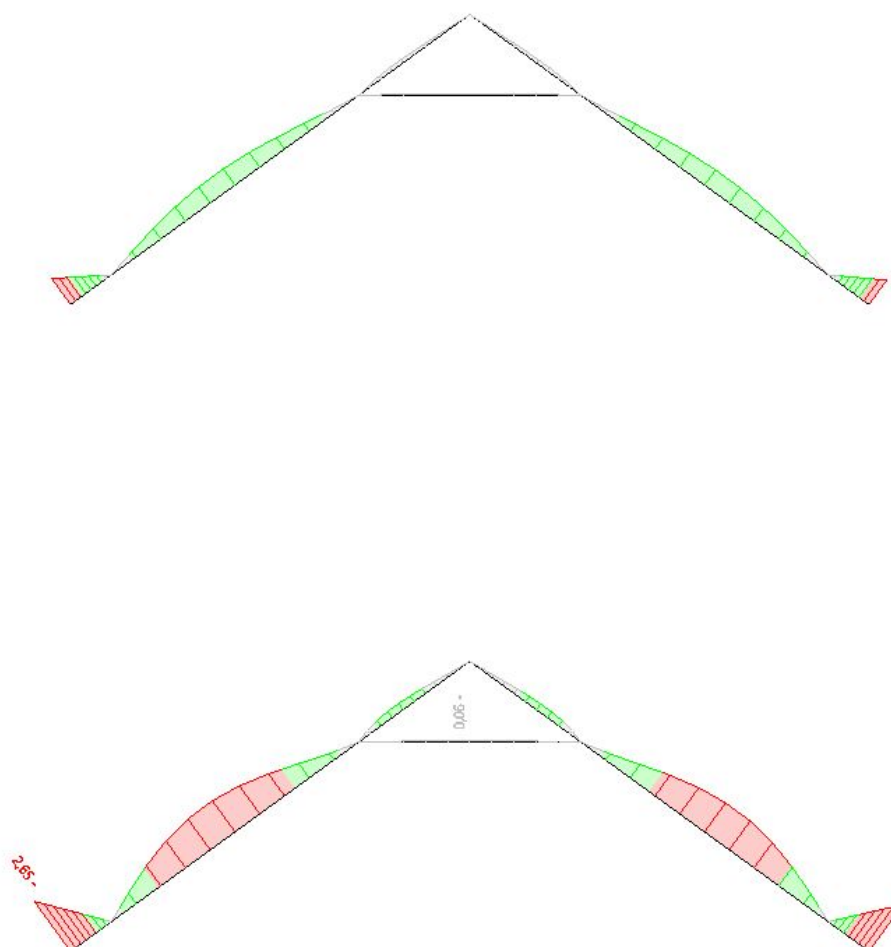
Grid3





Project Kulturni center Čatež

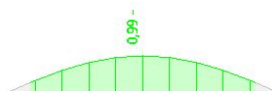
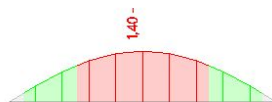
Values: **UC_{Overall}**
Linear calculation
Combination: SLS-Char (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All





Project Kulturni center Čatež

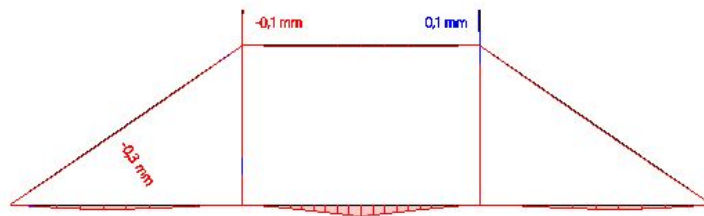
Values: **UC_{Overall}**
 Linear calculation
 Combination: SLS-Char (auto)
 Coordinate system: Principal
 Extreme 1D: Cross-section
 Selection: All



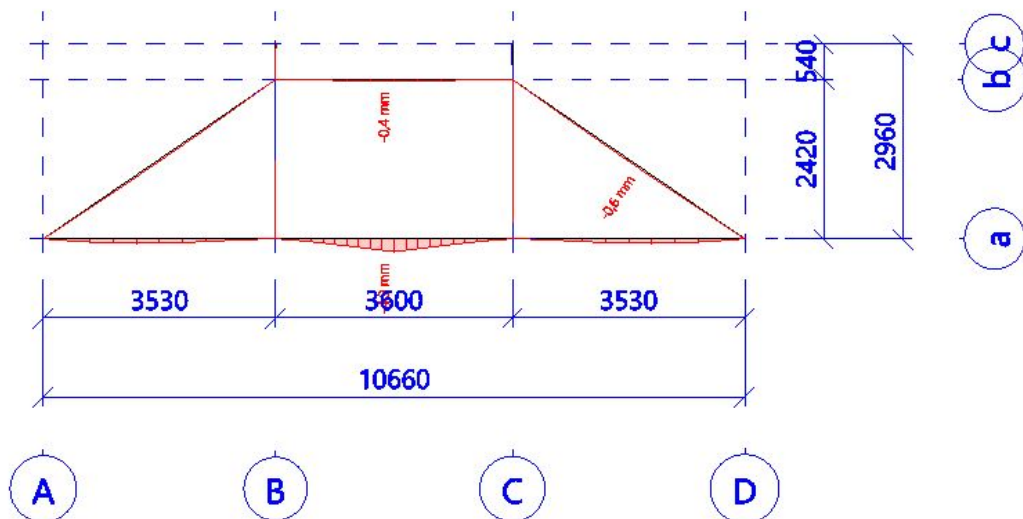


8.3. $u_{z,inst}$

Values: $u_{z,inst}$
Linear calculation
Combination: SLS-Char (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All



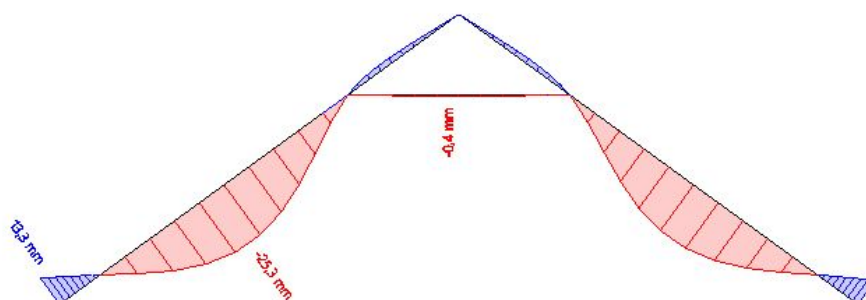
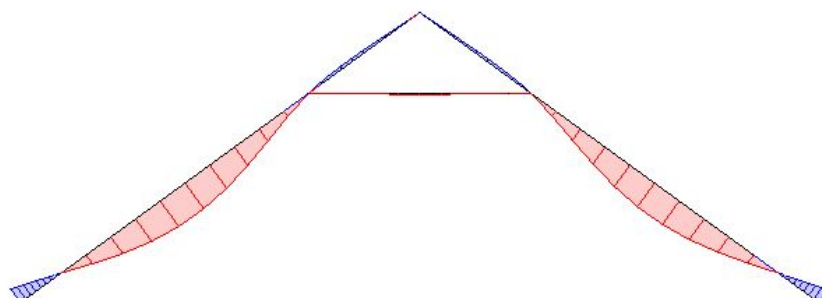
Grid3





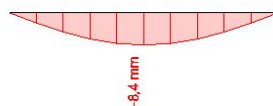
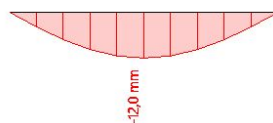
Project Kulturni center Čatež

Values: $U_{z,inst}$
Linear calculation
Combination: SLS-Char (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All



**Project Kulturni center Čatež**

Values: $u_{z,inst}$
Linear calculation
Combination: SLS-Char (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All





8.4. u_z,net,fin

Values: $u_{z,net,fin}$

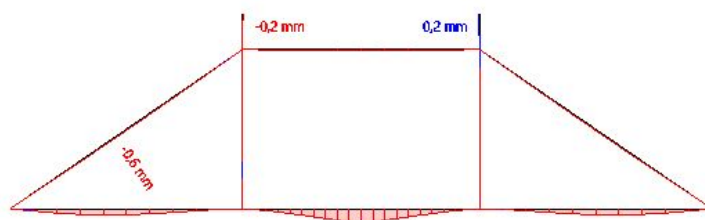
Linear calculation

Combination: SLS-Char (auto)

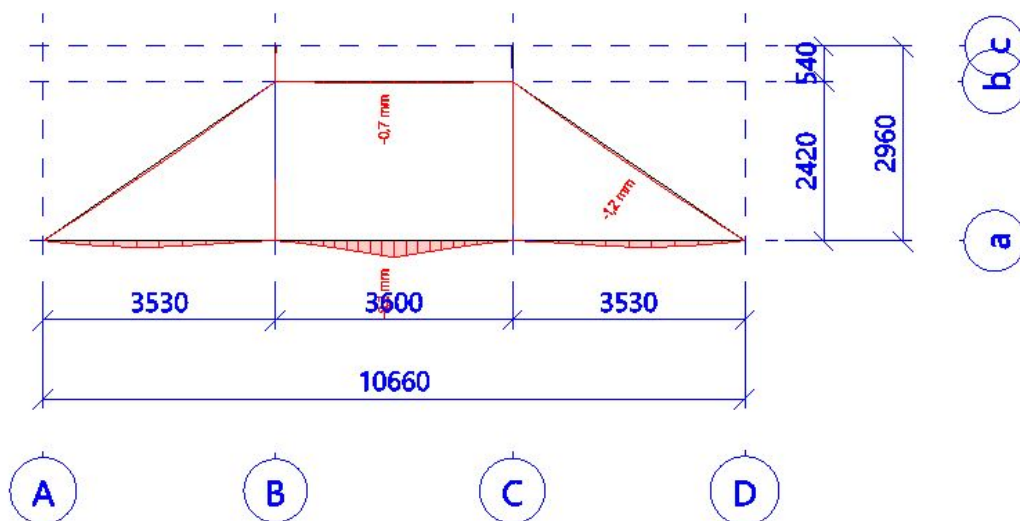
Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

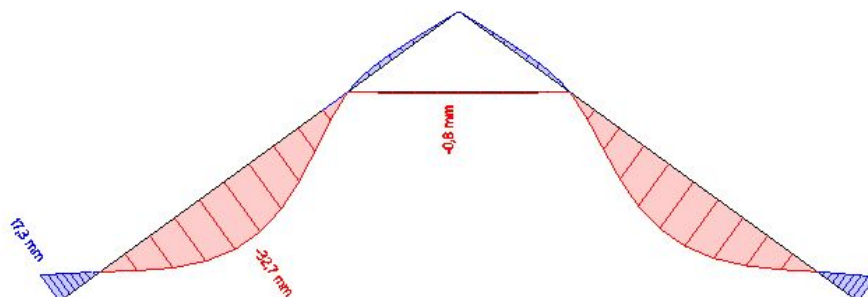
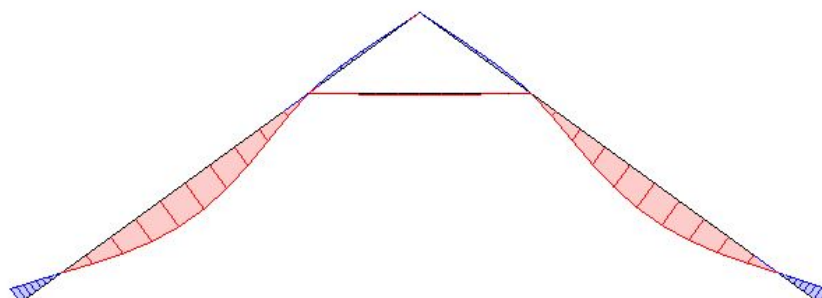


Grid3





Values: Uz,net,fin
Linear calculation
Combination: SLS-Char (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All



**Project Kulturni center Čatež**Values: $u_{z,net,fin}$

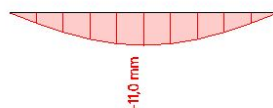
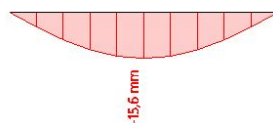
Linear calculation

Combination: SLS-Char (auto)

Coordinate system: Principal

Extreme 1D: Cross-section

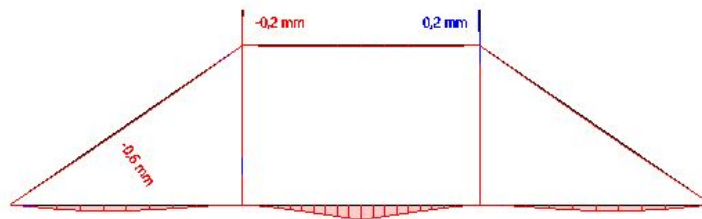
Selection: All



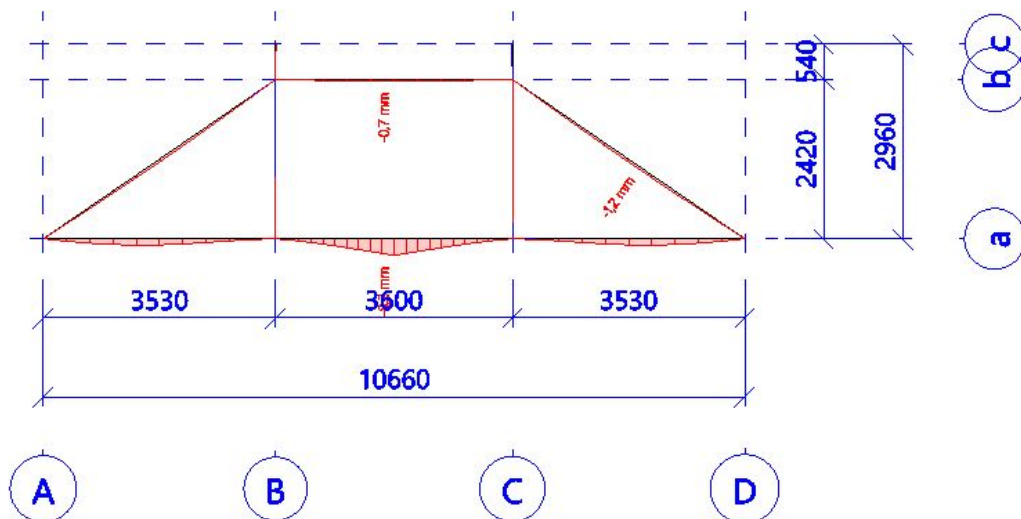


8.5. $u_{z,fin}$

Values: $u_{z,fin}$
Linear calculation
Combination: SLS-Char (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All



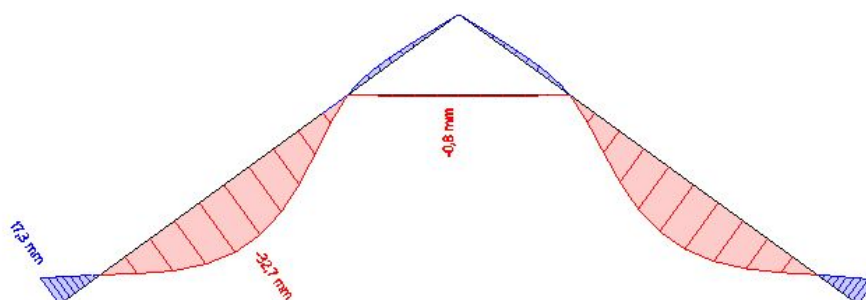
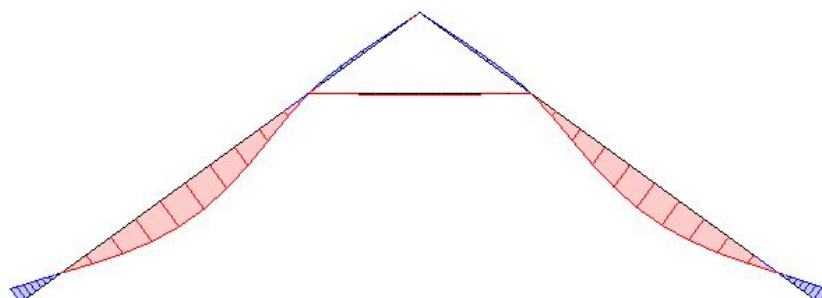
Grid3





Project Kulturni center Čatež

Values: $u_{z,fin}$
Linear calculation
Combination: SLS-Char (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All



**Project Kulturni center Čatež**Values: $u_{z,fin}$

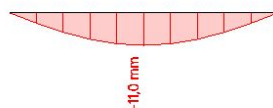
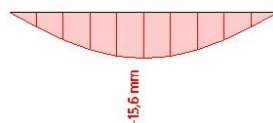
Linear calculation

Combination: SLS-Char (auto)

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All



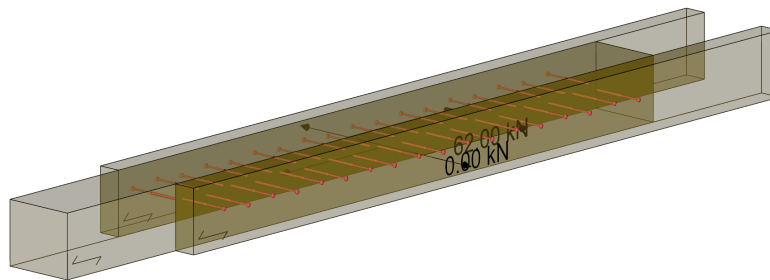


Timber Screw Connections Program version 20260528060731

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Load-bearing capacity of a connection subjected to shear and/or to axial tension

Design specification: DIN EN 1995-1-1:2010 + DIN EN 1995-1-1/NA:2013



Required fasteners

2 x 18 x 1 Hilti S-WWP-S 6,0x120/70 Z Washer head (2363519)

Geometry and material

component 1 (Head of connector)

Material		Solid timber, Softwood
Strength class		C24
Thickness / Height	t_1 / h_1	= 5,0 cm / 14,0 cm
Force-grain angle	α_1	= 0,0°
Density	$\rho_{k,1}$	= 350 kg/m³
Modification factor	$k_{mod,1}$	= 0,90
Holes not pre-drilled		

Minimum fastener spacings (mm)

a_1	a_2	$a_{3,t}$	$a_{3,c}$	$a_{4,t}$	$a_{4,c}$
72	30	90	60	60	60



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component 2

Material Solid timber, Softwood
Strength class C24
Thickness / Height $t_2 / h_2 = 16,0 \text{ cm} / 14,0 \text{ cm}$
Force-grain angle $\alpha_2 = 0,0^\circ$
Density $\rho_{k,2} = 350 \text{ kg/m}^3$
Modification factor $k_{mod,2} = 0,90$
Holes not pre-drilled

Minimum fastener spacings (mm)

a_1	a_2	$a_{3,t}$	$a_{3,c}$	$a_{4,t}$	$a_{4,c}$
72	30	90	60	30	30

Load action

Service class 1
Load-duration class short-term
Design value of shear force $F_{v,Ed} = 62,0 \text{ kN}$
Design value of tensile force $F_{ax,Ed} = 0,0 \text{ kN}$

Fastener

Selected 2 x 18 x 1 Hilti S-WWP-S 6,0x120/70 Z Washer head
item number 2363519
Design specification ETA-22/0772
diameter $d = 6,0 \text{ mm}$
head diameter $d_h = 14,0 \text{ mm}$
Length $l = 120 \text{ mm}$
tensile strength $F_{tens,k} = 13,1 \text{ kN}$
yield moment $M_{y,k} = 10,7 \text{ Nm}$
partial safety factor $\gamma_M = 1,30$

Axial load bearing capacity of one fastener

component		1	2	
effective thread length	$l_{ef,i}$	0	70	mm
Angle fastener axis - grain direction	α_i	90,0	90,0	°
angle factor	$k_{ax,i}$	---	1,00	-
Head pull-through parameter	$f_{head,k,i}$	16,7	---	N/mm ²
...Density - $f_{head,k,i}$	$\rho_{k,i}$	350	---	kg/m ³
...related density - $f_{head,k,i}$	$\rho_{a,i}$	350	---	kg/m ³
Withdrawal parameter	$f_{ax,k,i}$	---	13,0	N/mm ²
...Density - $f_{ax,k,i}$	$\rho_{k,i}$	---	350	kg/m ³
...related density - $f_{ax,k,i}$	$\rho_{a,i}$	---	350	kg/m ³

characteristic headside pull-through strength

$$F_{head,Rk} = f_{head,k,1} \cdot d_h^2 \cdot (\rho_{k,1} / \rho_{a,1})^{0,8} = 3,27 \text{ kN}$$

Characteristic load bearing capacity of the thread

$$F_{ax,Rk,2} = k_{ax,2} \cdot f_{ax,k,2} \cdot d \cdot l_{ef,2} \cdot (\rho_{k,2} / \rho_{a,2})^{0,8} = 5,46 \text{ kN}$$

Characteristic axial load bearing capacity

$$F_{ax,Rk} = \min\{F_{head,Rk}; F_{ax,Rk,2}; F_{tens,k}\} = 3,27 \text{ kN}$$

Design value of axial load bearing capacity

$$F_{ax,Rd} = \min\{k_{mod,1} \cdot F_{head,Rk}; k_{mod,2} \cdot F_{ax,Rk,2}; F_{tens,k}\} / \gamma_M = 2,27 \text{ kN}$$

Shear load bearing capacity per fastener and shear plane

component		1	2	
penetration depth	t_i	50	70	mm
Angle fastener axis - grain direction	α_i	90,0	90,0	°
Density	$\rho_{k,i}$	350	350	kg/m ³
Characteristic embedment strength	$f_{h,k,i}$	16,8	16,8	N/mm ²

Shear load-bearing capacity per shear plane, according to EN 1995-1-1, 8.2

$$\begin{aligned} F_{1,v,Rk} &= 5,03 &= 5,03 \text{ kN} & (8.6 a) \\ F_{2,v,Rk} &= 7,04 &= 7,04 \text{ kN} & (8.6 b) \\ F_{3,v,Rk} &= 2,56 + 0,818 &= 3,38 \text{ kN} & (8.6 c) \\ F_{4,v,Rk} &= 1,98 + 0,818 &= 2,80 \text{ kN} & (8.6 d) \\ F_{5,v,Rk} &= 2,62 + 0,818 &= 3,44 \text{ kN} & (8.6 e) \\ F_{6,v,Rk} &= 1,69 + 0,818 &= 2,51 \text{ kN} & (8.6 f) \end{aligned}$$



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Allowable proportion from the rope effect:

$$\Delta F_{v,Rk} = \min\{F_{1,v,Rk}; 0,25 \cdot F_{ax,Rk}\}$$

$$F_{v,Rk} = \min F_{1,v,Rk}$$

$$F_{v,Rd} = (k_{mod,1} \cdot k_{mod,2})^{0,5} / \gamma_M \cdot F_{v,Rk}$$

$$= 2,51 \text{ kN}$$

$$= 1,73 \text{ kN}$$

Effective number of connectors

Effective number in grain direction per fastener row

component 1			component 2		
Row	n_0	$n_{0,ef}$	Row	n_0	$n_{0,ef}$
1	18	18,0	1	18	18,0

$$n_{v,ef,i} = \sum n_{0,ef} \cdot (90^\circ - \alpha) / 90^\circ + \sum n_0 \cdot \alpha_i / 90^\circ$$

$$\text{component 1: } n_{v,ef,1} = 18,0$$

$$\text{component 2: } n_{v,ef,2} = 18,0$$

$$n_{v,ef} = \min \{n_{v,ef,1}; n_{v,ef,2}\} = 18,0$$

$$n_{ax,ef} = 13,5$$

Verification

$$F_{v,Ed} / (2 \cdot n_{v,ef} \cdot F_{v,Rd})$$

$$F_{ax,Ed} / (n_{ax,ef} \cdot F_{ax,Rd})$$

$$(F_{v,Ed} / (2 \cdot n_{v,ef} \cdot F_{v,Rd}))^2 + (F_{ax,Ed} / (n_{ax,ef} \cdot F_{ax,Rd}))^2$$

$$= 62,0 / 62,4$$

$$= 0,0 / 30,6$$

$$= 0,99^2 + 0,00^2$$

$$= 0,99$$

$$= 0,00$$

$$= 0,99$$

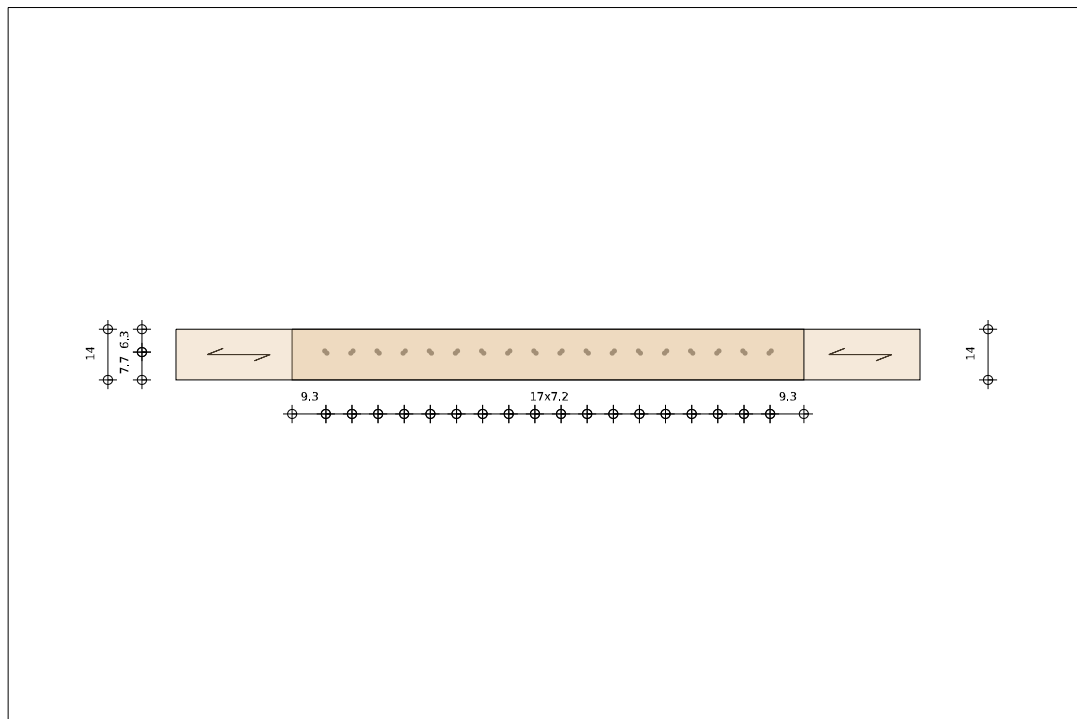
$$\leq 1,0$$

$$\leq 1,0$$

$$\leq 1,0$$

Fastening meets the design criteria!

Drawings



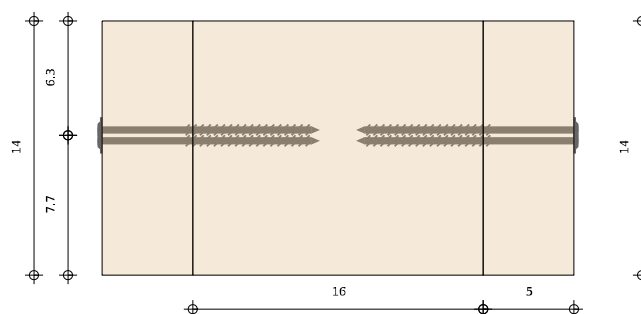
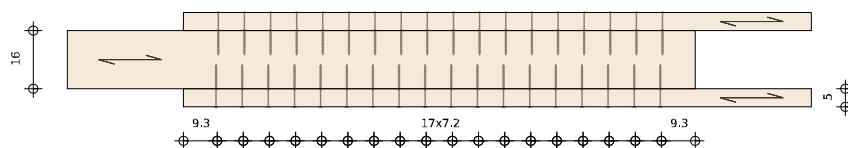


Timber Screw Connections Program version 20260528060731

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**Timber Screw Connections** Program version 20260528060731Project name:
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Page:16.06.2026
5 of 5**Notes**

1. The design basis of the Hilti Timber Screw Connections software is the assessment ETA-22/0772.
2. The design is based on the program settings according to the regulations of EN 1991-1-1/3/4 and EN 1995-1-1 (European standards in connection with the respective national annex)
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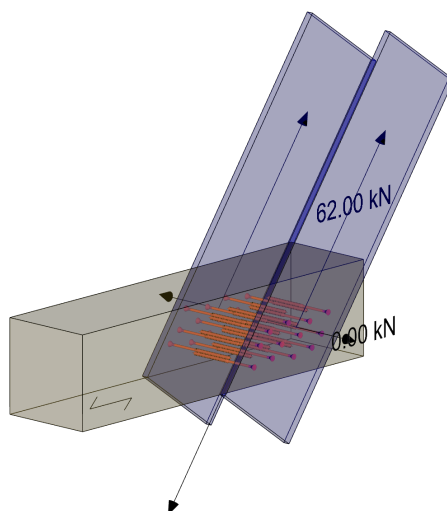
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Load-bearing capacity of a connection subjected to shear and/or to axial tension

Design specification: DIN EN 1995-1-1:2010 + DIN EN 1995-1-1/NA:2013



Required fasteners

2 x 3 x 4 Hilti S-WCP-S 6,0x120/70 Z Countersunk head (2363629)

Geometry and material

component 1 - steel mounting plate (Head of connector)

Steel grade		S 235
Thickness / Height	t_1 / h_1	= 1,0 cm / 16,0 cm
Yield strength	f_{yk}	= 235 N/mm ²

component 2

Material		Solid timber, Softwood
Strength class		C24
Thickness / Height	t_2 / h_2	= 14,0 cm / 14,0 cm
Force-grain angle	α_2	= 54,0°
Density	$\rho_{k,2}$	= 350 kg/m ³
Modification factor	$k_{mod,2}$	= 0,90
Holes not pre-drilled		

Minimum fastener spacings (mm)

a_1	a_2	$a_{3,t}$	$a_{3,c}$	$a_{4,t}$	$a_{4,c}$
38	21	78	60	54	30



Timber Screw Connections Program version 20260528060731

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Load action

Service class

Load-duration class

Design value of shear force

Design value of tensile force

 $F_{v,Ed}$
 $F_{ax,Ed}$ =
=1
short-term
62,0 kN
0,0 kN

Fastener

Selected

item number

Design specification

diameter

head diameter

Length

tensile strength

yield moment

partial safety factor

2 x 3 x 4 Hilti S-WCP-S 6,0x120/70 Z Countersunk head

2363629

ETA-22/0772

 $d = 6,0$ mm $d_h = 12,0$ mm $l = 120$ mm $F_{tens,k} = 13,1$ kN $M_{y,k} = 10,7$ Nm $\gamma_M = 1,30$

Axial load bearing capacity of one fastener

component		1	2	
effective thread length	$l_{ef,i}$	---	70	mm
Angle fastener axis - grain direction	α_i	---	90,0	°
angle factor	$k_{ax,i}$	---	1,00	-
Withdrawal parameter	$f_{ax,k,i}$	---	13,0	N/mm ²
...Density - $\rho_{k,i}$	$\rho_{k,i}$	---	350	kg/m ³
...related density - $\rho_{a,i}$	$\rho_{a,i}$	---	350	kg/m ³

characteristic headside pull-through strength

$$F_{head,Rk1} = 3 \cdot f_{c,90,k,1} \cdot \pi / 4 \cdot (d_{ef}^2 - d_i^2) = 84,8 \text{ kN}$$

Characteristic load bearing capacity of the thread

$$F_{ax,Rk,2} = k_{ax,2} \cdot f_{ax,k,2} \cdot d \cdot l_{ef,2} \cdot (\rho_{k,2} / \rho_{a,2})^{0,8} = 5,46 \text{ kN}$$

Characteristic axial load bearing capacity

$$F_{ax,Rk} = \min\{F_{head,Rk1}; F_{ax,Rk,2}; F_{tens,k}\} = 5,46 \text{ kN}$$

Design value of axial load bearing capacity

$$F_{ax,Rd} = \min\{k_{mod,1} \cdot F_{head,Rk1}; k_{mod,2} \cdot F_{ax,Rk,2}; F_{tens,k}\} / \gamma_M = 3,78 \text{ kN}$$

Shear load bearing capacity per fastener and shear plane

component		1	2	
penetration depth	t_i	10	110	mm
Angle fastener axis - grain direction	α_i	---	90,0	°
Density	$\rho_{k,i}$	---	350	kg/m ³
Characteristic embedment strength	$f_{h,k,i}$	---	16,8	N/mm ²

Shear load-bearing capacity per shear plane, according to EN 1995-1-1, 8.2

$$F_{1,v,Rk} = 11,1 = 11,1 \text{ kN} \quad (8.10 \text{ c})$$

$$F_{2,v,Rk} = 4,72 + 1,36 = 6,09 \text{ kN} \quad (8.10 \text{ d})$$

$$F_{3,v,Rk} = 2,39 + 1,36 = 3,75 \text{ kN} \quad (8.10 \text{ e})$$

Allowable proportion from the rope effect:

$$\Delta F_{v,Rk} = \min\{F_{1,v,Rk}; 0,25 \cdot F_{ax,Rk}\}$$

$$F_{v,Rk} = \min\{F_{1,v,Rk}; \Delta F_{v,Rk}\} = 3,75 \text{ kN}$$

$$F_{v,Rd} = k_{mod,2} / \gamma_M \cdot F_{v,Rk} = 2,60 \text{ kN}$$

Effective number of connectors

Effective number in grain direction per fastener row

component 2		
Row	n_0	$n_{0,ef}$
1	4	3,94
2	4	3,94
3	4	3,94

$$n_{v,ef,i} = \sum n_{0,ef} \cdot (90^\circ - \alpha) / 90^\circ + \sum n_0 \cdot \alpha_i / 90^\circ$$

component 2: $n_{v,ef,2} = 11,9$

$$n_{v,ef} = \min\{n_{v,ef,2}\} = 11,9$$

$$n_{ax,ef} = 9,36$$

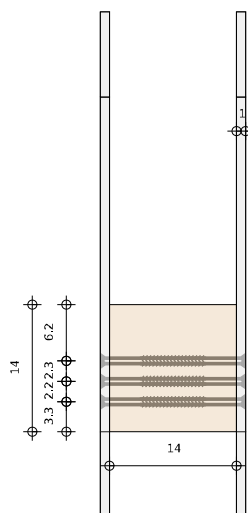
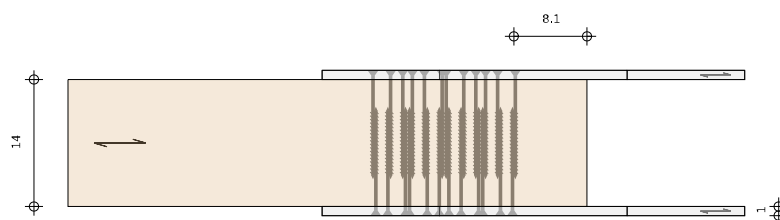


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**Timber Screw Connections** Program version 20260528060731Project name:
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5 of 5**Notes**

1. The design basis of the Hilti Timber Screw Connections software is the assessment ETA-22/0772.
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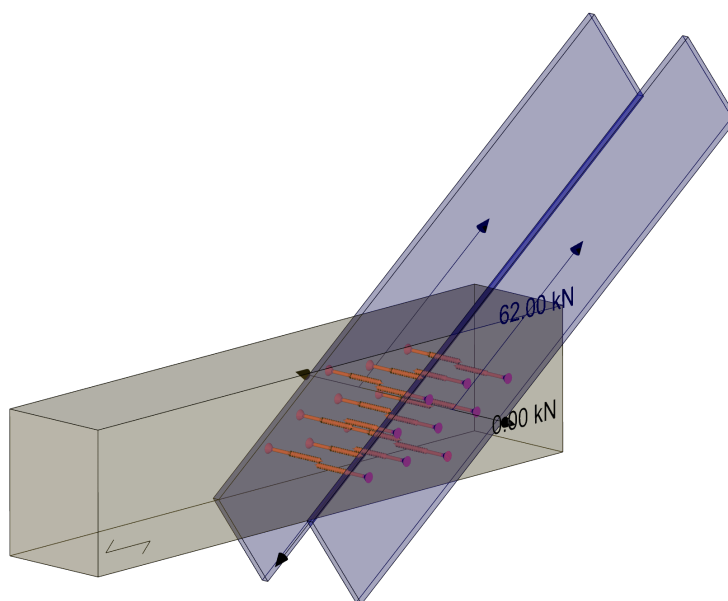


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Load-bearing capacity of a connection subjected to shear and/or to axial tension

Design specification: DIN EN 1995-1-1:2010 + DIN EN 1995-1-1/NA:2013



Required fasteners

2 x 3 x 3 Hilti S-WCP-S 8,0x100/60 Z Countersunk head (2363637)

Geometry and material

component 1 - steel mounting plate (Head of connector)

Steel grade		S 235
Thickness / Height	t_1 / h_1	= 1,0 cm / 16,0 cm
Yield strength	f_{yk}	= 235 N/mm ²

component 2

Material		Solid timber, Softwood
Strength class		C24
Thickness / Height	t_2 / h_2	= 16,0 cm / 20,0 cm
Force-grain angle	α_2	= 36,0°
Density	$\rho_{k,2}$	= 350 kg/m ³
Modification factor	$k_{mod,2}$	= 0,90
Holes not pre-drilled		

Minimum fastener spacings (mm)

a_1	a_2	$a_{3,t}$	$a_{3,c}$	$a_{4,t}$	$a_{4,c}$
60	28	112	80	64	40



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Load action

Service class

Load-duration class

Design value of shear force

Design value of tensile force

1
short-term
 $F_{v,Ed} = 62,0 \text{ kN}$
 $F_{ax,Ed} = 0,0 \text{ kN}$

Fastener

Selected

item number

Design specification

diameter

head diameter

Length

tensile strength

yield moment

partial safety factor

2 x 3 x 3 Hilti S-WCP-S 8,0x100/60 Z Countersunk head

2363637

ETA-22/0772

 $d = 8,0 \text{ mm}$ $d_h = 15,0 \text{ mm}$ $l = 100 \text{ mm}$ $F_{tens,k} = 23,3 \text{ kN}$ $M_{y,k} = 22,6 \text{ Nm}$ $\gamma_M = 1,30$

Axial load bearing capacity of one fastener

component		1	2	
effective thread length	$l_{ef,i}$	---	60	mm
Angle fastener axis - grain direction	α_i	---	90,0	°
angle factor	$k_{ax,i}$	---	1,00	-
Withdrawal parameter	$f_{ax,k,i}$	---	10,9	N/mm ²
...Density - $f_{ax,k,i}$	$\rho_{k,i}$	---	350	kg/m ³
...related density - $f_{ax,k,i}$	$\rho_{a,i}$	---	350	kg/m ³

characteristic headside pull-through strength

$$F_{head,Rk1} = 3 \cdot f_{c,90,k,1} \cdot \pi / 4 \cdot (d_{ef}^2 - d_i^2) = 84,8 \text{ kN}$$

Characteristic load bearing capacity of the thread

$$F_{ax,Rk,2} = k_{ax,2} \cdot f_{ax,k,2} \cdot d \cdot l_{ef,2} \cdot (\rho_{k,2} / \rho_{a,2})^{0,8} = 5,23 \text{ kN}$$

Characteristic axial load bearing capacity

$$F_{ax,Rk} = \min\{F_{head,Rk}, F_{ax,Rk,2}, F_{tens,k}\} = 5,23 \text{ kN}$$

Design value of axial load bearing capacity

$$F_{ax,Rd} = \min\{k_{mod,1} \cdot F_{head,Rk}, k_{mod,2} \cdot F_{ax,Rk,2}, F_{tens,k}\} / \gamma_M = 3,62 \text{ kN}$$

Shear load bearing capacity per fastener and shear plane

component		1	2	
penetration depth	t_i	10	90	mm
Angle fastener axis - grain direction	α_i	---	90,0	°
Density	$\rho_{k,i}$	---	350	kg/m ³
Characteristic embedment strength	$f_{h,k,i}$	---	15,4	N/mm ²

Shear load-bearing capacity per shear plane, according to EN 1995-1-1, 8.2

$$F_{1,v,Rk} = 11,1 = 11,1 \text{ kN} \quad (8.10 \text{ c})$$

$$F_{2,v,Rk} = 4,94 + 1,31 = 6,25 \text{ kN} \quad (8.10 \text{ d})$$

$$F_{3,v,Rk} = 3,84 + 1,31 = 5,14 \text{ kN} \quad (8.10 \text{ e})$$

Allowable proportion from the rope effect:

$$\Delta F_{v,Rk} = \min\{F_{1,v,Rk}, 0,25 \cdot F_{ax,Rk}\}$$

$$F_{v,Rk} = \min\{F_{1,v,Rk}, F_{2,v,Rk}, F_{3,v,Rk}\} = 5,14 \text{ kN}$$

$$F_{v,Rd} = k_{mod,2} / \gamma_M \cdot F_{v,Rk} = 3,56 \text{ kN}$$

Effective number of connectors

Effective number in grain direction per fastener row

component 2		
Row	n_0	$n_{0,ef}$
1	3	3,00
2	3	3,00
3	3	3,00

$$n_{v,ef,i} = \sum n_{0,ef} \cdot (90^\circ - \alpha) / 90^\circ + \sum n_0 \cdot \alpha_i / 90^\circ$$

component 2: $n_{v,ef,2} = 9,00$

$$n_{v,ef} = \min\{n_{v,ef,2}\} = 9,00$$

$$n_{ax,ef} = 7,22$$



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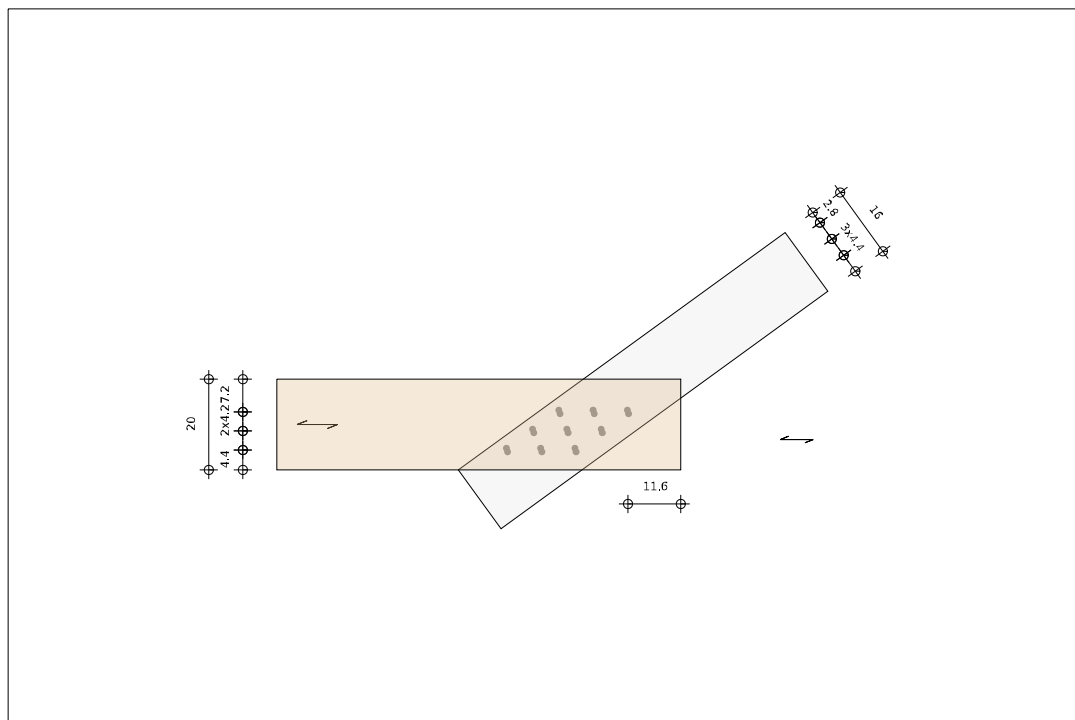
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Verification

$$\begin{array}{llll}
 F_{v,Ed} / (2 \cdot n_{v,ef} \cdot F_{v,Rd}) & = 62,0 / 64,1 & = 0,97 & \leq 1,0 \\
 F_{ax,Ed} / (n_{ax,ef} \cdot F_{ax,Rd}) & = 0,0 / 26,2 & = 0,00 & \leq 1,0 \\
 (F_{v,Ed} / (2 \cdot n_{v,ef} \cdot F_{v,Rd}))^2 + (F_{ax,Ed} / (n_{ax,ef} \cdot F_{ax,Rd}))^2 & = 0,97^2 + 0,00^2 & = 0,94 & \leq 1,0
 \end{array}$$

Fastening meets the design criteria!

Drawings



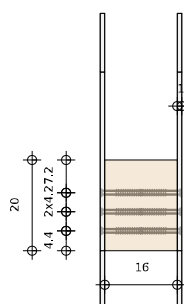
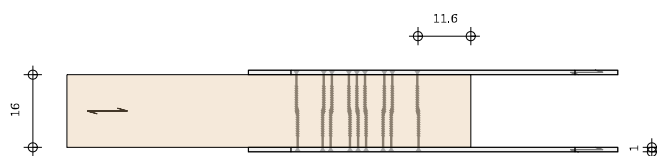


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**Timber Screw Connections** Program version 20260528060731Project name:
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5 of 5**Notes**

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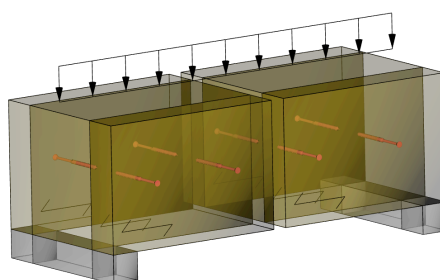


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Verification of load-bearing capacity of laterally reinforced beam

Design specification: DIN EN 1995-1-1:2010 + DIN EN 1995-1-1/NA:2013



Required fasteners

2 x 7 Hilti S-WCP-S 6,0x100/60 Z Countersunk head (2363627)

Geometry and material

System length L = 2,78 m

Partial cross section: Existing component

Material	Solid timber, Softwood		
Strength class	C24		
Cross section width	b	=	14,0 cm
Cross section height	h	=	18,0 cm
Force-grain angle	α	=	90,0 °
Characteristic bending strength	$f_{m,k}$	=	24,0 N/mm²
Characteristic shear strength	$f_{v,k}$	=	4,00 N/mm²
Characteristic density	ρ_k	=	350 kg/m³
partial safety factor	γ_M	=	1,30
Holes not pre-drilled			
Minimum fastener spacings			
Spacing within one row parallel to grain	a_1	=	3,0 cm
Distance from unloaded edge parallel to grain	$a_{3,c}$	=	6,0 cm
Spacing within one row perpendicular to grain	a_2	=	3,0 cm
Distance from loaded edge perpendicular to grain	$a_{4,t}$	=	6,0 cm

**Timber Screw Connections** Program version 20260601084222Project name:
Position:Date:
Page:16.06.2026
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Material	Solid timber, Softwood		
Strength class	C24		
Cross section width	b	=	5,0 cm
Cross section height	h	=	18,0 cm
Force-grain angle	α	=	90,0 °
Characteristic bending strength	$f_{m,k}$	=	24,0 N/mm ²
Characteristic shear strength	$f_{v,k}$	=	4,00 N/mm ²
Characteristic density	ρ_k	=	350 kg/m ³
partial safety factor	γ_M	=	1,30
Holes not pre-drilled			
Minimum fastener spacings			
Spacing within one row parallel to grain	a_1	=	3,0 cm
Distance from unloaded edge parallel to grain	$a_{3,c}$	=	6,0 cm
Spacing within one row perpendicular to grain	a_2	=	3,0 cm
Distance from loaded edge perpendicular to grain	$a_{4,t}$	=	6,0 cm

Fastener

Selected	Hilti S-WCP-S 6,0x100/60 Z Countersunk head		
item number	2363627		
Design specification	ETA-22/0772		
diameter	d	=	6,0 mm
head diameter	d_h	=	12,0 mm
Length	l	=	100 mm
tensile strength	$F_{tens,k}$	=	13,1 kN
yield moment	$M_{y,k}$	=	10,7 Nm
Screw-in angle	α	=	90°
With non-predrilled holes			
Arrangement of screws	screws single		
Number of connector groups	n_{Grp}	=	7
Number of connectors per group	n_{Con}	=	1
Effective distance of the first fastener group from the edge	a_{Con}	=	19,9 cm
partial safety factor	γ_M	=	1,30

Axial load bearing capacity of one fastener

component		1	2	
effective thread length	$l_{ef,i}$	0	50	mm
Angle fastener axis - grain direction	α_i	90,0	90,0	°
angle factor	$k_{ax,i}$	---	1,00	-
Head pull-through parameter	$f_{head,k,i}$	14,6	---	N/mm ²
...Density - $f_{head,k,i}$	$\rho_{k,i}$	350	---	kg/m ³
...related density - $f_{head,k,i}$	$\rho_{a,i}$	350	---	kg/m ³
Withdrawal parameter	$f_{ax,k,i}$	---	13,0	N/mm ²
...Density - $f_{ax,k,i}$	$\rho_{k,i}$	---	350	kg/m ³
...related density - $f_{ax,k,i}$	$\rho_{a,i}$	---	350	kg/m ³

characteristic headside pull-through strength

$$F_{head,Rk} = f_{head,k,1} \cdot d_h^2 \cdot (\rho_{k,1} / \rho_{a,1})^{0,8} = 2,10 \text{ kN}$$

Characteristic load bearing capacity of the thread

$$F_{ax,Rk,2} = k_{ax,2} \cdot f_{ax,k,2} \cdot d \cdot l_{ef,2} \cdot (\rho_{k,2} / \rho_{a,2})^{0,8} = 3,90 \text{ kN}$$

Characteristic axial load bearing capacity

$$F_{ax,Rk} = \min\{F_{head,Rk}; F_{ax,Rk,2}; F_{tens,k}\} = 2,10 \text{ kN}$$

Design value of axial load bearing capacity

$$F_{ax,Rd} = \min\{k_{mod,1} \cdot F_{head,Rk}; k_{mod,2} \cdot F_{ax,Rk,2}; F_{tens,k}\} / \gamma_M$$

Shear load bearing capacity per fastener and shear plane

component		1	2	
penetration depth	t_i	50	50	mm
Angle fastener axis - grain direction	α_i	90,0	90,0	°
Density	$\rho_{k,i}$	350	350	kg/m ³
Characteristic embedment strength	$f_{h,k,i}$	16,8	16,8	N/mm ²



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Shear load-bearing capacity per shear plane, according to EN 1995-1-1, 8.2

$F_{1,v,Rk}$	= 5,03	=	5,03 kN	(8.6 a)
$F_{2,v,Rk}$	= 5,03	=	5,03 kN	(8.6 b)
$F_{3,v,Rk}$	= 2,08 + 0,526	=	2,61 kN	(8.6 c)
$F_{4,v,Rk}$	= 1,98 + 0,526	=	2,50 kN	(8.6 d)
$F_{5,v,Rk}$	= 1,98 + 0,526	=	2,50 kN	(8.6 e)
$F_{6,v,Rk}$	= 1,69 + 0,526	=	2,21 kN	(8.6 f)

Allowable proportion from the rope effect:

$$\Delta F_{v,Rk} = \min\{F_{1,v,Rk}; 0,25 \cdot F_{ax,Rk}\}$$

$$F_{v,Rk} = \min F_{1,v,Rk}$$

$$F_{v,Rd} = (k_{mod,1} \cdot k_{mod,2})^{0,5} / \gamma_M \cdot F_{v,Rk} = 2,21 \text{ kN}$$

Impact (on existing component)

LF0: Permanent actions

LF1: Variable actions 1 (short-term)

LF2: Variable actions 2 (short-term)

Service class 1

$$g_k = 4,05 \text{ kN/m}$$

$$p_1 = 5,75 \text{ kN/m}$$

$$p_2 = 1,50 \text{ kN/m}$$

load combination	load-duration class	combination
0	permanent	1,00 · LF0
1	short-term	1,00 · LF0 + 1,50 · LF2
2	short-term	1,00 · LF0 + 0,90 · LF2
3	short-term	1,00 · LF0 + 1,50 · LF1
4	short-term	1,00 · LF0 + 1,50 · LF1 + 1,50 · LF2
5	short-term	1,00 · LF0 + 1,50 · LF1 + 0,90 · LF2
6	short-term	1,00 · LF0 + 0,75 · LF1
7	short-term	1,00 · LF0 + 0,75 · LF1 + 1,50 · LF2
8	short-term	1,00 · LF0 + 0,75 · LF1 + 0,90 · LF2
9	permanent	1,35 · LF0
10	short-term	1,35 · LF0 + 1,50 · LF2
11	short-term	1,35 · LF0 + 0,90 · LF2
12	short-term	1,35 · LF0 + 1,50 · LF1
13	short-term	1,35 · LF0 + 1,50 · LF1 + 1,50 · LF2
14	short-term	1,35 · LF0 + 1,50 · LF1 + 0,90 · LF2
15	short-term	1,35 · LF0 + 0,75 · LF1
16	short-term	1,35 · LF0 + 0,75 · LF1 + 1,50 · LF2
17	short-term	1,35 · LF0 + 0,75 · LF1 + 0,90 · LF2

Cross section values

Partial cross section	Reinforcement	Existing component	
Cross section surface A_y	90,0	252	cm ²
Moment of resistance W_y	270	756	cm ³
Moment of inertia I_y	2430	6800	cm ⁴
Elastic modulus $E_{0,mean}$	11000	11000	N/mm ²

Verification of load bearing capacity

load combination 13

Verification of partial cross sections

Partial cross section	Reinforcement	Existing component	
k_{mod}	0,90	0,90	
Load components $q_{i,d} = q_d \cdot E_i \cdot I_i / (E_1 \cdot I_1 + E_2 \cdot I_2)$	3,40	9,53	kN/m
Design moment $M_d = q_{i,d} \cdot L^2 / 8$	3,29	9,21	kNm
Design value of shear force $V_d = q_{i,d} \cdot L / 2$	4,73	13,3	kN
Bending stress $\sigma_{m,d} = M_d / W_y$	12,2	12,2	N/mm ²
$\sigma_{m,d} / f_{m,d}$	0,73	0,73	
Shear stress $\tau_{z,d} = 1,5 \cdot V_d / (k_{\alpha} \cdot b \cdot h)$	1,58	1,58	N/mm ²
$\tau_{z,d} / f_{v,d}$	0,57	0,57	

**Timber Screw Connections** Program version 20260601084222Project name:
Position:Date:
Page:16.06.2026
4 of 5**Verification of connectors**

$$F_{v,Rd} = k_{mod} \cdot F_{v,Rk} / \gamma_M = 1,53 \text{ kN}$$

$$F_{90,Ed} = q_{1,d} \cdot e_{Con} / n_{Con} = 1,35 \text{ kN}$$

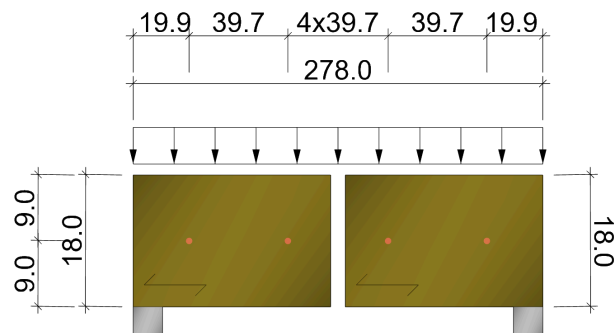
$$F_{90,Ed} / F_{v,Rd} = 0,88$$

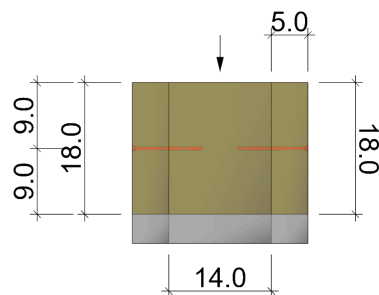
Verification of serviceability

$$w_{inst} = 0,685 \text{ cm} \leq 0,927 \text{ cm} = L / 300$$

$$w_{net,fin} = 0,393 \text{ cm} \leq 0,927 \text{ cm} = L / 300$$

$$w_{fin} = 0,832 \text{ cm} \leq 1,39 \text{ cm} = L / 200$$

Fastening meets the design criteria!

**Timber Screw Connections** Program version 20260601084222Project name:
Position:Date:
Page:16.06.2026
5 of 5**Notes**

1. The design basis of the Hilti Timber Screw Connections software is the assessment ETA-22/0772.
2. The design is based on the program settings according to the regulations of EN 1991-1-1/3/4 and EN 1995-1-1 (European standards in connection with the respectiv national annex)
3. Unless otherwise stated, the screws may be screwed in without pre-drilling the components.
4. The structural design, the arrangement, the number of screws and other contents refer to the use of Hilti timber screws which are calculated in the Hilti Timber Screw Connections software.
5. All calculations must be checked and released by the responsible structural engineer before execution.

IMPORTANT

The stated dimensions in the output file calculated with the Hilti Timber Screws Connections software must be checked for correctness.

The recommended values, type and number of screws are just considered as planning aid. The correctness must be checked by an authorized planer and/or architect.

The respectively valid user agreement, privacy statement and the terms and conditions form the basis and accepted by the user before starting the Hilti Timber Screw Connections software.

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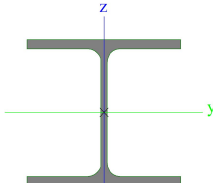


2. Materiali

Steel EC3

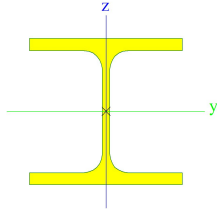
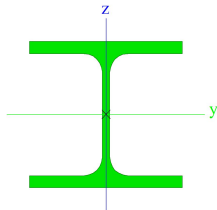
Name	ρ [kg/m ³]	E_{mod} [MPa]	μ [-]	Lower limit [mm]	Upper limit [mm]	F_y [MPa]	F_u [MPa]	Colour
		G_{mod} [MPa]	α [m/mK]					
S 355	7850,00	2,1000e+05	0,30	0,00	40,00	355,0	490,0	
		8,0769e+04	0,01e-003	40,00	80,00	335,0	470,0	

3. Prerezi

Steber 1		
Type	HEA140	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	3,1400e+03	
A _y [mm ²], A _z [mm ²]	2,2882e+03	7,8192e+02
A _L [m ² /m], A _D [m ² /m]	7,9400e-01	7,9430e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	70,00	66,50
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	1,0300e+07	3,8900e+06
i _y [mm], i _z [mm]	57,27	35,20
W _{el,y} [mm ³], W _{el,z} [mm ³]	1,5500e+05	5,5600e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	1,7333e+05	8,5000e+04
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	61634419,09	61634419,09
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	30127015,15	30127015,15
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	8,1300e+04	1,5064e+10
β _y [mm], β _z [mm]	0,00	0,00
Picture		
Primarec		
Type	HEA100	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	2,1200e+03	
A _y [mm ²], A _z [mm ²]	1,6076e+03	5,3156e+02
A _L [m ² /m], A _D [m ² /m]	5,6100e-01	5,6130e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	50,00	48,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	3,4900e+06	1,3400e+06
i _y [mm], i _z [mm]	40,57	25,14
W _{el,y} [mm ³], W _{el,z} [mm ³]	7,2800e+04	2,6800e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	8,2917e+04	4,1125e+04
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	29498658,02	29498658,02



Project Kulturni center Čatež

M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	14610417,42	14610417,42
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	5,2400e+04	2,5813e+09
β _y [mm], β _z [mm]	0,00	0,00
Picture		
Sekundarec		
Type	HEA100	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	2,1200e+03	
A _y [mm ²], A _z [mm ²]	1,6076e+03	5,3156e+02
A _L [m ² /m], A _D [m ² /m]	5,6100e-01	5,6130e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	50,00	48,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	3,4900e+06	1,3400e+06
i _y [mm], i _z [mm]	40,57	25,14
W _{el,y} [mm ³], W _{el,z} [mm ³]	7,2800e+04	2,6800e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	8,2917e+04	4,1125e+04
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	29498658,02	29498658,02
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	14610417,42	14610417,42
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	5,2400e+04	2,5813e+09
β _y [mm], β _z [mm]	0,00	0,00
Picture		
Zatege		
Type	RD12	
Formcode	11 - Full circular section	
Shape type	Thick-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	c	c
A [mm ²]	1,1304e+02	
A _y [mm ²], A _z [mm ²]	9,6909e+01	9,6909e+01
A _L [m ² /m], A _D [m ² /m]	3,7600e-02	3,7697e-02
C _{y,UCS} [mm], C _{z,UCS} [mm]	6,00	6,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	9,9655e+02	9,9655e+02
i _y [mm], i _z [mm]	2,97	2,97
W _{el,y} [mm ³], W _{el,z} [mm ³]	1,6609e+02	1,6609e+02
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	2,8346e+02	2,8346e+02



Project Kulturni center Čatež

M _{ply,+} [Nmm], M _{ply,-} [Nmm]	102208,86	102208,86
M _{plz,+} [Nmm], M _{plz,-} [Nmm]	102208,86	102208,86
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	2,0339e+03	0,0000e+00
β _y [mm], β _z [mm]	0,00	0,00
Picture		

Primarec podesta

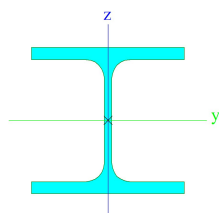
Type	HEA100	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	2,1200e+03	
A _y [mm ²], A _z [mm ²]	1,6076e+03	5,3156e+02
A _L [m ² /m], A _D [m ² /m]	5,6100e-01	5,6130e-01
C _{y,UCS} [mm], c _{z,UCS} [mm]	50,00	48,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	3,4900e+06	1,3400e+06
i _y [mm], i _z [mm]	40,57	25,14
W _{el,y} [mm ³], W _{el,z} [mm ³]	7,2800e+04	2,6800e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	8,2917e+04	4,1125e+04
M _{ply,+} [Nmm], M _{ply,-} [Nmm]	29498658,02	29498658,02
M _{plz,+} [Nmm], M _{plz,-} [Nmm]	14610417,42	14610417,42
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	5,2400e+04	2,5813e+09
β _y [mm], β _z [mm]	0,00	0,00
Picture		

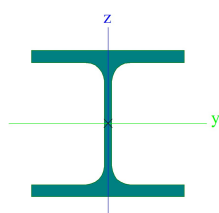
Sekundarec podesta 1

Type	HEA100	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	2,1200e+03	
A _y [mm ²], A _z [mm ²]	1,6076e+03	5,3156e+02
A _L [m ² /m], A _D [m ² /m]	5,6100e-01	5,6130e-01
C _{y,UCS} [mm], c _{z,UCS} [mm]	50,00	48,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	3,4900e+06	1,3400e+06
i _y [mm], i _z [mm]	40,57	25,14



Project Kulturni center Čatež

W _{el,y} [mm ³], W _{el,z} [mm ³]	7,2800e+04	2,6800e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	8,2917e+04	4,1125e+04
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	29498658,02	29498658,02
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	14610417,42	14610417,42
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	5,2400e+04	2,5813e+09
β _y [mm], β _z [mm]	0,00	0,00
Picture		

Sekundarec podesta 2		
Type	HEA100	
Formcode	1 - I section	
Shape type	Thin-walled	
Item material	S 355	
Fabrication	rolled	
Colour		
Flexural buckling y-y, Flexural buckling z-z	b	c
A [mm ²]	2,1200e+03	
A _y [mm ²], A _z [mm ²]	1,6076e+03	5,3156e+02
A _L [m ² /m], A _D [m ² /m]	5,6100e-01	5,6130e-01
C _{y,UCS} [mm], C _{z,UCS} [mm]	50,00	48,00
α [deg]	0,00	
I _y [mm ⁴], I _z [mm ⁴]	3,4900e+06	1,3400e+06
i _y [mm], i _z [mm]	40,57	25,14
W _{el,y} [mm ³], W _{el,z} [mm ³]	7,2800e+04	2,6800e+04
W _{pl,y} [mm ³], W _{pl,z} [mm ³]	8,2917e+04	4,1125e+04
M _{pl,y,+} [Nmm], M _{pl,y,-} [Nmm]	29498658,02	29498658,02
M _{pl,z,+} [Nmm], M _{pl,z,-} [Nmm]	14610417,42	14610417,42
d _y [mm], d _z [mm]	0,00	0,00
I _t [mm ⁴], I _w [mm ⁶]	5,2400e+04	2,5813e+09
β _y [mm], β _z [mm]	0,00	0,00
Picture		

Explanations of symbols	
Formcode	h - Height b - Flange width t - Flange thickness s - Web thickness r - Radius at flange root r1 - Radius at flange toe a - Flange slope W - Internal bolt distance wm - Unit warping at flange toe
A	Area
A _y	Shear Area in principal y-direction
A _z	Shear Area in principal z-direction

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

**Project Kulturni center Čatež****Explanations of symbols**

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

Explanations of symbols

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

4. Elementi

Name	Cross-section	Material	Length [cm]	Beg. node	End node	Type
B9	Primarec - HEA100	S 355	235,000	N49	N50	beam (80)
B10	Primarec - HEA100	S 355	235,000	N6	N8	beam (80)
B11	Primarec - HEA100	S 355	235,000	N10	N12	beam (80)
B12	Primarec - HEA100	S 355	235,000	N14	N16	beam (80)
B13	Sekundarec - HEA100	S 355	1102,000	N14	N49	beam (80)
B14	Sekundarec - HEA100	S 355	1102,000	N16	N50	beam (80)
B15	Sekundarec - HEA100	S 355	1102,000	N17	N18	beam (80)
B16	Sekundarec - HEA100	S 355	1102,000	N19	N20	beam (80)
B17	Zatege - RD12	S 355	367,447	N6	N18	roof bracing (0)
B18	Zatege - RD12	S 355	367,447	N21	N49	roof bracing (0)
B19	Zatege - RD12	S 355	367,447	N21	N20	roof bracing (0)
B20	Zatege - RD12	S 355	367,447	N22	N18	roof bracing (0)
B21	Zatege - RD12	S 355	367,447	N22	N50	roof bracing (0)
B22	Zatege - RD12	S 355	367,447	N8	N20	roof bracing (0)
B23	Zatege - RD12	S 355	371,374	N14	N23	roof bracing (0)
B24	Zatege - RD12	S 355	367,447	N10	N17	roof bracing (0)
B25	Zatege - RD12	S 355	371,374	N17	N24	roof bracing (0)
B26	Zatege - RD12	S 355	371,374	N19	N23	roof bracing (0)
B27	Zatege - RD12	S 355	367,447	N19	N12	roof bracing (0)
B28	Zatege - RD12	S 355	371,374	N16	N24	roof bracing (0)
B29	Steber 1 - HEA140	S 355	270,000	N25	N26	column (100)
B30	Steber 1 - HEA140	S 355	325,000	N26	N14	column (100)
B31	Steber 1 - HEA140	S 355	325,000	N1	N16	column (100)
B32	Steber 1 - HEA140	S 355	270,000	N27	N1	column (100)
B33	Steber 1 - HEA140	S 355	325,000	N28	N10	column (100)
B34	Steber 1 - HEA140	S 355	270,000	N29	N28	column (100)
B35	Steber 1 - HEA140	S 355	325,000	N30	N12	column (100)
B36	Steber 1 - HEA140	S 355	270,000	N31	N30	column (100)
B37	Steber 1 - HEA140	S 355	325,000	N32	N8	column (100)
B38	Steber 1 - HEA140	S 355	270,000	N33	N32	column (100)
B39	Steber 1 - HEA140	S 355	325,000	N34	N6	column (100)
B40	Steber 1 - HEA140	S 355	270,000	N35	N34	column (100)
B41	Steber 1 - HEA140	S 355	325,000	N36	N50	column (100)
B42	Steber 1 - HEA140	S 355	270,000	N37	N36	column (100)
B43	Steber 1 - HEA140	S 355	325,000	N38	N49	column (100)
B44	Steber 1 - HEA140	S 355	270,000	N39	N38	column (100)
B45	Primarec podesta - HEA100	S 355	235,000	N1	N26	beam (80)
B46	Primarec podesta - HEA100	S 355	235,000	N30	N28	beam (80)
B47	Primarec podesta - HEA100	S 355	235,000	N32	N34	beam (80)

**Project Kulturni center Čatež**

Name	Cross-section	Material	Length [cm]	Beg. node	End node	Type
B48	Sekundarec podesta 1 - HEA100	S 355	384,000	N32	N30	beam (80)
B49	Sekundarec podesta 2 - HEA100	S 355	384,000	N40	N41	beam (80)
B50	Sekundarec podesta 2 - HEA100	S 355	384,000	N42	N43	beam (80)
B51	Sekundarec podesta 2 - HEA100	S 355	384,000	N44	N45	beam (80)
B52	Sekundarec podesta 1 - HEA100	S 355	384,000	N34	N28	beam (80)
B53	Sekundarec podesta 1 - HEA100	S 355	359,000	N30	N1	beam (80)
B54	Sekundarec podesta 2 - HEA100	S 355	359,000	N41	N46	beam (80)
B55	Sekundarec podesta 2 - HEA100	S 355	359,000	N43	N47	beam (80)
B56	Sekundarec podesta 2 - HEA100	S 355	359,000	N45	N48	beam (80)
B57	Sekundarec podesta 1 - HEA100	S 355	359,000	N28	N26	beam (80)

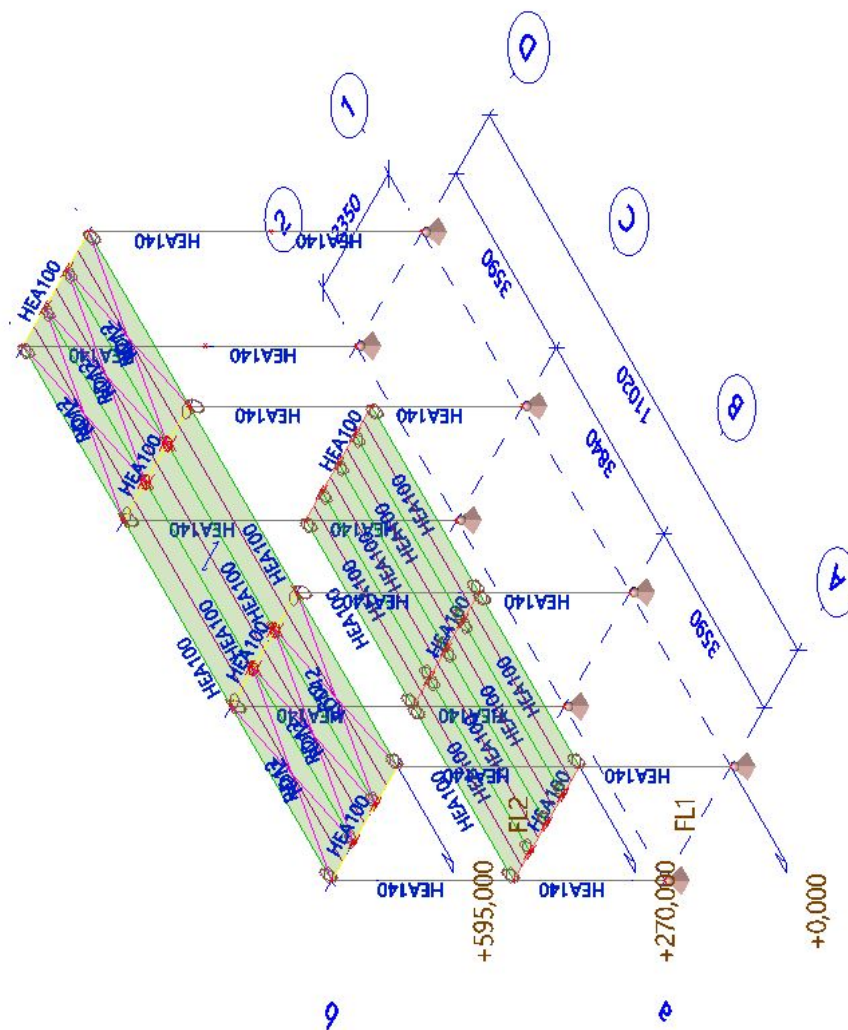
5. Vozlišča

Name	Coord X [cm]	Coord Y [cm]	Coord Z [cm]
N6	743,000	0,000	595,000
N8	743,000	235,000	595,000
N10	359,000	0,000	595,000
N12	359,000	235,000	595,000
N14	0,000	0,000	595,000
N16	0,000	235,000	595,000
N17	0,000	78,333	595,000
N18	1102,000	78,333	595,000
N19	0,000	156,667	595,000
N20	1102,000	156,667	595,000
N21	743,000	78,333	595,000
N22	743,000	156,667	595,000
N23	363,018	78,333	595,000
N24	363,018	156,667	595,000
N25	0,000	0,000	0,000
N26	0,000	0,000	270,000
N1	0,000	235,000	270,000
N27	0,000	235,000	0,000
N28	359,000	0,000	270,000
N29	359,000	0,000	0,000
N30	359,000	235,000	270,000

Name	Coord X [cm]	Coord Y [cm]	Coord Z [cm]
N31	359,000	235,000	0,000
N32	743,000	235,000	270,000
N33	743,000	235,000	0,000
N34	743,000	0,000	270,000
N35	743,000	0,000	0,000
N36	1102,000	235,000	270,000
N37	1102,000	235,000	0,000
N38	1102,000	0,000	270,000
N39	1102,000	0,000	0,000
N40	743,000	176,250	270,000
N41	359,000	176,250	270,000
N42	743,000	117,500	270,000
N43	359,000	117,500	270,000
N44	743,000	58,750	270,000
N45	359,000	58,750	270,000
N46	0,000	176,250	270,000
N47	0,000	117,500	270,000
N48	0,000	58,750	270,000
N49	1102,000	0,000	595,000
N50	1102,000	235,000	595,000

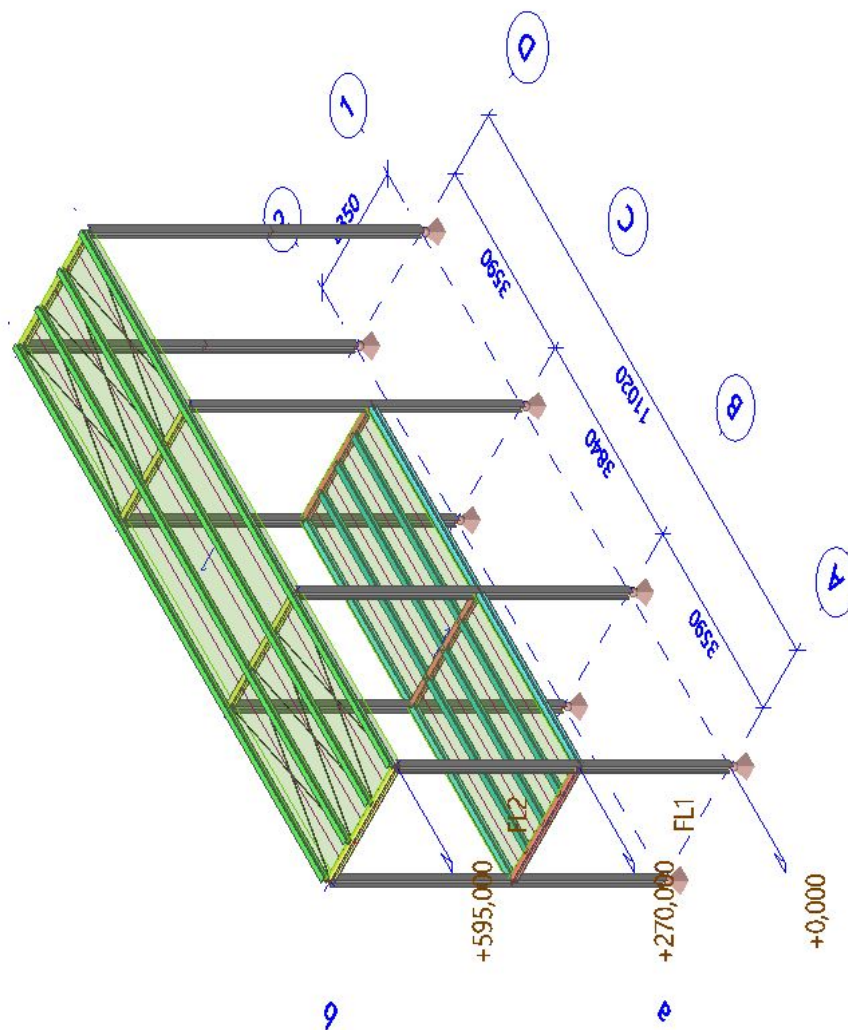


6. Statični model





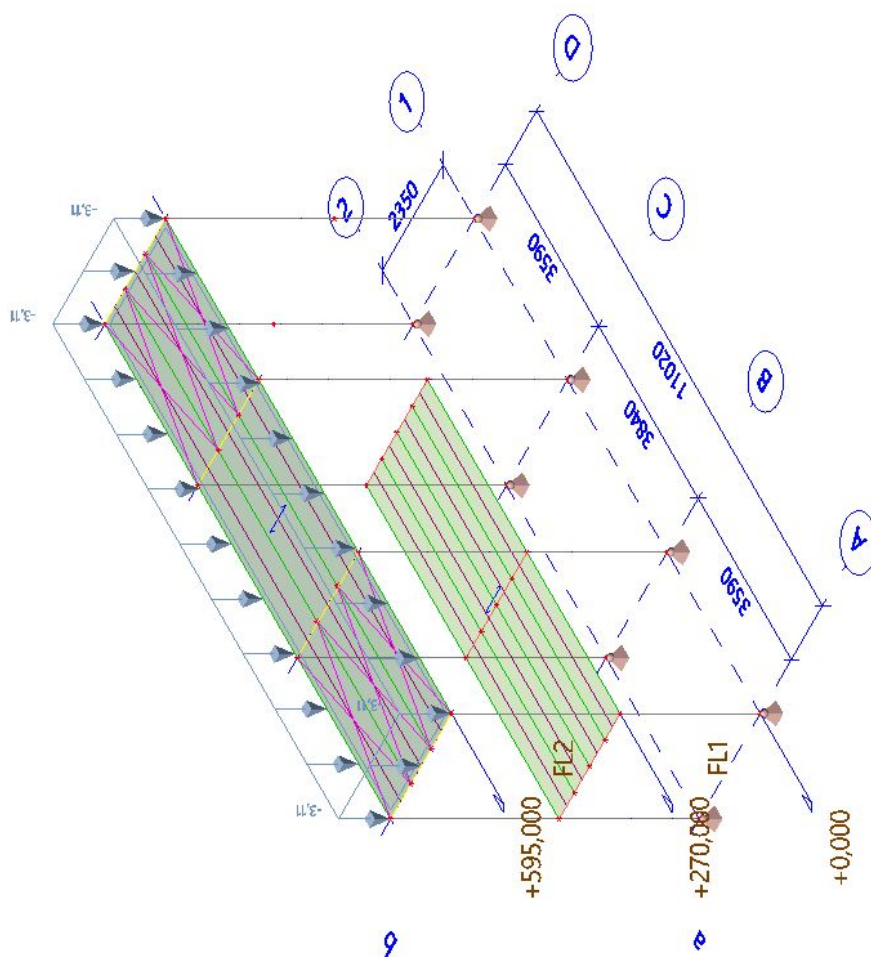
7. Grafični prikaz





8.3. Obtežni primeri - Sneg

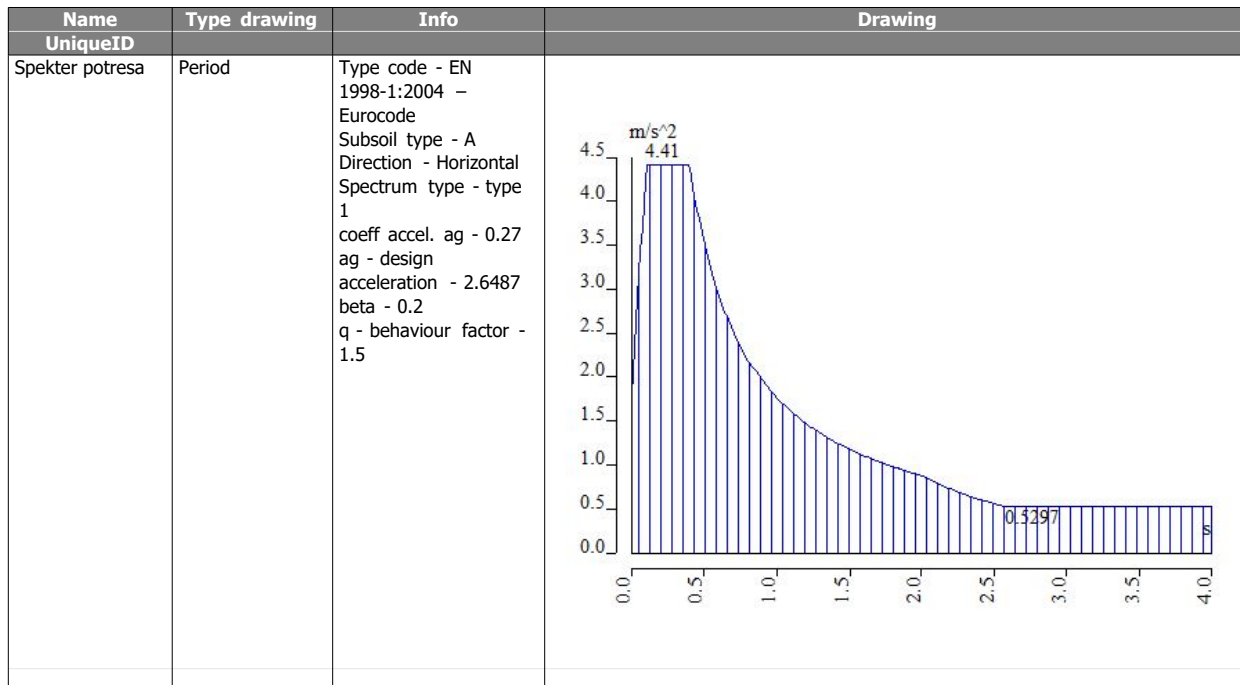
Name	Description	Action type	Load group	Master load case
	Spec	Load type		
Sneg		Variable	Sneg	None
	Snow	Static		





9. Seizmična analiza

9.1. Seizmični spekter



9.2. Eigen frequencies

N	f [Hz]	ω [1/s]	ω^2 [1/s ²]	T [s]
Mass combination : CM1				
1	0,82	5,12	26,24	1,23
2	1,37	8,64	74,63	0,73
3	1,63	10,23	104,68	0,61
4	3,13	19,69	387,82	0,32
5	3,80	23,85	569,02	0,26
6	4,79	30,08	904,73	0,21
7	6,29	39,55	1564,05	0,16
8	7,27	45,68	2086,92	0,14
9	7,44	46,75	2185,13	0,13
10	7,87	49,43	2442,93	0,13
11	13,43	84,36	7117,04	0,07
12	14,76	92,74	8600,58	0,07

9.3. Potres X

Linear calculation

Load case: Potres x

Evaluation For: Sum

Selection: All

Displacements

Name	Case	U _x [mm]	U _y [mm]	U _z [mm]	Φ_x [mrad]	Φ_y [mrad]	Φ_z [mrad]	U _{total} [mm]
N6	Potres x	70,8	0,0	0,0	0,0	0,8	0,0	70,8
N8	Potres x	70,8	0,0	0,0	0,0	0,8	0,0	70,8
N10	Potres x	70,8	0,0	0,0	0,0	1,2	0,0	70,8
N12	Potres x	70,8	0,0	0,0	0,0	1,2	0,0	70,8
N14	Potres x	70,8	0,0	0,0	0,0	4,8	-0,1	70,8
N16	Potres x	70,8	0,0	0,0	0,0	4,8	0,1	70,8
N17	Potres x	70,9	0,0	0,0	0,0	4,8	0,0	70,9

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Name	Case	U _x [mm]	U _y [mm]	U _z [mm]	Φ _x [mrad]	Φ _y [mrad]	Φ _z [mrad]	U _{total} [mm]
N18	Potres x	70,9	0,0	0,0	0,0	5,7	0,0	70,9
N19	Potres x	70,9	0,0	0,0	0,0	4,8	0,0	70,9
N20	Potres x	70,9	0,0	0,0	0,0	5,7	0,0	70,9
N21	Potres x	70,9	0,0	0,0	0,0	0,8	0,0	70,9
N22	Potres x	70,9	0,0	0,0	0,0	0,8	0,0	70,9
N23	Potres x	70,9	0,0	0,0	0,0	0,0	0,0	70,9
N24	Potres x	70,9	0,0	0,0	0,0	0,0	0,0	70,9
N25	Potres x	0,0	0,0	0,0	0,0	19,1	-1,8	0,0
N26	Potres x	44,0	0,0	0,0	0,0	10,8	-1,8	44,0
N1	Potres x	44,0	0,0	0,0	0,0	10,8	1,8	44,0
N27	Potres x	0,0	0,0	0,0	0,0	19,1	1,8	0,0
N28	Potres x	44,0	0,0	0,0	0,0	9,1	-1,8	44,0
N29	Potres x	0,0	0,0	0,0	0,0	19,9	-1,8	0,0
N30	Potres x	44,0	0,0	0,0	0,0	9,1	1,8	44,0
N31	Potres x	0,0	0,0	0,0	0,0	19,9	1,8	0,0
N32	Potres x	44,0	0,0	0,0	0,0	11,0	1,8	44,0
N33	Potres x	0,0	0,0	0,0	0,0	19,0	1,8	0,0
N34	Potres x	44,0	0,0	0,0	0,0	11,0	-1,8	44,0
N35	Potres x	0,0	0,0	0,0	0,0	19,0	-1,8	0,0
N36	Potres x	39,0	0,0	0,0	0,0	13,1	0,1	39,0
N37	Potres x	0,0	0,0	0,0	0,0	15,1	0,1	0,0
N38	Potres x	39,0	0,0	0,0	0,0	13,1	-0,1	39,0
N39	Potres x	0,0	0,0	0,0	0,0	15,1	-0,1	0,0
N40	Potres x	45,0	0,0	0,0	0,0	11,0	1,3	45,0
N41	Potres x	45,0	0,0	0,0	0,0	9,1	1,3	45,0
N42	Potres x	45,4	0,0	0,0	0,0	11,0	0,0	45,4
N43	Potres x	45,4	0,0	0,0	0,0	9,1	0,0	45,4
N44	Potres x	45,0	0,0	0,0	0,0	11,0	-1,3	45,0
N45	Potres x	45,0	0,0	0,0	0,0	9,1	-1,3	45,0
N46	Potres x	45,0	0,0	0,0	0,0	10,8	1,3	45,0
N47	Potres x	45,4	0,0	0,0	0,0	10,8	0,0	45,4
N48	Potres x	45,0	0,0	0,0	0,0	10,8	-1,3	45,0
N49	Potres x	70,8	0,0	0,0	0,0	5,7	-0,1	70,8
N50	Potres x	70,8	0,0	0,0	0,0	5,7	0,1	70,8

9.4. Potres Y

Linear calculation

Load case: Potres y

Evaluation For: Sum

Selection: All

Displacements

Name	Case	U _x [mm]	U _y [mm]	U _z [mm]	Φ _x [mrad]	Φ _y [mrad]	Φ _z [mrad]	U _{total} [mm]
N6	Potres y	5,1	43,6	0,1	-2,8	0,0	4,2	43,9
N8	Potres y	-5,1	43,6	-0,1	-2,8	0,0	4,2	43,9
N10	Potres y	5,1	36,9	0,1	-1,8	0,1	4,1	37,2
N12	Potres y	-5,1	36,9	-0,1	-1,8	-0,1	4,1	37,2
N14	Potres y	5,1	29,5	0,0	-1,8	0,3	4,3	30,0
N16	Potres y	-5,1	29,5	0,0	-1,8	-0,3	4,3	30,0
N17	Potres y	1,7	29,5	-0,3	0,5	0,1	4,3	29,6
N18	Potres y	1,7	57,0	-0,6	1,0	0,1	4,3	57,1
N19	Potres y	-1,7	29,5	0,3	0,5	-0,1	4,3	29,6
N20	Potres y	-1,7	57,0	0,6	1,0	-0,1	4,3	57,1
N21	Potres y	1,7	43,6	-0,4	0,7	0,0	4,3	43,7
N22	Potres y	-1,7	43,6	0,4	0,7	0,0	4,3	43,7
N23	Potres y	1,7	37,0	-0,3	0,6	0,0	4,1	37,0
N24	Potres y	-1,7	37,0	0,3	0,6	0,0	4,1	37,0
N25	Potres y	0,0	0,0	0,0	-8,3	1,5	2,8	0,0
N26	Potres y	3,3	18,7	0,0	-4,0	0,8	2,8	19,0
N1	Potres y	-3,3	18,7	0,0	-4,0	-0,8	2,8	19,0
N27	Potres y	0,0	0,0	0,0	-8,3	-1,5	2,8	0,0
N28	Potres y	3,3	25,0	0,0	-5,0	0,6	2,8	25,2
N29	Potres y	0,0	0,0	0,0	-11,3	1,5	2,8	0,0
N30	Potres y	-3,3	25,0	0,0	-5,0	-0,6	2,8	25,2

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Name	Case	U _x [mm]	U _y [mm]	U _z [mm]	Φ _x [mrad]	Φ _y [mrad]	Φ _z [mrad]	U _{total} [mm]
N31	Potres y	0,0	0,0	0,0	-11,3	-1,5	2,8	0,0
N32	Potres y	-3,3	27,1	-0,1	-5,9	-0,8	2,8	27,3
N33	Potres y	0,0	0,0	0,0	-12,0	-1,5	2,8	0,0
N34	Potres y	3,3	27,1	0,1	-5,9	0,8	2,8	27,3
N35	Potres y	0,0	0,0	0,0	-12,0	1,5	2,8	0,0
N36	Potres y	-2,9	32,6	0,0	-10,7	-0,9	4,3	32,7
N37	Potres y	0,0	0,0	0,0	-12,7	-1,1	4,3	0,0
N38	Potres y	2,9	32,6	0,0	-10,7	0,9	4,3	32,7
N39	Potres y	0,0	0,0	0,0	-12,7	1,1	4,3	0,0
N40	Potres y	-1,7	27,1	1,2	0,5	-0,4	2,8	27,2
N41	Potres y	-1,7	25,0	1,0	0,4	-0,3	2,8	25,1
N42	Potres y	0,0	27,1	0,0	2,6	0,0	2,8	27,1
N43	Potres y	0,0	25,0	0,0	2,2	0,0	2,8	25,0
N44	Potres y	1,7	27,1	-1,2	0,5	0,4	2,8	27,2
N45	Potres y	1,7	25,0	-1,0	0,4	0,3	2,8	25,1
N46	Potres y	-1,7	18,7	0,8	0,3	-0,4	2,8	18,8
N47	Potres y	0,0	18,7	0,0	1,7	0,0	2,8	18,7
N48	Potres y	1,7	18,7	-0,8	0,3	0,4	2,8	18,8
N49	Potres y	5,1	57,0	0,0	-3,5	0,4	4,3	57,3
N50	Potres y	-5,1	57,0	0,0	-3,5	-0,4	4,3	57,3

10. NSK in Pomiki po obtežnih primerih**10.1. NSK in Pomiki po obtežnih primerih - Lastna**

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

10.1.1. 1D internal forces

Linear calculation

Load case: Lastna

Coordinate system: Principal

Extreme 1D: Member

Selection: All

Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B9	235,000	Lastna	-0,02	0,00	-0,46	0,00	-0,14	0,00
B9	117,500	Lastna	-0,02	0,00	0,00	0,00	0,18	0,00
B9	0,000	Lastna	-0,02	0,00	0,46	0,00	-0,14	0,00
B10	235,000	Lastna	-0,18	0,00	-0,89	0,00	-0,36	0,00
B10	117,500	Lastna	-0,18	0,00	0,00	0,00	0,30	0,00
B10	0,000	Lastna	-0,18	0,00	0,89	0,00	-0,36	0,00
B11	235,000	Lastna	-0,21	0,00	-0,89	0,00	-0,37	0,00
B11	0,000	Lastna	-0,21	0,00	0,89	0,00	-0,37	0,00
B11	117,500	Lastna	-0,21	0,00	0,00	0,00	0,29	0,00
B12	235,000	Lastna	-0,11	0,00	-0,46	0,00	-0,18	0,00
B12	0,000	Lastna	-0,11	0,00	0,46	0,00	-0,18	0,00
B12	117,500	Lastna	-0,11	0,00	0,00	0,00	0,14	0,00
B13	0,000	Lastna	-0,03	0,00	0,25	0,00	-0,07	0,00
B13	359,000-	Lastna	-0,03	0,00	-0,33	0,00	-0,22	0,00
B13	743,000+	Lastna	-0,01	0,00	0,34	0,00	-0,21	0,00
B13	743,000-	Lastna	-0,03	0,00	-0,32	0,00	-0,22	0,00
B13	958,400-	Lastna	-0,01	0,00	-0,01	0,00	0,14	0,00
B13	359,000+	Lastna	-0,03	0,00	0,31	0,00	-0,20	0,00
B14	743,000+	Lastna	-0,01	0,00	0,34	0,00	-0,21	0,00
B14	359,000-	Lastna	-0,03	0,00	-0,33	0,00	-0,22	0,00
B14	743,000-	Lastna	-0,03	0,00	-0,32	0,00	-0,22	0,00
B14	958,400-	Lastna	-0,01	0,00	-0,01	0,00	0,14	0,00
B14	0,000	Lastna	-0,03	0,00	0,25	0,00	-0,07	0,00
B14	359,000+	Lastna	-0,03	0,00	0,31	0,00	-0,20	0,00
B15	359,000-	Lastna	0,00	0,00	-0,35	0,00	-0,22	0,00



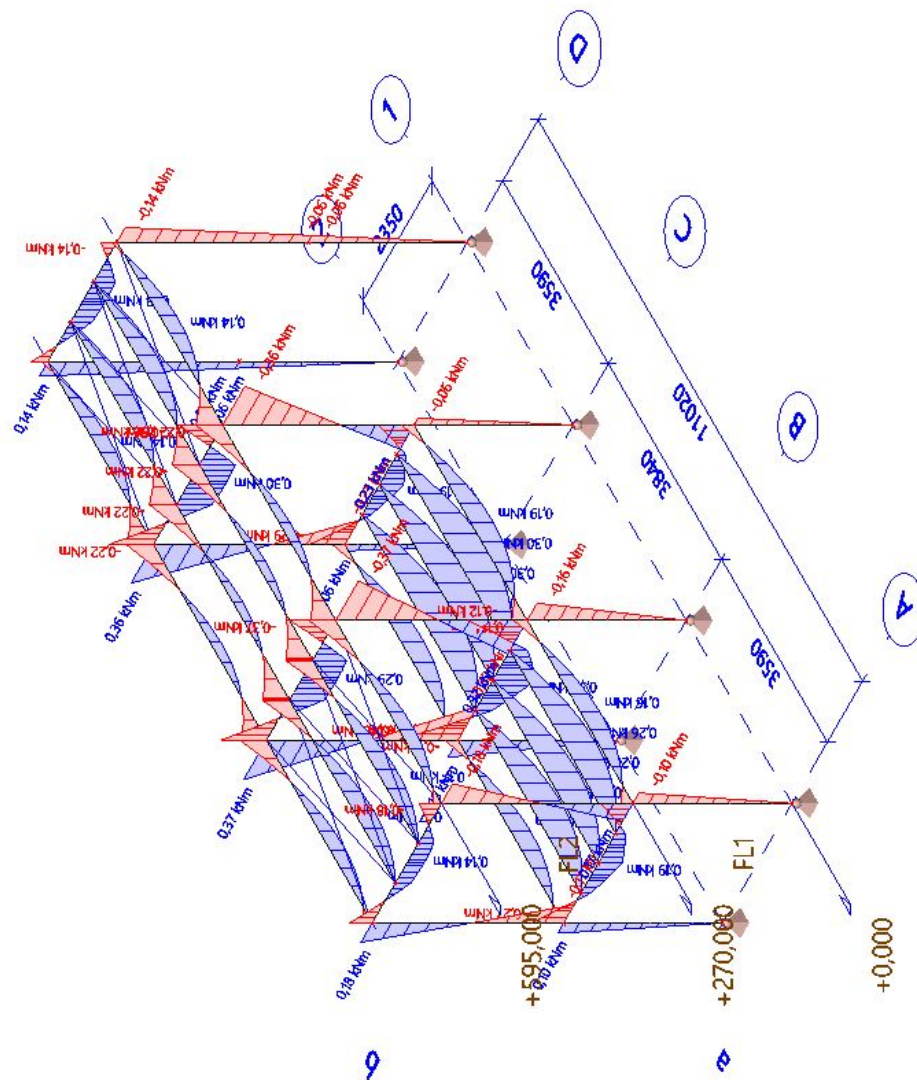
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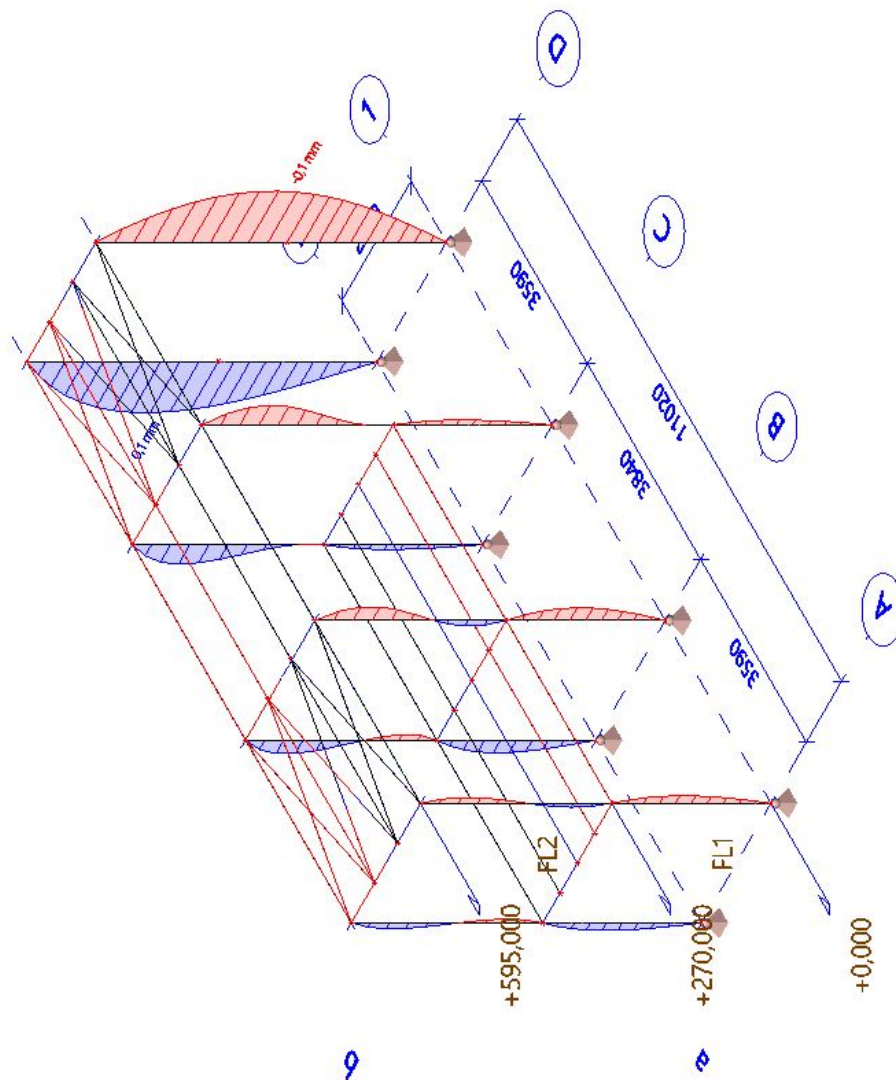
Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B15	743,000+	Lastna	0,00	0,00	0,35	0,00	-0,22	0,00
B15	743,000-	Lastna	0,00	0,00	-0,31	0,00	-0,22	0,00
B15	143,600-	Lastna	0,00	0,00	0,00	0,00	0,17	0,00
B15	363,018-	Lastna	0,00	0,00	0,34	0,00	-0,20	0,00
B16	743,000+	Lastna	0,00	0,00	0,35	0,00	-0,22	0,00
B16	743,000-	Lastna	0,00	0,00	-0,31	0,00	-0,22	0,00
B16	143,600-	Lastna	0,00	0,00	0,00	0,00	0,17	0,00
B16	359,000-	Lastna	0,00	0,00	-0,35	0,00	-0,22	0,00
B16	363,018-	Lastna	0,00	0,00	0,34	0,00	-0,20	0,00
B17	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B18	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B19	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B20	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B21	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B22	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B23	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B24	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B25	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B26	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B27	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B28	0,000	Lastna	0,00	0,00	0,00	0,00	0,00	0,00
B29	0,000	Lastna	-3,08	-0,02	-0,04	0,00	0,00	0,00
B29	270,000	Lastna	-2,43	-0,02	-0,04	0,00	-0,10	-0,04
B30	0,000	Lastna	-1,51	-0,04	-0,11	0,00	0,17	0,05
B30	325,000	Lastna	-0,72	-0,04	-0,11	0,00	-0,18	-0,07
B31	0,000	Lastna	-1,51	-0,04	0,11	0,00	-0,17	0,05
B31	325,000	Lastna	-0,72	-0,04	0,11	0,00	0,18	-0,07
B32	0,000	Lastna	-3,08	-0,02	0,04	0,00	0,00	0,00
B32	270,000	Lastna	-2,43	-0,02	0,04	0,00	0,10	-0,04
B33	325,000	Lastna	-1,55	0,01	-0,21	0,00	-0,37	0,01
B33	0,000	Lastna	-2,34	0,01	-0,21	0,00	0,32	-0,01
B34	0,000	Lastna	-4,71	-0,01	-0,06	0,00	0,00	0,00
B34	270,000	Lastna	-4,05	-0,01	-0,06	0,00	-0,16	-0,02
B35	0,000	Lastna	-2,34	0,01	0,21	0,00	-0,32	-0,01
B35	325,000	Lastna	-1,55	0,01	0,21	0,00	0,37	0,01
B36	0,000	Lastna	-4,71	-0,01	0,06	0,00	0,00	0,00
B36	270,000	Lastna	-4,05	-0,01	0,06	0,00	0,16	-0,02
B37	0,000	Lastna	-2,35	0,02	0,18	0,00	-0,23	-0,06
B37	325,000	Lastna	-1,57	0,02	0,18	0,00	0,36	0,01
B38	0,000	Lastna	-3,98	0,02	0,02	0,00	0,00	0,00
B38	270,000	Lastna	-3,32	0,02	0,02	0,00	0,06	0,04
B39	325,000	Lastna	-1,57	0,02	-0,18	0,00	-0,36	0,01
B39	0,000	Lastna	-2,35	0,02	-0,18	0,00	0,23	-0,06
B40	270,000	Lastna	-3,32	0,02	-0,02	0,00	-0,06	0,04
B40	0,000	Lastna	-3,98	0,02	-0,02	0,00	0,00	0,00
B41	0,000	Lastna	-1,50	0,01	0,02	0,00	0,06	0,02
B41	325,000	Lastna	-0,72	0,01	0,02	0,00	0,14	0,05
B42	0,000	Lastna	-2,16	0,01	0,02	0,00	0,00	0,00
B42	270,000	Lastna	-1,50	0,01	0,02	0,00	0,06	0,02
B43	325,000	Lastna	-0,72	0,01	-0,02	0,00	-0,14	0,05
B43	0,000	Lastna	-1,50	0,01	-0,02	0,00	-0,06	0,02
B44	270,000	Lastna	-1,50	0,01	-0,02	0,00	-0,06	0,02
B44	0,000	Lastna	-2,16	0,01	-0,02	0,00	0,00	0,00
B45	117,500+	Lastna	0,07	0,00	-0,15	0,00	0,19	0,00
B45	235,000	Lastna	0,07	0,00	-0,63	0,00	-0,27	0,00
B45	0,000	Lastna	0,07	0,00	0,63	0,00	-0,27	0,00
B45	58,750-	Lastna	0,07	0,00	0,54	0,00	0,08	0,00
B45	117,500-	Lastna	0,07	0,00	0,15	0,00	0,19	0,00
B46	58,750+	Lastna	0,15	0,00	0,40	0,00	0,14	0,00
B46	117,500+	Lastna	0,15	0,00	-0,30	0,00	0,35	0,00
B46	235,000	Lastna	0,15	0,00	-1,10	0,00	-0,48	0,00
B46	0,000	Lastna	0,15	0,00	1,10	0,00	-0,48	0,00
B47	58,750+	Lastna	0,16	0,00	0,25	0,00	0,07	0,00
B47	117,500+	Lastna	0,16	0,00	-0,16	0,00	0,19	0,00
B47	235,000	Lastna	0,16	0,00	-0,66	0,00	-0,29	0,00
B47	0,000	Lastna	0,16	0,00	0,66	0,00	-0,29	0,00



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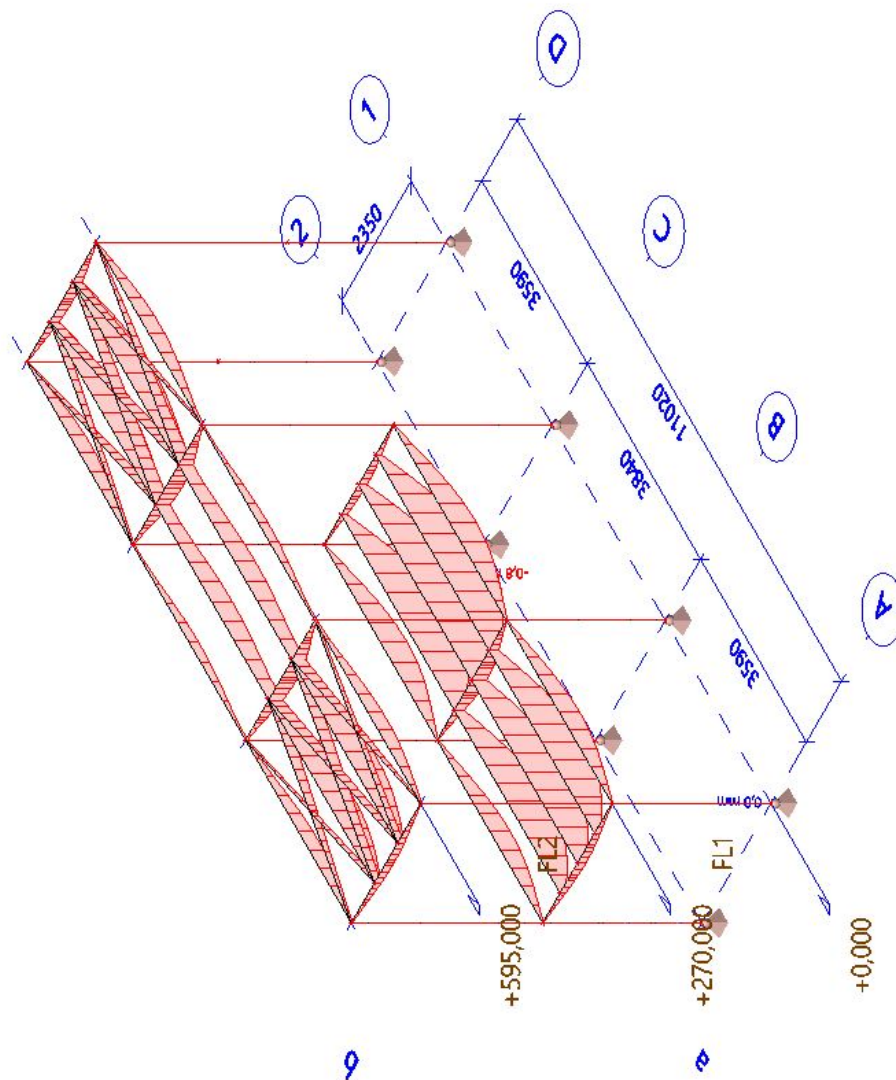
Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B48	384,000	Lastna	0,00	0,00	-0,32	0,00	-0,12	0,00
B48	192,000-	Lastna	0,00	0,00	-0,01	0,00	0,19	0,00
B48	0,000	Lastna	0,00	0,00	0,31	0,00	-0,10	0,00
B49	384,000	Lastna	0,00	0,00	-0,31	0,00	0,00	0,00
B49	192,000-	Lastna	0,00	0,00	0,00	0,00	0,30	0,00
B49	0,000	Lastna	0,00	0,00	0,31	0,00	0,00	0,00
B50	384,000	Lastna	0,00	0,00	-0,31	0,00	0,00	0,00
B50	192,000-	Lastna	0,00	0,00	0,00	0,00	0,30	0,00
B50	0,000	Lastna	0,00	0,00	0,31	0,00	0,00	0,00
B51	384,000	Lastna	0,00	0,00	-0,31	0,00	0,00	0,00
B51	192,000-	Lastna	0,00	0,00	0,00	0,00	0,30	0,00
B51	0,000	Lastna	0,00	0,00	0,31	0,00	0,00	0,00
B52	384,000	Lastna	0,00	0,00	-0,32	0,00	-0,12	0,00
B52	192,000-	Lastna	0,00	0,00	-0,01	0,00	0,19	0,00
B52	0,000	Lastna	0,00	0,00	0,31	0,00	-0,10	0,00
B53	359,000	Lastna	0,02	0,00	-0,29	0,00	-0,09	0,00
B53	179,500-	Lastna	0,02	0,00	0,00	0,00	0,16	0,00
B53	0,000	Lastna	0,02	0,00	0,30	0,00	-0,11	0,00
B54	359,000	Lastna	0,00	0,00	-0,29	0,00	0,00	0,00
B54	179,500-	Lastna	0,00	0,00	0,00	0,00	0,26	0,00
B54	0,000	Lastna	0,00	0,00	0,29	0,00	0,00	0,00
B55	359,000	Lastna	0,00	0,00	-0,29	0,00	0,00	0,00
B55	179,500-	Lastna	0,00	0,00	0,00	0,00	0,26	0,00
B55	0,000	Lastna	0,00	0,00	0,29	0,00	0,00	0,00
B56	359,000	Lastna	0,00	0,00	-0,29	0,00	0,00	0,00
B56	179,500-	Lastna	0,00	0,00	0,00	0,00	0,26	0,00
B56	0,000	Lastna	0,00	0,00	0,29	0,00	0,00	0,00
B57	359,000	Lastna	0,02	0,00	-0,29	0,00	-0,09	0,00
B57	179,500-	Lastna	0,02	0,00	0,00	0,00	0,16	0,00
B57	0,000	Lastna	0,02	0,00	0,30	0,00	-0,11	0,00





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





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



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10.2. NSK in Pomiki po obtežnih primerih - Stalna

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

10.2.1. 1D internal forces

Linear calculation

Load case: Stalna

Coordinate system: Principal

Extreme 1D: Member

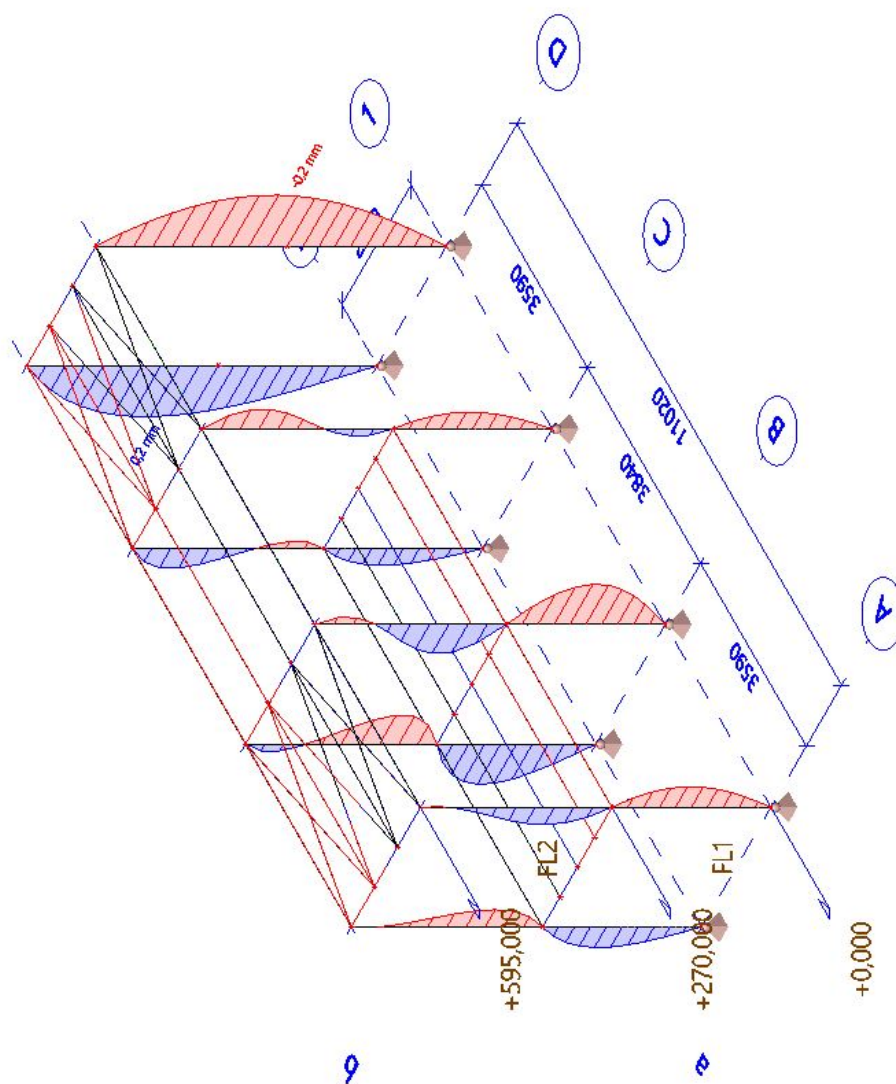
Selection: All

Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B9	78,333+	Stalna	-0,04	0,00	0,00	0,00	0,30	0,00
B9	156,667+	Stalna	-0,04	0,00	-0,67	0,00	0,30	0,00
B9	0,000	Stalna	-0,04	0,00	0,67	0,00	-0,22	0,00
B10	78,333+	Stalna	-0,48	0,00	0,00	0,00	0,66	0,00
B10	156,667+	Stalna	-0,48	0,00	-1,92	0,00	0,66	0,00
B10	0,000	Stalna	-0,48	0,00	1,92	0,00	-0,84	0,00
B11	78,333+	Stalna	-0,63	0,00	0,00	0,00	0,61	0,00
B11	156,667+	Stalna	-0,63	0,00	-1,92	0,00	0,61	0,00
B11	0,000	Stalna	-0,63	0,00	1,92	0,00	-0,90	0,00
B12	78,333+	Stalna	-0,26	0,00	0,00	0,00	0,20	0,00
B12	156,667+	Stalna	-0,26	0,00	-0,67	0,00	0,20	0,00
B12	0,000	Stalna	-0,26	0,00	0,67	0,00	-0,33	0,00
B13	0,000	Stalna	-0,06	0,00	0,37	0,00	-0,10	0,00
B13	359,000-	Stalna	-0,06	0,00	-0,48	0,00	-0,30	0,00
B13	743,000+	Stalna	-0,01	0,00	0,49	0,00	-0,30	0,00
B13	743,000-	Stalna	-0,06	0,00	-0,46	0,00	-0,32	0,00
B13	958,400-	Stalna	-0,01	0,00	-0,02	0,00	0,20	0,00
B13	359,000+	Stalna	-0,06	0,00	0,44	0,00	-0,29	0,00
B14	359,000+	Stalna	-0,06	0,00	0,44	0,00	-0,29	0,00
B14	359,000-	Stalna	-0,06	0,00	-0,48	0,00	-0,30	0,00
B14	743,000+	Stalna	-0,01	0,00	0,49	0,00	-0,30	0,00
B14	743,000-	Stalna	-0,06	0,00	-0,46	0,00	-0,32	0,00
B14	958,400-	Stalna	-0,01	0,00	-0,02	0,00	0,20	0,00
B14	0,000	Stalna	-0,06	0,00	0,37	0,00	-0,10	0,00
B15	363,018+	Stalna	0,00	0,00	0,88	0,00	-0,59	0,00
B15	743,000+	Stalna	0,00	0,00	1,02	0,00	-0,63	0,00
B15	0,000	Stalna	0,00	0,00	0,67	0,00	0,00	0,00
B15	359,000-	Stalna	0,00	0,00	-1,02	0,00	-0,63	0,00
B15	958,400-	Stalna	0,00	0,00	0,01	0,00	0,48	0,00
B15	363,018-	Stalna	0,00	0,00	0,88	0,00	-0,59	0,00
B16	363,018+	Stalna	0,00	0,00	0,88	0,00	-0,59	0,00
B16	743,000+	Stalna	0,00	0,00	1,02	0,00	-0,63	0,00
B16	359,000-	Stalna	0,00	0,00	-1,02	0,00	-0,63	0,00
B16	958,400-	Stalna	0,00	0,00	0,01	0,00	0,48	0,00
B16	0,000	Stalna	0,00	0,00	0,67	0,00	0,00	0,00
B16	363,018-	Stalna	0,00	0,00	0,88	0,00	-0,59	0,00
B17	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B18	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B19	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B20	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B21	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B22	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B23	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B24	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B25	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B26	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B27	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B28	0,000	Stalna	0,00	0,00	0,00	0,00	0,00	0,00
B29	0,000	Stalna	-3,93	-0,04	-0,16	0,00	0,00	0,00
B29	270,000	Stalna	-3,93	-0,04	-0,16	0,00	-0,43	-0,11
B30	0,000	Stalna	-1,03	-0,07	-0,26	0,00	0,52	0,12



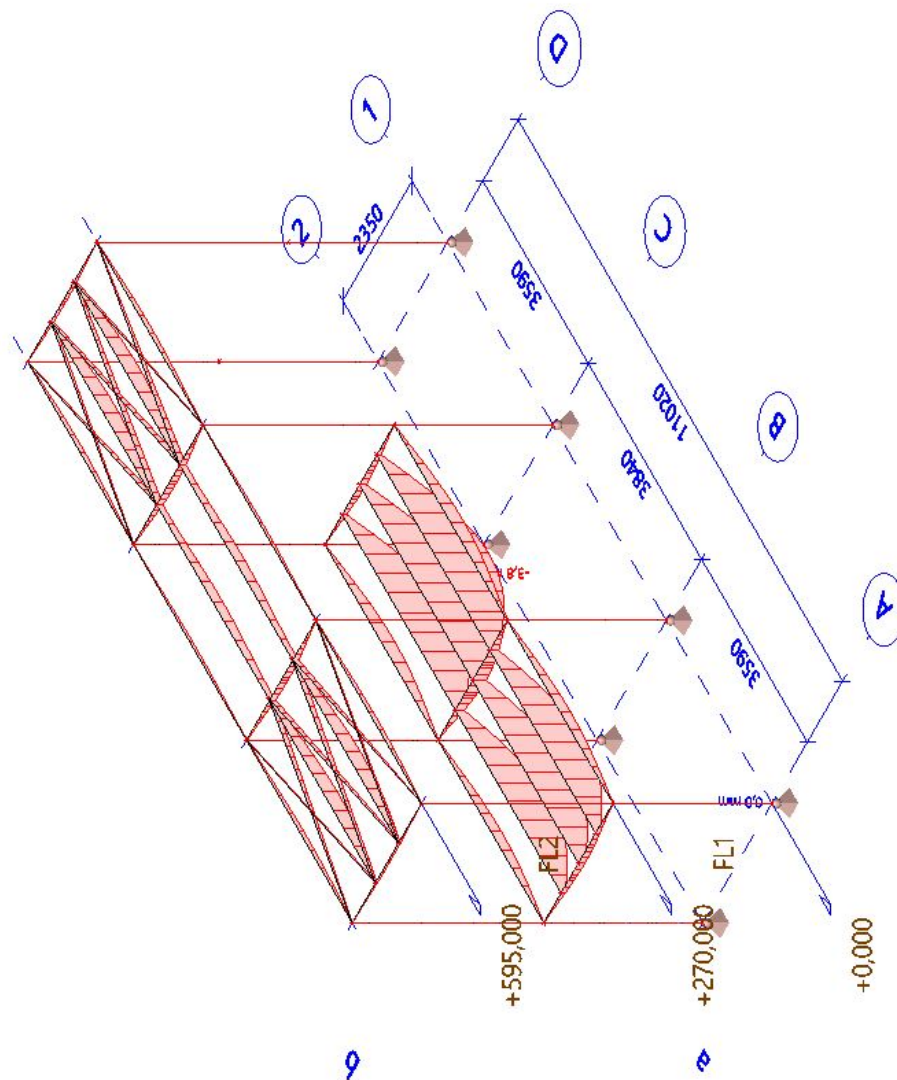
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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B30	325,000	Stalna	-1,03	-0,07	-0,26	0,00	-0,33	-0,10
B31	0,000	Stalna	-1,03	-0,07	0,26	0,00	-0,52	0,12
B31	325,000	Stalna	-1,03	-0,07	0,26	0,00	0,33	-0,10
B32	0,000	Stalna	-3,93	-0,04	0,16	0,00	0,00	0,00
B32	270,000	Stalna	-3,93	-0,04	0,16	0,00	0,43	-0,11
B33	325,000	Stalna	-2,84	0,01	-0,63	0,00	-0,90	0,02
B33	0,000	Stalna	-2,84	0,01	-0,63	0,00	1,14	0,00
B34	0,000	Stalna	-8,89	-0,02	-0,31	0,00	0,00	0,00
B34	270,000	Stalna	-8,89	-0,02	-0,31	0,00	-0,85	-0,04
B35	0,000	Stalna	-2,84	0,01	0,63	0,00	-1,14	0,00
B35	325,000	Stalna	-2,84	0,01	0,63	0,00	0,90	0,02
B36	0,000	Stalna	-8,89	-0,02	0,31	0,00	0,00	0,00
B36	270,000	Stalna	-8,89	-0,02	0,31	0,00	0,85	-0,04
B37	0,000	Stalna	-2,87	0,05	0,48	0,00	-0,70	-0,14
B37	325,000	Stalna	-2,87	0,05	0,48	0,00	0,84	0,02
B38	0,000	Stalna	-5,97	0,04	0,13	0,00	0,00	0,00
B38	270,000	Stalna	-5,97	0,04	0,13	0,00	0,35	0,12
B39	325,000	Stalna	-2,87	0,05	-0,48	0,00	-0,84	0,02
B39	0,000	Stalna	-2,87	0,05	-0,48	0,00	0,70	-0,14
B40	270,000	Stalna	-5,97	0,04	-0,13	0,00	-0,35	0,12
B40	0,000	Stalna	-5,97	0,04	-0,13	0,00	0,00	0,00
B41	0,000	Stalna	-1,03	0,01	0,04	0,00	0,10	0,03
B41	325,000	Stalna	-1,03	0,01	0,04	0,00	0,22	0,07
B42	0,000	Stalna	-1,03	0,01	0,04	0,00	0,00	0,00
B42	270,000	Stalna	-1,03	0,01	0,04	0,00	0,10	0,03
B43	325,000	Stalna	-1,03	0,01	-0,04	0,00	-0,22	0,07
B43	0,000	Stalna	-1,03	0,01	-0,04	0,00	-0,10	0,03
B44	270,000	Stalna	-1,03	0,01	-0,04	0,00	-0,10	0,03
B44	0,000	Stalna	-1,03	0,01	-0,04	0,00	0,00	0,00
B45	117,500+	Stalna	0,10	0,00	-0,73	0,00	0,76	0,00
B45	176,250+	Stalna	0,10	0,00	-2,18	0,00	0,33	0,00
B45	0,000	Stalna	0,10	0,00	2,18	0,00	-0,95	0,00
B45	117,500-	Stalna	0,10	0,00	0,73	0,00	0,76	0,00
B46	117,500+	Stalna	0,31	0,00	-1,51	0,00	1,55	0,00
B46	176,250+	Stalna	0,31	0,00	-4,52	0,00	0,67	0,00
B46	0,000	Stalna	0,31	0,00	4,52	0,00	-1,99	0,00
B46	117,500-	Stalna	0,31	0,00	1,51	0,00	1,55	0,00
B47	117,500+	Stalna	0,35	0,00	-0,78	0,00	0,78	0,00
B47	176,250+	Stalna	0,35	0,00	-2,33	0,00	0,32	0,00
B47	0,000	Stalna	0,35	0,00	2,33	0,00	-1,05	0,00
B47	117,500-	Stalna	0,35	0,00	0,78	0,00	0,78	0,00
B48	384,000	Stalna	0,00	0,00	-0,79	0,00	-0,31	0,00
B48	192,000-	Stalna	0,00	0,00	-0,01	0,00	0,46	0,00
B48	0,000	Stalna	0,00	0,00	0,77	0,00	-0,26	0,00
B49	384,000	Stalna	0,00	0,00	-1,56	0,00	0,00	0,00
B49	192,000-	Stalna	0,00	0,00	0,00	0,00	1,49	0,00
B49	0,000	Stalna	0,00	0,00	1,56	0,00	0,00	0,00
B50	384,000	Stalna	0,00	0,00	-1,56	0,00	0,00	0,00
B50	192,000-	Stalna	0,00	0,00	0,00	0,00	1,49	0,00
B50	0,000	Stalna	0,00	0,00	1,56	0,00	0,00	0,00
B51	384,000	Stalna	0,00	0,00	-1,56	0,00	0,00	0,00
B51	192,000-	Stalna	0,00	0,00	0,00	0,00	1,49	0,00
B51	0,000	Stalna	0,00	0,00	1,56	0,00	0,00	0,00
B52	384,000	Stalna	0,00	0,00	-0,79	0,00	-0,31	0,00
B52	192,000-	Stalna	0,00	0,00	-0,01	0,00	0,46	0,00
B52	0,000	Stalna	0,00	0,00	0,77	0,00	-0,26	0,00
B53	359,000	Stalna	0,03	0,00	-0,72	0,00	-0,23	0,00
B53	179,500-	Stalna	0,03	0,00	0,01	0,00	0,40	0,00
B53	0,000	Stalna	0,03	0,00	0,74	0,00	-0,27	0,00
B54	359,000	Stalna	0,00	0,00	-1,46	0,00	0,00	0,00
B54	179,500-	Stalna	0,00	0,00	0,00	0,00	1,31	0,00
B54	0,000	Stalna	0,00	0,00	1,46	0,00	0,00	0,00
B55	359,000	Stalna	0,00	0,00	-1,46	0,00	0,00	0,00
B55	179,500-	Stalna	0,00	0,00	0,00	0,00	1,31	0,00
B55	0,000	Stalna	0,00	0,00	1,46	0,00	0,00	0,00
B56	359,000	Stalna	0,00	0,00	-1,46	0,00	0,00	0,00



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





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



**Project Kulturni center Čatež****10.3. NSK in Pomiki po obtežnih primerih - Koristna**

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

10.3.1. 1D internal forces

Linear calculation

Load case: Koristna

Coordinate system: Principal

Extreme 1D: Member

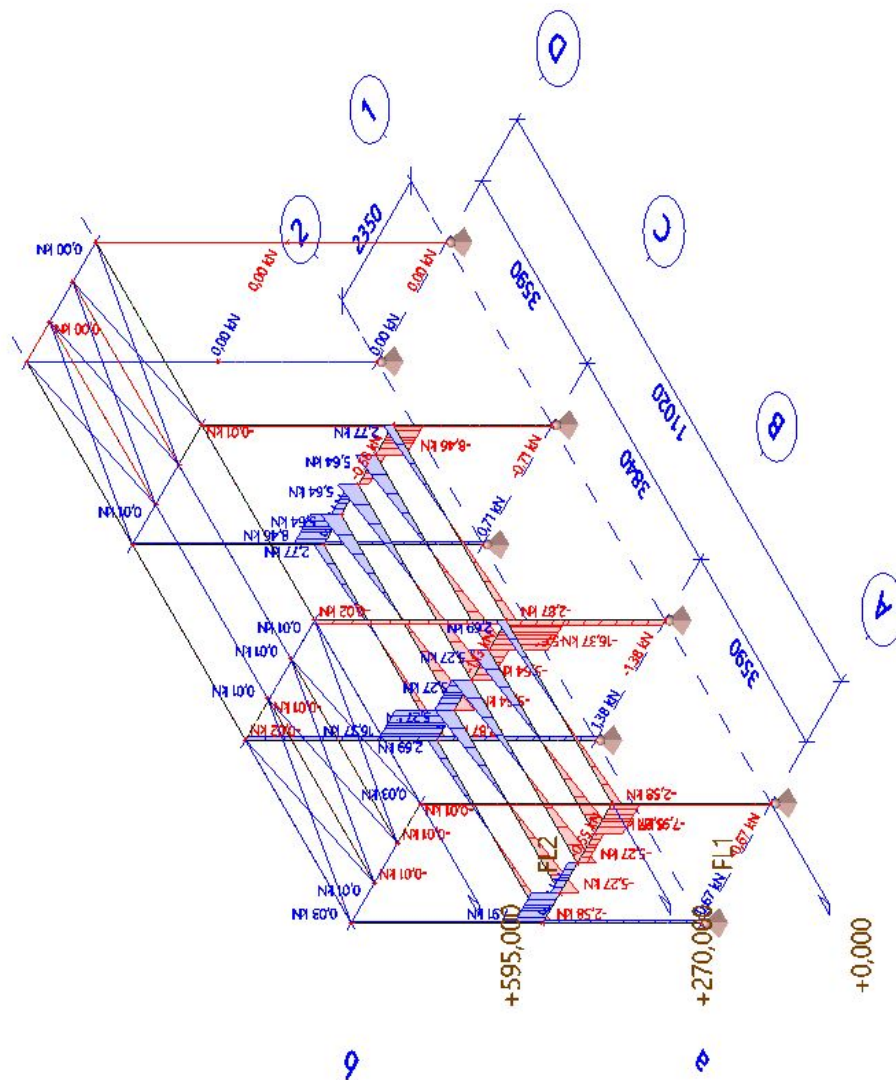
Selection: All

Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B9	78,333+	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B9	156,667+	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B9	0,000	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B10	78,333+	Koristna	-0,59	0,00	0,00	0,00	-0,20	0,00
B10	156,667+	Koristna	-0,59	0,00	0,01	0,00	-0,20	0,00
B10	0,000	Koristna	-0,59	0,00	-0,01	0,00	-0,20	0,00
B11	78,333+	Koristna	-1,14	0,00	0,00	0,00	-0,38	0,00
B11	156,667+	Koristna	-1,13	0,00	-0,01	0,00	-0,38	0,00
B11	0,000	Koristna	-1,13	0,00	0,01	0,00	-0,39	0,00
B12	78,333+	Koristna	-0,54	0,00	0,00	0,00	-0,19	0,00
B12	156,667+	Koristna	-0,54	0,00	0,01	0,00	-0,19	0,00
B12	0,000	Koristna	-0,54	0,00	-0,01	0,00	-0,18	0,00
B13	743,000+	Koristna	0,00	0,00	-0,01	0,00	0,04	0,00
B13	0,000	Koristna	-0,13	0,00	0,03	0,00	-0,08	0,00
B13	359,000-	Koristna	-0,13	0,00	0,03	0,00	0,05	0,00
B13	743,000-	Koristna	-0,16	0,00	-0,02	0,00	-0,05	0,00
B14	743,000+	Koristna	0,00	0,00	-0,01	0,00	0,04	0,00
B14	0,000	Koristna	-0,13	0,00	0,03	0,00	-0,08	0,00
B14	743,000-	Koristna	-0,16	0,00	-0,02	0,00	-0,05	0,00
B14	359,000-	Koristna	-0,13	0,00	0,03	0,00	0,05	0,00
B15	359,000-	Koristna	0,00	0,00	-0,01	0,00	-0,02	0,00
B15	363,018-	Koristna	0,00	0,00	0,01	0,00	-0,02	0,00
B15	743,000-	Koristna	-0,01	0,00	0,01	0,00	0,00	0,00
B16	359,000-	Koristna	0,00	0,00	-0,01	0,00	-0,02	0,00
B16	743,000-	Koristna	-0,01	0,00	0,01	0,00	0,00	0,00
B16	363,018-	Koristna	0,00	0,00	0,01	0,00	-0,02	0,00
B17	0,000	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B18	0,000	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B19	0,000	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B20	0,000	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B21	0,000	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B22	0,000	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B23	0,000	Koristna	-0,01	0,00	0,00	0,00	0,00	0,00
B24	0,000	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B25	0,000	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B26	0,000	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B27	0,000	Koristna	0,00	0,00	0,00	0,00	0,00	0,00
B28	0,000	Koristna	-0,01	0,00	0,00	0,00	0,00	0,00
B29	0,000	Koristna	-10,52	-0,15	-0,67	0,00	0,00	0,00
B29	270,000	Koristna	-10,52	-0,15	-0,67	0,00	-1,80	-0,42
B30	0,000	Koristna	-0,03	-0,14	-0,55	0,00	1,59	0,38
B30	325,000	Koristna	-0,03	-0,14	-0,55	0,00	-0,18	-0,08
B31	0,000	Koristna	-0,03	-0,14	0,55	0,00	-1,59	0,38
B31	325,000	Koristna	-0,03	-0,14	0,55	0,00	0,18	-0,08
B32	0,000	Koristna	-10,52	-0,15	0,67	0,00	0,00	0,00
B32	270,000	Koristna	-10,52	-0,15	0,67	0,00	1,80	-0,42
B33	0,000	Koristna	0,04	-0,03	-1,13	0,00	3,30	0,07
B33	325,000	Koristna	0,04	-0,03	-1,13	0,00	-0,39	-0,02
B34	0,000	Koristna	-21,88	-0,03	-1,38	0,00	0,00	0,00
B34	270,000	Koristna	-21,88	-0,03	-1,38	0,00	-3,73	-0,07
B35	0,000	Koristna	0,04	-0,03	1,13	0,00	-3,30	0,07



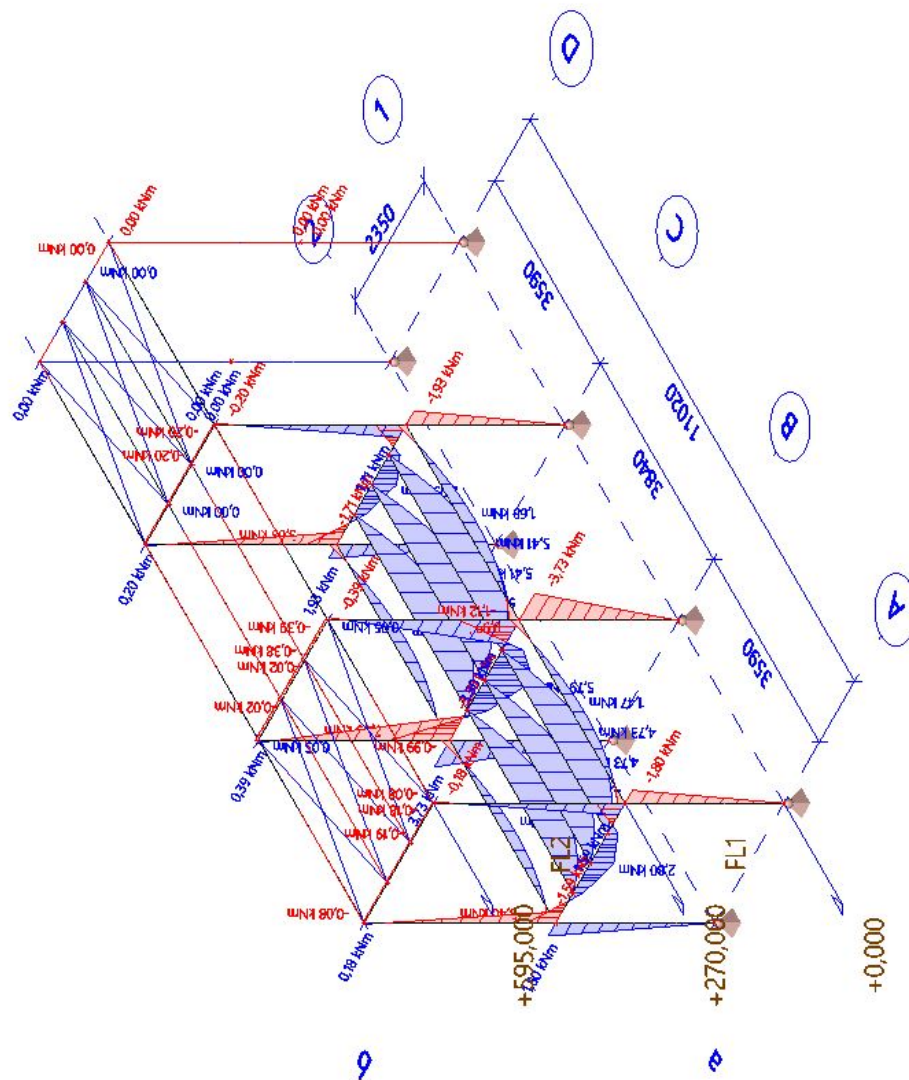
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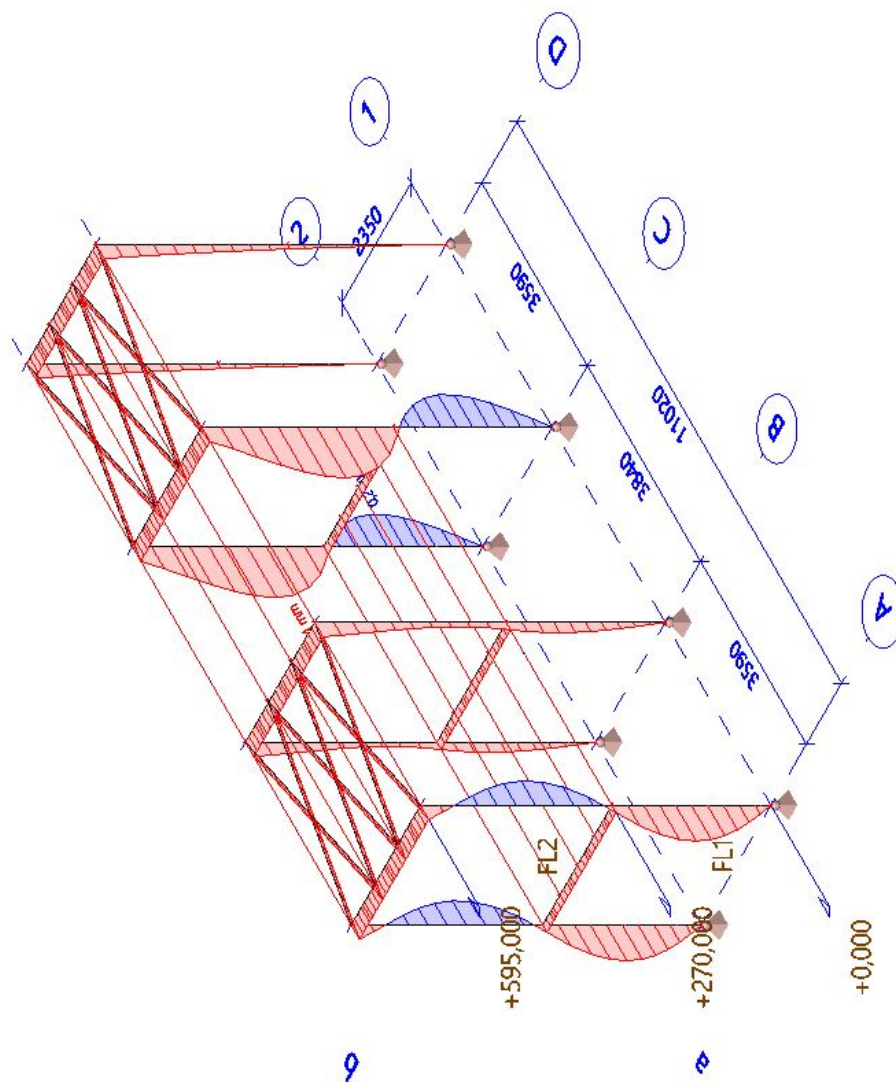
Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B35	325,000	Koristna	0,04	-0,03	1,13	0,00	0,39	-0,02
B36	0,000	Koristna	-21,88	-0,03	1,38	0,00	0,00	0,00
B36	270,000	Koristna	-21,88	-0,03	1,38	0,00	3,73	-0,07
B37	0,000	Koristna	0,00	0,17	0,58	0,00	-1,71	-0,45
B37	325,000	Koristna	0,00	0,17	0,58	0,00	0,20	0,09
B38	0,000	Koristna	-11,23	0,18	0,71	0,00	0,00	0,00
B38	270,000	Koristna	-11,23	0,18	0,71	0,00	1,93	0,49
B39	325,000	Koristna	0,00	0,17	-0,58	0,00	-0,20	0,09
B39	0,000	Koristna	0,00	0,17	-0,58	0,00	1,71	-0,45
B40	270,000	Koristna	-11,23	0,18	-0,71	0,00	-1,93	0,49
B40	0,000	Koristna	-11,23	0,18	-0,71	0,00	0,00	0,00
B41	0,000	Koristna	-0,01	0,00	0,00	0,00	0,00	0,00
B41	325,000	Koristna	-0,01	0,00	0,00	0,00	0,00	0,01
B42	0,000	Koristna	-0,01	0,00	0,00	0,00	0,00	0,00
B42	270,000	Koristna	-0,01	0,00	0,00	0,00	0,00	0,00
B43	325,000	Koristna	-0,01	0,00	0,00	0,00	0,00	0,01
B43	0,000	Koristna	-0,01	0,00	0,00	0,00	0,00	0,00
B44	270,000	Koristna	-0,01	0,00	0,00	0,00	0,00	0,00
B44	0,000	Koristna	-0,01	0,00	0,00	0,00	0,00	0,00
B45	117,500+	Koristna	-0,12	0,00	-2,64	0,00	2,80	0,00
B45	176,250+	Koristna	-0,12	0,00	-7,91	0,00	1,25	0,00
B45	0,000	Koristna	-0,12	0,00	7,91	0,00	-3,40	0,00
B45	117,500-	Koristna	-0,12	0,00	2,64	0,00	2,80	0,00
B46	176,250+	Koristna	-0,25	0,00	-16,37	0,00	2,59	0,00
B46	117,500-	Koristna	-0,25	0,00	5,46	0,00	5,79	0,00
B46	0,000	Koristna	-0,25	0,00	16,37	0,00	-7,03	0,00
B47	117,500+	Koristna	-0,13	0,00	-2,82	0,00	2,99	0,00
B47	176,250+	Koristna	-0,13	0,00	-8,46	0,00	1,34	0,00
B47	0,000	Koristna	-0,13	0,00	8,46	0,00	-3,63	0,00
B47	117,500-	Koristna	-0,13	0,00	2,82	0,00	2,99	0,00
B48	384,000	Koristna	-0,01	0,00	-2,87	0,00	-1,12	0,00
B48	192,000-	Koristna	-0,01	0,00	-0,05	0,00	1,68	0,00
B48	0,000	Koristna	-0,01	0,00	2,77	0,00	-0,94	0,00
B49	384,000	Koristna	0,00	0,00	-5,64	0,00	0,00	0,00
B49	192,000-	Koristna	0,00	0,00	0,00	0,00	5,41	0,00
B49	0,000	Koristna	0,00	0,00	5,64	0,00	0,00	0,00
B50	384,000	Koristna	0,00	0,00	-5,64	0,00	0,00	0,00
B50	192,000-	Koristna	0,00	0,00	0,00	0,00	5,41	0,00
B50	0,000	Koristna	0,00	0,00	5,64	0,00	0,00	0,00
B51	384,000	Koristna	0,00	0,00	-5,64	0,00	0,00	0,00
B51	192,000-	Koristna	0,00	0,00	0,00	0,00	5,41	0,00
B51	0,000	Koristna	0,00	0,00	5,64	0,00	0,00	0,00
B52	384,000	Koristna	-0,01	0,00	-2,87	0,00	-1,12	0,00
B52	192,000-	Koristna	-0,01	0,00	-0,05	0,00	1,68	0,00
B52	0,000	Koristna	-0,01	0,00	2,77	0,00	-0,94	0,00
B53	359,000	Koristna	-0,01	0,00	-2,58	0,00	-0,80	0,00
B53	179,500-	Koristna	-0,01	0,00	0,05	0,00	1,47	0,00
B53	0,000	Koristna	-0,01	0,00	2,69	0,00	-0,99	0,00
B54	359,000	Koristna	0,00	0,00	-5,27	0,00	0,00	0,00
B54	179,500-	Koristna	0,00	0,00	0,00	0,00	4,73	0,00
B54	0,000	Koristna	0,00	0,00	5,27	0,00	0,00	0,00
B55	359,000	Koristna	0,00	0,00	-5,27	0,00	0,00	0,00
B55	179,500-	Koristna	0,00	0,00	0,00	0,00	4,73	0,00
B55	0,000	Koristna	0,00	0,00	5,27	0,00	0,00	0,00
B56	359,000	Koristna	0,00	0,00	-5,27	0,00	0,00	0,00
B56	179,500-	Koristna	0,00	0,00	0,00	0,00	4,73	0,00
B56	0,000	Koristna	0,00	0,00	5,27	0,00	0,00	0,00
B57	359,000	Koristna	-0,01	0,00	-2,58	0,00	-0,80	0,00
B57	179,500-	Koristna	-0,01	0,00	0,05	0,00	1,47	0,00
B57	0,000	Koristna	-0,01	0,00	2,69	0,00	-0,99	0,00



Values: V_z
 Linear calculation
 Load case: Koristna
 Coordinate system: Principal
 Extreme 1D: Member
 Selection: All

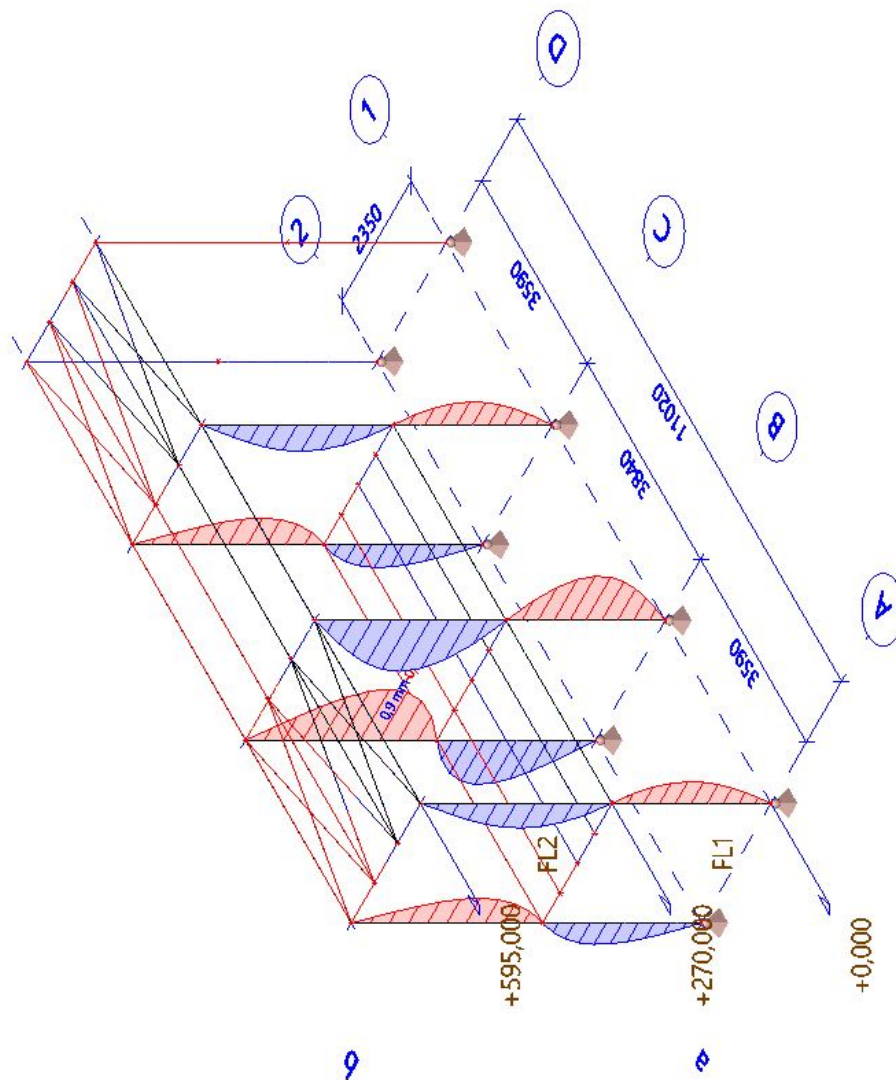






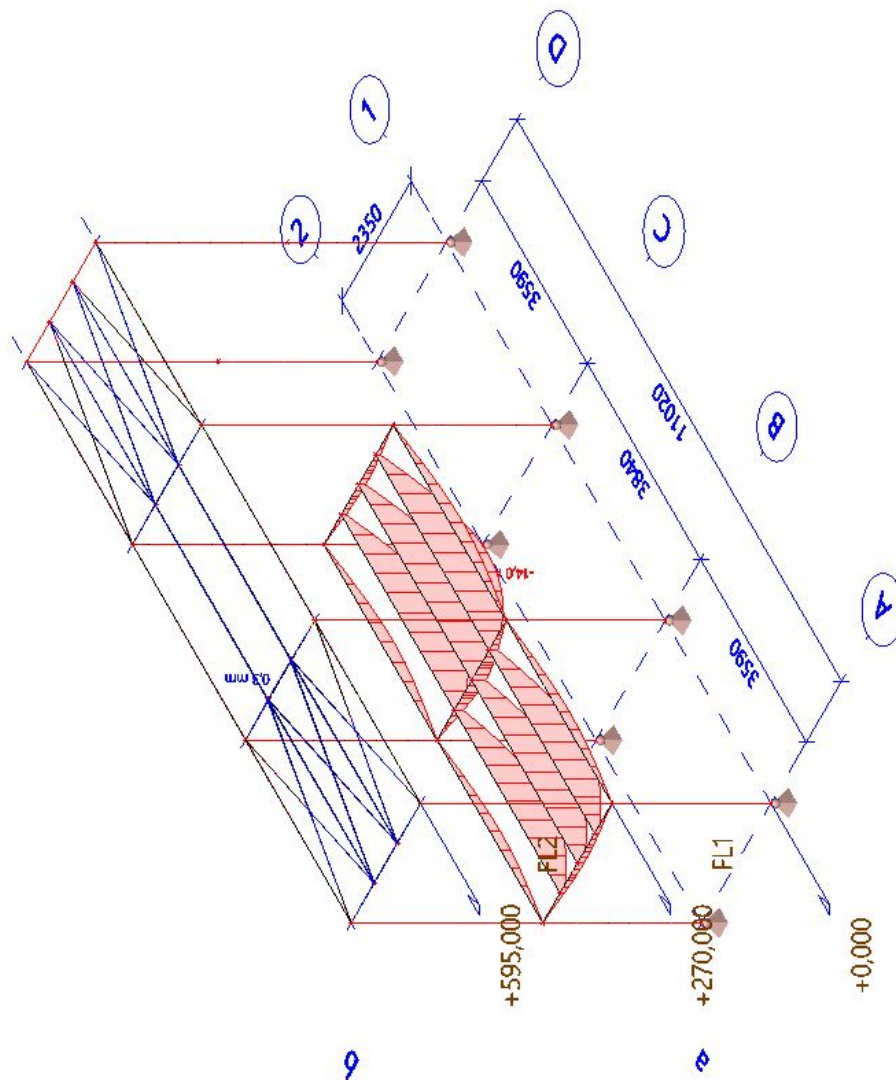
Values: u_x
Linear calculation
Load case: Koristna
Coordinate system: Global
Extreme 1D: Global
Selection: All





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





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





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10.4. NSK in Pomiki po obtežnih primerih - Sneg

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

10.4.1. 1D internal forces

Linear calculation

Load case: Sneg

Coordinate system: Principal

Extreme 1D: Member

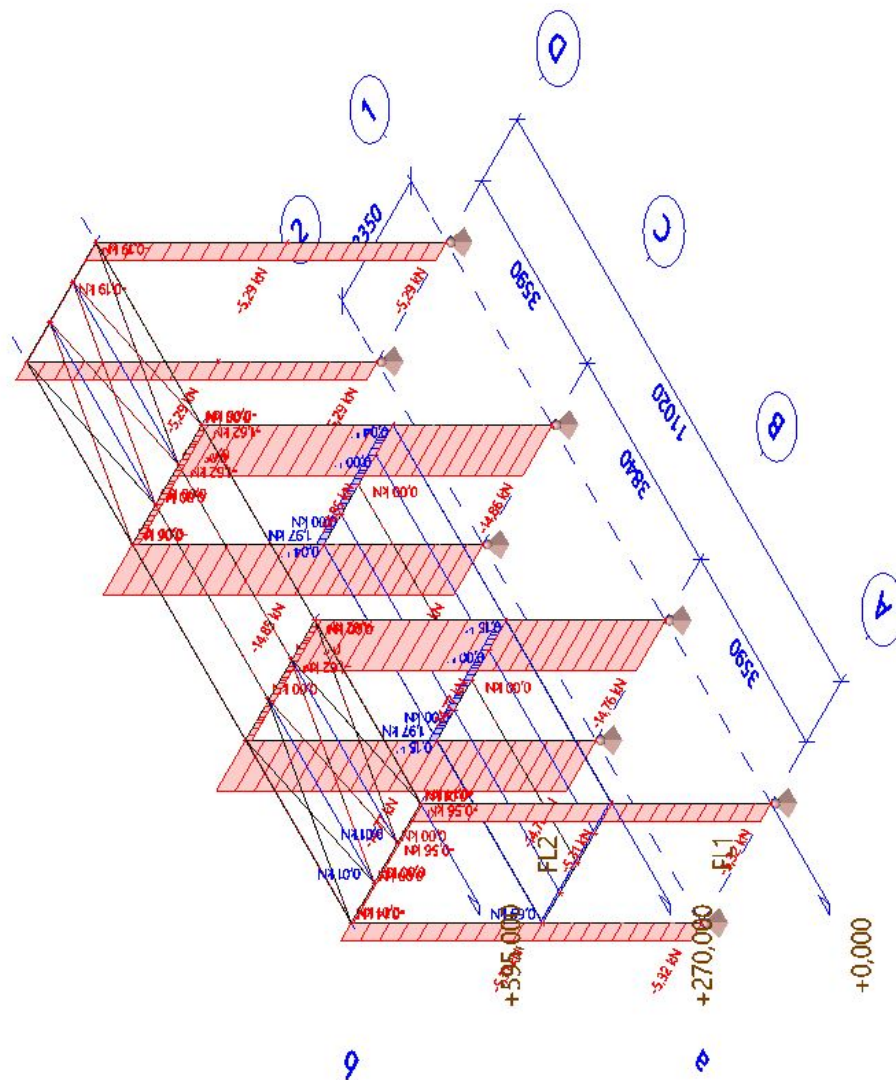
Selection: All

Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B9	78,333+	Sneg	-0,19	0,00	0,00	0,00	1,56	0,00
B9	156,667+	Sneg	-0,19	0,00	-3,46	0,00	1,56	0,00
B9	0,000	Sneg	-0,19	0,00	3,46	0,00	-1,15	0,00
B10	78,333+	Sneg	-1,62	0,00	0,00	0,00	3,71	0,00
B10	156,667+	Sneg	-1,62	0,00	-9,96	0,00	3,71	0,00
B10	0,000	Sneg	-1,62	0,00	9,96	0,00	-4,09	0,00
B11	78,333+	Sneg	-1,62	0,00	0,00	0,00	3,70	0,00
B11	156,667+	Sneg	-1,62	0,00	-9,94	0,00	3,70	0,00
B11	0,000	Sneg	-1,62	0,00	9,94	0,00	-4,08	0,00
B12	78,333+	Sneg	-0,56	0,00	0,00	0,00	1,29	0,00
B12	156,667+	Sneg	-0,56	0,00	-3,47	0,00	1,29	0,00
B12	0,000	Sneg	-0,56	0,00	3,47	0,00	-1,42	0,00
B13	0,000	Sneg	-0,14	0,00	1,85	0,00	-0,43	0,00
B13	359,000-	Sneg	-0,14	0,00	-2,52	0,00	-1,64	0,00
B13	958,400-	Sneg	-0,06	0,00	-0,08	0,00	1,01	0,00
B13	743,000+	Sneg	-0,06	0,00	2,54	0,00	-1,63	0,00
B14	743,000+	Sneg	-0,06	0,00	2,54	0,00	-1,63	0,00
B14	359,000-	Sneg	-0,14	0,00	-2,52	0,00	-1,64	0,00
B14	958,400-	Sneg	-0,06	0,00	-0,08	0,00	1,01	0,00
B14	0,000	Sneg	-0,14	0,00	1,85	0,00	-0,43	0,00
B15	359,000-	Sneg	0,01	0,00	-5,27	0,00	-3,24	0,00
B15	743,000+	Sneg	0,00	0,00	5,28	0,00	-3,26	0,00
B15	743,000-	Sneg	0,00	0,00	-4,68	0,00	-3,26	0,00
B15	143,600-	Sneg	0,01	0,00	-0,03	0,00	2,47	0,00
B15	363,018-	Sneg	0,01	0,00	4,57	0,00	-3,05	0,00
B16	743,000+	Sneg	0,00	0,00	5,28	0,00	-3,26	0,00
B16	743,000-	Sneg	0,00	0,00	-4,68	0,00	-3,26	0,00
B16	143,600-	Sneg	0,01	0,00	-0,03	0,00	2,47	0,00
B16	359,000-	Sneg	0,01	0,00	-5,27	0,00	-3,24	0,00
B16	363,018-	Sneg	0,01	0,00	4,57	0,00	-3,05	0,00
B17	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B18	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B19	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B20	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B21	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B22	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B23	0,000	Sneg	-0,01	0,00	0,00	0,00	0,00	0,00
B24	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B25	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B26	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B27	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B28	0,000	Sneg	-0,01	0,00	0,00	0,00	0,00	0,00
B29	0,000	Sneg	-5,32	0,01	0,12	0,00	0,00	0,00
B29	270,000	Sneg	-5,32	0,01	0,12	0,00	0,33	0,02
B30	0,000	Sneg	-5,31	-0,15	-0,57	0,00	0,41	0,05
B30	325,000	Sneg	-5,31	-0,15	-0,57	0,00	-1,42	-0,43
B31	0,000	Sneg	-5,31	-0,15	0,57	0,00	-0,41	0,05
B31	325,000	Sneg	-5,31	-0,15	0,57	0,00	1,42	-0,43
B32	270,000	Sneg	-5,32	0,01	-0,12	0,00	-0,33	0,02
B32	0,000	Sneg	-5,32	0,01	-0,12	0,00	0,00	0,00
B33	325,000	Sneg	-14,77	0,07	-1,62	0,00	-4,08	0,12



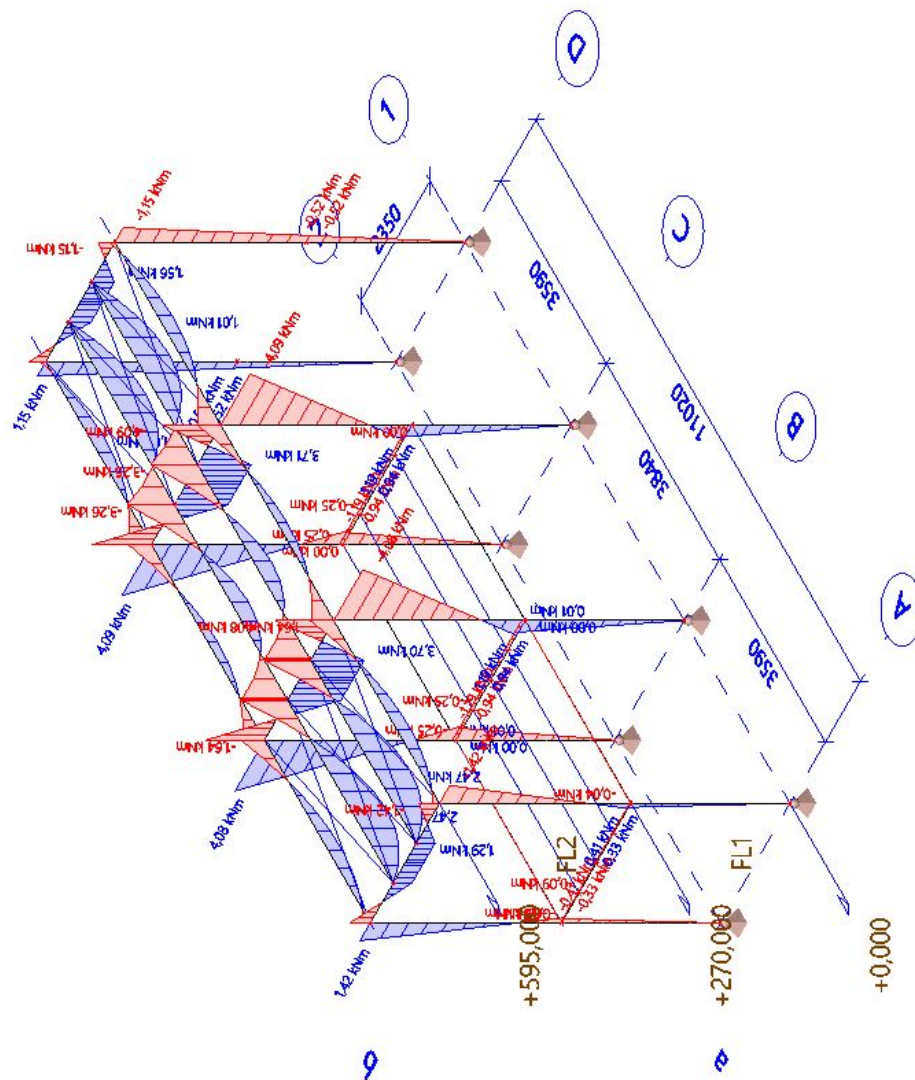
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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B33	0,000	Sneg	-14,77	0,07	-1,62	0,00	1,19	-0,12
B34	0,000	Sneg	-14,76	-0,04	0,35	0,00	0,00	0,00
B34	270,000	Sneg	-14,76	-0,04	0,35	0,00	0,94	-0,11
B35	0,000	Sneg	-14,77	0,07	1,62	0,00	-1,19	-0,12
B35	325,000	Sneg	-14,77	0,07	1,62	0,00	4,08	0,12
B36	0,000	Sneg	-14,76	-0,04	-0,35	0,00	0,00	0,00
B36	270,000	Sneg	-14,76	-0,04	-0,35	0,00	-0,94	-0,11
B37	0,000	Sneg	-14,85	0,02	1,62	0,00	-1,19	-0,07
B37	325,000	Sneg	-14,85	0,02	1,62	0,00	4,09	-0,02
B38	0,000	Sneg	-14,86	-0,03	-0,35	0,00	0,00	0,00
B38	270,000	Sneg	-14,86	-0,03	-0,35	0,00	-0,94	-0,07
B39	325,000	Sneg	-14,85	0,02	-1,62	0,00	-4,09	-0,02
B39	0,000	Sneg	-14,85	0,02	-1,62	0,00	1,19	-0,07
B40	0,000	Sneg	-14,86	-0,03	0,35	0,00	0,00	0,00
B40	270,000	Sneg	-14,86	-0,03	0,35	0,00	0,94	-0,07
B41	0,000	Sneg	-5,29	0,06	0,19	0,00	0,52	0,16
B41	325,000	Sneg	-5,29	0,06	0,19	0,00	1,15	0,36
B42	0,000	Sneg	-5,29	0,06	0,19	0,00	0,00	0,00
B42	270,000	Sneg	-5,29	0,06	0,19	0,00	0,52	0,16
B43	325,000	Sneg	-5,29	0,06	-0,19	0,00	-1,15	0,36
B43	0,000	Sneg	-5,29	0,06	-0,19	0,00	-0,52	0,16
B44	270,000	Sneg	-5,29	0,06	-0,19	0,00	-0,52	0,16
B44	0,000	Sneg	-5,29	0,06	-0,19	0,00	0,00	0,00
B45	117,500+	Sneg	0,69	0,00	0,00	0,00	-0,09	0,00
B45	58,750+	Sneg	0,69	0,00	0,00	0,00	-0,09	0,00
B45	58,750-	Sneg	0,69	0,00	0,00	0,00	-0,09	0,00
B46	58,750+	Sneg	1,97	0,00	0,00	0,00	-0,25	0,00
B46	117,500+	Sneg	1,97	0,00	0,00	0,00	-0,25	0,00
B46	0,000	Sneg	1,97	0,00	0,00	0,00	-0,25	0,00
B47	58,750+	Sneg	1,97	0,00	0,00	0,00	-0,25	0,00
B47	117,500+	Sneg	1,97	0,00	0,00	0,00	-0,25	0,00
B47	0,000	Sneg	1,97	0,00	0,00	0,00	-0,25	0,00
B48	384,000	Sneg	0,04	0,00	0,00	0,00	0,01	0,00
B48	0,000	Sneg	0,04	0,00	0,00	0,00	0,00	0,00
B49	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B50	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B51	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B52	384,000	Sneg	0,04	0,00	0,00	0,00	0,01	0,00
B52	0,000	Sneg	0,04	0,00	0,00	0,00	0,00	0,00
B53	359,000	Sneg	0,15	0,00	-0,01	0,00	-0,04	0,00
B53	0,000	Sneg	0,15	0,00	-0,01	0,00	0,00	0,00
B54	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B55	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B56	0,000	Sneg	0,00	0,00	0,00	0,00	0,00	0,00
B57	359,000	Sneg	0,15	0,00	-0,01	0,00	-0,04	0,00
B57	0,000	Sneg	0,15	0,00	-0,01	0,00	0,00	0,00



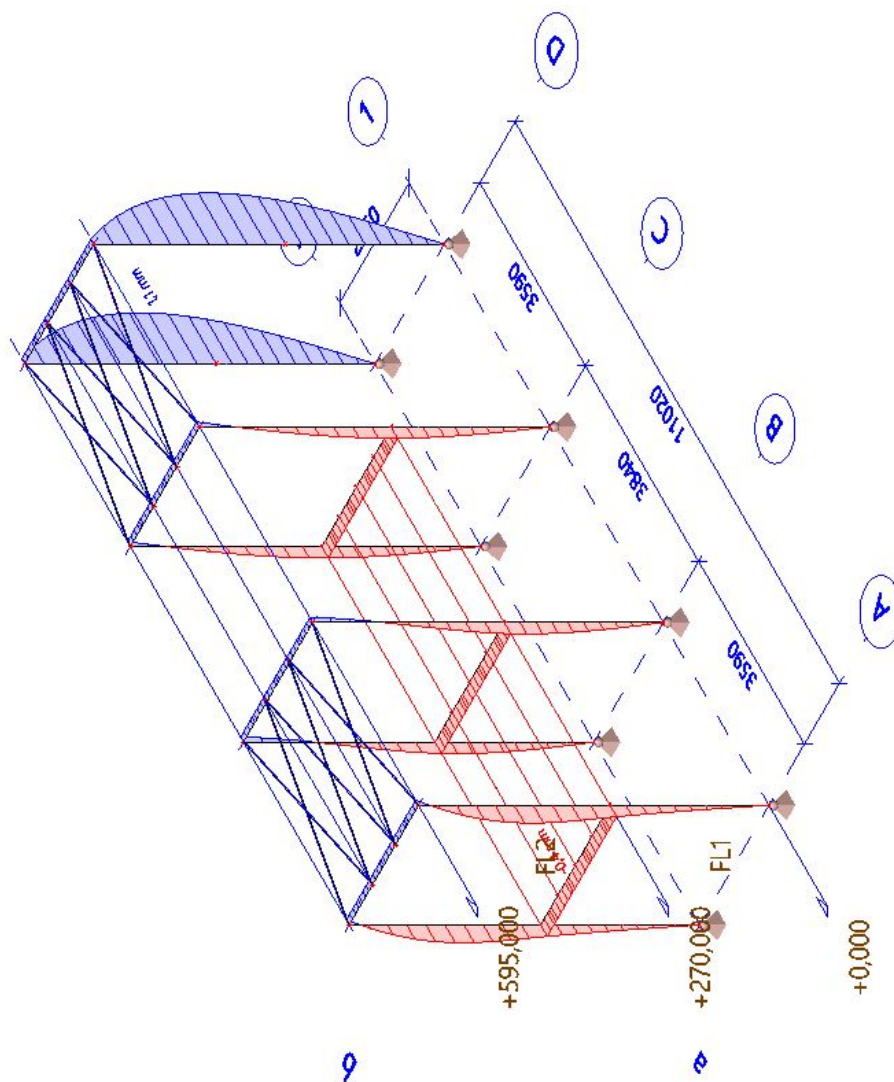
Values: N
Linear calculation
Load case: Sneg
Coordinate system: Principal
Extreme 1D: Member
Selection: All





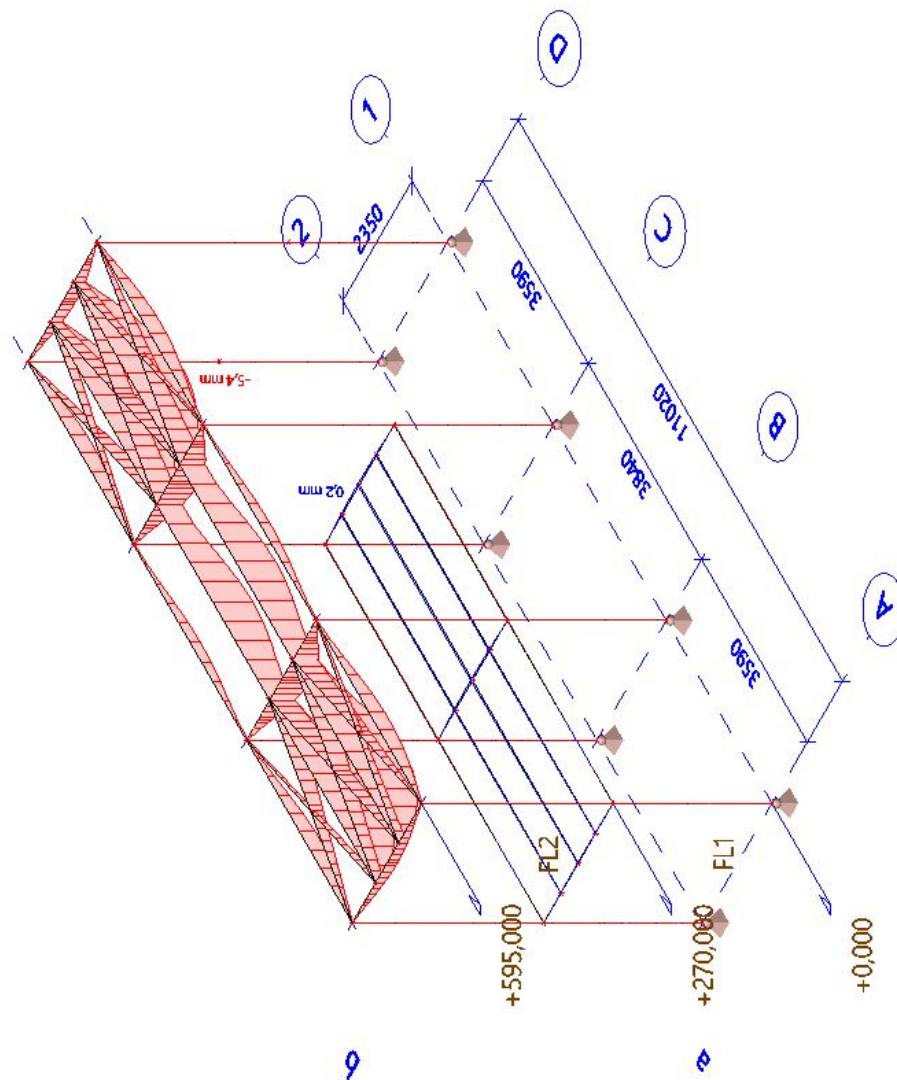
Values: M_y
 Linear calculation
 Load case: Sneg
 Coordinate system: Principal
 Extreme 1D: Member
 Selection: All





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





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



**Project Kulturni center Čatež****10.5. NSK in Pomiki po obtežnih primerih - Potres x**

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

10.5.1. 1D internal forces

Linear calculation

Load case: Potres x

Coordinate system: Principal

Extreme 1D: Member

Selection: All

Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B9	111,905-	Potres x	0,14	0,00	0,00	0,00	0,00	0,03
B9	235,000	Potres x	0,07	-0,04	0,00	0,00	0,00	0,00
B9	0,000	Potres x	0,07	0,04	0,00	0,00	0,00	0,00
B10	223,810+	Potres x	-0,07	-0,05	0,00	0,00	0,00	0,01
B10	156,667+	Potres x	-0,07	-0,02	0,00	0,00	0,00	0,03
B10	78,333-	Potres x	-0,07	0,02	0,00	0,00	0,00	0,03
B10	0,000	Potres x	-0,07	0,05	0,00	0,00	0,00	0,00
B10	111,905-	Potres x	-0,14	0,00	0,00	0,00	0,00	0,03
B11	156,667+	Potres x	0,07	-0,03	0,00	0,00	0,00	0,03
B11	78,333-	Potres x	0,07	0,03	0,00	0,00	0,00	0,03
B11	235,000	Potres x	0,07	-0,05	0,00	0,00	0,00	0,00
B11	0,000	Potres x	0,07	0,05	0,00	0,00	0,00	0,00
B11	111,905-	Potres x	0,14	0,00	0,00	0,00	0,00	0,03
B12	235,000	Potres x	-0,07	-0,04	0,00	0,00	0,00	0,00
B12	0,000	Potres x	-0,07	0,04	0,00	0,00	0,00	0,00
B12	111,905-	Potres x	-0,15	0,00	0,00	0,00	0,00	0,03
B13	323,100+	Potres x	-0,28	0,00	-1,09	0,00	-1,38	0,00
B13	359,000+	Potres x	0,42	0,00	-0,57	0,00	1,18	0,00
B13	743,000+	Potres x	0,32	0,00	-1,15	0,00	1,68	0,00
B13	0,000	Potres x	-0,04	0,00	-1,09	0,00	2,15	0,00
B13	1102,000	Potres x	0,07	0,00	-1,15	0,00	-2,44	0,00
B13	743,000-	Potres x	0,16	0,00	-0,57	0,00	-1,03	0,00
B14	323,100+	Potres x	-0,28	0,00	-1,09	0,00	-1,38	0,00
B14	743,000+	Potres x	0,32	0,00	-1,15	0,00	1,68	0,00
B14	1102,000	Potres x	0,07	0,00	-1,15	0,00	-2,44	0,00
B14	0,000	Potres x	-0,04	0,00	-1,09	0,00	2,15	0,00
B14	359,000+	Potres x	0,42	0,00	-0,57	0,00	1,18	0,00
B14	743,000-	Potres x	0,16	0,00	-0,57	0,00	-1,03	0,00
B15	1066,100+	Potres x	-0,30	0,00	0,00	0,00	0,00	0,00
B15	515,011+	Potres x	0,03	0,00	0,00	0,00	0,00	0,00
B15	0,000	Potres x	0,31	0,00	0,00	0,00	0,00	0,00
B15	743,000-	Potres x	-0,20	0,00	0,00	0,00	0,00	0,00
B15	359,000-	Potres x	-0,08	0,00	0,00	0,00	0,00	0,00
B15	363,018-	Potres x	-0,09	0,07	0,00	0,00	0,00	0,00
B16	1066,100+	Potres x	-0,30	0,00	0,00	0,00	0,00	0,00
B16	359,000+	Potres x	-0,09	-0,07	0,00	0,00	0,00	0,00
B16	515,011+	Potres x	0,03	0,00	0,00	0,00	0,00	0,00
B16	0,000	Potres x	0,31	0,00	0,00	0,00	0,00	0,00
B16	743,000-	Potres x	-0,20	0,00	0,00	0,00	0,00	0,00
B16	363,018-	Potres x	-0,09	-0,07	0,00	0,00	0,00	0,00
B17	0,000	Potres x	0,33	0,00	0,00	0,00	0,00	0,00
B18	0,000	Potres x	-0,33	0,00	0,00	0,00	0,00	0,00
B19	0,000	Potres x	-0,01	0,00	0,00	0,00	0,00	0,00
B20	0,000	Potres x	-0,01	0,00	0,00	0,00	0,00	0,00
B21	0,000	Potres x	-0,33	0,00	0,00	0,00	0,00	0,00
B22	0,000	Potres x	0,33	0,00	0,00	0,00	0,00	0,00
B23	0,000	Potres x	0,34	0,00	0,00	0,00	0,00	0,00
B24	0,000	Potres x	-0,35	0,00	0,00	0,00	0,00	0,00
B25	0,000	Potres x	0,01	0,00	0,00	0,00	0,00	0,00
B26	0,000	Potres x	0,01	0,00	0,00	0,00	0,00	0,00
B27	0,000	Potres x	-0,35	0,00	0,00	0,00	0,00	0,00

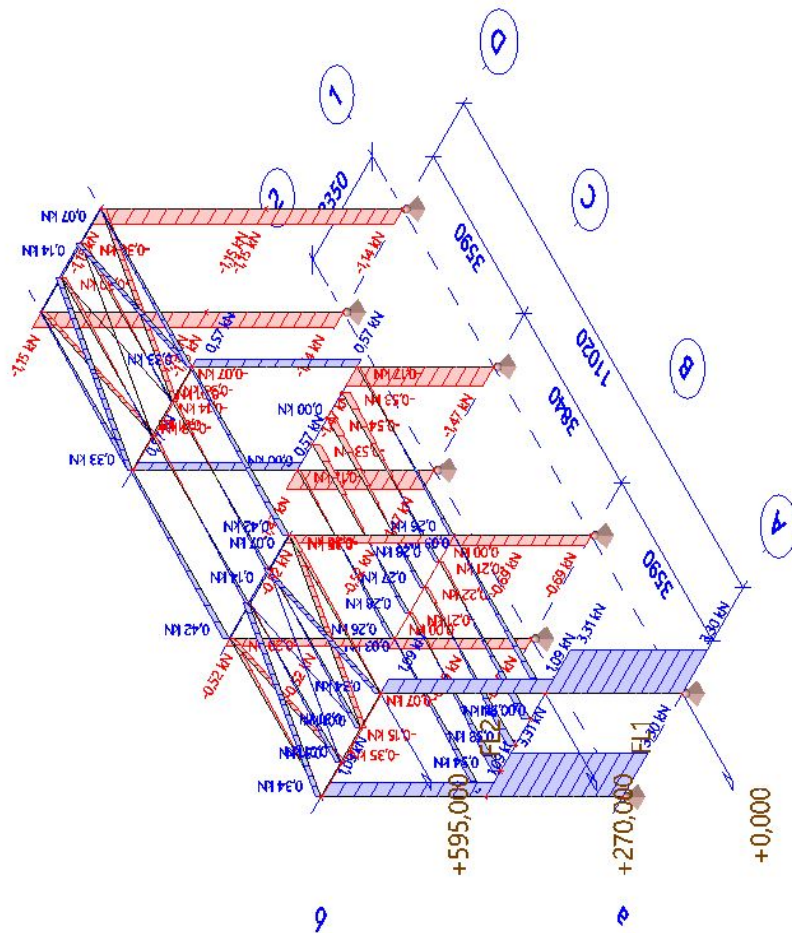


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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B28	0,000	Potres x	0,34	0,00	0,00	0,00	0,00	0,00
B29	270,000	Potres x	3,31	1,82	0,00	0,00	0,00	4,99
B29	0,000	Potres x	3,30	1,86	0,00	0,00	0,00	0,00
B30	325,000	Potres x	1,09	0,36	0,00	0,00	0,00	2,15
B30	0,000	Potres x	1,09	0,46	0,00	0,00	0,00	0,80
B31	0,000	Potres x	1,09	0,46	0,00	0,00	0,00	0,80
B31	325,000	Potres x	1,09	0,36	0,00	0,00	0,00	2,15
B32	0,000	Potres x	3,30	1,86	0,00	0,00	0,00	0,00
B32	270,000	Potres x	3,31	1,82	0,00	0,00	0,00	4,99
B33	130,000+	Potres x	-0,52	1,19	0,00	0,00	0,00	0,68
B33	0,000	Potres x	-0,52	1,23	0,00	0,00	0,00	-0,90
B33	325,000	Potres x	-0,52	1,13	0,00	0,00	0,00	2,95
B34	108,000+	Potres x	-0,69	2,44	0,00	0,00	0,00	2,63
B34	270,000	Potres x	-0,69	2,40	0,00	0,00	0,00	6,56
B34	0,000	Potres x	-0,69	2,44	0,00	0,00	0,00	0,00
B35	130,000+	Potres x	-0,52	1,19	0,00	0,00	0,00	0,68
B35	325,000	Potres x	-0,52	1,13	0,00	0,00	0,00	2,95
B35	0,000	Potres x	-0,52	1,23	0,00	0,00	0,00	-0,90
B36	108,000+	Potres x	-0,69	2,44	0,00	0,00	0,00	2,63
B36	0,000	Potres x	-0,69	2,44	0,00	0,00	0,00	0,00
B36	270,000	Potres x	-0,69	2,40	0,00	0,00	0,00	6,56
B37	0,000	Potres x	0,57	0,67	0,00	0,00	0,00	0,67
B37	325,000	Potres x	0,57	0,57	0,00	0,00	0,00	2,70
B38	270,000	Potres x	-1,47	1,76	0,00	0,00	0,00	4,82
B38	0,000	Potres x	-1,47	1,80	0,00	0,00	0,00	0,00
B39	325,000	Potres x	0,57	0,57	0,00	0,00	0,00	2,70
B39	0,000	Potres x	0,57	0,67	0,00	0,00	0,00	0,67
B40	0,000	Potres x	-1,47	1,80	0,00	0,00	0,00	0,00
B40	270,000	Potres x	-1,47	1,76	0,00	0,00	0,00	4,82
B41	325,000	Potres x	-1,15	0,32	0,00	0,00	0,00	2,44
B41	0,000	Potres x	-1,15	0,42	0,00	0,00	0,00	1,22
B42	270,000	Potres x	-1,15	0,43	0,00	0,00	0,00	1,22
B42	0,000	Potres x	-1,14	0,46	0,00	0,00	0,00	0,00
B43	0,000	Potres x	-1,15	0,42	0,00	0,00	0,00	1,22
B43	325,000	Potres x	-1,15	0,32	0,00	0,00	0,00	2,44
B44	0,000	Potres x	-1,14	0,46	0,00	0,00	0,00	0,00
B44	270,000	Potres x	-1,15	0,43	0,00	0,00	0,00	1,22
B45	223,250+	Potres x	0,00	0,89	0,00	0,00	0,00	-0,10
B45	0,000	Potres x	0,00	-0,89	0,00	0,00	0,00	0,00
B45	117,500-	Potres x	0,00	-0,29	0,00	0,00	0,00	-0,69
B46	223,250+	Potres x	0,00	0,89	0,00	0,00	0,00	-0,10
B46	0,000	Potres x	0,00	-0,89	0,00	0,00	0,00	0,00
B46	117,500-	Potres x	0,00	-0,29	0,00	0,00	0,00	-0,69
B47	223,250+	Potres x	0,00	0,88	0,00	0,00	0,00	-0,10
B47	0,000	Potres x	0,00	-0,88	0,00	0,00	0,00	0,00
B47	117,500-	Potres x	0,00	-0,29	0,00	0,00	0,00	-0,69
B48	384,000	Potres x	0,26	0,00	2,04	0,00	3,70	0,00
B48	0,000	Potres x	-0,17	0,00	2,04	0,00	-4,15	0,00
B49	345,600+	Potres x	0,28	0,00	0,00	0,00	0,00	0,00
B49	153,600-	Potres x	-0,26	0,00	0,00	0,00	0,00	0,00
B49	0,000	Potres x	-0,53	0,00	0,00	0,00	0,00	0,00
B50	345,600+	Potres x	0,27	0,00	0,00	0,00	0,00	0,00
B50	153,600-	Potres x	-0,27	0,00	0,00	0,00	0,00	0,00
B50	0,000	Potres x	-0,54	0,00	0,00	0,00	0,00	0,00
B51	345,600+	Potres x	0,28	0,00	0,00	0,00	0,00	0,00
B51	153,600-	Potres x	-0,26	0,00	0,00	0,00	0,00	0,00
B51	0,000	Potres x	-0,53	0,00	0,00	0,00	0,00	0,00
B52	384,000	Potres x	0,26	0,00	2,04	0,00	3,70	0,00
B52	0,000	Potres x	-0,17	0,00	2,04	0,00	-4,15	0,00
B53	359,000	Potres x	0,44	0,00	2,21	0,00	4,18	0,00
B53	0,000	Potres x	0,03	0,00	2,21	0,00	-3,76	0,00
B54	323,100+	Potres x	0,54	0,00	0,00	0,00	0,00	0,00
B54	215,400-	Potres x	0,20	0,00	0,00	0,00	0,00	0,00
B54	0,000	Potres x	-0,21	0,00	0,00	0,00	0,00	0,00
B55	323,100+	Potres x	0,53	0,00	0,00	0,00	0,00	0,00
B55	215,400-	Potres x	0,20	0,00	0,00	0,00	0,00	0,00

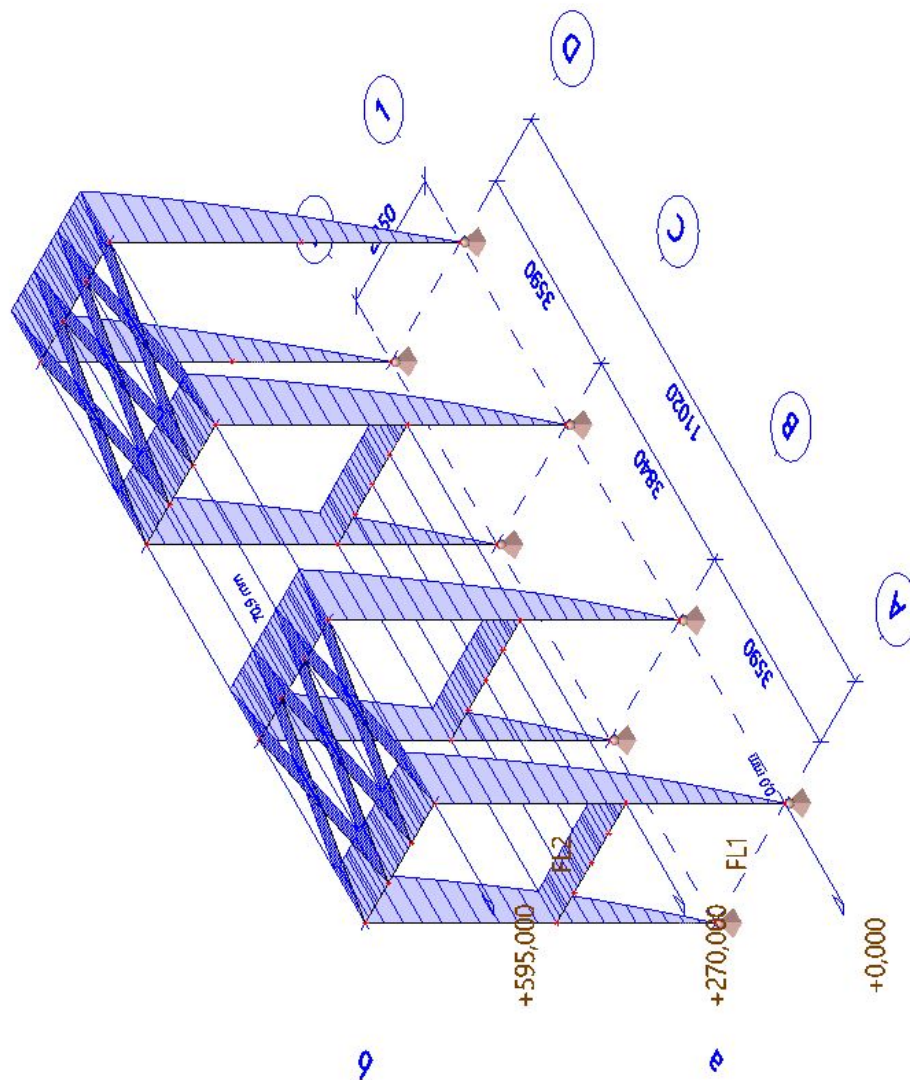


Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B55	0,000	Potres x	-0,22	0,00	0,00	0,00	0,00	0,00
B56	323,100+	Potres x	0,54	0,00	0,00	0,00	0,00	0,00
B56	215,400-	Potres x	0,20	0,00	0,00	0,00	0,00	0,00
B56	0,000	Potres x	-0,21	0,00	0,00	0,00	0,00	0,00
B57	359,000	Potres x	0,44	0,00	2,21	0,00	4,18	0,00
B57	0,000	Potres x	0,03	0,00	2,21	0,00	-3,76	0,00



Values: N
Linear calculation
Load case: Potres x
Coordinate system: Principal
Extreme ID: Member
Selection: All





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





10.6. NSK in Pomiki po obtežnih primerih - Potres y

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

10.6.1. 1D internal forces

Linear calculation

Load case: Potres y

Coordinate system: Principal

Extreme 1D: Member

Selection: All

Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B9	111,905+	Potres y	0,00	-0,01	-5,36	0,00	0,30	0,00
B9	0,000	Potres y	0,56	0,01	-5,36	0,00	6,29	0,00
B9	235,000	Potres y	-0,56	0,01	-5,36	0,00	-6,29	0,00
B9	156,667-	Potres y	-0,02	-0,01	-5,36	0,00	-2,10	0,00
B9	78,333-	Potres y	0,52	0,01	-5,36	0,00	2,10	0,00
B10	111,905+	Potres y	0,00	-0,01	-4,15	0,00	0,23	0,00
B10	0,000	Potres y	0,98	0,01	-4,16	0,00	4,88	0,00
B10	235,000	Potres y	-0,98	0,01	-4,16	0,00	-4,88	0,00
B10	156,667-	Potres y	-0,02	-0,01	-4,15	0,00	-1,62	0,00
B10	78,333-	Potres y	0,94	0,00	-4,15	0,00	1,62	0,00
B11	111,905+	Potres y	0,00	0,01	-2,67	0,00	0,15	0,00
B11	0,000	Potres y	0,39	-0,01	-2,67	0,00	3,14	0,00
B11	235,000	Potres y	-0,39	-0,01	-2,67	0,00	-3,14	0,00
B11	78,333-	Potres y	0,36	-0,01	-2,67	0,00	1,05	-0,01
B11	156,667-	Potres y	-0,02	0,01	-2,67	0,00	-1,05	0,01
B12	111,905+	Potres y	0,00	0,02	-2,68	0,00	0,15	0,00
B12	0,000	Potres y	0,62	-0,01	-2,68	0,00	3,15	0,00
B12	235,000	Potres y	-0,62	-0,01	-2,68	0,00	-3,15	0,00
B12	78,333-	Potres y	0,59	-0,01	-2,68	0,00	1,05	-0,01
B12	156,667-	Potres y	-0,02	0,02	-2,68	0,00	-1,05	0,01
B13	359,000+	Potres y	-0,94	-0,08	-0,04	0,00	0,08	-0,11
B13	323,100+	Potres y	-0,43	0,15	-0,07	0,00	-0,09	-0,16
B13	743,000+	Potres y	-0,45	-0,35	-0,07	0,00	0,10	0,40
B13	704,600+	Potres y	-0,94	0,34	-0,04	0,00	-0,05	0,27
B13	0,000	Potres y	-0,44	-0,21	-0,07	0,00	0,13	0,00
B13	1102,000	Potres y	-0,44	0,16	-0,07	0,00	-0,16	0,00
B13	215,400-	Potres y	-0,43	-0,01	-0,07	0,00	-0,01	-0,23
B14	323,100+	Potres y	0,43	0,15	0,07	0,00	0,09	-0,16
B14	743,000+	Potres y	0,45	-0,35	0,07	0,00	-0,10	0,40
B14	704,600+	Potres y	0,94	0,34	0,04	0,00	0,05	0,27
B14	359,000+	Potres y	0,94	-0,08	0,04	0,00	-0,08	-0,11
B14	0,000	Potres y	0,44	-0,21	0,07	0,00	-0,13	0,00
B14	1102,000	Potres y	0,44	0,16	0,07	0,00	0,16	0,00
B14	215,400-	Potres y	0,43	-0,01	0,07	0,00	0,01	-0,23
B15	363,018+	Potres y	-0,06	-0,18	0,00	0,00	-0,01	-0,02
B15	743,000+	Potres y	-0,03	-0,52	0,00	0,00	0,00	0,51
B15	0,000	Potres y	0,02	-0,29	0,00	0,00	0,00	0,00
B15	359,000-	Potres y	-0,01	0,28	0,00	0,00	-0,01	-0,03
B15	179,500-	Potres y	0,01	-0,04	0,00	0,00	-0,01	-0,29
B15	743,000-	Potres y	-0,06	0,48	0,00	0,00	0,00	0,51
B16	363,018+	Potres y	0,06	-0,18	0,00	0,00	0,01	-0,02
B16	743,000+	Potres y	0,03	-0,52	0,00	0,00	0,00	0,51
B16	0,000	Potres y	-0,02	-0,29	0,00	0,00	0,00	0,00
B16	743,000-	Potres y	0,06	0,48	0,00	0,00	0,00	0,51
B16	359,000-	Potres y	0,01	0,28	0,00	0,00	0,01	-0,03
B16	179,500-	Potres y	-0,01	-0,04	0,00	0,00	0,01	-0,29
B17	0,000	Potres y	-0,47	0,00	0,00	0,00	0,00	0,00
B18	0,000	Potres y	0,45	0,00	0,00	0,00	0,00	0,00
B19	0,000	Potres y	-0,48	0,00	0,00	0,00	0,00	0,00
B20	0,000	Potres y	0,48	0,00	0,00	0,00	0,00	0,00
B21	0,000	Potres y	-0,45	0,00	0,00	0,00	0,00	0,00



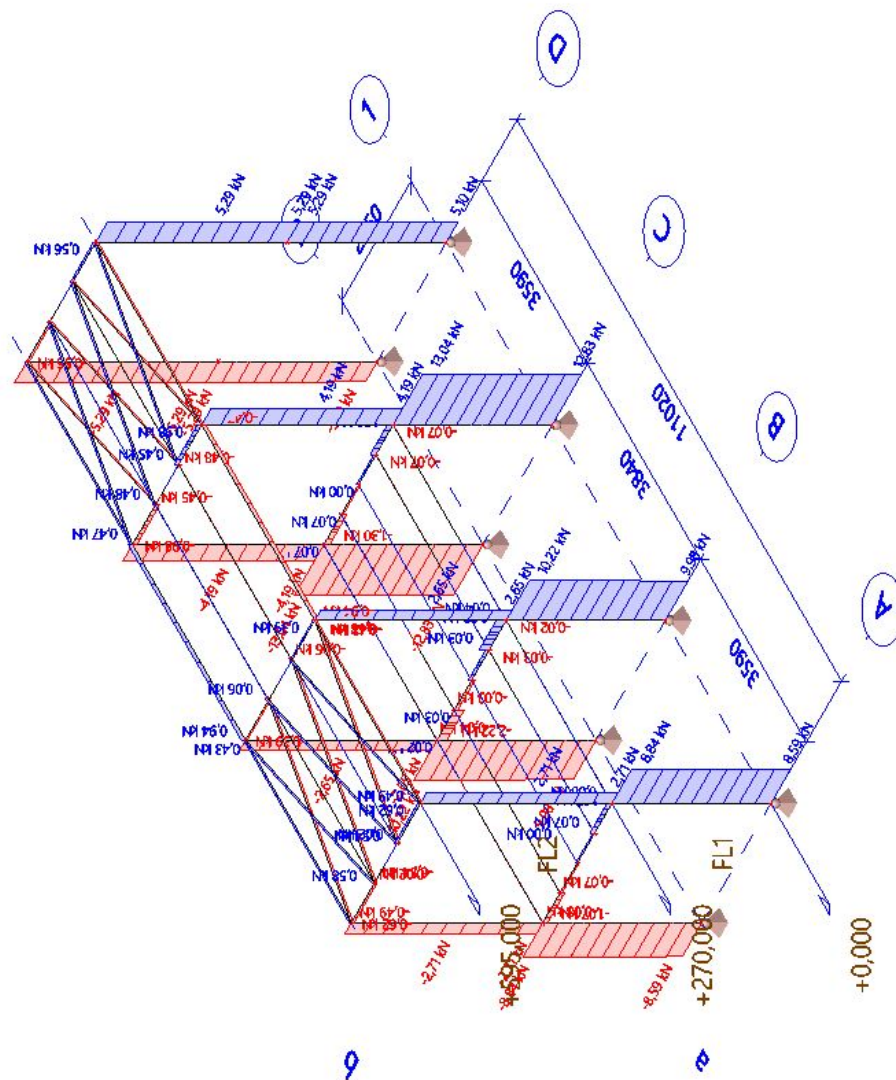
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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B22	0,000	Potres y	0,47	0,00	0,00	0,00	0,00	0,00
B23	0,000	Potres y	0,49	0,00	0,00	0,00	0,00	0,00
B24	0,000	Potres y	-0,58	0,00	0,00	0,00	0,00	0,00
B25	0,000	Potres y	0,54	0,00	0,00	0,00	0,00	0,00
B26	0,000	Potres y	-0,54	0,00	0,00	0,00	0,00	0,00
B27	0,000	Potres y	0,58	0,00	0,00	0,00	0,00	0,00
B28	0,000	Potres y	-0,49	0,00	0,00	0,00	0,00	0,00
B29	108,000+	Potres y	8,84	0,15	2,64	0,00	2,68	0,17
B29	0,000	Potres y	8,59	0,16	2,42	0,00	0,00	0,00
B29	270,000	Potres y	8,84	0,14	2,58	0,00	6,91	0,41
B30	130,000+	Potres y	2,71	0,02	1,06	0,00	1,16	0,12
B30	0,000	Potres y	2,71	0,03	1,12	0,00	-0,27	0,11
B30	325,000	Potres y	2,71	0,03	0,97	0,00	3,15	0,14
B31	130,000+	Potres y	-2,71	-0,02	1,06	0,00	1,16	-0,12
B31	0,000	Potres y	-2,71	-0,03	1,12	0,00	-0,27	-0,11
B31	325,000	Potres y	-2,71	-0,03	0,97	0,00	3,15	-0,14
B32	108,000+	Potres y	-8,84	-0,15	2,64	0,00	2,68	-0,17
B32	0,000	Potres y	-8,59	-0,16	2,42	0,00	0,00	0,00
B32	270,000	Potres y	-8,84	-0,14	2,58	0,00	6,91	-0,41
B33	130,000+	Potres y	2,65	0,07	0,65	0,00	1,96	0,07
B33	0,000	Potres y	2,65	0,08	0,71	0,00	1,10	-0,05
B33	325,000	Potres y	2,65	0,06	0,56	0,00	3,14	0,19
B34	108,000+	Potres y	10,22	0,19	3,78	0,00	3,98	0,21
B34	0,000	Potres y	9,98	0,20	3,66	0,00	0,00	0,00
B34	270,000	Potres y	10,22	0,19	3,72	0,00	10,06	0,52
B35	130,000+	Potres y	-2,65	-0,07	0,65	0,00	1,96	-0,07
B35	0,000	Potres y	-2,65	-0,08	0,71	0,00	1,10	0,05
B35	325,000	Potres y	-2,65	-0,06	0,56	0,00	3,14	-0,19
B36	108,000+	Potres y	-10,22	-0,19	3,78	0,00	3,98	-0,21
B36	0,000	Potres y	-9,98	-0,20	3,66	0,00	0,00	0,00
B36	270,000	Potres y	-10,22	-0,19	3,72	0,00	10,06	-0,52
B37	130,000+	Potres y	-4,19	-0,03	1,76	0,00	1,55	-0,13
B37	260,000+	Potres y	-4,19	-0,03	1,68	0,00	3,80	-0,16
B37	0,000	Potres y	-4,19	-0,04	1,83	0,00	-0,82	-0,10
B37	325,000	Potres y	-4,19	-0,03	1,65	0,00	4,88	-0,17
B38	108,000+	Potres y	-13,04	-0,15	3,66	0,00	3,92	-0,16
B38	0,000	Potres y	-12,83	-0,16	3,64	0,00	0,00	0,00
B38	270,000	Potres y	-13,04	-0,14	3,59	0,00	9,80	-0,40
B39	130,000+	Potres y	4,19	0,03	1,76	0,00	1,55	0,13
B39	260,000+	Potres y	4,19	0,03	1,68	0,00	3,80	0,16
B39	0,000	Potres y	4,19	0,04	1,83	0,00	-0,82	0,10
B39	325,000	Potres y	4,19	0,03	1,65	0,00	4,88	0,17
B40	108,000+	Potres y	13,04	0,15	3,66	0,00	3,92	0,16
B40	0,000	Potres y	12,83	0,16	3,64	0,00	0,00	0,00
B40	270,000	Potres y	13,04	0,14	3,59	0,00	9,80	0,40
B41	130,000+	Potres y	-5,29	-0,02	0,98	0,00	4,49	-0,13
B41	0,000	Potres y	-5,29	-0,03	1,07	0,00	3,14	-0,10
B41	325,000	Potres y	-5,29	-0,01	0,85	0,00	6,29	-0,16
B42	0,000	Potres y	-5,10	-0,05	1,22	0,00	0,00	0,00
B42	270,000	Potres y	-5,29	-0,03	1,10	0,00	3,14	-0,10
B43	130,000+	Potres y	5,29	0,02	0,98	0,00	4,49	0,13
B43	0,000	Potres y	5,29	0,03	1,07	0,00	3,14	0,10
B43	325,000	Potres y	5,29	0,01	0,85	0,00	6,29	0,16
B44	0,000	Potres y	5,10	0,05	1,22	0,00	0,00	0,00
B44	270,000	Potres y	5,29	0,03	1,10	0,00	3,14	0,10
B45	105,750+	Potres y	-0,35	-0,03	6,12	0,00	-0,72	0,00
B45	0,000	Potres y	-1,07	0,04	6,11	0,00	-7,19	0,00
B45	235,000	Potres y	1,07	0,04	6,11	0,00	7,19	0,00
B45	176,250-	Potres y	0,36	-0,03	6,12	0,00	3,60	-0,02
B45	58,750-	Potres y	-1,06	0,04	6,11	0,00	-3,60	0,02
B46	117,500+	Potres y	0,73	-0,04	7,66	0,00	0,00	0,00
B46	0,000	Potres y	-2,22	0,04	7,62	0,00	-8,98	0,00
B46	235,000	Potres y	2,22	0,04	7,62	0,00	8,98	0,00
B46	176,250-	Potres y	0,75	-0,03	7,66	0,00	4,50	-0,02
B46	58,750-	Potres y	-2,20	0,04	7,62	0,00	-4,50	0,02
B47	117,500+	Potres y	0,42	-0,03	9,02	0,00	0,00	0,00



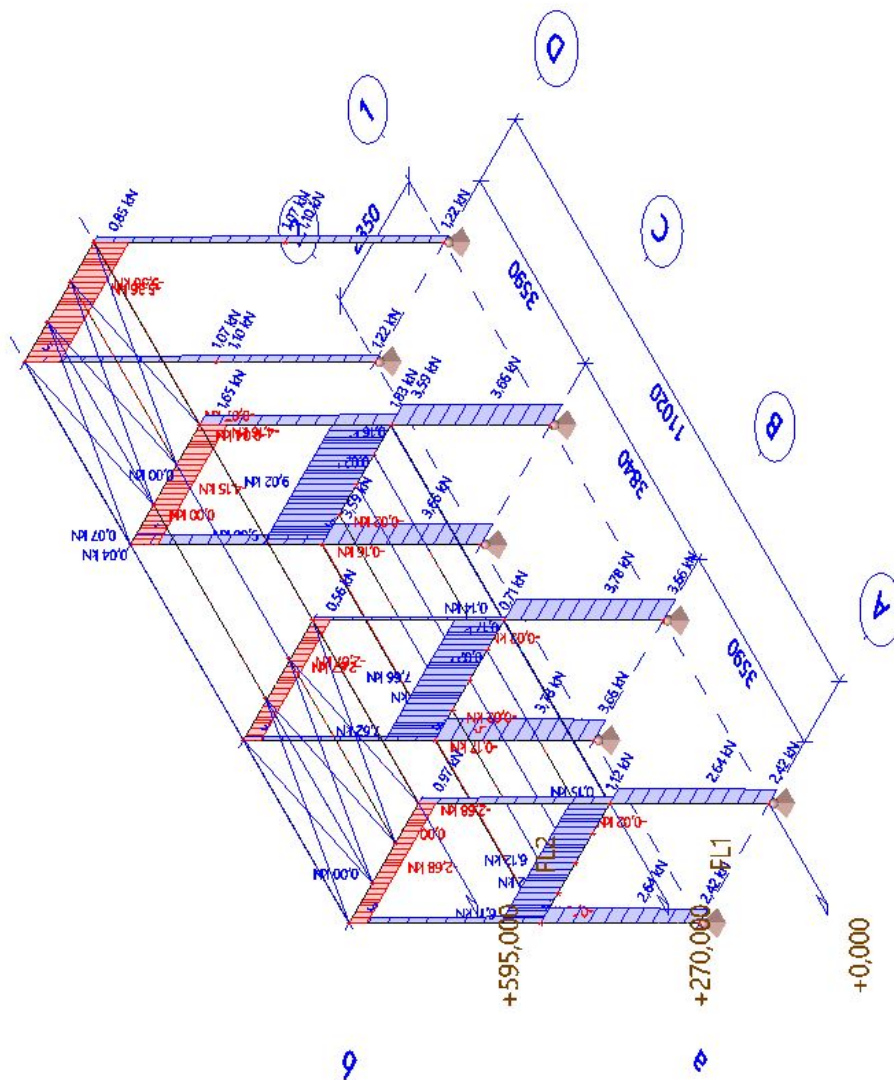
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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B47	0,000	Potres y	-1,30	0,04	9,00	0,00	-10,59	0,00
B47	235,000	Potres y	1,30	0,04	9,00	0,00	10,59	0,00
B47	176,250-	Potres y	0,44	-0,03	9,02	0,00	5,30	-0,02
B47	58,750-	Potres y	-1,28	0,04	9,00	0,00	-5,30	0,02
B48	384,000	Potres y	-0,04	-0,39	-0,14	0,00	-0,26	0,00
B48	0,000	Potres y	0,07	0,41	-0,16	0,00	0,30	0,00
B48	192,000-	Potres y	0,02	0,04	-0,15	0,00	0,01	0,42
B49	345,600+	Potres y	-0,03	-0,71	0,02	0,00	-0,01	0,27
B49	192,000-	Potres y	0,02	0,07	0,00	0,00	-0,02	0,78
B49	0,000	Potres y	0,07	0,75	-0,02	0,00	0,00	0,00
B50	345,600+	Potres y	0,00	-0,71	0,00	0,00	0,00	0,27
B50	0,000	Potres y	0,00	0,75	0,00	0,00	0,00	0,00
B50	192,000-	Potres y	0,00	0,07	0,00	0,00	0,00	0,78
B51	345,600+	Potres y	0,03	-0,71	-0,02	0,00	0,01	0,27
B51	0,000	Potres y	-0,07	0,75	0,02	0,00	0,00	0,00
B51	192,000-	Potres y	-0,02	0,07	0,00	0,00	0,02	0,78
B52	384,000	Potres y	0,04	-0,39	0,14	0,00	0,26	0,00
B52	0,000	Potres y	-0,07	0,41	0,16	0,00	-0,30	0,00
B52	192,000-	Potres y	-0,02	0,04	0,15	0,00	-0,01	0,42
B53	359,000	Potres y	-0,08	-0,34	-0,15	0,00	-0,30	0,00
B53	0,000	Potres y	0,02	0,34	-0,17	0,00	0,28	0,00
B53	179,500-	Potres y	-0,02	0,04	-0,16	0,00	-0,02	0,33
B54	323,100+	Potres y	-0,07	-0,62	0,02	0,00	-0,01	0,22
B54	179,500-	Potres y	-0,01	0,07	0,00	0,00	-0,02	0,62
B54	0,000	Potres y	0,03	0,62	-0,02	0,00	0,00	0,00
B55	323,100+	Potres y	0,00	-0,62	0,00	0,00	0,00	0,22
B55	0,000	Potres y	0,00	0,62	0,00	0,00	0,00	0,00
B55	179,500-	Potres y	0,00	0,07	0,00	0,00	0,00	0,62
B56	323,100+	Potres y	0,07	-0,62	-0,02	0,00	0,01	0,22
B56	0,000	Potres y	-0,03	0,62	0,02	0,00	0,00	0,00
B56	179,500-	Potres y	0,01	0,07	0,00	0,00	0,02	0,62
B57	359,000	Potres y	0,08	-0,34	0,15	0,00	0,30	0,00
B57	0,000	Potres y	-0,02	0,34	0,17	0,00	-0,28	0,00
B57	179,500-	Potres y	0,02	0,04	0,16	0,00	0,02	0,33



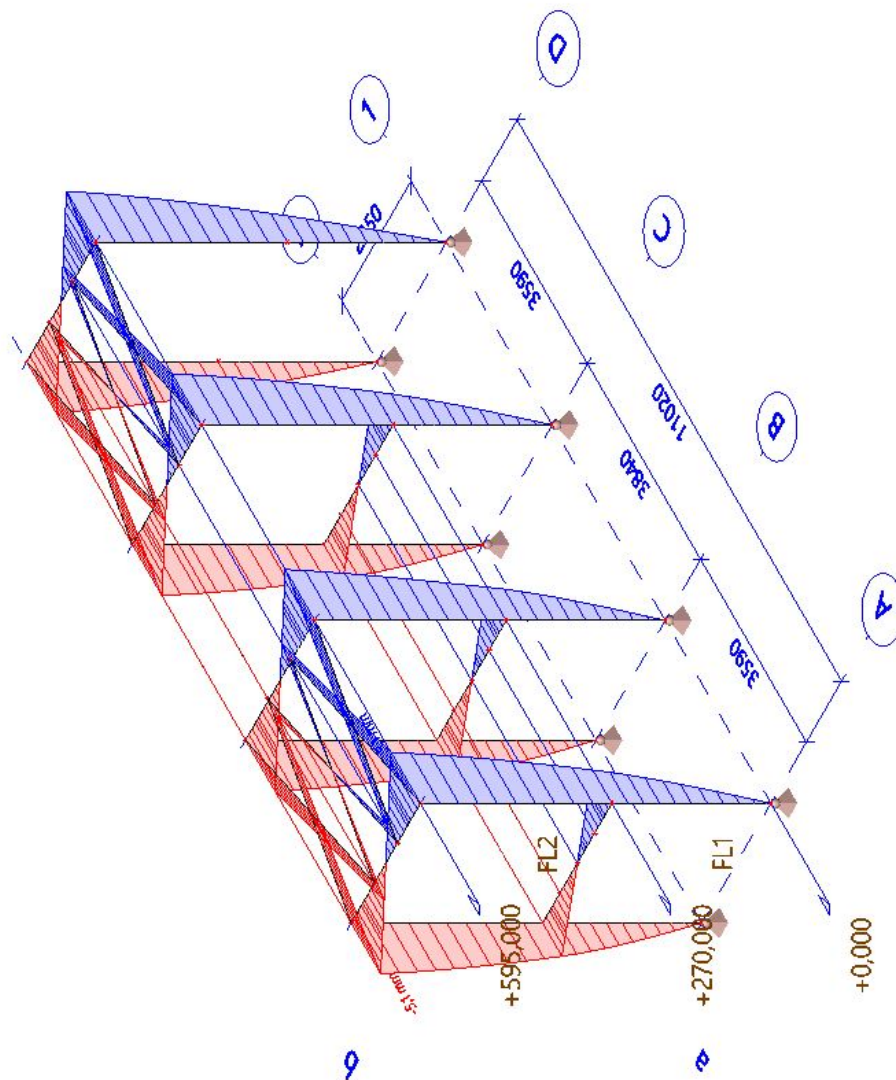
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Linear calculation
Load case: Potres y
Coordinate system: Principal
Extreme 1D: Member
Selection: All





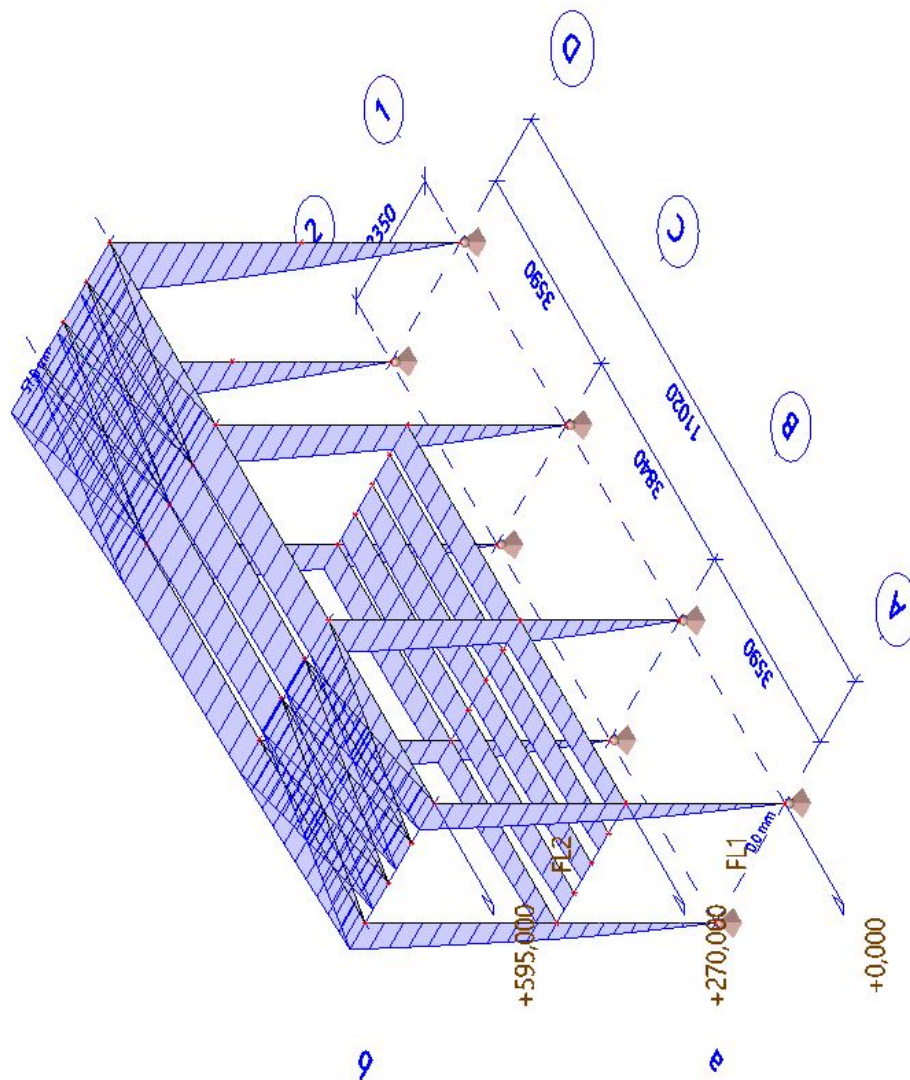
Values: V_z
 Linear calculation
 Load case: Potres Y
 Coordinate system: Principal
 Extreme 1D: Member
 Selection: All





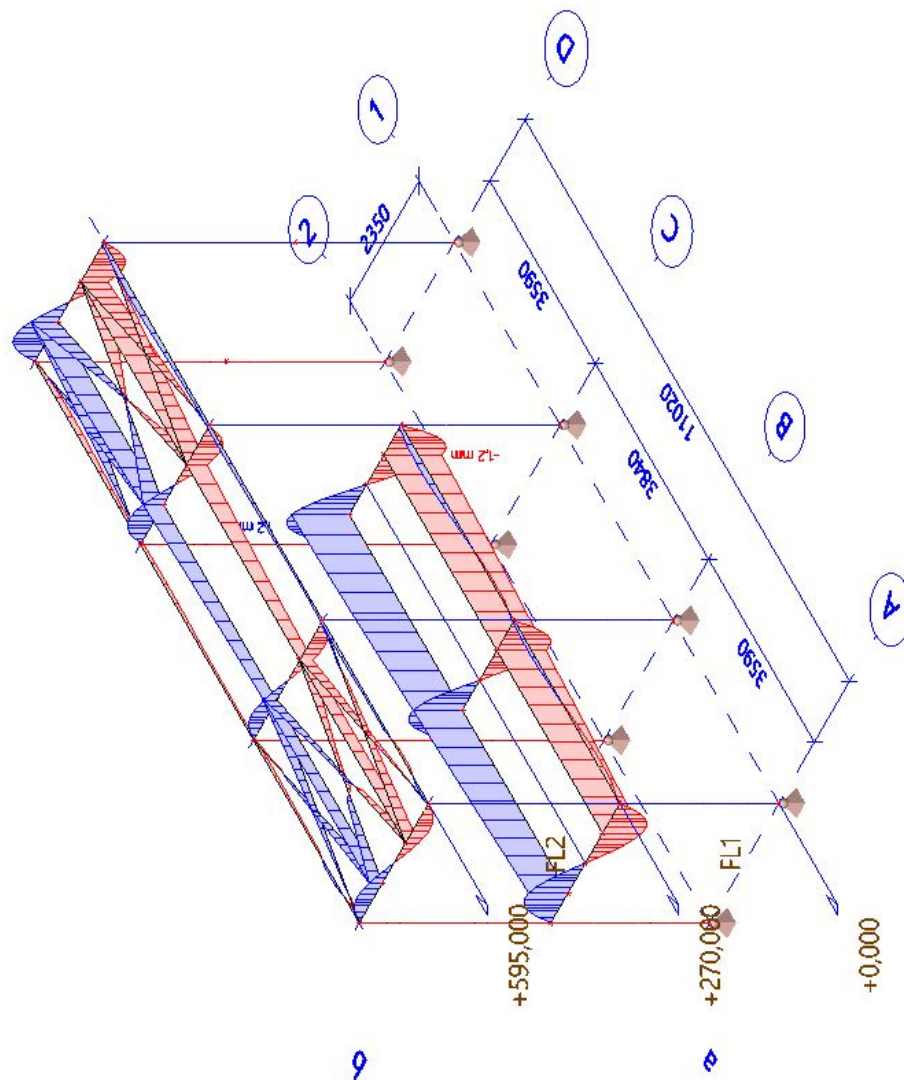
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Linear calculation
Load case: Potres Y
Coordinate system: Global
Extreme 1D: Global
Selection: All





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





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





11. Obtežne kombinacije z NSK in pomiki

11.1. Obtežne kombinacije z NSK in pomiki - All ULS

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

11.1.1. 1D internal forces

Linear calculation

Class: All ULS

Coordinate system: Principal

Extreme 1D: Member

Selection: All

Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B9	223,810+	ULS-Seis (auto)/1	0,02	-0,04	-0,98	0,00	-0,10	0,01
B9	0,000	ULS-Seis (auto)/2	0,02	0,04	1,00	0,00	-0,21	0,00
B9	0,000	ULS-Seis (auto)/3	-0,71	-0,01	7,45	0,00	-7,79	0,00
B9	0,000	ULS-Seis (auto)/4	-0,71	-0,01	7,45	0,00	-7,79	0,00
B9	235,000	ULS-Seis (auto)/5	-0,71	0,01	-7,45	0,00	-7,79	0,00
B9	0,000	Potres y/6	0,65	0,01	-6,33	0,00	7,43	0,00
B9	111,905-	Potres x/7	-0,14	0,00	0,13	0,00	-0,01	-0,03
B9	111,905-	ULS-Seis (auto)/2	0,08	0,00	-0,12	0,00	0,49	0,03
B10	78,333+	ULS-Set B (auto)/8	-3,94	0,00	0,09	0,00	6,63	0,00
B10	223,810+	ULS-Seis (auto)/1	-0,89	-0,05	-2,74	0,00	-0,89	0,01
B10	0,000	ULS-Seis (auto)/2	-0,89	0,05	2,75	0,00	-1,20	0,00
B10	235,000	ULS-Set B (auto)/9	-3,32	0,00	-18,73	0,00	-7,76	0,00
B10	0,000	ULS-Set B (auto)/9	-3,32	0,00	18,73	0,00	-7,76	0,00
B10	156,667+	Potres y/10	1,04	0,00	4,60	0,00	1,80	0,00
B10	0,000	Potres y/6	1,08	0,01	-4,60	0,00	5,40	0,00
B10	0,000	ULS-Set B (auto)/8	-3,94	0,00	18,73	0,00	-7,97	0,00
B10	117,500	ULS-Set B (auto)/9	-3,32	0,00	0,00	0,00	6,86	0,00
B10	111,905-	Potres x/7	0,14	0,00	0,06	0,00	0,00	-0,03
B10	111,905-	ULS-Seis (auto)/2	-0,97	0,00	-0,05	0,00	0,90	0,03
B11	78,333+	ULS-Set B (auto)/8	-4,76	0,00	0,09	0,00	6,35	0,00
B11	0,000	Potres y/11	0,43	-0,01	-2,81	0,00	3,31	0,00
B11	0,000	ULS-Seis (auto)/12	-1,25	-0,05	2,80	0,00	-1,36	0,00
B11	223,810+	ULS-Seis (auto)/13	-1,25	0,05	-2,78	0,00	-1,05	-0,01
B11	235,000	ULS-Set B (auto)/8	-4,75	0,00	-18,71	0,00	-8,24	0,00
B11	0,000	ULS-Seis (auto)/4	-1,19	0,00	5,34	0,00	-4,23	0,00
B11	0,000	ULS-Seis (auto)/14	-0,49	-0,01	0,29	0,00	1,70	0,00
B11	0,000	ULS-Set B (auto)/8	-4,75	0,00	18,71	0,00	-8,24	0,00
B11	117,500	ULS-Set B	-3,56	0,00	0,00	0,00	6,77	0,00



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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/9						
B11	111,905-	ULS-Seis (auto)/12	-1,32	0,00	-0,01	0,00	0,79	-0,03
B11	111,905-	Potres x/15	0,14	0,00	0,02	0,00	0,00	0,03
B12	78,333+	ULS-Set B (auto)/8	-1,91	0,00	0,09	0,00	2,18	0,00
B12	0,000	ULS-Seis (auto)/12	-0,44	-0,04	1,04	0,00	-0,47	0,00
B12	223,810+	ULS-Seis (auto)/13	-0,44	0,04	-1,02	0,00	-0,35	-0,01
B12	235,000	ULS-Set B (auto)/9	-1,34	0,00	-6,72	0,00	-2,82	0,00
B12	0,000	ULS-Set B (auto)/9	-1,34	0,00	6,72	0,00	-2,82	0,00
B12	0,000	ULS-Seis (auto)/4	-0,84	0,01	3,18	0,00	-2,93	0,00
B12	0,000	ULS-Seis (auto)/14	0,11	-0,01	-0,94	0,00	1,91	0,00
B12	0,000	ULS-Seis (auto)/16	-1,30	0,01	4,43	0,00	-4,44	0,00
B12	0,000	Potres y/11	0,77	-0,01	-3,31	0,00	3,88	0,00
B12	111,905-	ULS-Seis (auto)/12	-0,38	0,00	-0,07	0,00	0,28	-0,03
B12	111,905-	Potres x/15	-0,15	0,00	0,08	0,00	0,00	0,03
B13	359,000+	ULS-Seis (auto)/17	-1,23	-0,08	0,71	0,00	-0,42	-0,11
B13	359,000+	Potres y/18	1,09	0,08	0,03	0,00	-0,06	0,11
B13	743,000+	Potres y/6	-0,38	-0,38	-0,10	0,00	0,13	0,40
B13	743,000+	ULS-Seis (auto)/4	0,37	0,38	0,92	0,00	-0,65	-0,40
B13	359,000-	ULS-Set B (auto)/9	-0,34	0,00	-4,88	0,00	-3,16	0,00
B13	743,000+	ULS-Set B (auto)/9	-0,10	0,00	4,92	0,00	-3,14	0,00
B13	704,600+	Potres y/10	0,81	-0,34	0,04	0,00	0,06	-0,27
B13	743,000-	ULS-Set B (auto)/8	-0,39	0,00	-4,61	0,00	-3,19	0,00
B13	1102,000	Potres x/7	-0,08	-0,01	1,15	0,00	2,45	0,00
B13	743,000-	ULS-Seis (auto)/19	0,98	-0,34	-0,75	0,00	-0,49	-0,41
B13	743,000-	Potres y/11	-1,06	0,34	-0,03	0,00	-0,06	0,41
B14	359,000+	ULS-Seis (auto)/16	-1,23	0,08	0,71	0,00	-0,42	0,11
B14	359,000+	Potres y/11	1,09	-0,08	0,03	0,00	-0,06	-0,11
B14	743,000+	ULS-Seis (auto)/14	0,37	-0,38	0,92	0,00	-0,65	0,40
B14	743,000+	Potres y/10	-0,38	0,38	-0,10	0,00	0,13	-0,40
B14	359,000-	ULS-Set B (auto)/9	-0,34	0,00	-4,88	0,00	-3,16	0,00
B14	743,000+	ULS-Set B (auto)/9	-0,10	0,00	4,92	0,00	-3,14	0,00
B14	704,600+	Potres y/6	0,81	0,34	0,04	0,00	0,06	0,27
B14	743,000-	ULS-Set B (auto)/8	-0,39	0,00	-4,61	0,00	-3,19	0,00
B14	1102,000	Potres x/20	-0,08	0,01	1,15	0,00	2,45	0,00
B14	743,000-	Potres y/18	-1,06	-0,34	-0,03	0,00	-0,06	-0,41
B14	743,000-	ULS-Seis (auto)/21	0,98	0,34	-0,75	0,00	-0,49	0,41
B15	0,000	Potres x/7	-0,31	-0,01	0,00	0,00	0,00	0,00
B15	0,000	ULS-Seis (auto)/2	0,31	0,01	0,90	0,00	0,00	0,00
B15	743,000+	ULS-Seis (auto)/5	-0,02	-0,58	1,37	0,00	-0,84	0,52
B15	359,000-	ULS-Set B (auto)/8	0,01	0,00	-9,77	0,00	-6,02	0,00
B15	743,000+	ULS-Set B	0,00	0,00	9,77	0,00	-6,04	0,00



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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/9						
B15	143,600+	Potres y/6	0,01	-0,04	0,00	0,00	0,00	-0,22
B15	994,300+	ULS-Seis (auto)/3	0,03	-0,13	-0,22	0,00	0,60	0,25
B15	143,600-	ULS-Set B (auto)/9	0,01	0,00	-0,06	0,00	4,57	0,00
B15	743,000+	ULS-Seis (auto)/4	0,02	0,58	1,38	0,00	-0,85	-0,52
B16	0,000	Potres x/20	-0,31	0,01	0,00	0,00	0,00	0,00
B16	0,000	ULS-Seis (auto)/1	0,31	-0,01	0,90	0,00	0,00	0,00
B16	743,000+	ULS-Seis (auto)/14	0,02	-0,58	1,38	0,00	-0,85	0,52
B16	743,000+	ULS-Seis (auto)/3	-0,02	0,58	1,37	0,00	-0,84	-0,52
B16	359,000-	ULS-Set B (auto)/8	0,01	0,00	-9,77	0,00	-6,02	0,00
B16	743,000+	ULS-Set B (auto)/9	0,00	0,00	9,77	0,00	-6,04	0,00
B16	994,300+	ULS-Seis (auto)/5	0,03	0,13	-0,22	0,00	0,60	-0,25
B16	143,600+	Potres y/10	0,01	0,04	0,00	0,00	0,00	0,22
B16	143,600-	ULS-Set B (auto)/9	0,01	0,00	-0,06	0,00	4,57	0,00
B17	0,000	ULS-Seis (auto)/16	0,51	0,00	0,00	0,00	0,00	0,00
B17	0,000	Potres y/11	-0,51	0,00	0,00	0,00	0,00	0,00
B18	0,000	Potres y/11	0,49	0,00	0,00	0,00	0,00	0,00
B18	0,000	ULS-Seis (auto)/16	-0,49	0,00	0,00	0,00	0,00	0,00
B19	0,000	Potres y/18	0,51	0,00	0,00	0,00	0,00	0,00
B19	0,000	ULS-Seis (auto)/17	-0,51	0,00	0,00	0,00	0,00	0,00
B20	0,000	Potres y/11	0,51	0,00	0,00	0,00	0,00	0,00
B20	0,000	ULS-Seis (auto)/16	-0,51	0,00	0,00	0,00	0,00	0,00
B21	0,000	Potres y/18	0,49	0,00	0,00	0,00	0,00	0,00
B21	0,000	ULS-Seis (auto)/17	-0,49	0,00	0,00	0,00	0,00	0,00
B22	0,000	ULS-Seis (auto)/17	0,51	0,00	0,00	0,00	0,00	0,00
B22	0,000	Potres y/18	-0,51	0,00	0,00	0,00	0,00	0,00
B23	0,000	Potres y/11	0,59	0,00	0,00	0,00	0,00	0,00
B23	0,000	ULS-Seis (auto)/16	-0,60	0,00	0,00	0,00	0,00	0,00
B24	0,000	Potres y/18	0,70	0,00	0,00	0,00	0,00	0,00
B24	0,000	ULS-Seis (auto)/17	-0,70	0,00	0,00	0,00	0,00	0,00
B25	0,000	Potres y/11	0,66	0,00	0,00	0,00	0,00	0,00
B25	0,000	ULS-Seis (auto)/16	-0,66	0,00	0,00	0,00	0,00	0,00
B26	0,000	Potres y/18	0,66	0,00	0,00	0,00	0,00	0,00
B26	0,000	ULS-Seis (auto)/17	-0,66	0,00	0,00	0,00	0,00	0,00
B27	0,000	Potres y/11	0,70	0,00	0,00	0,00	0,00	0,00
B27	0,000	ULS-Seis (auto)/16	-0,70	0,00	0,00	0,00	0,00	0,00
B28	0,000	Potres y/18	0,59	0,00	0,00	0,00	0,00	0,00
B28	0,000	ULS-Seis (auto)/17	-0,60	0,00	0,00	0,00	0,00	0,00
B29	0,000	ULS-Seis (auto)/12	-13,21	-1,97	-0,32	0,00	0,00	0,00
B29	0,000	Potres x/15	3,04	1,87	-0,08	0,00	0,00	0,00
B29	108,000+	ULS-Seis (auto)/16	-20,70	-0,19	-3,61	0,00	-3,73	-0,21
B29	108,000+	Potres y/11	10,79	0,08	3,21	0,00	3,30	0,10



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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B29	0,000	ULS-Set B (auto)/22	-29,25	-0,30	-1,18	0,00	0,00	0,00
B29	270,000	ULS-Seis (auto)/16	-20,31	-0,19	-3,54	0,00	-9,53	-0,51
B29	270,000	Potres y/11	10,79	0,08	3,14	0,00	8,46	0,23
B29	270,000	ULS-Seis (auto)/12	-12,57	-1,93	-0,32	0,00	-0,87	-5,29
B29	270,000	Potres x/15	3,05	1,83	-0,07	0,00	-0,20	5,01
B30	0,000	ULS-Set B (auto)/8	-11,44	-0,51	-1,92	0,00	3,23	0,70
B30	130,000+	Potres y/11	3,32	0,04	1,32	0,00	1,41	0,07
B30	0,000	ULS-Seis (auto)/13	-3,73	-0,61	-0,57	0,00	1,18	-0,51
B30	0,000	Potres x/23	1,17	0,46	0,04	0,00	-0,01	0,79
B30	0,000	ULS-Seis (auto)/16	-5,87	-0,18	-1,93	0,00	1,54	0,24
B30	0,000	Potres y/11	3,32	0,03	1,40	0,00	-0,37	0,04
B30	0,000	ULS-Seis (auto)/5	-0,45	-0,13	0,32	0,00	0,99	0,46
B30	0,000	Potres y/10	-2,10	-0,02	-0,85	0,00	0,18	-0,18
B30	325,000	ULS-Seis (auto)/16	-5,09	-0,19	-1,73	0,00	-4,45	-0,30
B30	325,000	Potres y/11	3,32	0,05	1,20	0,00	3,88	0,11
B30	325,000	ULS-Seis (auto)/12	-2,78	-0,50	-0,50	0,00	-0,47	-2,35
B30	325,000	Potres x/15	1,01	0,36	-0,03	0,00	-0,10	2,16
B31	0,000	ULS-Set B (auto)/8	-11,44	-0,51	1,92	0,00	-3,23	0,70
B31	130,000+	Potres y/18	3,32	0,04	-1,32	0,00	-1,41	0,07
B31	0,000	ULS-Seis (auto)/12	-3,73	-0,61	0,57	0,00	-1,18	-0,51
B31	0,000	Potres x/15	1,17	0,46	-0,04	0,00	0,01	0,79
B31	0,000	Potres y/18	3,32	0,03	-1,40	0,00	0,37	0,04
B31	0,000	ULS-Seis (auto)/17	-5,87	-0,18	1,93	0,00	-1,54	0,24
B31	0,000	Potres y/6	-2,10	-0,02	0,85	0,00	-0,18	-0,18
B31	0,000	ULS-Seis (auto)/3	-0,45	-0,13	-0,32	0,00	-0,99	0,46
B31	325,000	Potres y/18	3,32	0,05	-1,20	0,00	-3,88	0,11
B31	325,000	ULS-Seis (auto)/17	-5,09	-0,19	1,73	0,00	4,45	-0,30
B31	325,000	ULS-Seis (auto)/13	-2,78	-0,50	0,50	0,00	0,47	-2,35
B31	325,000	Potres x/23	1,01	0,36	0,03	0,00	0,10	2,16
B32	0,000	ULS-Seis (auto)/13	-13,21	-1,97	0,32	0,00	0,00	0,00
B32	0,000	Potres x/23	3,04	1,87	0,08	0,00	0,00	0,00
B32	108,000+	Potres y/18	10,79	0,08	-3,21	0,00	-3,30	0,10
B32	108,000+	ULS-Seis (auto)/17	-20,70	-0,19	3,61	0,00	3,73	-0,21
B32	0,000	ULS-Set B (auto)/22	-29,25	-0,30	1,18	0,00	0,00	0,00
B32	270,000	Potres y/18	10,79	0,08	-3,14	0,00	-8,46	0,23
B32	270,000	ULS-Seis (auto)/17	-20,31	-0,19	3,54	0,00	9,53	-0,51
B32	270,000	ULS-Seis (auto)/13	-12,57	-1,93	0,32	0,00	0,87	-5,29
B32	270,000	Potres x/23	3,05	1,83	0,07	0,00	0,20	5,01
B33	0,000	ULS-Set B (auto)/9	-29,15	0,13	-3,56	0,00	3,75	-0,19
B33	130,000+	Potres y/11	2,81	0,06	0,72	0,00	2,01	0,03
B33	0,000	Potres x/7	0,54	-1,23	0,01	0,00	-0,01	0,90
B33	0,000	ULS-Seis (auto)/24	-5,72	1,24	-0,85	0,00	1,46	-0,91
B33	0,000	Potres y/11	2,80	0,07	0,78	0,00	1,05	-0,08
B33	0,000	Potres y/6	2,50	0,09	0,64	0,00	1,15	-0,03



Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B33	0,000	ULS-Seis (auto)/4	-7,67	-0,07	-1,47	0,00	0,31	0,01
B33	325,000	ULS-Set B (auto)/8	-28,04	0,10	-4,75	0,00	-8,24	0,21
B33	0,000	ULS-Set B (auto)/22	-18,00	0,03	-4,05	0,00	7,80	0,00
B33	325,000	Potres x/7	0,54	-1,13	0,01	0,00	0,02	-2,96
B33	325,000	ULS-Seis (auto)/24	-4,93	1,14	-0,85	0,00	-1,29	2,99
B34	0,000	ULS-Seis (auto)/12	-19,41	-2,48	-0,77	0,00	0,00	0,00
B34	0,000	Potres x/15	-0,75	2,45	-0,01	0,00	0,00	0,00
B34	108,000+	ULS-Seis (auto)/16	-30,58	-0,14	-4,68	0,00	-4,95	-0,16
B34	108,000+	Potres y/11	10,68	0,11	3,89	0,00	4,10	0,13
B34	0,000	ULS-Set B (auto)/8	-63,47	-0,12	-1,43	0,00	0,00	0,00
B34	270,000	ULS-Seis (auto)/16	-30,19	-0,14	-4,62	0,00	-12,49	-0,39
B34	270,000	Potres y/11	10,68	0,11	3,83	0,00	10,36	0,30
B34	270,000	ULS-Seis (auto)/12	-18,76	-2,45	-0,77	0,00	-2,09	-6,67
B34	270,000	Potres x/15	-0,75	2,42	-0,01	0,00	-0,04	6,59
B35	0,000	ULS-Set B (auto)/9	-29,15	0,13	3,56	0,00	-3,75	-0,19
B35	130,000+	Potres y/18	2,81	0,06	-0,72	0,00	-2,01	0,03
B35	0,000	Potres x/20	0,54	-1,23	-0,01	0,00	0,01	0,90
B35	0,000	ULS-Seis (auto)/25	-5,72	1,24	0,85	0,00	-1,46	-0,91
B35	0,000	Potres y/18	2,80	0,07	-0,78	0,00	-1,05	-0,08
B35	0,000	ULS-Seis (auto)/14	-7,67	-0,07	1,47	0,00	-0,31	0,01
B35	0,000	Potres y/10	2,50	0,09	-0,64	0,00	-1,15	-0,03
B35	0,000	ULS-Set B (auto)/22	-18,00	0,03	4,05	0,00	-7,80	0,00
B35	325,000	ULS-Set B (auto)/8	-28,04	0,10	4,75	0,00	8,24	0,21
B35	325,000	Potres x/20	0,54	-1,13	-0,01	0,00	-0,02	-2,96
B35	325,000	ULS-Seis (auto)/25	-4,93	1,14	0,85	0,00	1,29	2,99
B36	0,000	ULS-Seis (auto)/13	-19,41	-2,48	0,77	0,00	0,00	0,00
B36	0,000	Potres x/23	-0,75	2,45	0,01	0,00	0,00	0,00
B36	108,000+	Potres y/18	10,68	0,11	-3,89	0,00	-4,10	0,13
B36	108,000+	ULS-Seis (auto)/17	-30,58	-0,14	4,68	0,00	4,95	-0,16
B36	0,000	ULS-Set B (auto)/8	-63,47	-0,12	1,43	0,00	0,00	0,00
B36	270,000	Potres y/18	10,68	0,11	-3,83	0,00	-10,36	0,30
B36	270,000	ULS-Seis (auto)/17	-30,19	-0,14	4,62	0,00	12,49	-0,39
B36	270,000	ULS-Seis (auto)/13	-18,76	-2,45	0,77	0,00	2,09	-6,67
B36	270,000	Potres x/23	-0,75	2,42	0,01	0,00	0,04	6,59
B37	0,000	ULS-Set B (auto)/8	-29,33	0,29	3,94	0,00	-4,83	-0,85
B37	130,000+	Potres y/10	4,65	0,02	-1,92	0,00	-1,76	0,19
B37	0,000	Potres x/7	-0,51	-0,67	-0,02	0,00	0,00	-0,66
B37	0,000	ULS-Seis (auto)/2	-4,71	0,79	0,86	0,00	-1,44	0,33
B37	0,000	Potres y/10	4,64	0,04	-2,01	0,00	0,83	0,17
B37	0,000	ULS-Seis (auto)/5	-9,86	0,08	2,84	0,00	-2,27	-0,51
B37	325,000	Potres y/10	4,65	0,02	-1,80	0,00	-5,40	0,21
B37	325,000	ULS-Set B (auto)/8	-28,27	0,29	3,94	0,00	7,97	0,10



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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B37	325,000	Potres x/20	-0,63	-0,57	0,02	0,00	0,07	-2,71
B37	325,000	ULS-Seis (auto)/1	-3,80	0,69	0,81	0,00	1,20	2,76
B38	0,000	Potres x/20	1,27	-1,81	0,06	0,00	0,00	0,00
B38	0,000	ULS-Seis (auto)/1	-14,59	1,92	0,31	0,00	0,00	0,00
B38	108,000+	Potres y/10	14,50	0,21	-4,11	0,00	-4,41	0,24
B38	108,000+	ULS-Seis (auto)/5	-27,55	-0,10	4,48	0,00	4,81	-0,11
B38	0,000	ULS-Set B (auto)/8	-47,50	0,23	0,43	0,00	0,00	0,00
B38	270,000	Potres y/10	14,50	0,20	-4,03	0,00	-11,02	0,57
B38	270,000	ULS-Seis (auto)/5	-27,16	-0,09	4,40	0,00	12,01	-0,26
B38	270,000	Potres x/20	1,28	-1,77	0,06	0,00	0,16	-4,84
B38	270,000	ULS-Seis (auto)/1	-13,94	1,88	0,31	0,00	0,83	5,15
B39	130,000+	Potres y/6	4,65	0,02	1,92	0,00	1,76	0,19
B39	0,000	Potres x/20	-0,51	-0,67	0,02	0,00	0,00	-0,66
B39	0,000	ULS-Seis (auto)/1	-4,71	0,79	-0,86	0,00	1,44	0,33
B39	0,000	ULS-Set B (auto)/8	-29,33	0,29	-3,94	0,00	4,83	-0,85
B39	0,000	Potres y/6	4,64	0,04	2,01	0,00	-0,83	0,17
B39	0,000	ULS-Seis (auto)/3	-9,86	0,08	-2,84	0,00	2,27	-0,51
B39	325,000	ULS-Set B (auto)/8	-28,27	0,29	-3,94	0,00	-7,97	0,10
B39	325,000	Potres y/6	4,65	0,02	1,80	0,00	5,40	0,21
B39	325,000	Potres x/7	-0,63	-0,57	-0,02	0,00	-0,07	-2,71
B39	325,000	ULS-Seis (auto)/2	-3,80	0,69	-0,81	0,00	-1,20	2,76
B40	0,000	Potres x/7	1,27	-1,81	-0,06	0,00	0,00	0,00
B40	0,000	ULS-Seis (auto)/2	-14,59	1,92	-0,31	0,00	0,00	0,00
B40	108,000+	ULS-Seis (auto)/3	-27,55	-0,10	-4,48	0,00	-4,81	-0,11
B40	108,000+	Potres y/6	14,50	0,21	4,11	0,00	4,41	0,24
B40	0,000	ULS-Set B (auto)/8	-47,50	0,23	-0,43	0,00	0,00	0,00
B40	270,000	ULS-Seis (auto)/3	-27,16	-0,09	-4,40	0,00	-12,01	-0,26
B40	270,000	Potres y/6	14,50	0,20	4,03	0,00	11,02	0,57
B40	270,000	Potres x/7	1,28	-1,77	-0,06	0,00	-0,16	-4,84
B40	270,000	ULS-Seis (auto)/2	-13,94	1,88	-0,31	0,00	-0,83	5,15
B41	130,000+	Potres y/10	6,24	0,02	-1,14	0,00	-5,34	0,18
B41	0,000	Potres x/20	1,02	-0,42	0,03	0,00	0,08	-1,23
B41	0,000	ULS-Seis (auto)/1	-3,55	0,44	0,03	0,00	0,08	1,28
B41	0,000	Potres y/10	6,24	0,04	-1,27	0,00	-3,75	0,14
B41	0,000	ULS-Seis (auto)/5	-8,77	-0,02	1,33	0,00	3,91	-0,09
B41	0,000	ULS-Set B (auto)/8	-11,37	0,12	0,37	0,00	1,00	0,32
B41	325,000	Potres y/10	6,24	0,01	-0,98	0,00	-7,44	0,22
B41	325,000	ULS-Seis (auto)/5	-7,99	0,01	1,04	0,00	7,79	-0,09
B41	325,000	Potres x/20	1,02	-0,32	0,02	0,00	0,15	-2,45
B41	325,000	ULS-Seis (auto)/1	-2,77	0,34	0,04	0,00	0,21	2,57
B42	0,000	Potres x/20	1,01	-0,47	0,03	0,00	0,00	0,00
B42	0,000	ULS-Seis (auto)/1	-4,20	0,49	0,03	0,00	0,00	0,00
B42	0,000	Potres y/10	6,05	0,07	-1,46	0,00	0,00	0,00
B42	0,000	ULS-Seis	-9,23	-0,05	1,52	0,00	0,00	0,00



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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/5						
B42	0,000	ULS-Set B (auto)/8	-12,25	0,12	0,37	0,00	0,00	0,00
B42	270,000	Potres y/10	6,24	0,04	-1,30	0,00	-3,75	0,14
B42	270,000	ULS-Seis (auto)/5	-8,77	-0,02	1,36	0,00	3,91	-0,09
B42	270,000	Potres x/20	1,02	-0,43	0,03	0,00	0,08	-1,23
B42	270,000	ULS-Seis (auto)/1	-3,55	0,45	0,03	0,00	0,08	1,28
B43	130,000+	Potres y/6	6,24	0,02	1,14	0,00	5,34	0,18
B43	0,000	Potres x/7	1,02	-0,42	-0,03	0,00	-0,08	-1,23
B43	0,000	ULS-Seis (auto)/2	-3,55	0,44	-0,03	0,00	-0,08	1,28
B43	0,000	ULS-Seis (auto)/3	-8,77	-0,02	-1,33	0,00	-3,91	-0,09
B43	0,000	Potres y/6	6,24	0,04	1,27	0,00	3,75	0,14
B43	0,000	ULS-Set B (auto)/8	-11,37	0,12	-0,37	0,00	-1,00	0,32
B43	325,000	ULS-Seis (auto)/3	-7,99	0,01	-1,04	0,00	-7,79	-0,09
B43	325,000	Potres y/6	6,24	0,01	0,98	0,00	7,44	0,22
B43	325,000	Potres x/7	1,02	-0,32	-0,02	0,00	-0,15	-2,45
B43	325,000	ULS-Seis (auto)/2	-2,77	0,34	-0,04	0,00	-0,21	2,57
B44	0,000	Potres x/7	1,01	-0,47	-0,03	0,00	0,00	0,00
B44	0,000	ULS-Seis (auto)/2	-4,20	0,49	-0,03	0,00	0,00	0,00
B44	0,000	ULS-Seis (auto)/3	-9,23	-0,05	-1,52	0,00	0,00	0,00
B44	0,000	Potres y/6	6,05	0,07	1,46	0,00	0,00	0,00
B44	0,000	ULS-Set B (auto)/8	-12,25	0,12	-0,37	0,00	0,00	0,00
B44	270,000	ULS-Seis (auto)/3	-8,77	-0,02	-1,36	0,00	-3,91	-0,09
B44	270,000	Potres y/6	6,24	0,04	1,30	0,00	3,75	0,14
B44	270,000	Potres x/7	1,02	-0,43	-0,03	0,00	-0,08	-1,23
B44	270,000	ULS-Seis (auto)/2	-3,55	0,45	-0,03	0,00	-0,08	1,28
B45	0,000	Potres y/11	-1,28	0,02	7,50	0,00	-8,82	0,00
B45	0,000	ULS-Seis (auto)/19	1,45	-0,02	-4,69	0,00	7,60	0,00
B45	0,000	ULS-Seis (auto)/25	0,14	-0,89	3,00	0,00	-1,44	0,00
B45	223,250+	ULS-Seis (auto)/24	0,14	0,89	-2,98	0,00	-1,09	-0,10
B45	235,000	ULS-Set B (auto)/26	0,05	0,00	-15,66	0,00	-6,74	0,00
B45	0,000	ULS-Set B (auto)/26	0,05	0,00	15,66	0,00	-6,74	0,00
B45	0,000	ULS-Seis (auto)/4	1,03	-0,06	-1,90	0,00	4,33	0,00
B45	0,000	ULS-Seis (auto)/14	-0,69	0,06	7,53	0,00	-6,77	0,00
B45	0,000	ULS-Seis (auto)/17	-1,15	0,02	12,69	0,00	-11,06	0,00
B45	0,000	Potres y/18	1,28	-0,02	-7,50	0,00	8,82	0,00
B45	117,500-	Potres x/15	0,01	-0,29	-0,18	0,00	0,00	-0,69
B45	117,500+	ULS-Seis (auto)/27	0,16	-0,29	-1,06	0,00	0,95	0,69
B46	0,000	Potres y/11	-2,25	0,02	7,92	0,00	-9,32	0,00
B46	0,000	ULS-Set B (auto)/9	3,58	0,00	7,59	0,00	-3,70	0,00
B46	223,250+	ULS-Seis (auto)/12	0,39	-0,89	-10,47	0,00	-3,30	0,10
B46	0,000	ULS-Seis (auto)/13	0,39	0,89	10,49	0,00	-4,53	0,00



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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B46	235,000	ULS-Set B (auto)/26	0,26	0,00	-32,14	0,00	-13,88	0,00
B46	0,000	ULS-Seis (auto)/4	2,65	-0,06	-1,70	0,00	6,16	0,00
B46	0,000	ULS-Seis (auto)/14	-1,73	0,06	12,94	0,00	-11,09	0,00
B46	0,000	ULS-Set B (auto)/22	1,73	0,00	32,14	0,00	-14,06	0,00
B46	117,500-	ULS-Set B (auto)/26	0,26	0,00	10,63	0,00	11,24	0,00
B46	117,500-	ULS-Seis (auto)/28	0,46	-0,29	1,81	0,00	1,90	-0,69
B46	117,500+	Potres x/20	0,00	-0,29	-0,04	0,00	0,00	0,69
B47	0,000	Potres y/6	-1,49	0,06	10,05	0,00	-11,82	0,00
B47	0,000	ULS-Set B (auto)/9	3,64	0,00	4,05	0,00	-2,18	0,00
B47	223,250+	ULS-Seis (auto)/29	0,48	-0,89	-3,12	0,00	-1,14	0,10
B47	0,000	ULS-Seis (auto)/27	0,48	0,89	3,14	0,00	-1,50	0,00
B47	235,000	ULS-Set B (auto)/26	0,48	0,00	-16,74	0,00	-7,26	0,00
B47	0,000	ULS-Set B (auto)/26	0,48	0,00	16,74	0,00	-7,26	0,00
B47	0,000	ULS-Seis (auto)/5	-1,03	0,06	15,59	0,00	-14,25	0,00
B47	0,000	Potres y/10	1,49	-0,06	-10,05	0,00	11,82	0,00
B47	117,500-	ULS-Seis (auto)/24	0,50	-0,30	1,07	0,00	0,97	-0,69
B47	117,500+	Potres x/20	0,01	-0,30	0,14	0,00	0,00	0,69
B48	345,600+	Potres x/20	-0,27	0,00	-2,05	0,00	-2,92	0,00
B48	345,600+	ULS-Seis (auto)/25	0,28	0,00	1,16	0,00	2,88	0,00
B48	0,000	ULS-Seis (auto)/4	-0,09	-0,46	1,28	0,00	-0,77	0,00
B48	384,000	ULS-Set B (auto)/26	-0,01	0,00	-5,80	0,00	-2,27	0,00
B48	0,000	ULS-Set B (auto)/22	0,02	0,00	5,61	0,00	-1,90	0,00
B48	0,000	ULS-Seis (auto)/5	0,11	0,46	1,69	0,00	-0,24	0,00
B48	0,000	ULS-Seis (auto)/1	-0,17	-0,01	3,96	0,00	-4,81	0,00
B48	0,000	Potres x/20	0,18	0,01	-2,05	0,00	4,16	0,00
B48	192,000-	Potres y/10	-0,03	-0,04	0,20	0,00	-0,02	-0,47
B48	192,000+	ULS-Seis (auto)/14	0,02	-0,07	-0,22	0,00	0,67	0,47
B49	0,000	Potres x/23	-0,53	-0,01	0,00	0,00	0,00	0,00
B49	0,000	ULS-Seis (auto)/27	0,53	0,01	1,87	0,00	0,00	0,00
B49	0,000	ULS-Seis (auto)/4	-0,10	-0,85	1,89	0,00	0,00	0,00
B49	384,000	ULS-Set B (auto)/26	0,00	0,00	-10,98	0,00	0,00	0,00
B49	0,000	Potres y/6	0,10	0,85	-0,02	0,00	0,00	0,00
B49	0,000	ULS-Set B (auto)/22	0,00	0,00	10,98	0,00	0,00	0,00
B49	192,000-	Potres y/6	0,03	0,07	0,00	0,00	-0,02	0,86
B49	192,000-	ULS-Set B (auto)/22	0,00	0,00	0,00	0,00	10,55	0,00
B49	192,000+	ULS-Seis (auto)/4	-0,02	0,12	0,00	0,00	1,81	-0,86
B50	0,000	ULS-Seis (auto)/28	-0,54	0,00	1,87	0,00	0,00	0,00
B50	0,000	Potres x/30	0,54	0,00	0,00	0,00	0,00	0,00
B50	0,000	ULS-Seis	0,00	-0,85	1,87	0,00	0,00	0,00



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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/4						
B50	0,000	ULS-Seis (auto)/14	0,00	0,85	1,87	0,00	0,00	0,00
B50	384,000	ULS-Set B (auto)/26	0,00	0,00	-10,98	0,00	0,00	0,00
B50	0,000	ULS-Set B (auto)/26	0,00	0,00	10,98	0,00	0,00	0,00
B50	192,000+	ULS-Seis (auto)/14	0,00	-0,12	0,00	0,00	1,80	0,86
B50	153,600-	Potres x/31	-0,27	0,00	0,00	0,00	0,00	0,00
B50	192,000-	ULS-Set B (auto)/26	0,00	0,00	0,00	0,00	10,55	0,00
B50	192,000+	ULS-Seis (auto)/4	0,00	0,12	0,00	0,00	1,80	-0,86
B51	0,000	Potres x/15	-0,53	0,01	0,00	0,00	0,00	0,00
B51	0,000	ULS-Seis (auto)/29	0,53	-0,01	1,87	0,00	0,00	0,00
B51	0,000	ULS-Seis (auto)/4	0,11	-0,85	1,85	0,00	0,00	0,00
B51	0,000	ULS-Seis (auto)/14	-0,10	0,85	1,89	0,00	0,00	0,00
B51	384,000	ULS-Set B (auto)/26	0,00	0,00	-10,98	0,00	0,00	0,00
B51	0,000	ULS-Set B (auto)/22	0,00	0,00	10,98	0,00	0,00	0,00
B51	192,000-	Potres y/10	0,03	-0,07	0,00	0,00	-0,02	-0,86
B51	192,000-	ULS-Set B (auto)/22	0,00	0,00	0,00	0,00	10,55	0,00
B51	192,000+	ULS-Seis (auto)/14	-0,02	-0,12	0,00	0,00	1,81	0,86
B52	345,600+	Potres x/7	-0,27	0,00	-2,05	0,00	-2,92	0,00
B52	345,600+	ULS-Seis (auto)/24	0,28	0,00	1,16	0,00	2,88	0,00
B52	0,000	ULS-Seis (auto)/14	-0,09	0,46	1,28	0,00	-0,77	0,00
B52	384,000	ULS-Set B (auto)/26	-0,01	0,00	-5,80	0,00	-2,27	0,00
B52	0,000	ULS-Set B (auto)/22	0,02	0,00	5,61	0,00	-1,90	0,00
B52	0,000	ULS-Seis (auto)/3	0,11	-0,46	1,69	0,00	-0,24	0,00
B52	0,000	ULS-Seis (auto)/2	-0,17	0,01	3,96	0,00	-4,81	0,00
B52	0,000	Potres x/7	0,18	-0,01	-2,05	0,00	4,16	0,00
B52	192,000+	ULS-Seis (auto)/4	0,02	0,07	-0,22	0,00	0,67	-0,47
B52	192,000-	Potres y/6	-0,03	0,04	0,20	0,00	-0,02	0,47
B53	323,100+	Potres x/20	-0,45	0,01	-2,22	0,00	-3,40	0,00
B53	323,100+	ULS-Seis (auto)/25	0,49	-0,01	1,42	0,00	3,40	0,00
B53	323,100+	ULS-Seis (auto)/21	0,01	-0,40	-0,89	0,00	-0,16	0,14
B53	323,100+	ULS-Seis (auto)/19	0,08	0,40	-0,70	0,00	0,16	-0,14
B53	359,000	ULS-Set B (auto)/22	0,16	0,00	-5,24	0,00	-1,66	0,00
B53	0,000	ULS-Set B (auto)/26	0,04	0,00	5,43	0,00	-2,00	0,00
B53	0,000	ULS-Seis (auto)/3	0,01	-0,30	2,07	0,00	-1,05	0,00
B53	0,000	Potres y/6	0,04	0,30	-0,23	0,00	0,37	0,00
B53	359,000	ULS-Seis (auto)/13	-0,41	0,01	-4,00	0,00	-4,76	0,00
B53	359,000	Potres x/23	0,45	-0,01	2,22	0,00	4,20	0,00
B53	179,500-	ULS-Seis (auto)/19	0,06	-0,05	0,12	0,00	0,58	-0,38



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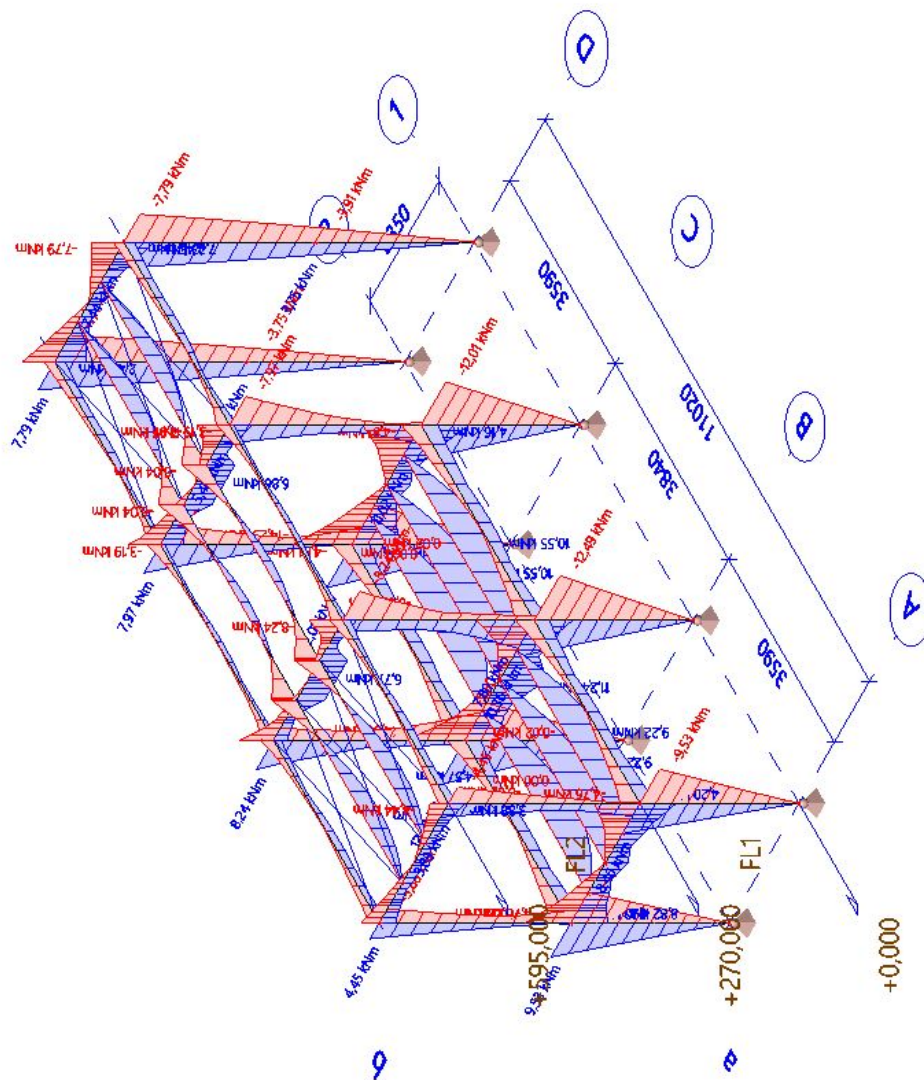
Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B53	179,500-	ULS-Seis (auto)/21	0,03	0,05	-0,09	0,00	0,55	0,38
B54	323,100+	Potres x/20	-0,54	0,02	0,00	0,00	0,00	-0,01
B54	323,100+	ULS-Seis (auto)/25	0,54	-0,02	-1,40	0,00	0,57	0,01
B54	323,100+	ULS-Seis (auto)/21	-0,03	-0,73	-1,38	0,00	0,56	0,26
B54	323,100+	ULS-Seis (auto)/19	0,03	0,73	-1,41	0,00	0,57	-0,26
B54	359,000	ULS-Set B (auto)/26	0,00	0,00	-10,27	0,00	0,00	0,00
B54	0,000	ULS-Set B (auto)/26	0,00	0,00	10,27	0,00	0,00	0,00
B54	0,000	Potres y/10	-0,04	-0,55	0,02	0,00	0,00	0,00
B54	179,500-	Potres y/6	-0,02	0,05	0,00	0,00	-0,02	0,52
B54	179,500-	ULS-Set B (auto)/26	0,00	0,00	0,00	0,00	9,22	0,00
B54	179,500-	ULS-Seis (auto)/19	0,01	-0,10	0,00	0,00	1,58	-0,71
B54	179,500-	ULS-Seis (auto)/21	-0,01	0,10	0,00	0,00	1,55	0,71
B55	323,100+	ULS-Seis (auto)/32	-0,53	0,00	-1,40	0,00	0,56	0,00
B55	323,100+	Potres x/31	0,53	0,00	0,00	0,00	0,00	0,00
B55	323,100+	ULS-Seis (auto)/21	0,00	-0,73	-1,40	0,00	0,56	0,26
B55	323,100+	ULS-Seis (auto)/19	0,00	0,73	-1,40	0,00	0,56	-0,26
B55	359,000	ULS-Set B (auto)/26	0,00	0,00	-10,27	0,00	0,00	0,00
B55	0,000	ULS-Set B (auto)/26	0,00	0,00	10,27	0,00	0,00	0,00
B55	179,500+	ULS-Seis (auto)/14	0,00	-0,08	0,00	0,00	1,57	0,52
B55	179,500+	ULS-Seis (auto)/4	0,00	0,08	0,00	0,00	1,57	-0,52
B55	215,400+	Potres x/30	-0,28	0,00	0,00	0,00	0,00	0,00
B55	179,500-	ULS-Set B (auto)/26	0,00	0,00	0,00	0,00	9,22	0,00
B55	179,500-	ULS-Seis (auto)/19	0,00	-0,10	0,00	0,00	1,57	-0,71
B55	179,500-	ULS-Seis (auto)/21	0,00	0,10	0,00	0,00	1,57	0,71
B56	323,100+	Potres x/7	-0,54	-0,02	0,00	0,00	0,00	0,01
B56	323,100+	ULS-Seis (auto)/24	0,54	0,02	-1,40	0,00	0,57	-0,01
B56	323,100+	ULS-Seis (auto)/21	0,03	-0,73	-1,41	0,00	0,57	0,26
B56	323,100+	ULS-Seis (auto)/19	-0,03	0,73	-1,38	0,00	0,56	-0,26
B56	359,000	ULS-Set B (auto)/26	0,00	0,00	-10,27	0,00	0,00	0,00
B56	0,000	ULS-Set B (auto)/26	0,00	0,00	10,27	0,00	0,00	0,00
B56	0,000	Potres y/6	-0,04	0,55	0,02	0,00	0,00	0,00
B56	179,500-	Potres y/10	-0,02	-0,05	0,00	0,00	-0,02	-0,52
B56	179,500-	ULS-Set B (auto)/26	0,00	0,00	0,00	0,00	9,22	0,00
B56	179,500-	ULS-Seis (auto)/19	-0,01	-0,10	0,00	0,00	1,55	-0,71
B56	179,500-	ULS-Seis (auto)/21	0,01	0,10	0,00	0,00	1,58	0,71
B57	323,100+	Potres x/7	-0,45	-0,01	-2,22	0,00	-3,40	0,00
B57	323,100+	ULS-Seis (auto)/24	0,49	0,01	1,42	0,00	3,40	0,00
B57	323,100+	ULS-Seis	0,08	-0,40	-0,70	0,00	0,16	0,14



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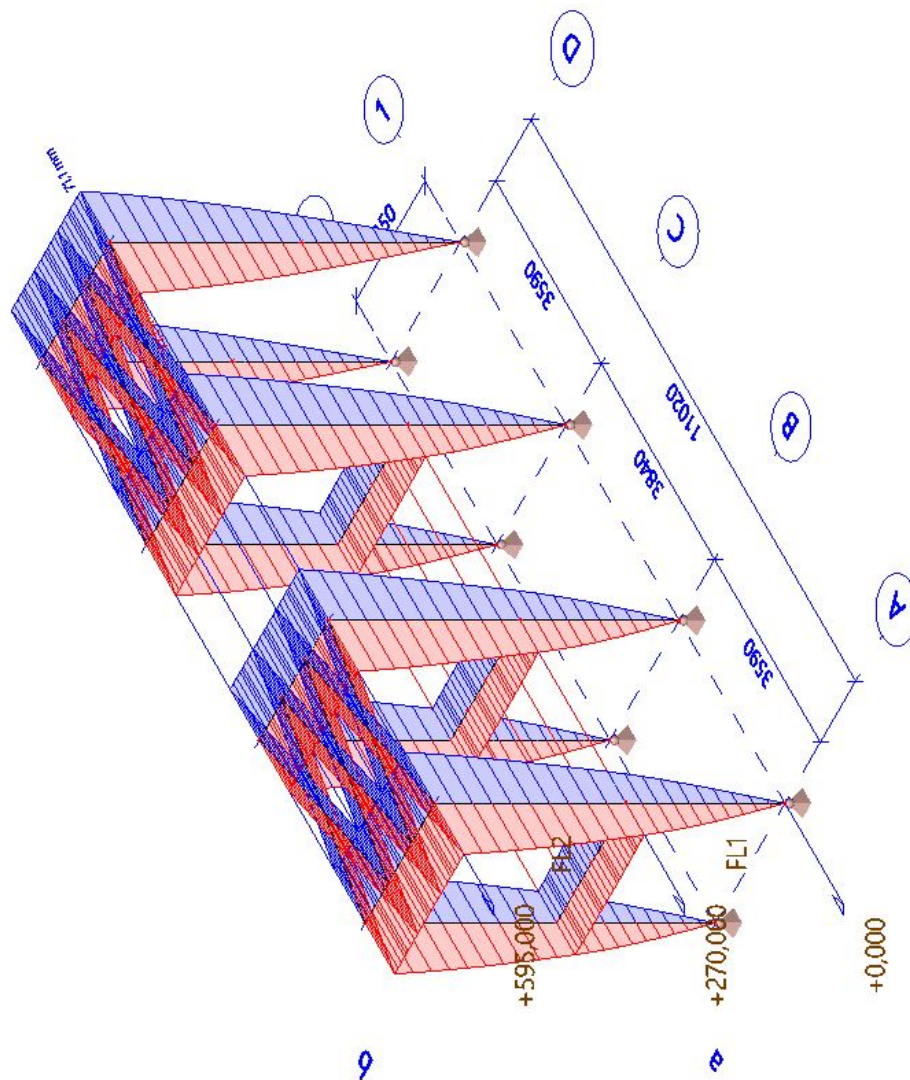
Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
		(auto)/21						
B57	323,100+	ULS-Seis (auto)/19	0,01	0,40	-0,89	0,00	-0,16	-0,14
B57	359,000	ULS-Set B (auto)/22	0,16	0,00	-5,24	0,00	-1,66	0,00
B57	0,000	ULS-Set B (auto)/26	0,04	0,00	5,43	0,00	-2,00	0,00
B57	0,000	Potres y/10	0,04	-0,30	-0,23	0,00	0,37	0,00
B57	0,000	ULS-Seis (auto)/5	0,01	0,30	2,07	0,00	-1,05	0,00
B57	359,000	ULS-Seis (auto)/12	-0,41	-0,01	-4,00	0,00	-4,76	0,00
B57	359,000	Potres x/15	0,45	0,01	2,22	0,00	4,20	0,00
B57	179,500-	ULS-Seis (auto)/19	0,03	-0,05	-0,09	0,00	0,55	-0,38
B57	179,500-	ULS-Seis (auto)/21	0,06	0,05	0,12	0,00	0,58	0,38

Name	Combination key
ULS-Seis (auto)/1	Lastna + Stalna + 0.30*Koristna + Potres x - Potres x_AE
ULS-Seis (auto)/2	Lastna + Stalna + 0.30*Koristna + Potres x + Potres x_AE
ULS-Seis (auto)/3	Lastna + Stalna + 0.30*Koristna - Potres y - Potres y_AE
ULS-Seis (auto)/4	Lastna + Stalna - Potres y - Potres y_AE
ULS-Seis (auto)/5	Lastna + Stalna + 0.30*Koristna + Potres y + Potres y_AE
Potres y/6	Potres y + Potres y_AE
Potres x/7	- Potres x - Potres x_AE
ULS-Set B (auto)/8	1.35*Lastna + 1.35*Stalna + 1.50*Sneg + 1.05*Koristna
ULS-Set B (auto)/9	1.35*Lastna + 1.35*Stalna + 1.50*Sneg
Potres y/10	- Potres y - Potres y_AE
Potres y/11	Potres y - Potres y_AE
ULS-Seis (auto)/12	Lastna + Stalna + 0.30*Koristna - Potres x - Potres x_AE
ULS-Seis (auto)/13	Lastna + Stalna + 0.30*Koristna - Potres x + Potres x_AE
ULS-Seis (auto)/14	Lastna + Stalna + Potres y + Potres y_AE
Potres x/15	Potres x + Potres x_AE
ULS-Seis (auto)/16	Lastna + Stalna + 0.30*Koristna - Potres y + Potres y_AE
ULS-Seis (auto)/17	Lastna + Stalna + 0.30*Koristna + Potres y - Potres y_AE
Potres y/18	- Potres y + Potres y_AE
ULS-Seis (auto)/19	Lastna + Stalna - Potres y + Potres y_AE
Potres x/20	- Potres x + Potres x_AE
ULS-Seis (auto)/21	Lastna + Stalna + Potres y - Potres y_AE
ULS-Set B (auto)/22	1.35*Lastna + 1.35*Stalna + 0.75*Sneg + 1.50*Koristna
Potres x/23	Potres x - Potres x_AE
ULS-Seis (auto)/24	Lastna + Stalna + Potres x + Potres x_AE
ULS-Seis (auto)/25	Lastna + Stalna + Potres x - Potres x_AE
ULS-Set B (auto)/26	1.35*Lastna + 1.35*Stalna + 1.50*Koristna
ULS-Seis (auto)/27	Lastna + Stalna - Potres x + Potres x_AE
ULS-Seis (auto)/28	Lastna + Stalna + Potres x
ULS-Seis (auto)/29	Lastna + Stalna - Potres x - Potres x_AE
Potres x/30	- Potres x
Potres x/31	Potres x
ULS-Seis (auto)/32	Lastna + Stalna - Potres x



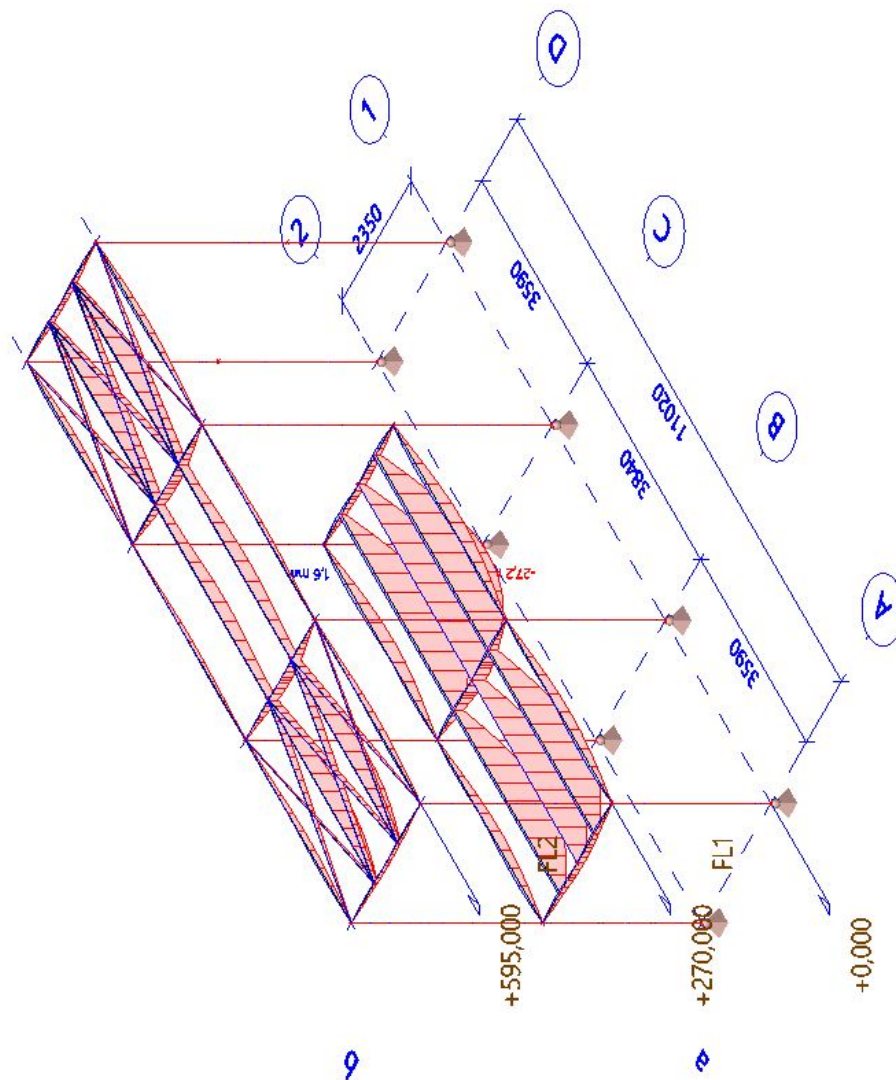
Values: **M_y**
Linear calculation
Class: All ULS
Coordinate system: Principal
Extreme 1D: Member
Selection: All





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





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



**Project Kulturni center Čatež****11.2. Obtežne kombinacije z NSK in pomiki - All SLS**

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

11.2.1. 1D internal forces

Linear calculation

Class: All SLS

Coordinate system: Principal

Extreme 1D: Member

Selection: All

Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B9	78,333+	SLS-Char (auto)/1	-0,06	0,00	0,06	0,00	0,47	0,00
B9	0,000	SLS-Char (auto)/2	-0,25	0,00	4,58	0,00	-1,51	0,00
B9	235,000	SLS-Char (auto)/2	-0,25	0,00	-4,58	0,00	-1,51	0,00
B9	117,500	SLS-Char (auto)/2	-0,25	0,00	0,00	0,00	2,05	0,00
B9	0,000	SLS-Char (auto)/3	-0,25	0,00	4,58	0,00	-1,50	0,00
B10	78,333+	SLS-Char (auto)/2	-2,69	0,00	0,06	0,00	4,52	0,00
B10	0,000	SLS-Char (auto)/4	-0,66	0,00	2,81	0,00	-1,21	0,00
B10	156,667+	SLS-Char (auto)/5	-2,05	0,00	-7,66	0,00	2,60	0,00
B10	0,000	SLS-Char (auto)/5	-2,05	0,00	7,78	0,00	-3,45	0,00
B10	235,000	SLS-Char (auto)/3	-2,28	0,00	-12,77	0,00	-5,30	0,00
B10	0,000	SLS-Char (auto)/3	-2,28	0,00	12,77	0,00	-5,30	0,00
B10	117,500	SLS-Char (auto)/3	-2,28	0,00	0,00	0,00	4,67	0,00
B10	0,000	SLS-Char (auto)/2	-2,69	0,00	12,76	0,00	-5,43	0,00
B11	78,333+	SLS-Char (auto)/2	-3,25	0,00	0,06	0,00	4,32	0,00
B11	0,000	SLS-Char (auto)/4	-0,84	0,00	2,81	0,00	-1,27	0,00
B11	156,667+	SLS-Char (auto)/5	-2,78	0,00	-7,66	0,00	2,36	0,00
B11	235,000	SLS-Char (auto)/2	-3,25	0,00	-12,76	0,00	-5,62	0,00
B11	0,000	SLS-Char (auto)/2	-3,25	0,00	12,76	0,00	-5,62	0,00
B11	117,500	SLS-Char (auto)/3	-2,46	0,00	0,00	0,00	4,60	0,00
B11	78,333-	SLS-Char (auto)/5	-2,78	0,00	7,66	0,00	2,36	0,00
B12	78,333+	SLS-Char (auto)/2	-1,31	0,00	0,06	0,00	1,48	0,00
B12	0,000	SLS-Char (auto)/4	-0,37	0,00	1,12	0,00	-0,51	0,00
B12	156,667+	SLS-Char (auto)/2	-1,31	0,00	-4,46	0,00	1,48	0,00
B12	235,000	SLS-Char (auto)/3	-0,93	0,00	-4,59	0,00	-1,93	0,00
B12	0,000	SLS-Char (auto)/3	-0,93	0,00	4,59	0,00	-1,93	0,00
B12	0,000	SLS-Char (auto)/2	-1,31	0,00	4,59	0,00	-2,06	0,00
B12	117,500	SLS-Char (auto)/3	-0,93	0,00	0,00	0,00	1,63	0,00



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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B13	743,000+	SLS-Char (auto)/1	-0,01	0,00	0,81	0,00	-0,48	0,00
B13	0,000	SLS-Char (auto)/2	-0,33	0,00	2,49	0,00	-0,66	0,00
B13	359,000+	SLS-Char (auto)/1	-0,24	0,00	0,73	0,00	-0,46	0,00
B13	359,000-	SLS-Char (auto)/3	-0,24	0,00	-3,33	0,00	-2,16	0,00
B13	743,000+	SLS-Char (auto)/3	-0,07	0,00	3,36	0,00	-2,15	0,00
B13	743,000-	SLS-Char (auto)/2	-0,27	0,00	-3,15	0,00	-2,18	0,00
B13	958,400-	SLS-Char (auto)/2	-0,07	0,00	-0,13	0,00	1,36	0,00
B13	359,000+	SLS-Char (auto)/2	-0,27	0,00	3,05	0,00	-1,99	0,00
B14	743,000+	SLS-Char (auto)/1	-0,01	0,00	0,81	0,00	-0,48	0,00
B14	359,000+	SLS-Char (auto)/1	-0,24	0,00	0,73	0,00	-0,46	0,00
B14	359,000-	SLS-Char (auto)/3	-0,24	0,00	-3,33	0,00	-2,16	0,00
B14	743,000+	SLS-Char (auto)/3	-0,07	0,00	3,36	0,00	-2,15	0,00
B14	743,000-	SLS-Char (auto)/2	-0,27	0,00	-3,15	0,00	-2,18	0,00
B14	958,400-	SLS-Char (auto)/2	-0,07	0,00	-0,13	0,00	1,36	0,00
B14	0,000	SLS-Char (auto)/2	-0,33	0,00	2,49	0,00	-0,66	0,00
B14	359,000+	SLS-Char (auto)/2	-0,27	0,00	3,05	0,00	-1,99	0,00
B15	363,018+	SLS-Char (auto)/5	-0,02	0,00	3,48	0,00	-2,34	0,00
B15	359,000-	SLS-Char (auto)/2	0,01	0,00	-6,65	0,00	-4,10	0,00
B15	0,000	SLS-Char (auto)/4	0,00	0,00	0,90	0,00	0,00	0,00
B15	743,000+	SLS-Char (auto)/3	0,00	0,00	6,65	0,00	-4,11	0,00
B15	143,600-	SLS-Char (auto)/3	0,01	0,00	-0,04	0,00	3,11	0,00
B15	363,018-	SLS-Char (auto)/2	0,01	0,00	5,80	0,00	-3,87	0,00
B15	743,000+	SLS-Char (auto)/1	0,00	0,00	1,37	0,00	-0,85	0,00
B16	363,018+	SLS-Char (auto)/5	-0,02	0,00	3,48	0,00	-2,34	0,00
B16	359,000-	SLS-Char (auto)/2	0,01	0,00	-6,65	0,00	-4,10	0,00
B16	0,000	SLS-Char (auto)/4	0,00	0,00	0,90	0,00	0,00	0,00
B16	743,000+	SLS-Char (auto)/3	0,00	0,00	6,65	0,00	-4,11	0,00
B16	143,600-	SLS-Char (auto)/3	0,01	0,00	-0,04	0,00	3,11	0,00
B16	743,000+	SLS-Char (auto)/1	0,00	0,00	1,37	0,00	-0,85	0,00
B16	363,018-	SLS-Char (auto)/2	0,01	0,00	5,80	0,00	-3,87	0,00
B17	0,000	SLS-Char (auto)/1	0,00	0,00	0,00	0,00	0,00	0,00
B17	0,000	SLS-Char (auto)/3	0,00	0,00	0,00	0,00	0,00	0,00
B18	0,000	SLS-Char (auto)/4	0,00	0,00	0,00	0,00	0,00	0,00



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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B18	0,000	SLS-Char (auto)/2	-0,01	0,00	0,00	0,00	0,00	0,00
B19	0,000	SLS-Char (auto)/4	0,00	0,00	0,00	0,00	0,00	0,00
B19	0,000	SLS-Char (auto)/2	0,00	0,00	0,00	0,00	0,00	0,00
B20	0,000	SLS-Char (auto)/4	0,00	0,00	0,00	0,00	0,00	0,00
B20	0,000	SLS-Char (auto)/2	0,00	0,00	0,00	0,00	0,00	0,00
B21	0,000	SLS-Char (auto)/4	0,00	0,00	0,00	0,00	0,00	0,00
B21	0,000	SLS-Char (auto)/2	-0,01	0,00	0,00	0,00	0,00	0,00
B22	0,000	SLS-Char (auto)/1	0,00	0,00	0,00	0,00	0,00	0,00
B22	0,000	SLS-Char (auto)/3	0,00	0,00	0,00	0,00	0,00	0,00
B23	0,000	SLS-Char (auto)/4	-0,01	0,00	0,00	0,00	0,00	0,00
B23	0,000	SLS-Char (auto)/2	-0,02	0,00	0,00	0,00	0,00	0,00
B24	0,000	SLS-Char (auto)/4	0,00	0,00	0,00	0,00	0,00	0,00
B24	0,000	SLS-Char (auto)/2	-0,01	0,00	0,00	0,00	0,00	0,00
B25	0,000	SLS-Char (auto)/4	0,00	0,00	0,00	0,00	0,00	0,00
B25	0,000	SLS-Char (auto)/2	0,00	0,00	0,00	0,00	0,00	0,00
B26	0,000	SLS-Char (auto)/4	0,00	0,00	0,00	0,00	0,00	0,00
B26	0,000	SLS-Char (auto)/2	0,00	0,00	0,00	0,00	0,00	0,00
B27	0,000	SLS-Char (auto)/4	0,00	0,00	0,00	0,00	0,00	0,00
B27	0,000	SLS-Char (auto)/2	-0,01	0,00	0,00	0,00	0,00	0,00
B28	0,000	SLS-Char (auto)/4	-0,01	0,00	0,00	0,00	0,00	0,00
B28	0,000	SLS-Char (auto)/2	-0,02	0,00	0,00	0,00	0,00	0,00
B29	270,000	SLS-Char (auto)/4	-6,36	-0,06	-0,20	0,00	-0,53	-0,16
B29	0,000	SLS-Char (auto)/3	-12,34	-0,05	-0,08	0,00	0,00	0,00
B29	0,000	SLS-Char (auto)/5	-20,20	-0,21	-0,80	0,00	0,00	0,00
B29	270,000	SLS-Char (auto)/1	-16,88	-0,21	-0,87	0,00	-2,34	-0,57
B30	325,000	SLS-Char (auto)/4	-1,76	-0,10	-0,37	0,00	-0,51	-0,17
B30	0,000	SLS-Char (auto)/2	-7,88	-0,35	-1,32	0,00	2,22	0,49
B30	325,000	SLS-Char (auto)/2	-7,09	-0,35	-1,32	0,00	-2,06	-0,66
B30	0,000	SLS-Char (auto)/5	-5,23	-0,32	-1,20	0,00	2,49	0,57
B31	325,000	SLS-Char (auto)/4	-1,76	-0,10	0,37	0,00	0,51	-0,17
B31	0,000	SLS-Char (auto)/2	-7,88	-0,35	1,32	0,00	-2,22	0,49
B31	0,000	SLS-Char (auto)/5	-5,23	-0,32	1,20	0,00	-2,49	0,57
B31	325,000	SLS-Char (auto)/2	-7,09	-0,35	1,32	0,00	2,06	-0,66



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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B32	270,000	SLS-Char (auto)/4	-6,36	-0,06	0,20	0,00	0,53	-0,16
B32	0,000	SLS-Char (auto)/3	-12,34	-0,05	0,08	0,00	0,00	0,00
B32	0,000	SLS-Char (auto)/5	-20,20	-0,21	0,80	0,00	0,00	0,00
B32	270,000	SLS-Char (auto)/1	-16,88	-0,21	0,87	0,00	2,34	-0,57
B33	325,000	SLS-Char (auto)/1	-4,35	-0,01	-1,97	0,00	-1,66	0,01
B33	0,000	SLS-Char (auto)/4	-5,18	0,01	-0,84	0,00	1,46	-0,01
B33	325,000	SLS-Char (auto)/2	-19,13	0,07	-3,25	0,00	-5,62	0,14
B33	0,000	SLS-Char (auto)/5	-12,52	0,02	-2,78	0,00	5,35	0,00
B33	0,000	SLS-Char (auto)/3	-19,95	0,09	-2,46	0,00	2,64	-0,13
B33	325,000	SLS-Char (auto)/3	-19,16	0,09	-2,46	0,00	-5,35	0,16
B34	270,000	SLS-Char (auto)/4	-12,94	-0,02	-0,37	0,00	-1,01	-0,06
B34	0,000	SLS-Char (auto)/3	-28,35	-0,06	-0,03	0,00	0,00	0,00
B34	0,000	SLS-Char (auto)/2	-43,67	-0,08	-0,99	0,00	0,00	0,00
B34	270,000	SLS-Char (auto)/1	-34,83	-0,05	-1,76	0,00	-4,74	-0,13
B34	270,000	SLS-Char (auto)/2	-43,02	-0,08	-0,99	0,00	-2,68	-0,22
B35	325,000	SLS-Char (auto)/1	-4,35	-0,01	1,97	0,00	1,66	0,01
B35	0,000	SLS-Char (auto)/4	-5,18	0,01	0,84	0,00	-1,46	-0,01
B35	0,000	SLS-Char (auto)/5	-12,52	0,02	2,78	0,00	-5,35	0,00
B35	325,000	SLS-Char (auto)/2	-19,13	0,07	3,25	0,00	5,62	0,14
B35	0,000	SLS-Char (auto)/3	-19,95	0,09	2,46	0,00	-2,64	-0,13
B35	325,000	SLS-Char (auto)/3	-19,16	0,09	2,46	0,00	5,35	0,16
B36	270,000	SLS-Char (auto)/4	-12,94	-0,02	0,37	0,00	1,01	-0,06
B36	0,000	SLS-Char (auto)/3	-28,35	-0,06	0,03	0,00	0,00	0,00
B36	0,000	SLS-Char (auto)/2	-43,67	-0,08	0,99	0,00	0,00	0,00
B36	270,000	SLS-Char (auto)/1	-34,83	-0,05	1,76	0,00	4,74	-0,13
B36	270,000	SLS-Char (auto)/2	-43,02	-0,08	0,99	0,00	2,68	-0,22
B37	325,000	SLS-Char (auto)/4	-4,43	0,07	0,66	0,00	1,21	0,03
B37	0,000	SLS-Char (auto)/2	-20,07	0,20	2,69	0,00	-3,31	-0,59
B37	325,000	SLS-Char (auto)/2	-19,29	0,20	2,69	0,00	5,43	0,07
B37	0,000	SLS-Char (auto)/5	-12,65	0,24	2,05	0,00	-3,23	-0,69
B37	325,000	SLS-Char (auto)/1	-4,44	0,24	1,24	0,00	1,40	0,12
B38	270,000	SLS-Char (auto)/4	-9,29	0,06	0,15	0,00	0,41	0,16
B38	270,000	SLS-Char (auto)/3	-24,15	0,03	-0,20	0,00	-0,53	0,09



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Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B38	0,000	SLS-Char (auto)/2	-32,66	0,16	0,30	0,00	0,00	0,00
B38	270,000	SLS-Char (auto)/1	-20,52	0,24	0,87	0,00	2,34	0,65
B39	325,000	SLS-Char (auto)/4	-4,43	0,07	-0,66	0,00	-1,21	0,03
B39	0,000	SLS-Char (auto)/2	-20,07	0,20	-2,69	0,00	3,31	-0,59
B39	325,000	SLS-Char (auto)/2	-19,29	0,20	-2,69	0,00	-5,43	0,07
B39	0,000	SLS-Char (auto)/5	-12,65	0,24	-2,05	0,00	3,23	-0,69
B39	325,000	SLS-Char (auto)/1	-4,44	0,24	-1,24	0,00	-1,40	0,12
B40	270,000	SLS-Char (auto)/4	-9,29	0,06	-0,15	0,00	-0,41	0,16
B40	270,000	SLS-Char (auto)/1	-20,52	0,24	-0,87	0,00	-2,34	0,65
B40	270,000	SLS-Char (auto)/3	-24,15	0,03	0,20	0,00	0,53	0,09
B40	0,000	SLS-Char (auto)/2	-32,66	0,16	-0,30	0,00	0,00	0,00
B41	325,000	SLS-Char (auto)/4	-1,74	0,02	0,06	0,00	0,36	0,12
B41	0,000	SLS-Char (auto)/2	-7,83	0,08	0,25	0,00	0,68	0,22
B41	0,000	SLS-Char (auto)/4	-2,53	0,02	0,06	0,00	0,16	0,05
B41	325,000	SLS-Char (auto)/2	-7,04	0,08	0,25	0,00	1,51	0,49
B42	270,000	SLS-Char (auto)/4	-2,53	0,02	0,06	0,00	0,16	0,05
B42	0,000	SLS-Char (auto)/2	-8,48	0,08	0,25	0,00	0,00	0,00
B42	270,000	SLS-Char (auto)/2	-7,83	0,08	0,25	0,00	0,68	0,22
B43	325,000	SLS-Char (auto)/4	-1,74	0,02	-0,06	0,00	-0,36	0,12
B43	0,000	SLS-Char (auto)/2	-7,83	0,08	-0,25	0,00	-0,68	0,22
B43	325,000	SLS-Char (auto)/2	-7,04	0,08	-0,25	0,00	-1,51	0,49
B43	0,000	SLS-Char (auto)/4	-2,53	0,02	-0,06	0,00	-0,16	0,05
B44	270,000	SLS-Char (auto)/4	-2,53	0,02	-0,06	0,00	-0,16	0,05
B44	270,000	SLS-Char (auto)/2	-7,83	0,08	-0,25	0,00	-0,68	0,22
B44	0,000	SLS-Char (auto)/2	-8,48	0,08	-0,25	0,00	0,00	0,00
B45	117,500+	SLS-Char (auto)/3	0,86	0,00	-0,87	0,00	0,86	0,00
B45	235,000	SLS-Char (auto)/1	0,05	0,00	-10,72	0,00	-4,62	0,00
B45	0,000	SLS-Char (auto)/5	0,39	0,00	10,72	0,00	-4,66	0,00
B45	117,500-	SLS-Char (auto)/1	0,05	0,00	3,51	0,00	3,75	0,00
B45	58,750-	SLS-Char (auto)/3	0,86	0,00	2,72	0,00	0,32	0,00
B45	117,500-	SLS-Char (auto)/3	0,86	0,00	0,87	0,00	0,86	0,00
B46	58,750+	SLS-Char (auto)/2	2,26	0,00	5,72	0,00	2,37	0,00
B46	117,500+	SLS-Char (auto)/2	2,26	0,00	-5,63	0,00	5,70	0,00



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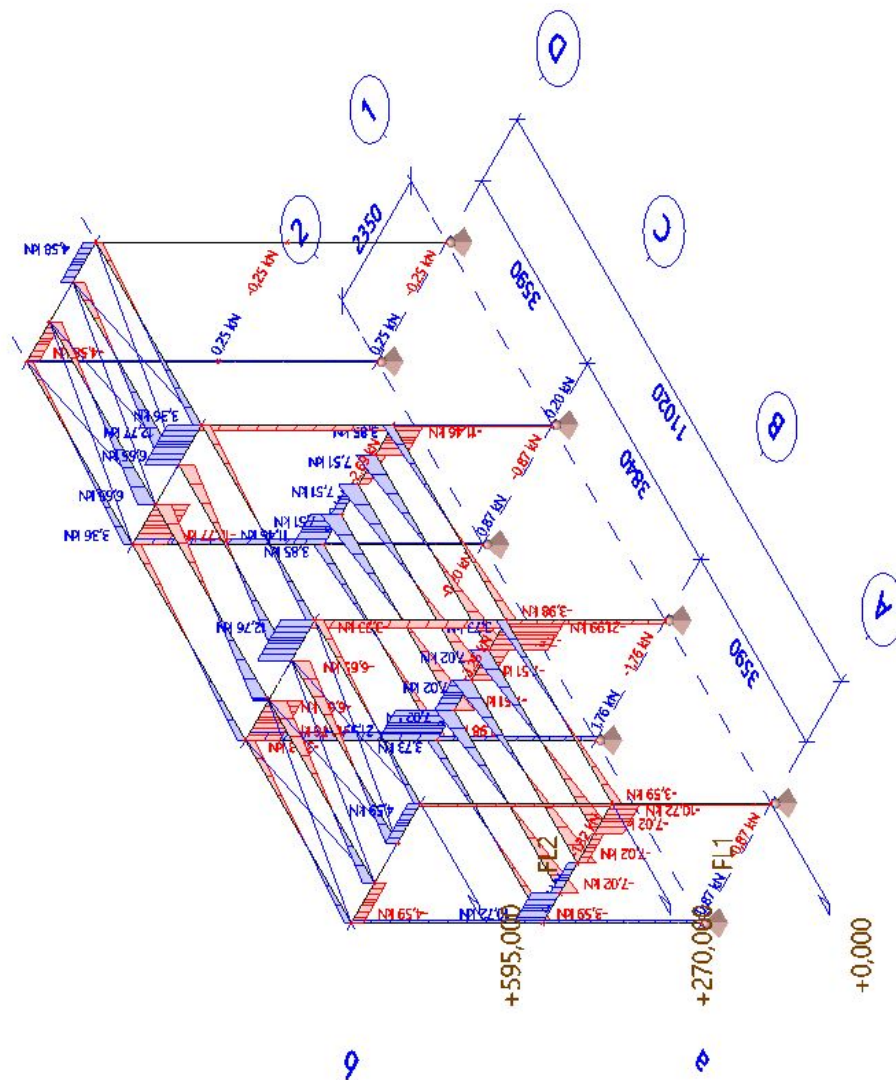
Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B46	235,000	SLS-Char (auto)/1	0,22	0,00	-21,99	0,00	-9,50	0,00
B46	0,000	SLS-Char (auto)/5	1,20	0,00	21,99	0,00	-9,62	0,00
B46	117,500-	SLS-Char (auto)/1	0,22	0,00	7,27	0,00	7,69	0,00
B46	117,500-	SLS-Char (auto)/3	2,43	0,00	1,81	0,00	1,65	0,00
B47	58,750+	SLS-Char (auto)/3	2,48	0,00	1,03	0,00	0,14	0,00
B47	117,500+	SLS-Char (auto)/3	2,48	0,00	-0,94	0,00	0,72	0,00
B47	235,000	SLS-Char (auto)/1	0,37	0,00	-11,46	0,00	-4,97	0,00
B47	0,000	SLS-Char (auto)/5	1,36	0,00	11,46	0,00	-5,10	0,00
B47	117,500-	SLS-Char (auto)/1	0,37	0,00	3,76	0,00	3,96	0,00
B48	0,000	SLS-Char (auto)/3	0,05	0,00	1,08	0,00	-0,36	0,00
B48	0,000	SLS-Char (auto)/4	0,01	0,00	1,07	0,00	-0,36	0,00
B48	0,000	SLS-Char (auto)/5	0,02	0,00	3,85	0,00	-1,30	0,00
B48	384,000	SLS-Char (auto)/1	0,00	0,00	-3,98	0,00	-1,56	0,00
B48	192,000-	SLS-Char (auto)/5	0,02	0,00	-0,07	0,00	2,33	0,00
B49	0,000	SLS-Char (auto)/3	0,00	0,00	1,87	0,00	0,00	0,00
B49	384,000	SLS-Char (auto)/1	0,00	0,00	-7,51	0,00	0,00	0,00
B49	0,000	SLS-Char (auto)/4	0,00	0,00	1,87	0,00	0,00	0,00
B49	0,000	SLS-Char (auto)/5	0,00	0,00	7,51	0,00	0,00	0,00
B49	192,000-	SLS-Char (auto)/1	0,00	0,00	0,00	0,00	7,21	0,00
B50	384,000	SLS-Char (auto)/1	0,00	0,00	-7,51	0,00	0,00	0,00
B50	0,000	SLS-Char (auto)/1	0,00	0,00	7,51	0,00	0,00	0,00
B50	192,000-	SLS-Char (auto)/1	0,00	0,00	0,00	0,00	7,21	0,00
B50	0,000	SLS-Char (auto)/3	0,00	0,00	1,87	0,00	0,00	0,00
B51	0,000	SLS-Char (auto)/3	0,00	0,00	1,87	0,00	0,00	0,00
B51	384,000	SLS-Char (auto)/1	0,00	0,00	-7,51	0,00	0,00	0,00
B51	0,000	SLS-Char (auto)/5	0,00	0,00	7,51	0,00	0,00	0,00
B51	0,000	SLS-Char (auto)/4	0,00	0,00	1,87	0,00	0,00	0,00
B51	192,000-	SLS-Char (auto)/1	0,00	0,00	0,00	0,00	7,21	0,00
B52	0,000	SLS-Char (auto)/3	0,05	0,00	1,08	0,00	-0,36	0,00
B52	0,000	SLS-Char (auto)/5	0,02	0,00	3,85	0,00	-1,30	0,00
B52	0,000	SLS-Char (auto)/4	0,01	0,00	1,07	0,00	-0,36	0,00
B52	384,000	SLS-Char (auto)/1	0,00	0,00	-3,98	0,00	-1,56	0,00
B52	192,000-	SLS-Char (auto)/5	0,02	0,00	-0,07	0,00	2,33	0,00



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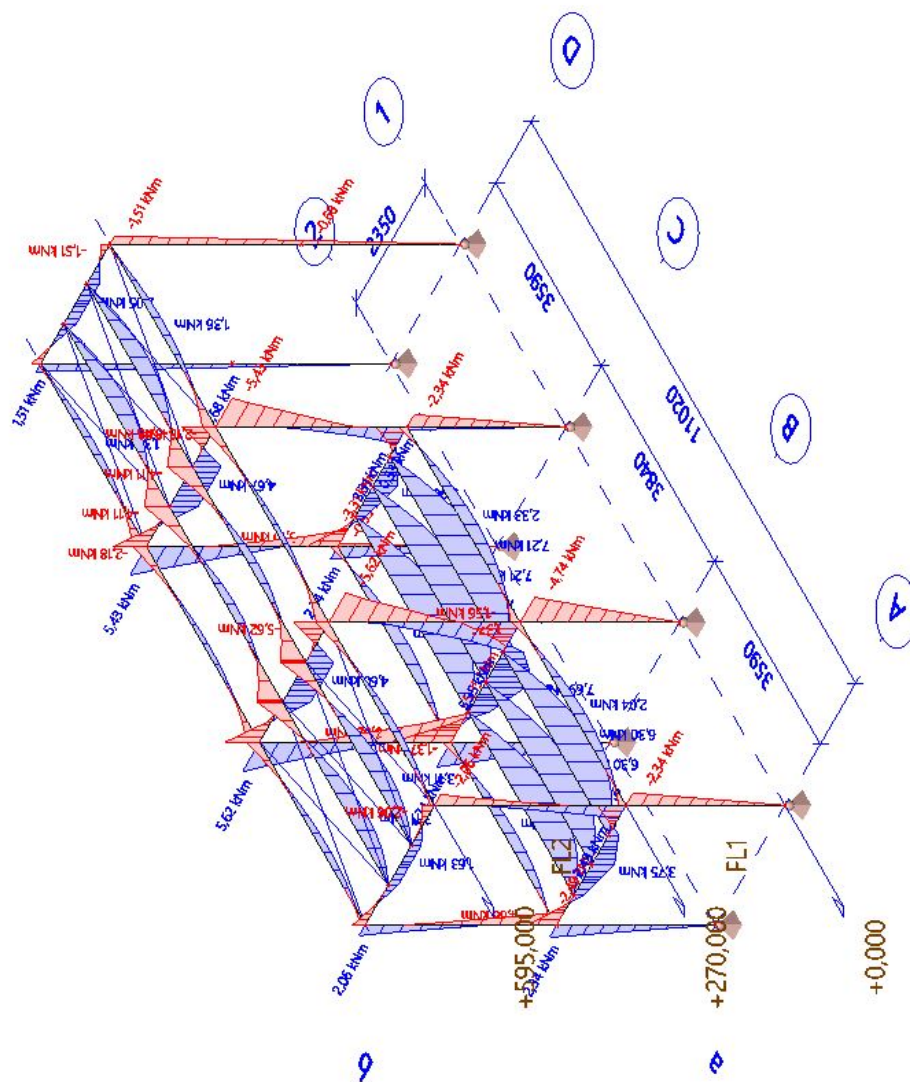
Name	dx [cm]	Case	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
B53	359,000	SLS-Char (auto)/5	0,11	0,00	-3,59	0,00	-1,14	0,00
B53	0,000	SLS-Char (auto)/3	0,20	0,00	1,03	0,00	-0,38	0,00
B53	179,500-	SLS-Char (auto)/1	0,03	0,00	0,07	0,00	2,04	0,00
B53	0,000	SLS-Char (auto)/1	0,03	0,00	3,73	0,00	-1,37	0,00
B54	359,000	SLS-Char (auto)/1	0,00	0,00	-7,02	0,00	0,00	0,00
B54	0,000	SLS-Char (auto)/3	0,01	0,00	1,75	0,00	0,00	0,00
B54	179,500-	SLS-Char (auto)/1	0,00	0,00	0,00	0,00	6,30	0,00
B54	0,000	SLS-Char (auto)/1	0,00	0,00	7,02	0,00	0,00	0,00
B55	359,000	SLS-Char (auto)/1	0,00	0,00	-7,02	0,00	0,00	0,00
B55	0,000	SLS-Char (auto)/1	0,00	0,00	7,02	0,00	0,00	0,00
B55	179,500-	SLS-Char (auto)/1	0,00	0,00	0,00	0,00	6,30	0,00
B55	0,000	SLS-Char (auto)/3	-0,01	0,00	1,75	0,00	0,00	0,00
B56	359,000	SLS-Char (auto)/1	0,00	0,00	-7,02	0,00	0,00	0,00
B56	0,000	SLS-Char (auto)/3	0,01	0,00	1,75	0,00	0,00	0,00
B56	179,500-	SLS-Char (auto)/1	0,00	0,00	0,00	0,00	6,30	0,00
B56	0,000	SLS-Char (auto)/1	0,00	0,00	7,02	0,00	0,00	0,00
B57	359,000	SLS-Char (auto)/5	0,11	0,00	-3,59	0,00	-1,14	0,00
B57	0,000	SLS-Char (auto)/3	0,20	0,00	1,03	0,00	-0,38	0,00
B57	179,500-	SLS-Char (auto)/1	0,03	0,00	0,07	0,00	2,04	0,00
B57	0,000	SLS-Char (auto)/1	0,03	0,00	3,73	0,00	-1,37	0,00

Name	Combination key
SLS-Char (auto)/1	Lastna + Stalna + Koristna
SLS-Char (auto)/2	Lastna + Stalna + Sneg + 0.70*Koristna
SLS-Char (auto)/3	Lastna + Stalna + Sneg
SLS-Char (auto)/4	Lastna + Stalna
SLS-Char (auto)/5	Lastna + Stalna + 0.50*Sneg + Koristna



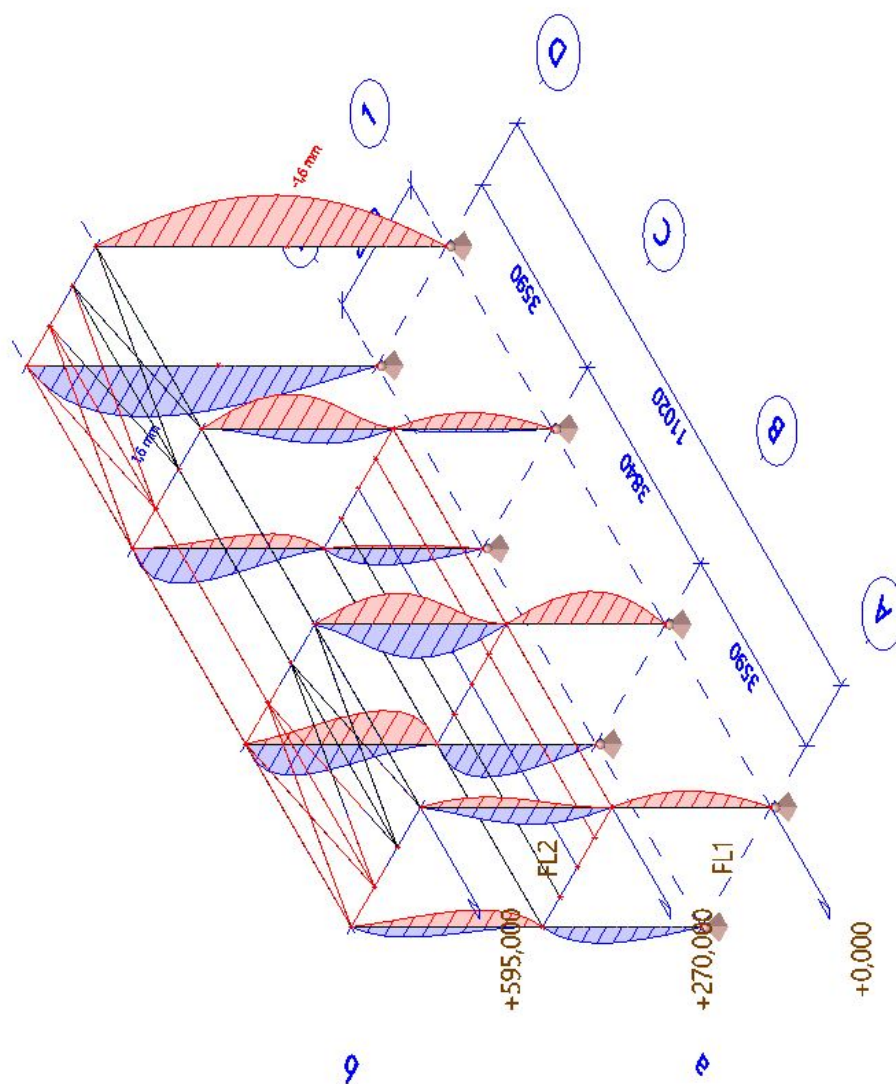
Values: V_z
Linear calculation
Class: All SLS
Coordinate system: Principal
Extreme 1D: Member
Selection: All





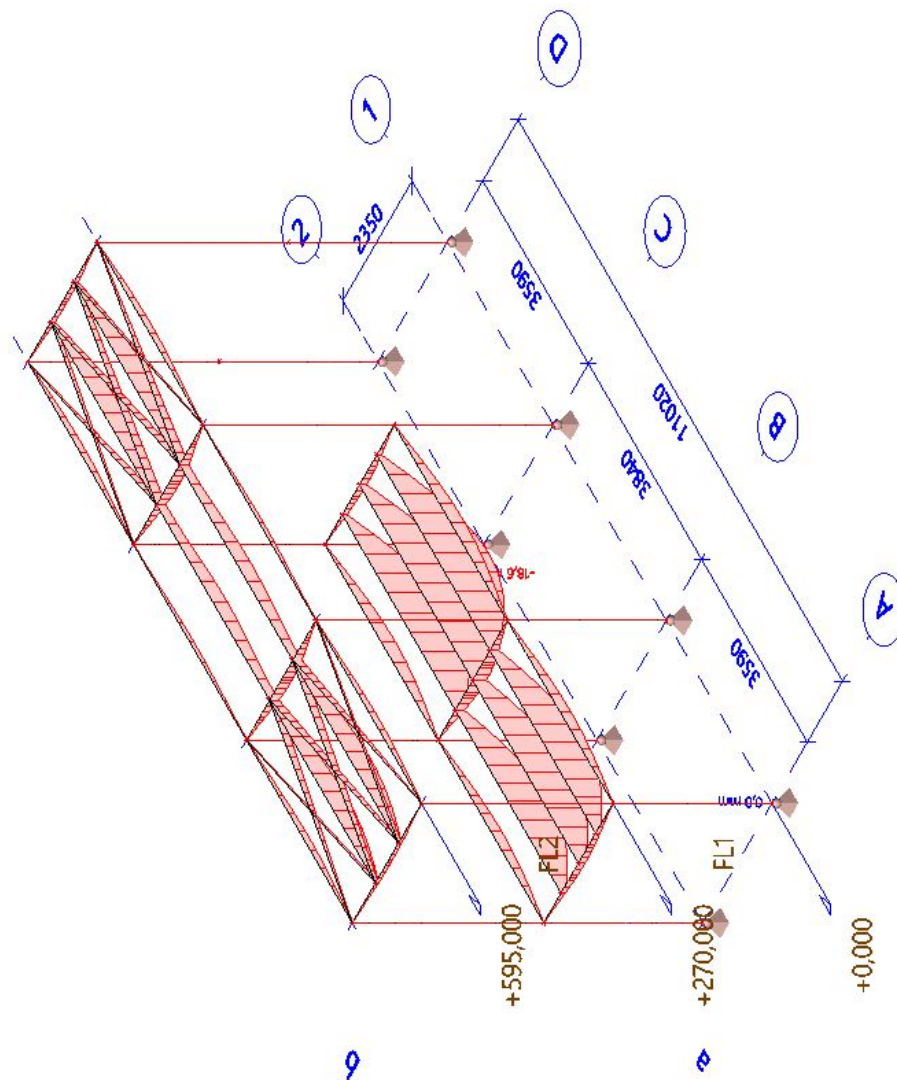
Values: M_y
 Linear calculation
 Class: All SLS
 Coordinate system: Principal
 Extreme 1D: Member
 Selection: All





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





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



**Project Kulturni center Čatež****12. Dimenzioniranje Jekla MSN****12.1. EC-EN 1993 Steel check ULS**Values: **UC_{Overall}**

Linear calculation

Class: All ULS

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B11	1,175 / 2,350 m	HEA100	Rolled	S 355	All ULS	0,29 -
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Combination key

All ULS / 1.35*Lastna + 1.35*Stalna + 1.50*Sneg + 1.05*Koristna

Partial safety factors

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

Material

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

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-4,76	kN	$N_{c,Rd}$	752,60	kN	0,01
Bending M_y	$M_{y,Ed}$	6,37	kNm	$M_{pl,y,Rd}$	29,44	kNm	0,22
Bending M_z	$M_{z,Ed}$	0,00	kNm	$M_{pl,z,Rd}$	14,60	kNm	0,00

Combined section checks

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

Stability checks

Decisive position for stability classification: 1,175 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	1,37	3,217	698,81		1,04	1,00
z-z	1,00	0,783	4534,83		0,41	1,00
LTB	1,00	0,783		242,12	0,35	1,00

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,01	0,71	0,53	1,01

Maximum moment $M_{y,Ed}$ is derived from beam B11 position 0,000 m.Maximum moment $M_{z,Ed}$ is derived from beam B11 position 0,783 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-8,24	0,00	0,29

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B15	7,430 / 11,020 m	HEA100	Rolled	S 355	All ULS	0,21 -
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Combination key

All ULS / 1.35*Lastna + 1.35*Stalna + 1.50*Sneg

**Project Kulturni center Čatež****Partial safety factors**

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

Material

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

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-0,01	kN	$N_{C,Rd}$	752,60	kN	0,00
Shear V_z	$V_{z,Ed}$	-8,66	kN	$V_{pl,z,Rd}$	154,13	kN	0,06
Bending M_y	$M_{y,Ed}$	-6,04	kNm	$M_{pl,y,Rd}$	29,44	kNm	0,21
Bending M_z	$M_{z,Ed}$	0,00	kNm	$M_{pl,z,Rd}$	14,60	kNm	0,00
Torsion	T_{Ed}	0,0	MPa	T_{Rd}	205,0	MPa	0,00

Combined section checks

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

Stability checks

Decisive position for stability classification: 7,430 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	1,00	11,020	59,56		3,55	1,00
z-z	0,86	3,316	252,64		1,73	1,00
LTB	1,00	3,840		174,32	0,41	1,00

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,00	0,74	0,52	1,00

Maximum moment $M_{y,Ed}$ is derived from beam B15 position 7,430 m.Maximum moment $M_{z,Ed}$ is derived from beam B15 position 3,630 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-6,04	0,00	0,21

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B24	0,000 / 3,674 m	RD12	Rolled	S 355	All ULS	0,02 -
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Combination key

All ULS / - Potres y + Potres y_AE

Partial safety factors

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

Material

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

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

Section is classified as Class 3

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Tension	N_{Ed}	0,70	kN	$N_{t,Rd}$	39,88	kN	0,02

Combined section checks

Combined section checks	Unity check [-]
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**Project Kulturni center Čatež****EN 1993-1-1 Code Check**

National annex: Slovenian SIST-EN NA

Member B34	0,000 / 2,700 m	HEA140	Rolled	S 355	All ULS	0,33 -
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Combination key

All ULS / 1.35*Lastna + 1.35*Stalna + 0.75*Sneg + 1.50*Koristna

Partial safety factors

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

Material

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

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-62,25	kN	$N_{C,Rd}$	1114,70	kN	0,06
Shear V_y	$V_{y,Ed}$	-0,10	kN	$V_{pl,y,Rd}$	507,53	kN	0,00
Shear V_z	$V_{z,Ed}$	-2,32	kN	$V_{pl,z,Rd}$	207,16	kN	0,01

Combined section checks

Combined section checks	Unity check [-]
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Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	2,96	7,998	333,74		1,83	0,25
z-z	0,86	2,327	1488,54		0,87	0,62
LTB	1,00	2,700		193,89	0,56	1,00

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Flexural buckling	N_{Ed}	-62,25	kN	$N_{b,Rd}$	273,65	kN	0,23

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	0,97	0,54	0,65	0,84

Maximum moment $M_{y,Ed}$ is derived from beam B34 position 2,700 m.Maximum moment $M_{z,Ed}$ is derived from beam B34 position 2,700 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-6,25	-0,27	0,33

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B47	0,000 / 2,350 m	HEA100	Rolled	S 355	All ULS	0,49 -
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Combination key

All ULS / Lastna + Stalna + 0.30*Koristna + Potres y + Potres y_AE

Partial safety factors

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

Material

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

**Project Kulturni center Čatež****Section checks**

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-1,03	kN	$N_{c,Rd}$	752,60	kN	0,00
Shear V_y	$V_{y,Ed}$	0,06	kN	$V_{pl,y,Rd}$	345,36	kN	0,00
Shear V_z	$V_{z,Ed}$	15,59	kN	$V_{pl,z,Rd}$	154,13	kN	0,10
Bending M_y	$M_{y,Ed}$	-14,25	kNm	$M_{pl,y,Rd}$	29,44	kNm	0,48
Bending M_z	$M_{z,Ed}$	0,00	kNm	$M_{pl,z,Rd}$	14,60	kNm	0,00
Torsion	T_{Ed}	0,6	MPa	T_{Rd}	205,0	MPa	0,00

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,23

Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N_{cr} [kN]	M_{cr} [kNm]	λ_{rel}	χ
y-y	1,36	3,205	704,39		1,03	1,00
z-z	1,00	0,587	8051,36		0,31	1,00
LTB	1,00	0,587		570,25	0,23	1,00

Combined stability checks

Interaction factors	k_{yy}	k_{yz}	k_{zy}	k_{zz}
Value	1,00	0,71	0,52	1,00

Maximum moment $M_{y,Ed}$ is derived from beam B47 position 0,000 m.Maximum moment $M_{z,Ed}$ is derived from beam B47 position 0,588 m.

Combined stability checks	$M_{y,Ed}$ [kNm]	$M_{z,Ed}$ [kNm]	Unity check [-]
Bending and Axial Compression	-14,25	0,03	0,49

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B48	0,000 / 3,840 m	HEA100	Rolled	S 355	All ULS	0,16 -
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Combination key

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

Partial safety factors

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

Material

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

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N_{Ed}	-0,17	kN	$N_{c,Rd}$	752,60	kN	0,00
Shear V_y	$V_{y,Ed}$	-0,01	kN	$V_{pl,y,Rd}$	345,36	kN	0,00
Shear V_z	$V_{z,Ed}$	3,96	kN	$V_{pl,z,Rd}$	154,13	kN	0,03
Bending M_y	$M_{y,Ed}$	-4,81	kNm	$M_{pl,y,Rd}$	29,44	kNm	0,16
Torsion	T_{Ed}	0,1	MPa	T_{Rd}	205,0	MPa	0,00

Combined section checks

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

Stability checks

Decisive position for stability classification: 0,000 m

Section is classified as Class 1

**Project Kulturni center Čatež**

Buckling group : Default

Buckling axis	k	L [m]	N _{cr} [kN]	M _{cr} [kNm]	λ _{rel}	χ
y-y	1,35	5,191	268,40		1,67	1,00
z-z	1,00	3,840	188,36		2,00	1,00
LTB	1,00	3,840		93,95	0,56	1,00

Combined stability checks

Interaction factors	k _{yy}	k _{yz}	k _{zy}	k _{zz}
Value	1,00	0,72	0,52	1,00

Maximum moment M_{y,Ed} is derived from beam B48 position 0,000 m.Maximum moment M_{z,Ed} is derived from beam B48 position 1,536 m.

Combined stability checks	M _{y,Ed} [kNm]	M _{z,Ed} [kNm]	Unity check [-]
Bending and Axial Compression	-4,81	-0,01	0,16

EN 1993-1-1 Code Check

National annex: Slovenian SIST-EN NA

Member B50	1,920 / 3,840 m	HEA100	Rolled	S 355	All ULS	0,50 -
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Combination key

All ULS / 1.35*Lastna + 1.35*Stalna + 0.75*Sneg + 1.50*Koristna

Partial safety factors

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

Material

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

Section checks

Section is classified as Class 1

Section checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Compression	N _{Ed}	0,00	kN	N _{c,Rd}	752,60	kN	0,00
Bending M _y	M _{y,Ed}	10,55	kNm	M _{pl,y,Rd}	29,44	kNm	0,36

Combined section checks

Combined section checks	Unity check [-]
Bending, Axial force and Shear	0,36

Stability checks

Decisive position for stability classification: 1,920 m

Section is classified as Class 1

Buckling group : Default

Buckling axis	k	L [m]	N _{cr} [kN]	M _{cr} [kNm]	λ _{rel}	χ
y-y	1,00	3,840	490,55		1,24	1,00
z-z	1,00	3,840	188,36		2,00	1,00
LTB	1,00	3,840		28,85	1,01	0,71

Stability checks	Design force	Value	Unit	Resistance	Value	Unit	Unity check [-]
Lateral Torsional Buckling	M _{y,Ed}	10,55	kNm	M _{b,Rd}	20,97	kNm	0,50

Combined stability checks

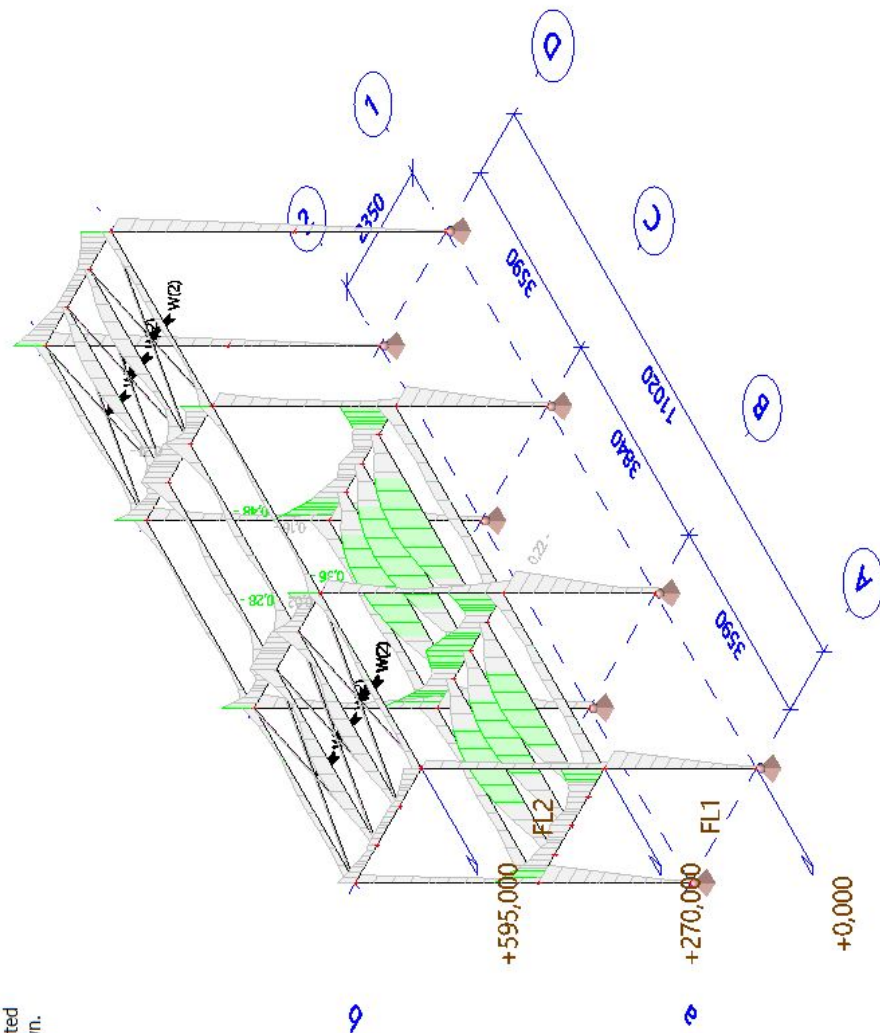
Interaction factors	k _{yy}	k _{yz}	k _{zy}	k _{zz}
Value	1,00	0,78	0,52	1,00

Maximum moment M_{y,Ed} is derived from beam B50 position 1,920 m.Maximum moment M_{z,Ed} is derived from beam B50 position 0,000 m.

Combined stability checks	M _{y,Ed} [kNm]	M _{z,Ed} [kNm]	Unity check [-]
Bending and Axial Compression	10,55	0,00	0,50



12.3. NSK - Section check



Values: UC_{Sec}
 Linear calculation
 Class: All ULS
 Coordinate system: Principal
 Extreme ID: Cross-section
 Selection: All
 There are 2 warnings on selected members. 2 of them are shown.



**13. Dimenzioniranje Jekla****13.1. EC-EN 1993 Steel Check SLS**

Linear calculation

Class: All SLS

Coordinate system: Principal

Extreme 1D: Cross-section

Selection: All

Overall Unity Check

Name	dx [cm]	Case	Cross-section	$u_{y,max}$ [mm] $u_{z,max}$ [mm]	$u_{y,var}$ [mm] $u_{z,var}$ [mm]	Lim. $u_{y,max}$ [mm] Lim. $u_{z,max}$ [mm]	Lim. $u_{y,var}$ [mm] Lim. $u_{z,var}$ [mm]	Check $u_{y,max}$ [-] Check $u_{z,max}$ [-]	Check $u_{y,var}$ [-] Check $u_{z,var}$ [-]	Camber dx u_z [mm] Camber [mm]	Check overall [-]
B10	117,500	SLS-Char (auto)/1	Primarec - HEA100	0,0 -3,2	0,0 -2,6	3,1 9,4	2,6 7,8	0,00 0,34	0,00 0,33	-	0,34
B13	922,500-	SLS-Char (auto)/2	Sekundarec - HEA100	0,0 -2,0	0,0 -1,5	14,4 14,4	12,0 12,0	0,00 0,14	0,00 0,12	-	0,14
B18	0,000	SLS-Char (auto)/1	Zatege - RD12	0,0 -2,9	0,0 -2,3	29,4 29,4	24,5 24,5	0,00 0,10	0,00 0,09	-	0,10
B34	162,000-	SLS-Char (auto)/3	Steber 1 - HEA140	0,1 1,0	0,0 0,8	10,8 10,8	9,0 9,0	0,01 0,09	0,00 0,09	-	0,09
B46	117,500-	SLS-Char (auto)/3	Primarec podesta - HEA100	0,0 -4,3	0,0 -3,2	9,4 9,4	7,8 7,8	0,00 0,45	0,00 0,41	-	0,45
B48	192,000-	SLS-Char (auto)/4	Sekundarec podesta 1 - HEA100	0,0 -4,4	0,0 -3,1	15,4 15,4	12,8 12,8	0,00 0,28	0,00 0,25	-	0,28
B49	192,000-	SLS-Char (auto)/3	Sekundarec podesta 2 - HEA100	0,0 -15,3	0,0 -11,5	15,4 15,4	12,8 12,8	0,00 0,99	0,00 0,90	-	0,99

Name	Combination key
SLS-Char (auto)/1	Lastna + Stalna + Sneg
SLS-Char (auto)/2	Lastna + Stalna + Sneg + 0.70*Koristna
SLS-Char (auto)/3	Lastna + Stalna + Koristna
SLS-Char (auto)/4	Lastna + Stalna + 0.50*Sneg + Koristna



Project: Podest jeklena nadstrešnica s podestom

Project no:

Author:



Project data

Project name Podest jeklena nadstrešnica s podestom
 Project number
 Author
 Description
 Date 2/26/2026
 Code EN

Material

Steel S 355, S 355

Project item Con N49

Name Con N49
 Description
 Analysis Stress, strain/ loads in equilibrium

Design

Members

Geometry

Name	Cross-section	β - Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
B9	1 - HEA100	90,0	0,0	0,0	0	0	0
B13	2 - HEA100	0,0	0,0	0,0	0	0	96
B43	4 - HEA140	0,0	90,0	90,0	0	0	0

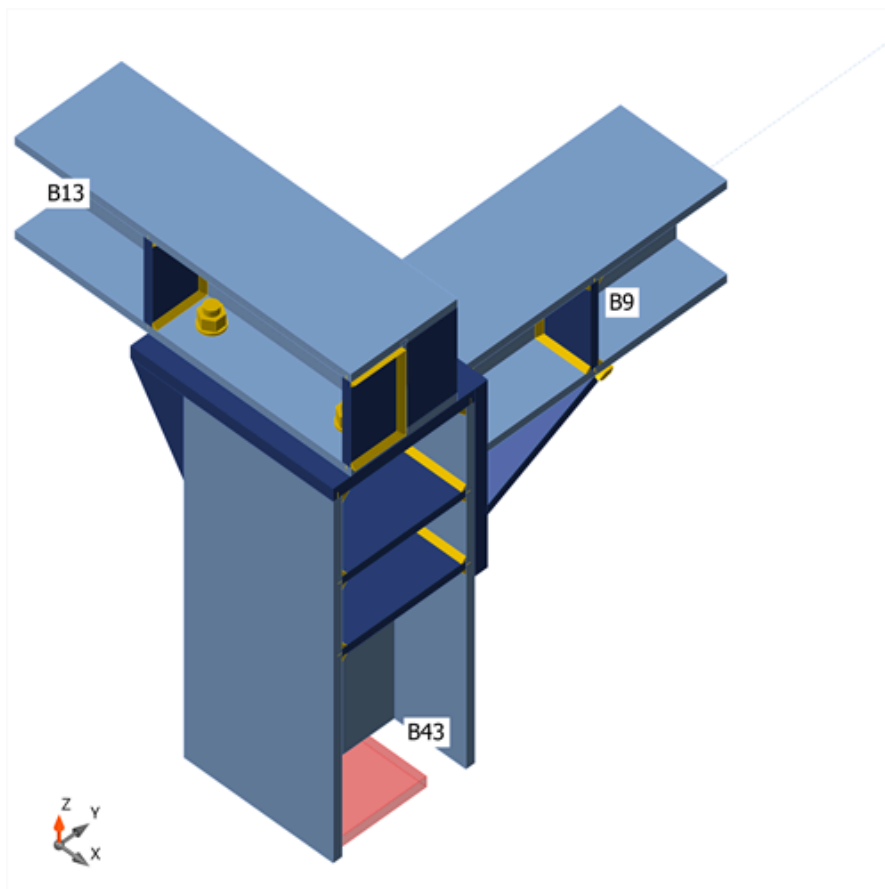
Supports and forces

Name	Support	Forces in	X [mm]
B9 / end		Node	0
B13 / begin		Node	0
B43 / begin	N-Vy-Vz-Mx-My-Mz	Node	0



Project no:

Author:

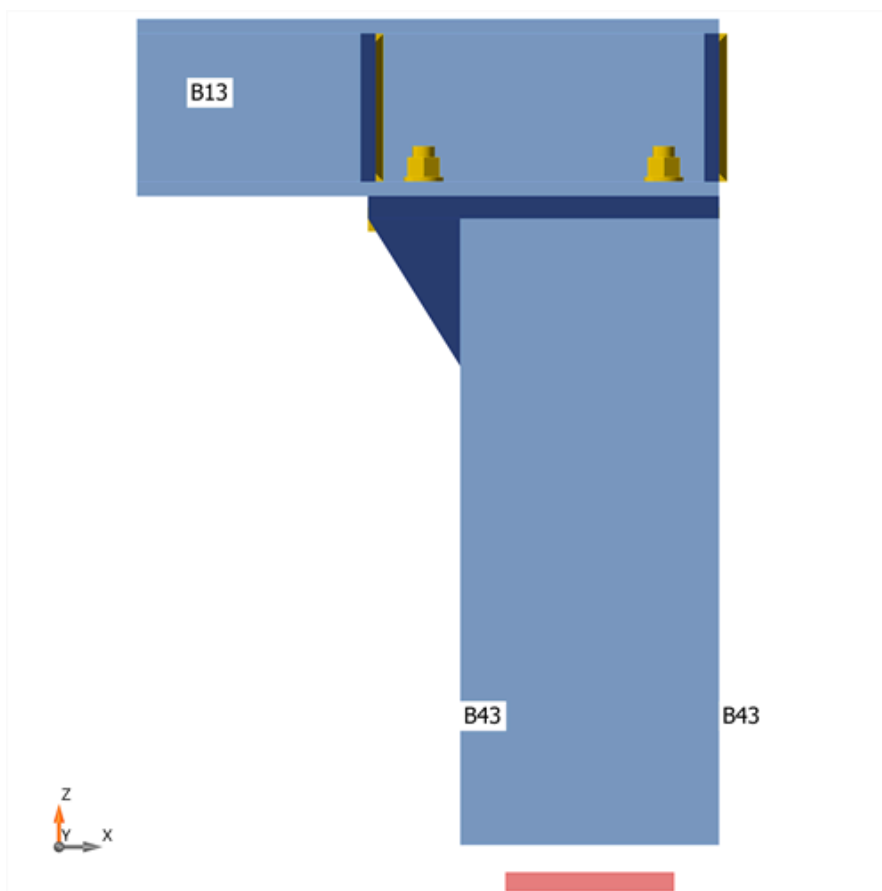


Con N49, Axonometric view



Project no:

Author:

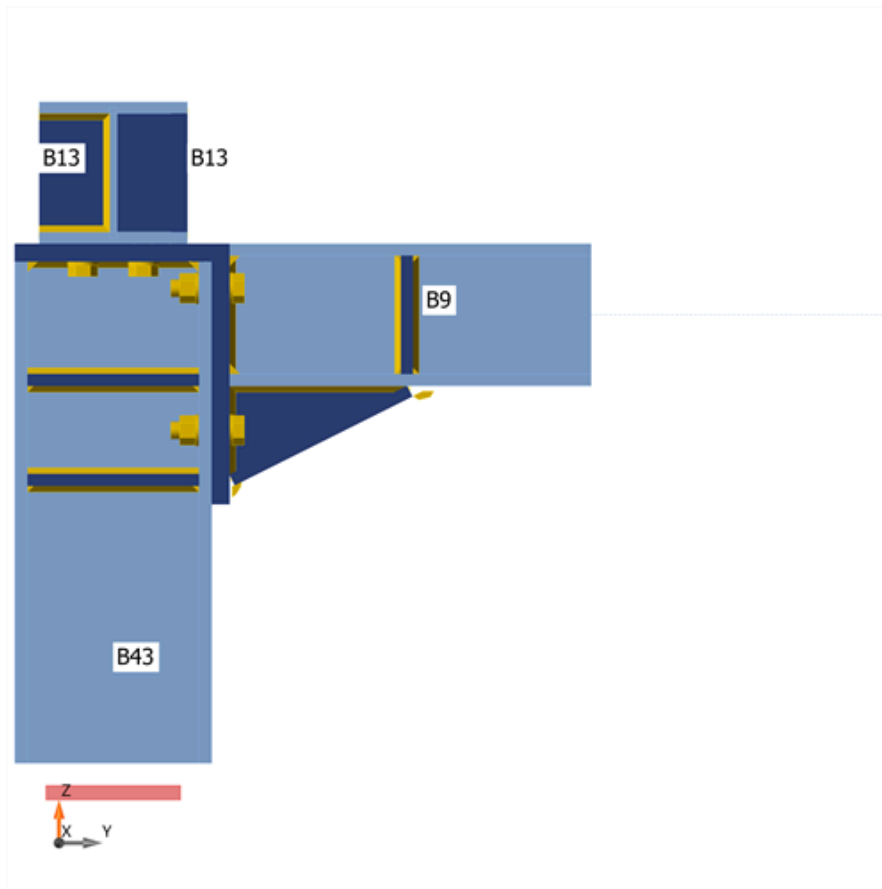


Con N49, Y direction view



Project no:

Author:



Con N49, X direction view

Cross-sections

Name	Material
1 - HEA100	S 355
2 - HEA100	S 355
4 - HEA140	S 355

Bolts

Name	Diameter [mm]	f_y [MPa]	f_u [MPa]	Gross area [mm ²]
M12 10.9	12	900,0	1000,0	113
M12 8.8	12	640,0	800,0	113



Project no:

Author:



Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Seis(6)	B9 / End	-0,7	0,0	-7,5	0,0	7,8	0,0
	B13 / Begin	-0,4	-0,2	-0,5	0,0	0,1	0,0
	B43 / Begin	8,0	0,0	-1,0	0,0	-7,8	0,1
ULS-Set(7)	B9 / End	-0,4	0,0	-6,7	0,0	2,2	0,0
	B13 / Begin	0,1	0,0	-3,6	0,0	-0,7	0,0
	B43 / Begin	10,3	0,1	-0,4	0,0	-2,2	-0,7
ULS-Seis(8)	B9 / End	0,6	0,0	5,2	0,0	-7,1	0,0
	B13 / Begin	0,4	0,2	-0,7	0,0	-0,3	0,0
	B43 / Begin	-4,5	0,0	0,9	0,0	7,1	-0,3
ULS-Seis(12)	B9 / End	0,0	0,0	-1,3	0,0	0,5	0,0
	B13 / Begin	-0,1	0,0	-1,8	0,0	-2,6	0,0
	B43 / Begin	3,0	0,3	-0,1	0,0	-0,5	-2,6
ULS-Seis(21)	B9 / End	0,4	0,0	3,3	0,0	-4,8	0,0
	B13 / Begin	0,5	0,1	-0,7	0,0	-0,2	0,0
	B43 / Begin	-2,6	0,0	0,7	0,0	4,8	-0,2
ULS-Seis(24)	B9 / End	-0,5	0,0	-5,5	0,0	5,5	0,0
	B13 / Begin	-0,5	-0,1	-0,6	0,0	0,0	0,0
	B43 / Begin	6,1	0,0	-0,8	0,0	-5,5	0,0
ULS-Seis(25)	B9 / End	-0,1	0,0	-1,3	0,0	0,5	0,0
	B13 / Begin	0,1	0,0	0,5	0,0	2,3	0,0
	B43 / Begin	0,7	-0,3	-0,1	0,0	-0,5	2,3

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Seis(6)	-0,4	0,1	0,0	0,0	0,0	0,0
ULS-Set(7)	0,0	0,0	0,0	0,0	0,0	0,0
ULS-Seis(8)	0,4	-0,1	0,0	0,0	0,0	0,0
ULS-Seis(12)	-0,3	0,1	0,0	0,0	0,0	0,0
ULS-Seis(21)	0,5	-0,1	0,0	0,0	0,0	0,0
ULS-Seis(24)	-0,5	0,1	0,0	0,0	0,0	0,0
ULS-Seis(25)	0,3	-0,1	0,0	0,0	0,0	0,0

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	$0,1 < 5,0\%$	OK
Bolts	$49,3 < 100\%$	OK
Welds	$83,3 < 100\%$	OK
Buckling	Not calculated	



Project no:

Author:



Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ϵ_{pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
B9-bfl 1	8,0	ULS-Seis(6)	183,2	0,0	0,0	OK
B9-tfl 1	8,0	ULS-Seis(6)	121,7	0,0	0,0	OK
B9-w 1	5,0	ULS-Seis(6)	189,5	0,0	0,0	OK
B13-bfl 1	8,0	ULS-Seis(25)	152,1	0,0	108,3	OK
B13-tfl 1	8,0	ULS-Seis(12)	60,7	0,0	0,0	OK
B13-w 1	5,0	ULS-Seis(12)	72,6	0,0	0,0	OK
B43-bfl 1	8,5	ULS-Seis(8)	355,1	0,1	118,8	OK
B43-tfl 1	8,5	ULS-Seis(6)	90,1	0,0	0,0	OK
B43-w 1	5,5	ULS-Seis(8)	217,4	0,0	0,0	OK
EP1	12,0	ULS-Seis(8)	244,2	0,0	75,3	OK
EP2	12,0	ULS-Seis(25)	191,8	0,0	56,0	OK
WID1a	5,0	ULS-Seis(8)	143,3	0,0	0,0	OK
WID1b	8,0	ULS-Seis(6)	92,7	0,0	0,0	OK
STIFF1a	8,0	ULS-Seis(8)	142,3	0,0	0,0	OK
STIFF1b	8,0	ULS-Seis(8)	141,2	0,0	0,0	OK
STIFF2a	8,0	ULS-Seis(8)	108,1	0,0	0,0	OK
STIFF2b	8,0	ULS-Seis(8)	106,1	0,0	0,0	OK
STIFF3a	8,0	ULS-Seis(6)	87,9	0,0	0,0	OK
STIFF3b	8,0	ULS-Seis(6)	87,7	0,0	0,0	OK
STIFF4a	8,0	ULS-Seis(25)	84,9	0,0	0,0	OK
STIFF4b	8,0	ULS-Seis(25)	85,5	0,0	0,0	OK
STIFF5a	8,0	ULS-Seis(12)	86,5	0,0	0,0	OK
STIFF5b	8,0	ULS-Seis(12)	85,8	0,0	0,0	OK
WID2a	8,0	ULS-Seis(12)	97,0	0,0	0,0	OK
WID2b	8,0	ULS-Seis(12)	99,5	0,0	0,0	OK

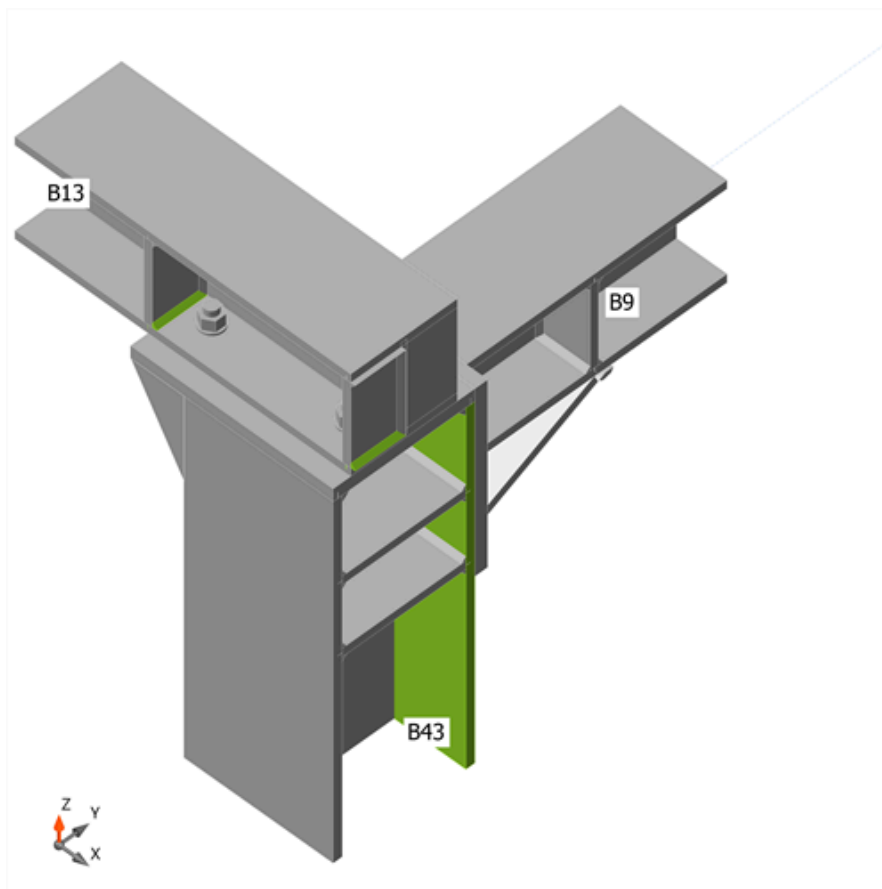
Design data

Material	f_y [MPa]	ϵ_{lim} [%]
S 355	355,0	5,0



Project no:

Author:



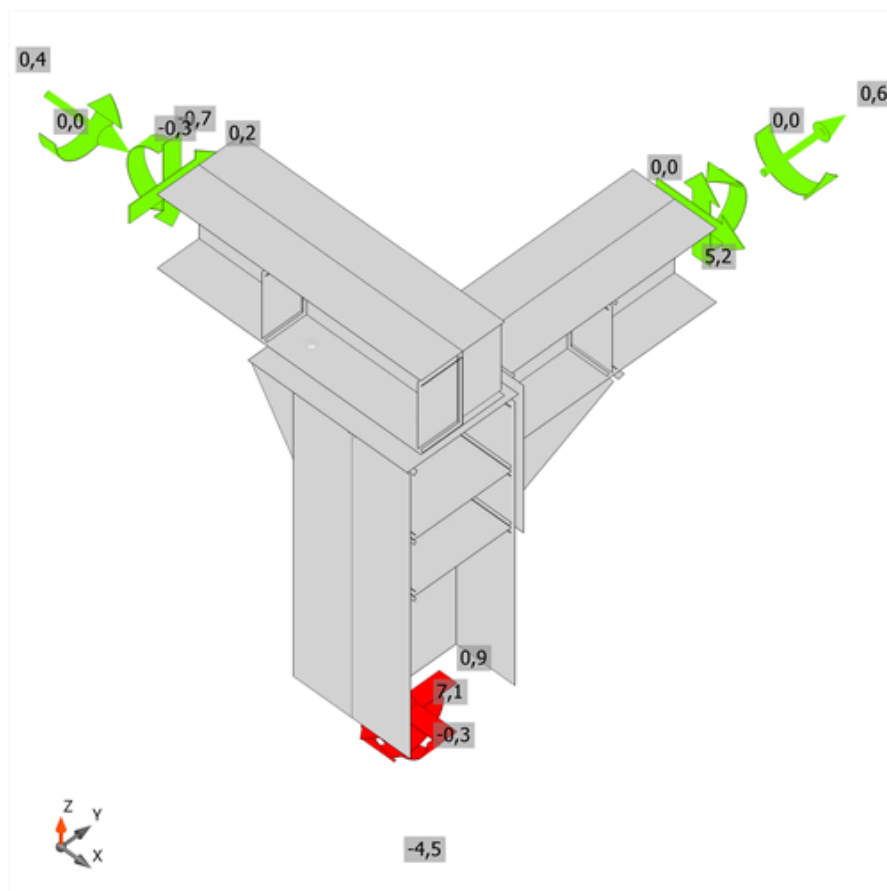
Overall check



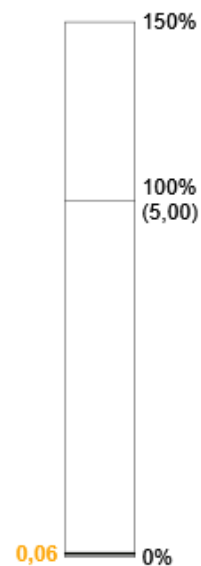
Project no:

Author:

StatiCa
Calculate yesterday's estimates



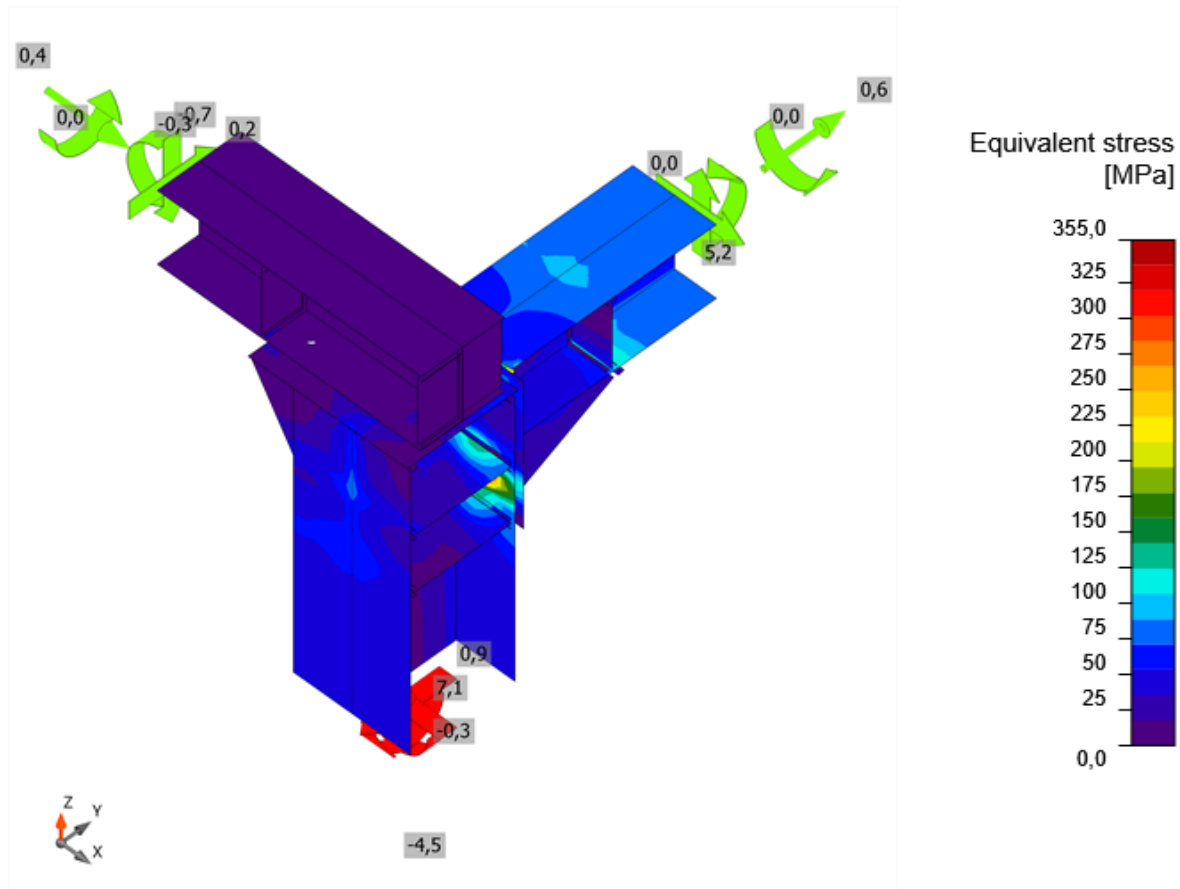
Strain check
[%]



Strain check, ULS-Seis(8)

Project no:

Author:



Equivalent stress, ULS-Seis(8)

Bolts

Shape	Item	Grade	Loads	$F_{t,Ed}$ [kN]	$F_{v,Ed}$ [kN]	$F_{b,Rd}$ [kN]	$U_{t,t}$ [%]	$U_{t,s}$ [%]	$U_{t,ts}$ [%]	Detailing	Status
	B1	M12 10.9 - 1	ULS-Seis(6)	26,8	1,6	100,0	44,1	4,8	36,3	OK	OK
	B2	M12 10.9 - 1	ULS-Seis(6)	26,8	1,6	100,0	44,2	4,8	36,3	OK	OK
	B3	M12 10.9 - 1	ULS-Seis(8)	29,9	1,6	100,0	49,3	4,8	40,1	OK	OK
	B4	M12 10.9 - 1	ULS-Seis(8)	29,5	1,7	100,0	48,6	4,9	39,7	OK	OK
	B5	M12 8.8 - 2	ULS-Seis(12)	7,6	0,3	71,2	15,5	1,1	12,2	OK	OK
	B6	M12 8.8 - 2	ULS-Seis(25)	7,6	0,5	71,2	15,6	1,6	12,7	OK	OK
	B7	M12 8.8 - 2	ULS-Seis(12)	7,5	0,3	71,2	15,4	1,1	12,1	OK	OK
	B8	M12 8.8 - 2	ULS-Seis(25)	7,5	0,5	71,2	15,4	1,6	12,5	OK	OK

Design data

Grade	$F_{t,Rd}$ [kN]	$B_{p,Rd}$ [kN]	$F_{v,Rd}$ [kN]
M12 10.9 - 1	60,7	119,4	33,7
M12 8.8 - 2	48,6	112,4	32,4



Project no:

Author:



Welds

Item	Edge	T _w [mm]	L [mm]	Loads	σ _{w,Ed} [MPa]	ε _{pl} [%]	σ _⊥ [MPa]	τ _⊥ [MPa]	τ [MPa]	U _t [%]	U _{t,c} [%]	Detailing	Status
WID1b	WID1a	-	134	-	-	-	-	-	-	-	-	OK	OK
B43-bfl 1	WID2a	-	80	-	-	-	-	-	-	-	-	OK	OK
B43-tfl 1	WID2b	-	80	-	-	-	-	-	-	-	-	OK	OK
EP1	B9-bfl 1	▲ 5,0	99	ULS-Seis(8)	118,1	0,0	55,0	59,8	8,1	27,1	21,6	OK	OK
EP1	B9-tfl 1	▲ 5,0	99	ULS-Seis(8)	209,7	0,0	-86,7	90,6	62,9	48,1	36,7	OK	OK
EP1	B9-w 1	▲ 3,0	87	ULS-Seis(8)	190,2	0,0	-81,0	-80,4	-58,4	43,7	24,5	OK	OK
		▲ 3,0	87	ULS-Seis(8)	191,0	0,0	-80,4	81,1	58,5	43,8	24,5	OK	OK
EP2	B43-bfl 1	▲ 5,0	139	ULS-Seis(25)	134,8	0,0	-70,3	-55,5	-36,6	31,0	19,2	OK	OK
EP2	B43-tfl 1	▲ 5,0	139	ULS-Seis(25)	137,6	0,0	-69,0	58,1	36,7	31,6	19,6	OK	OK
EP2	B43-w 1	▲ 3,0	123	ULS-Seis(8)	133,0	0,0	8,0	9,8	76,0	30,5	21,5	OK	OK
		▲ 3,0	123	ULS-Seis(8)	135,2	0,0	40,2	-40,0	-62,9	31,0	21,5	OK	OK
B43-bfl 1	STIFF1a	▲ 3,0	67	ULS-Seis(6)	64,8	0,0	34,9	25,5	-18,6	14,9	11,0	OK	OK
		▲ 3,0	67	ULS-Seis(8)	149,3	0,0	98,3	-59,1	26,7	34,3	23,2	OK	OK
B43-w 1	STIFF1a	▲ 3,0	116	ULS-Seis(8)	65,1	0,0	28,0	-21,3	26,5	15,0	11,2	OK	OK
		▲ 3,0	115	ULS-Seis(8)	42,8	0,0	-35,1	-14,1	1,3	11,1	8,5	OK	OK
B43-tfl 1	STIFF1a	▲ 3,0	67	ULS-Seis(8)	39,9	0,0	36,8	5,7	-6,9	10,4	8,0	OK	OK
		▲ 3,0	67	ULS-Seis(8)	41,3	0,0	-21,1	-10,0	17,9	9,5	7,7	OK	OK
B43-bfl 1	STIFF1b	▲ 3,0	67	ULS-Seis(8)	146,8	0,0	95,9	58,3	-27,0	33,7	22,8	OK	OK
		▲ 3,0	67	ULS-Seis(6)	69,0	0,0	36,0	-26,7	21,0	15,9	11,3	OK	OK
B43-w 1	STIFF1b	▲ 3,0	115	ULS-Seis(8)	42,7	0,0	-35,1	13,9	-1,4	11,0	8,4	OK	OK
		▲ 3,0	116	ULS-Seis(8)	64,4	0,0	27,9	21,2	-26,0	14,8	11,1	OK	OK
B43-tfl 1	STIFF1b	▲ 3,0	67	ULS-Seis(8)	40,4	0,0	-21,4	10,2	-17,0	9,3	7,7	OK	OK
		▲ 3,0	67	ULS-Seis(8)	40,1	0,0	37,1	-5,5	6,9	10,5	7,8	OK	OK
B43-bfl 1	STIFF2a	▲ 3,0	67	ULS-Seis(8)	128,2	0,0	77,9	45,7	-37,0	29,4	19,9	OK	OK
		▲ 3,0	67	ULS-Seis(6)	116,9	0,0	-62,9	50,8	-25,6	26,8	18,9	OK	OK



Project no:

Author:



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
B43-w 1	STIFF2a	▲3,0 ▲	115	ULS-Seis(6)	51,0	0,0	-11,4	2,8	-28,6	11,7	10,4	OK	OK
		▲3,0 ▲	115	ULS-Seis(6)	42,0	0,0	22,4	-8,3	18,7	9,6	8,8	OK	OK
B43-tfl 1	STIFF2a	▲3,0 ▲	67	ULS-Seis(6)	38,4	0,0	-29,2	-8,9	11,3	8,8	7,5	OK	OK
		▲3,0 ▲	67	ULS-Seis(6)	40,6	0,0	9,1	11,2	-19,9	9,3	7,3	OK	OK
B43-bfl 1	STIFF2b	▲3,0 ▲	67	ULS-Seis(6)	115,5	0,0	-62,5	-50,1	25,1	26,5	18,6	OK	OK
		▲3,0 ▲	67	ULS-Seis(8)	127,2	0,0	56,7	-37,5	54,0	29,2	19,6	OK	OK
B43-w 1	STIFF2b	▲3,0 ▲	115	ULS-Seis(6)	41,2	0,0	10,5	6,8	-22,0	9,5	8,8	OK	OK
		▲3,0 ▲	115	ULS-Seis(6)	50,3	0,0	-0,7	17,6	23,1	11,5	10,3	OK	OK
B43-tfl 1	STIFF2b	▲3,0 ▲	67	ULS-Seis(6)	40,1	0,0	9,1	-11,2	19,6	9,2	7,2	OK	OK
		▲3,0 ▲	67	ULS-Seis(6)	38,1	0,0	-29,2	8,9	-11,0	8,7	7,4	OK	OK
B9-bfl 1	WID1a	▲3,0 ▲	119	ULS-Seis(6)	170,2	0,0	-43,4	-43,3	-84,6	39,1	24,4	OK	OK
		▲3,0 ▲	119	ULS-Seis(6)	170,2	0,0	-43,2	43,4	84,6	39,1	24,4	OK	OK
EP1	WID1a	▲3,0 ▲	59	ULS-Seis(8)	192,6	0,0	95,7	96,3	-5,5	44,2	27,0	OK	OK
		▲3,0 ▲	59	ULS-Seis(8)	192,9	0,0	96,8	-96,1	6,0	44,3	27,1	OK	OK
EP1	WID1b	▲5,0 ▲	99	ULS-Seis(6)	174,1	0,0	-117,6	74,1	-2,3	40,0	33,6	OK	OK
B9-bfl 1	WID1b	▲5,0 ▲	99	ULS-Seis(6)	109,6	0,0	-91,9	29,3	18,2	26,4	17,8	OK	OK
B9-bfl 1	STIFF3a	▲3,0 ▲	47	ULS-Seis(6)	80,3	0,0	-43,8	-32,0	22,1	18,4	15,5	OK	OK
		▲3,0 ▲	47	ULS-Seis(6)	28,3	0,0	6,1	5,4	15,0	6,5	6,5	OK	OK
B9-w 1	STIFF3a	▲3,0 ▲	80	ULS-Seis(6)	37,6	0,0	-21,8	-9,3	-15,1	8,6	8,0	OK	OK
		▲3,0 ▲	80	ULS-Seis(6)	47,3	0,0	-6,9	19,4	18,8	10,9	9,2	OK	OK
B9-tfl 1	STIFF3a	▲3,0 ▲	47	ULS-Seis(6)	34,6	0,0	2,1	-13,3	14,8	7,9	7,0	OK	OK
		▲3,0 ▲	47	ULS-Seis(6)	38,0	0,0	-26,1	10,7	-11,8	8,7	7,2	OK	OK
B9-bfl 1	STIFF3b	▲3,0 ▲	47	ULS-Seis(6)	28,3	0,0	6,0	-5,4	-15,0	6,5	6,5	OK	OK
		▲3,0 ▲	47	ULS-Seis(6)	80,1	0,0	-43,7	31,9	-21,9	18,4	15,5	OK	OK
B9-w 1	STIFF3b	▲3,0 ▲	80	ULS-Seis(6)	47,3	0,0	-6,9	-19,4	-18,8	10,8	9,2	OK	OK



Project no:

Author:



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
		▲ 3,0	80	ULS-Seis(6)	37,6	0,0	-21,8	9,3	15,1	8,6	8,0	OK	OK
B9-tfl 1	STIFF3b	▲ 3,0	47	ULS-Seis(6)	38,0	0,0	-26,1	-10,7	11,8	8,7	7,2	OK	OK
		▲ 3,0	47	ULS-Seis(6)	34,5	0,0	2,1	13,4	-14,8	7,9	6,9	OK	OK
B13-bfl 1	STIFF4a	▲ 3,0	47	ULS-Seis(25)	333,9	0,0	-149,2	151,5	-82,3	76,7	36,7	OK	OK
B13-w 1	STIFF4a	▲ 3,0	80	ULS-Seis(25)	94,1	0,0	15,9	-37,5	38,2	21,6	16,9	OK	OK
B13-tfl 1	STIFF4a	▲ 3,0	47	ULS-Seis(25)	33,9	0,0	-4,4	1,8	-19,3	7,8	6,1	OK	OK
B13-bfl 1	STIFF4b	▲ 3,0	47	ULS-Seis(25)	333,3	0,0	-152,4	149,8	-82,8	76,5	36,8	OK	OK
B13-w 1	STIFF4b	▲ 3,0	80	ULS-Seis(25)	81,2	0,0	37,7	-15,8	38,4	18,7	14,7	OK	OK
B13-tfl 1	STIFF4b	▲ 3,0	47	ULS-Seis(25)	34,8	0,0	-1,8	4,4	-19,6	8,0	6,2	OK	OK
B13-bfl 1	STIFF5a	▲ 3,0	47	ULS-Seis(12)	363,0	0,0	-151,9	167,4	-90,6	83,3	39,6	OK	OK
B13-w 1	STIFF5a	▲ 3,0	80	ULS-Seis(12)	86,6	0,0	26,2	-16,7	44,6	19,9	15,6	OK	OK
B13-tfl 1	STIFF5a	▲ 3,0	47	ULS-Seis(12)	47,3	0,0	-10,3	11,7	-23,9	10,9	7,3	OK	OK
B13-bfl 1	STIFF5b	▲ 3,0	47	ULS-Seis(12)	335,5	0,0	-162,9	148,7	-81,1	77,0	37,0	OK	OK
B13-w 1	STIFF5b	▲ 3,0	80	ULS-Seis(12)	88,7	0,0	15,7	-26,5	42,9	20,4	16,3	OK	OK
B13-tfl 1	STIFF5b	▲ 3,0	47	ULS-Seis(12)	46,5	0,0	-11,7	10,3	-23,8	10,7	7,1	OK	OK
EP2	WID2a	▲ 5,0	50	ULS-Seis(12)	130,5	0,0	-52,2	-47,4	50,2	30,0	18,3	OK	OK
EP2	WID2b	▲ 5,0	50	ULS-Seis(12)	134,9	0,0	-53,7	48,7	-52,3	31,0	18,6	OK	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9σ [MPa]
S 355	490,0	0,90	435,6	352,8

Buckling

Buckling analysis was not calculated.



Project no:

Author:



Bill of material



Project no:

Author:

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
CUT1							
CUT2							
EP1	P12,0x140-176 (S 355)		1	Fillet: 5,0 Double fillet: 3,0	200 88	M12 10.9	4
EP2	P12,0x190-133 (S 355)		1	Fillet: 5,0 Double fillet: 3,0	280 125	M12 8.8	4
WID1	P5,0x60-120 (S 355)		1				
	P8,0x100-134 (S 355)		1				
STIFF1	P8,0x67-116 (S 355)		2	Double fillet: 3,0	501		
STIFF2	P8,0x67-116 (S 355)		2	Double fillet: 3,0	501		
STIFF3	P8,0x48-80 (S 355)		2	Double fillet: 3,0	350		



Project no:

Author:



Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
STIFF4	P8,0x48-80 (S 355)		2	Fillet: 3,0	350		
STIFF5	P8,0x48-80 (S 355)		2	Fillet: 3,0	350		
WID2	P8,0x50-80 (S 355)		2	CJP: 8,0	160		

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]
Fillet	S 355	5,0	7,1	-	780
Double fillet	S 355	3,0	4,2	-	1745
CJP	S 355	-	-	5,0	134
Fillet	S 355	3,0	4,2	-	700
CJP	S 355	-	-	8,0	160

Bolts

Name	Grip length [mm]	Count
M12 10.9	20	4
M12 8.8	20	4

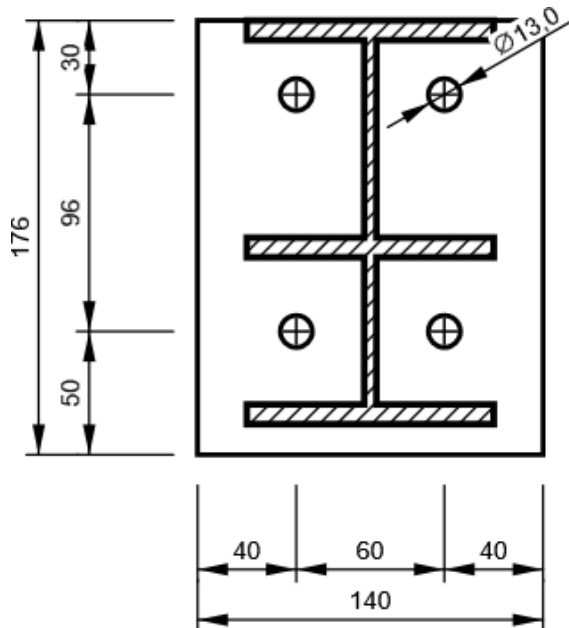
Drawing**EP1**



Project no:

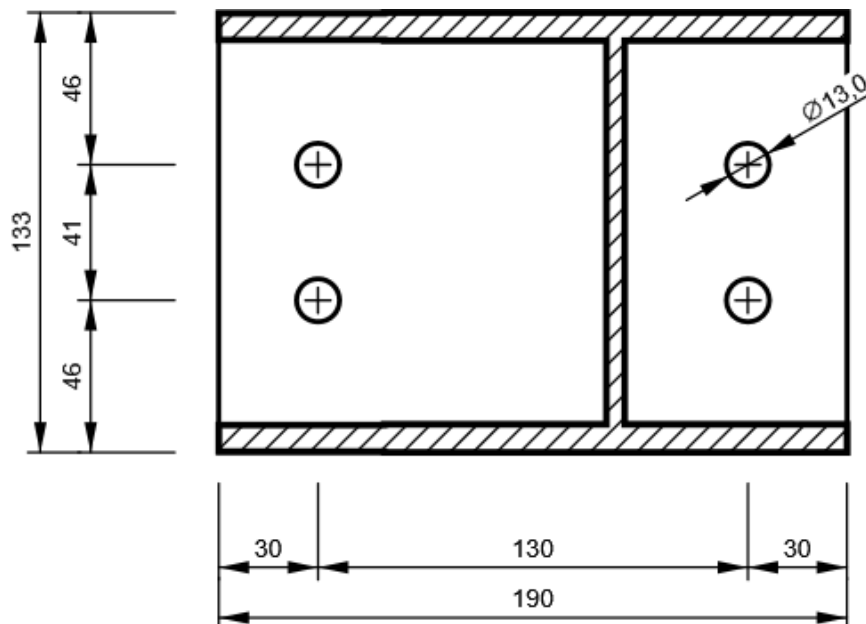
Author:

P12,0x176-140 (S 355)



EP2

P12,0x133-190 (S 355)





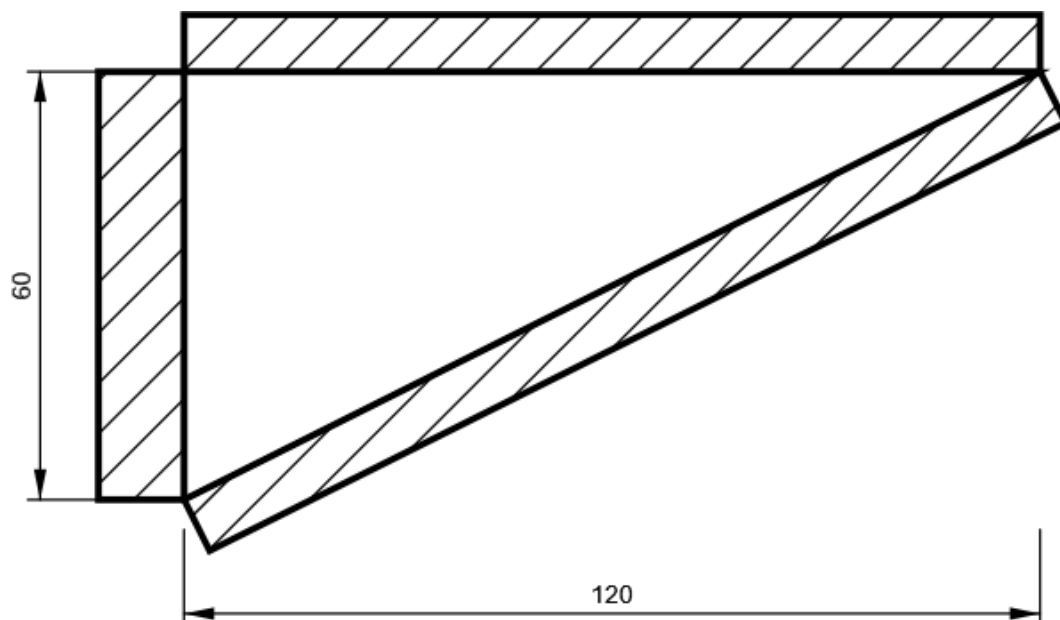
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Author:



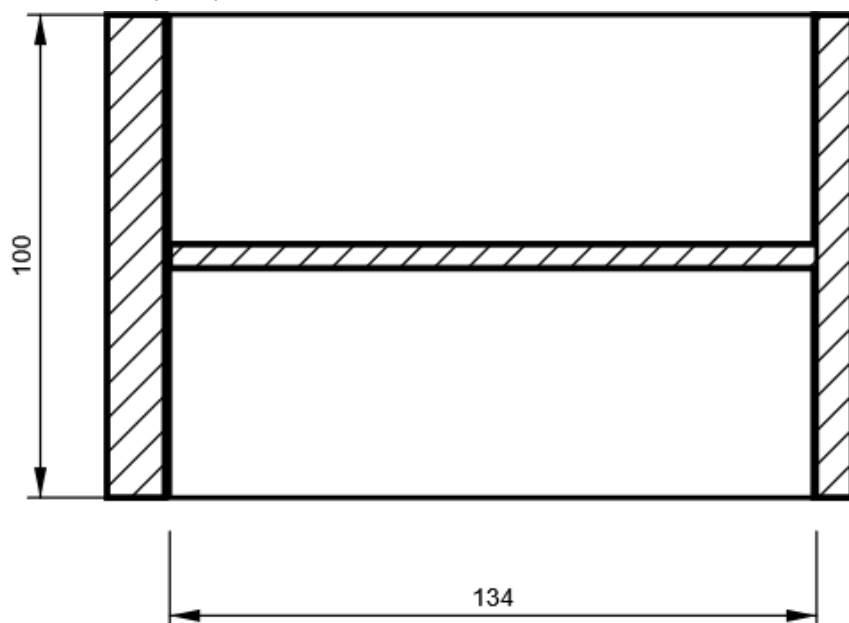
WID1 - WID1a

P5,0x120-60 (S 355)



WID1 - WID1b

P8,0x134-100 (S 355)





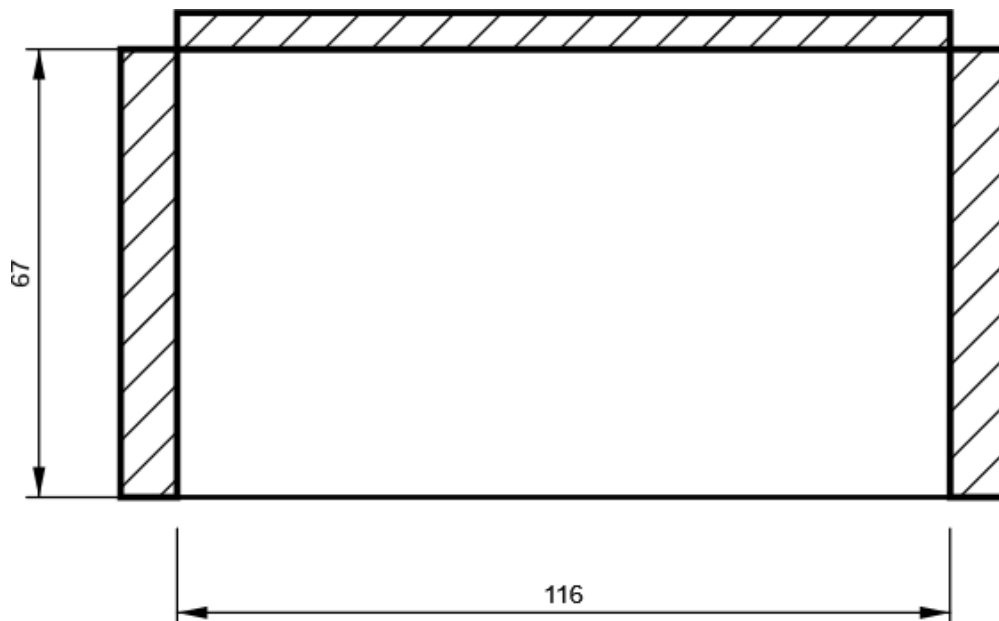
Project no:

Author:



STIFF1

P8,0x116-67 (S 355)



STIFF2

P8,0x116-67 (S 355)





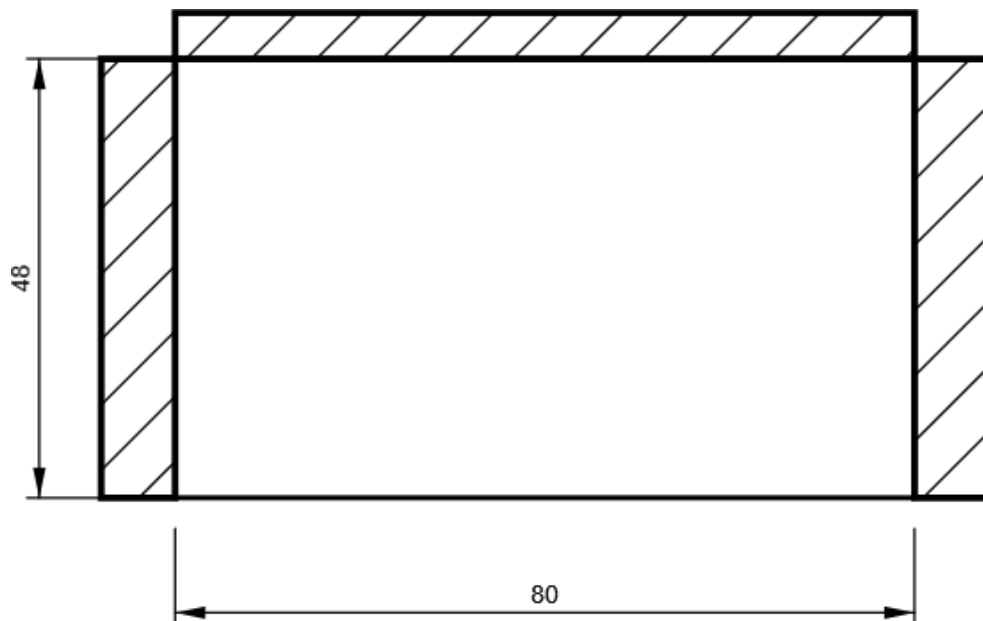
Project no:

Author:



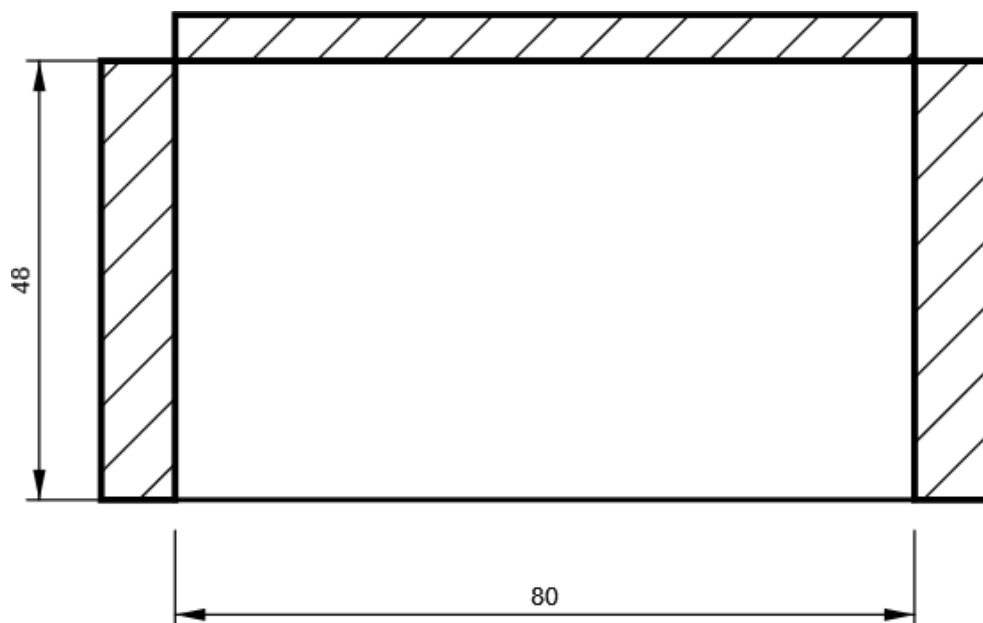
STIFF3

P8,0x80-48 (S 355)



STIFF4

P8,0x80-48 (S 355)





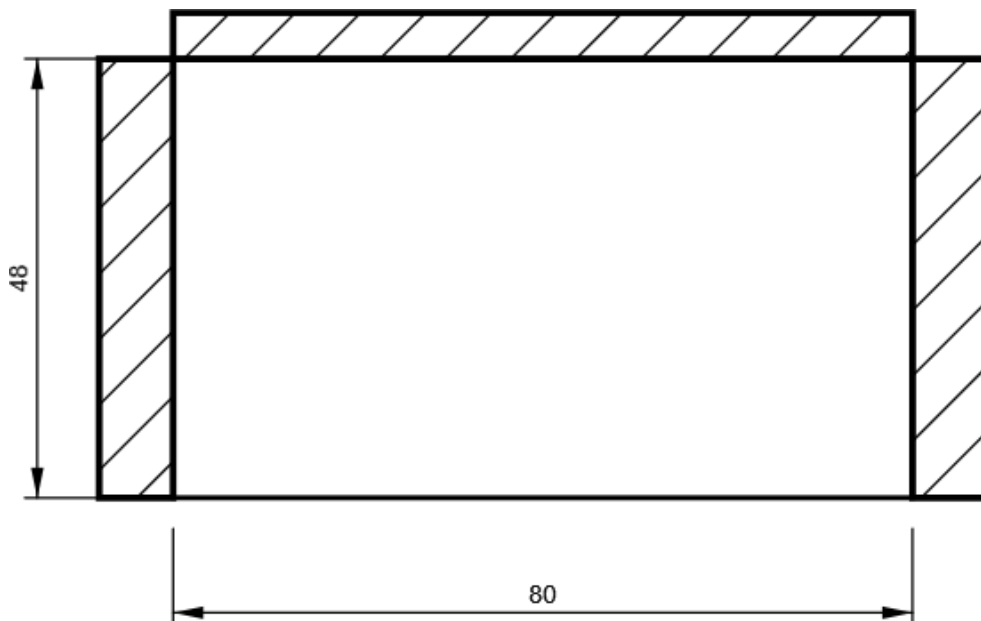
Project no:

Author:

StatiCa
Calculate yesterday's estimates

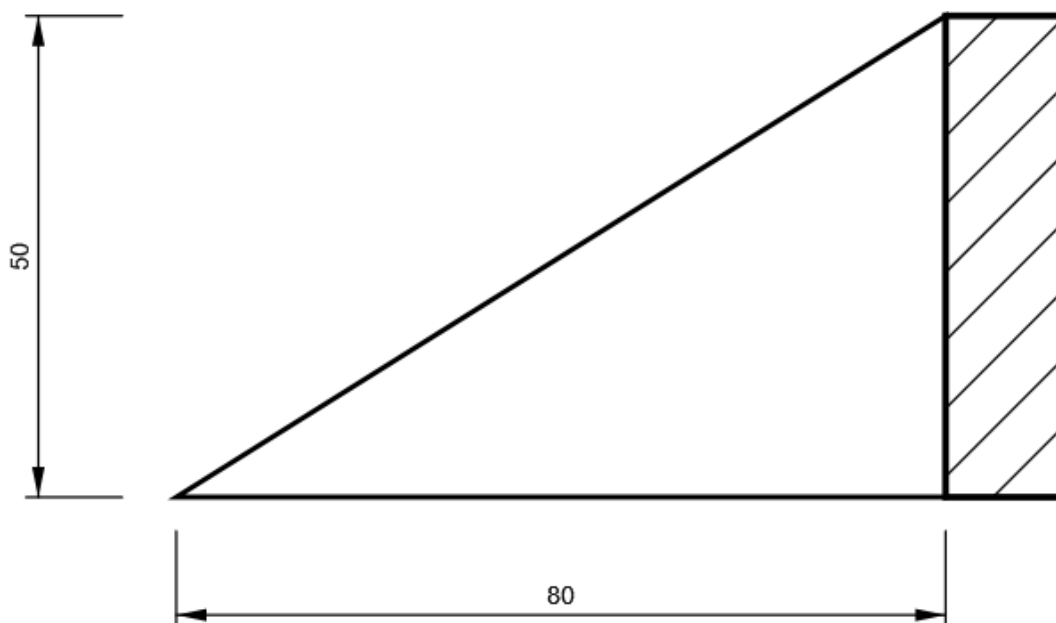
STIFF5

P8,0x80-48 (S 355)



WID2

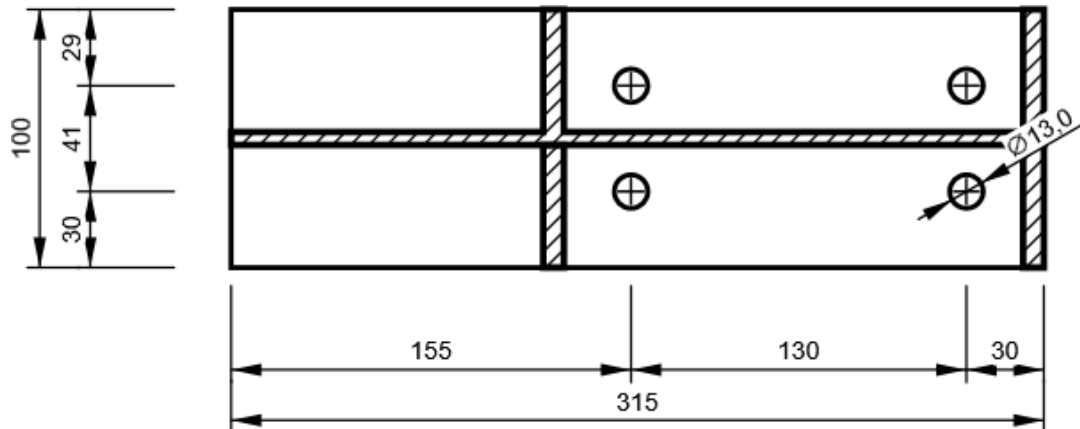
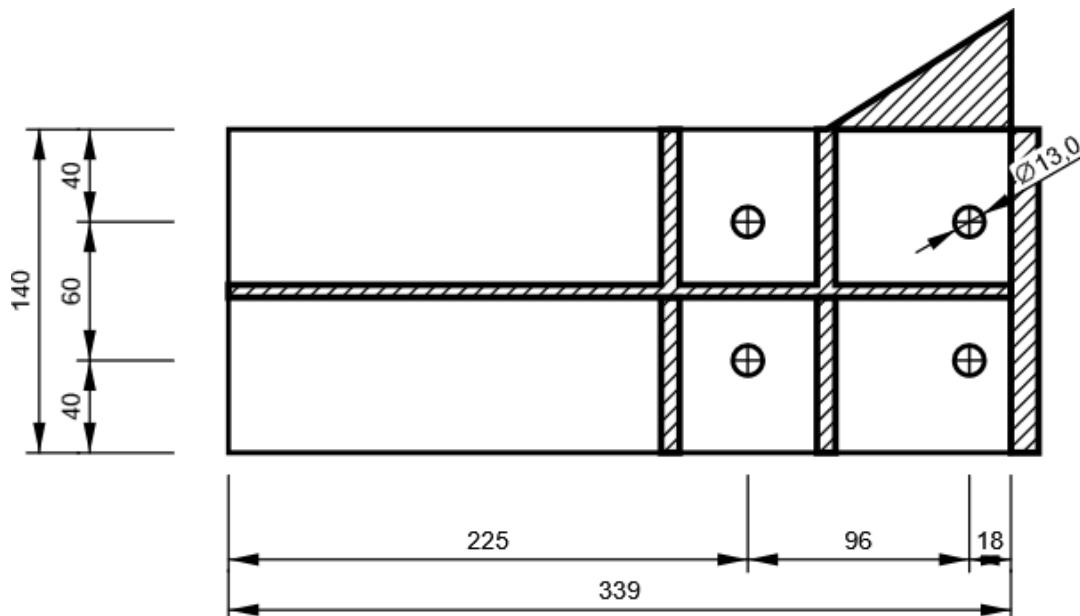
P8,0x80-50 (S 355)





Project no:

Author:

Calculate yesterday's estimates
B13, HEA100 - Bottom flange 1:**B43, HEA140 - Bottom flange 1:****Code settings**

Item	Value	Unit	Reference
Safety factor γ_{M0}	1,00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1,00	-	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 β_j	0,67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0,10	-	



Project no:

Author:



Item	Value	Unit	Reference
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



Project: Podest jeklena nadstrešnica s podestom

Project no:

Author:



Project data

Project name Podest jeklena nadstrešnica s podestom
 Project number
 Author
 Description
 Date 2/25/2026
 Code EN

Material

Steel S 355, S 355

Project item Vozlišče steber, primarec, sekundarec

Name Vozlišče steber, primarec, sekundarec
 Description
 Analysis Stress, strain/ loads in equilibrium

Vuta je iz profila HEA 100

Design

Members

Geometry

Name	Cross-section	β - Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
B11	1 - HEA100	90,0	0,0	0,0	0	0	0
B13	2 - HEA100	0,0	0,0	0,0	0	0	96
B33	4 - HEA140	0,0	90,0	90,0	0	0	0

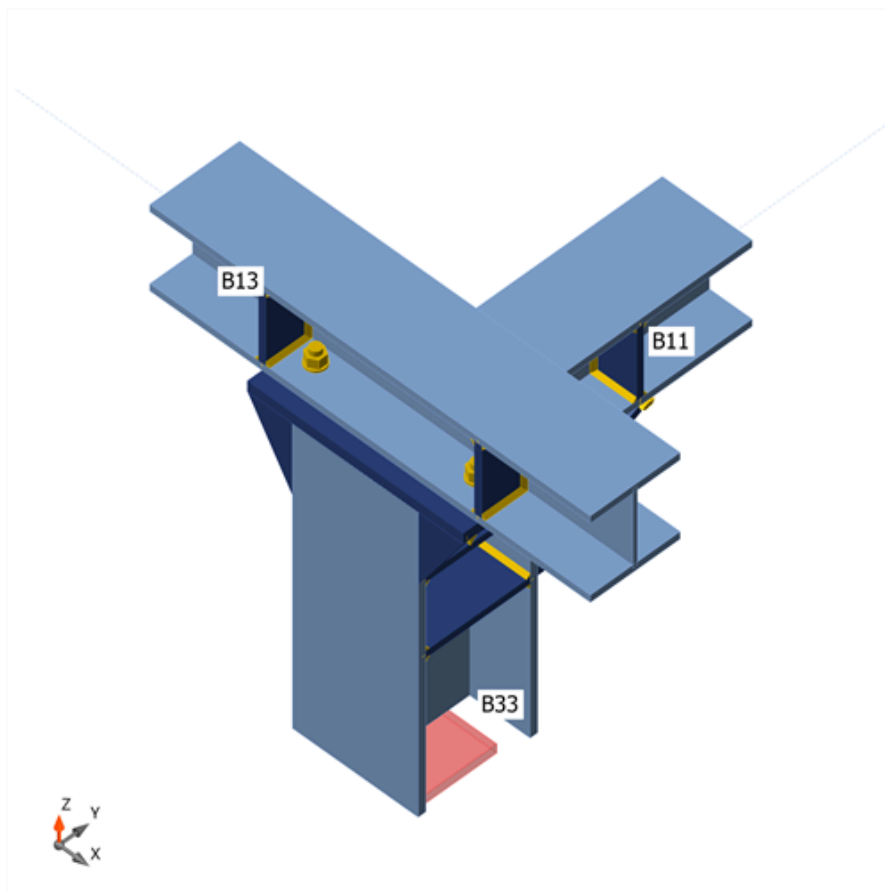
Supports and forces

Name	Support	Forces in	X [mm]
B11 / end		Node	0
B13 / begin		Node	0
B13 / end		Node	0
B33 / begin	N-Vy-Vz-Mx-My-Mz	Node	0



Project no:

Author:

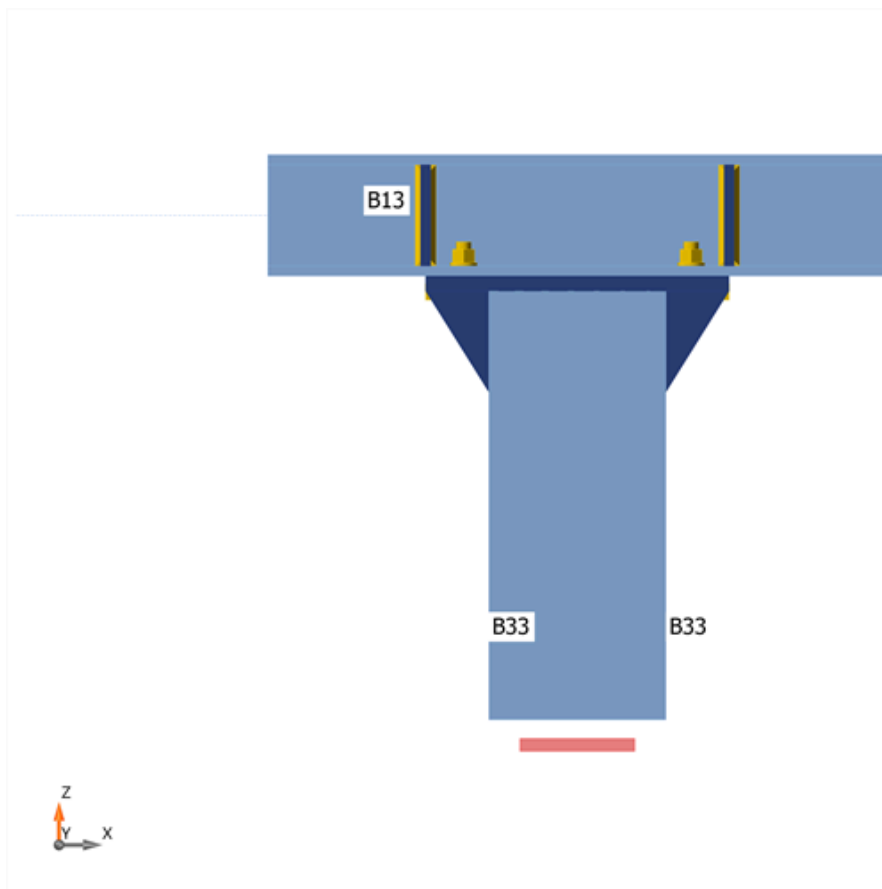


Vozlišče steber, primarec, sekundarec , Axonometric view



Project no:

Author:

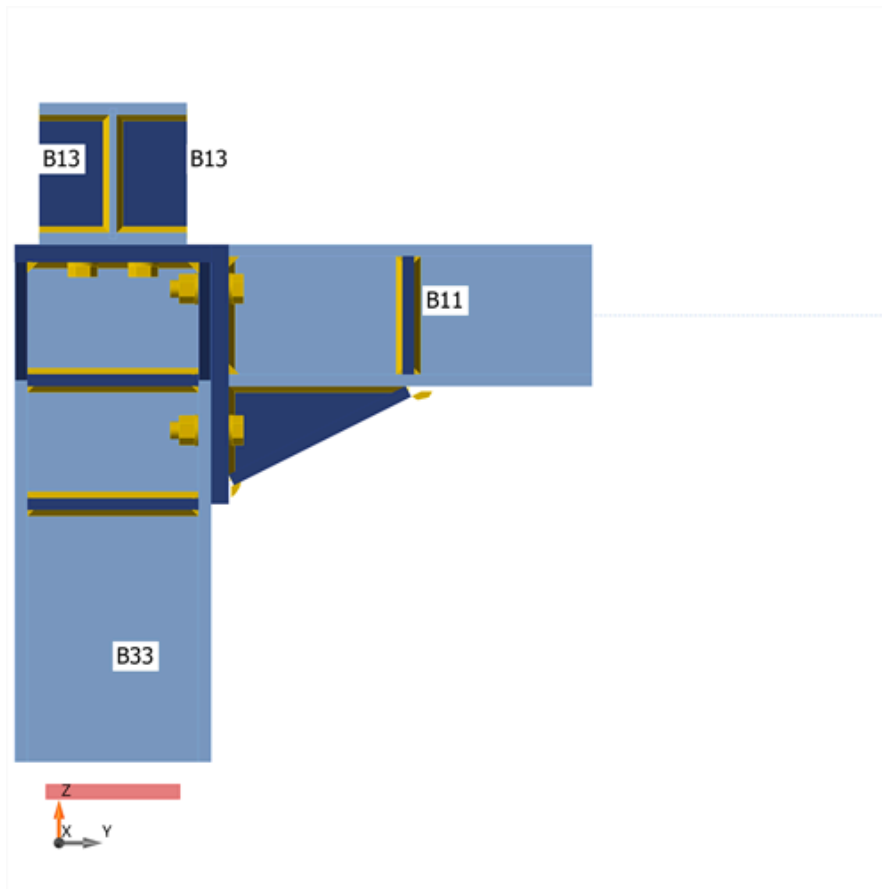


Vozlišče steber, primarec, sekundarec , Y direction view



Project no:

Author:



Vozlišče steber, primarec, sekundarec , X direction view

Cross-sections

Name	Material
1 - HEA100	S 355
2 - HEA100	S 355
4 - HEA140	S 355

Bolts

Name	Diameter [mm]	f_y [MPa]	f_u [MPa]	Gross area [mm ²]
M12 10.9	12	900,0	1000,0	113
M12 8.8	12	640,0	800,0	113



Project no:

Author:



Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Set(6)	B11 / End	-4,8	0,0	-18,7	0,0	8,2	0,0
	B13 / Begin	0,5	0,0	-4,8	0,0	-3,1	0,0
	B13 / End	-0,4	0,0	-4,5	0,0	2,9	0,0
	B33 / Begin	28,0	0,1	-4,8	0,0	-8,2	-0,2
ULS-Seis(7)	B11 / End	-0,4	0,0	0,0	0,0	-2,0	0,0
	B13 / Begin	0,6	0,2	-0,9	0,0	-0,6	0,1
	B13 / End	-1,2	0,1	-0,7	0,0	0,4	-0,1
	B33 / Begin	1,6	0,1	-0,2	0,0	2,0	-0,2
ULS-Seis(10)	B11 / End	-1,3	0,0	-5,6	0,0	4,6	0,0
	B13 / Begin	-0,4	-0,2	-0,8	0,0	-0,4	-0,1
	B13 / End	1,0	-0,1	-0,8	0,0	0,5	0,1
	B33 / Begin	7,2	0,0	-1,5	0,0	-4,6	0,1
ULS-Set(13)	B11 / End	-3,6	0,0	-18,7	0,0	7,8	0,0
	B13 / Begin	0,3	0,0	-4,9	0,0	-3,2	0,0
	B13 / End	-0,2	0,0	-4,5	0,0	2,9	0,0
	B33 / Begin	28,1	0,1	-3,6	0,0	-7,8	-0,2
ULS-Seis(14)	B11 / End	-1,6	0,0	-5,6	0,0	4,7	0,0
	B13 / Begin	-0,3	-0,2	-0,7	0,0	-0,4	-0,1
	B13 / End	1,0	-0,1	-0,8	0,0	0,5	0,1
	B33 / Begin	7,2	-0,1	-1,8	0,0	-4,7	0,1
ULS-Seis(25)	B11 / End	-0,8	0,0	-2,8	0,0	1,3	0,0
	B13 / Begin	0,4	0,0	-1,9	0,0	-2,3	0,0
	B13 / End	0,4	0,0	-0,2	0,0	-0,7	0,0
	B33 / Begin	4,9	1,1	-0,8	0,0	-1,3	-3,0
ULS-Seis(29)	B11 / End	-0,9	0,0	-2,8	0,0	1,3	0,0
	B13 / Begin	-0,2	0,0	0,3	0,0	1,3	0,0
	B13 / End	-0,5	0,0	-1,3	0,0	1,7	0,0
	B33 / Begin	3,9	-1,1	-0,8	0,0	-1,3	2,9

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Set(6)	0,0	0,0	0,0	0,0	0,0	0,0
ULS-Seis(7)	-0,7	0,1	0,0	0,0	-0,1	0,0
ULS-Seis(10)	0,7	-0,1	0,0	0,0	0,1	0,0
ULS-Set(13)	0,0	0,0	0,0	0,0	0,0	0,0
ULS-Seis(14)	0,7	-0,1	0,0	0,0	0,1	0,0
ULS-Seis(25)	-0,4	0,1	0,0	0,0	0,1	0,0
ULS-Seis(29)	0,4	-0,1	0,0	0,0	-0,1	0,0



Project no:

Author:



Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0,0 < 5,0%	OK
Bolts	40,5 < 100%	OK
Welds	41,9 < 100%	OK
Buckling	Not calculated	

Plates

Name	t _p [mm]	Loads	σ _{Ed} [MPa]	ε _{pl} [%]	σ _{c,Ed} [MPa]	Status
B11-bfl 1	8,0	ULS-Set(6)	157,7	0,0	0,0	OK
B11-tfl 1	8,0	ULS-Set(6)	91,0	0,0	0,0	OK
B11-w 1	5,0	ULS-Set(6)	138,4	0,0	0,0	OK
B13-bfl 1	8,0	ULS-Seis(29)	114,8	0,0	56,4	OK
B13-tfl 1	8,0	ULS-Seis(25)	54,7	0,0	0,0	OK
B13-w 1	5,0	ULS-Seis(25)	60,3	0,0	0,0	OK
B33-bfl 1	8,5	ULS-Set(6)	303,1	0,0	31,1	OK
B33-tfl 1	8,5	ULS-Set(6)	80,9	0,0	0,0	OK
B33-w 1	5,5	ULS-Set(6)	131,7	0,0	0,0	OK
EP1	12,0	ULS-Set(6)	220,1	0,0	62,2	OK
EP2	12,0	ULS-Seis(29)	170,1	0,0	42,6	OK
WID1a	5,0	ULS-Set(6)	136,0	0,0	0,0	OK
WID1b	8,0	ULS-Set(6)	98,4	0,0	0,0	OK
STIFF1a	8,0	ULS-Set(6)	64,4	0,0	0,0	OK
STIFF1b	8,0	ULS-Set(6)	64,2	0,0	0,0	OK
STIFF2a	8,0	ULS-Set(6)	54,3	0,0	0,0	OK
STIFF2b	8,0	ULS-Set(6)	54,1	0,0	0,0	OK
STIFF3a	8,0	ULS-Set(6)	62,8	0,0	0,0	OK
STIFF3b	8,0	ULS-Set(6)	62,9	0,0	0,0	OK
STIFF4a	8,0	ULS-Seis(29)	111,2	0,0	0,0	OK
STIFF4b	8,0	ULS-Seis(29)	110,9	0,0	0,0	OK
STIFF4c	8,0	ULS-Seis(25)	117,4	0,0	0,0	OK
STIFF4d	8,0	ULS-Seis(25)	117,8	0,0	0,0	OK
WID2a	8,0	ULS-Seis(25)	96,1	0,0	0,0	OK
WID2b	8,0	ULS-Seis(29)	93,0	0,0	0,0	OK
WID2c	8,0	ULS-Seis(25)	85,4	0,0	0,0	OK
WID2d	8,0	ULS-Seis(29)	82,1	0,0	0,0	OK

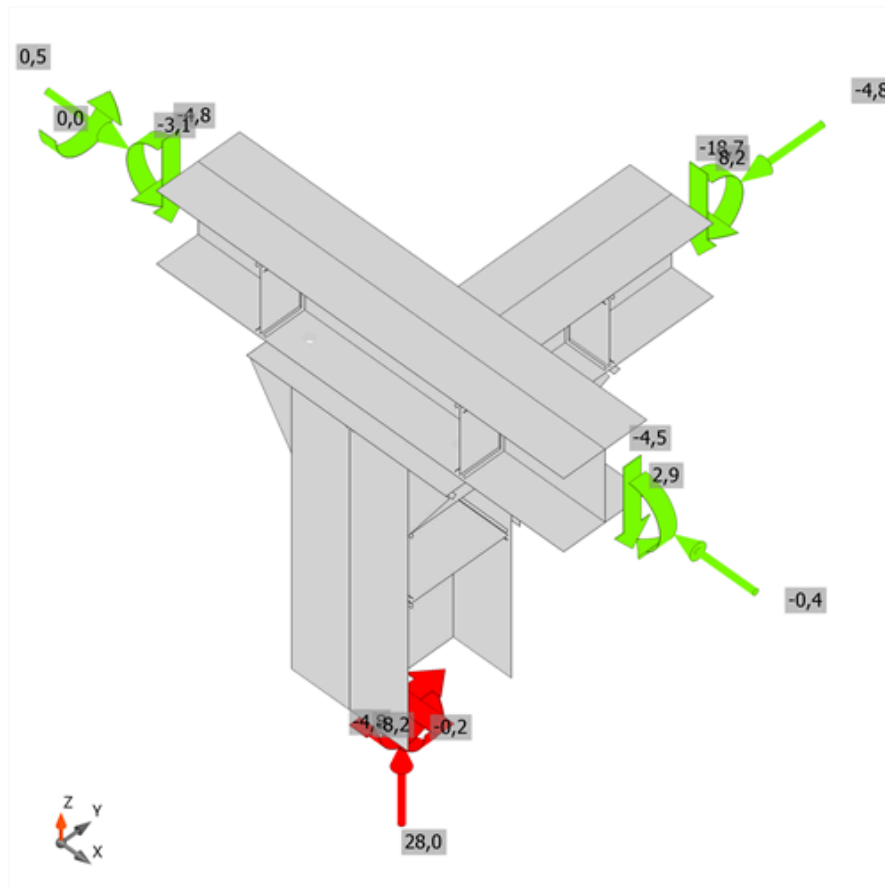
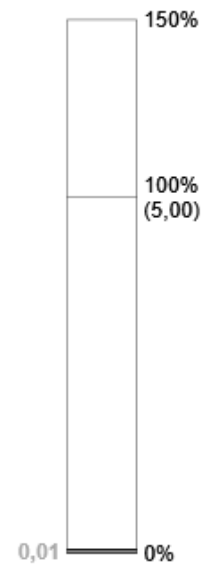
Design data

Material	f _y [MPa]	ε _{lim} [%]
S 355	355,0	5,0



Project no:

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StatiCa
Calculate yesterday's estimatesStrain check
[%]

Strain check, ULS-Set(6)

Bolts

Shape	Item	Grade	Loads	$F_{t,Ed}$ [kN]	$F_{v,Ed}$ [kN]	$F_{b,Rd}$ [kN]	U_t [%]	U_s [%]	U_{ts} [%]	Detailing	Status
	B1	M12 10.9 - 1	ULS-Set(6)	23,2	4,4	100,0	38,2	13,1	40,4	OK	OK
	B2	M12 10.9 - 1	ULS-Set(6)	23,2	4,4	100,0	38,2	13,2	40,5	OK	OK
	B3	M12 10.9 - 1	ULS-Set(6)	2,1	4,9	100,0	3,4	14,6	17,1	OK	OK
	B4	M12 10.9 - 1	ULS-Set(6)	2,1	4,9	100,0	3,4	14,6	17,0	OK	OK
	B5	M12 8.8 - 2	ULS-Seis(25)	6,7	0,4	71,2	13,8	1,2	11,0	OK	OK
	B6	M12 8.8 - 2	ULS-Seis(29)	6,8	0,4	71,2	14,0	1,3	11,3	OK	OK
	B7	M12 8.8 - 2	ULS-Seis(25)	6,6	0,4	71,2	13,5	1,2	10,8	OK	OK
	B8	M12 8.8 - 2	ULS-Seis(29)	6,7	0,4	71,2	13,7	1,3	11,1	OK	OK

Design data

Grade	$F_{t,Rd}$ [kN]	$B_{p,Rd}$ [kN]	$F_{v,Rd}$ [kN]
M12 10.9 - 1	60,7	119,4	33,7
M12 8.8 - 2	48,6	112,4	32,4



Project no:

Author:



Welds

Item	Edge	T _w [mm]	L [mm]	Loads	σ _{w,Ed} [MPa]	ε _{pl} [%]	σ _⊥ [MPa]	τ _⊥ [MPa]	τ [MPa]	U _t [%]	U _{t,c} [%]	Detailing	Status
WID1b	WID1a	-	134	-	-	-	-	-	-	-	-	OK	OK
B33-bfl 1	WID2a	-	80	-	-	-	-	-	-	-	-	OK	OK
B33-bfl 1	WID2b	-	80	-	-	-	-	-	-	-	-	OK	OK
B33-tfl 1	WID2c	-	80	-	-	-	-	-	-	-	-	OK	OK
B33-tfl 1	WID2d	-	80	-	-	-	-	-	-	-	-	OK	OK
EP1	B11-bfl 1	▲ 5,0	99	ULS-Set(6)	92,0	0,0	41,3	38,9	-27,2	21,1	15,1	OK	OK
EP1	B11-tfl 1	▲ 5,0	99	ULS-Set(6)	124,5	0,0	52,2	-54,9	-35,3	28,6	20,2	OK	OK
EP1	B11-w 1	▲ 3,0	87	ULS-Set(6)	154,2	0,0	72,5	72,4	30,4	35,4	19,5	OK	OK
		▲ 3,0	87	ULS-Set(6)	152,5	0,0	72,2	-72,3	-28,1	35,0	19,4	OK	OK
EP2	B33-bfl 1	▲ 5,0	139	ULS-Set(6)	106,1	0,0	64,1	-48,1	-8,0	24,4	13,0	OK	OK
EP2	B33-tfl 1	▲ 5,0	139	ULS-Seis(25)	33,1	0,0	0,9	1,1	19,1	7,6	6,7	OK	OK
EP2	B33-w 1	▲ 3,0	124	ULS-Set(6)	69,3	0,0	5,0	4,3	-39,7	15,9	11,7	OK	OK
		▲ 3,0	124	ULS-Set(6)	68,0	0,0	4,3	-5,1	38,9	15,6	11,6	OK	OK
B33-bfl 1	STIFF1a	▲ 3,0	67	ULS-Set(6)	58,8	0,0	28,5	21,7	-20,2	13,5	10,4	OK	OK
		▲ 3,0	67	ULS-Seis(7)	48,9	0,0	31,3	-18,9	10,6	11,2	9,1	OK	OK
B33-w 1	STIFF1a	▲ 3,0	116	ULS-Set(6)	29,2	0,0	-15,2	12,5	-7,1	6,7	6,7	OK	OK
		▲ 3,0	115	ULS-Set(6)	30,1	0,0	22,6	-7,7	-8,6	6,9	6,9	OK	OK
B33-tfl 1	STIFF1a	▲ 3,0	67	ULS-Set(6)	29,9	0,0	-28,1	1,1	-5,9	8,0	6,9	OK	OK
		▲ 3,0	67	ULS-Set(6)	27,7	0,0	25,9	3,3	-4,6	7,3	7,0	OK	OK
B33-bfl 1	STIFF1b	▲ 3,0	67	ULS-Seis(7)	48,4	0,0	30,8	18,7	-10,6	11,1	9,1	OK	OK
		▲ 3,0	67	ULS-Set(6)	58,7	0,0	28,5	-21,7	20,2	13,5	10,4	OK	OK
B33-w 1	STIFF1b	▲ 3,0	115	ULS-Set(6)	30,1	0,0	22,5	7,7	8,6	6,9	6,9	OK	OK
		▲ 3,0	116	ULS-Set(6)	29,0	0,0	-15,0	-12,6	7,0	6,7	6,7	OK	OK
B33-tfl 1	STIFF1b	▲ 3,0	67	ULS-Set(6)	27,7	0,0	25,9	-3,3	4,6	7,3	7,0	OK	OK
		▲ 3,0	67	ULS-Set(6)	29,9	0,0	-28,1	-1,1	5,8	8,0	6,9	OK	OK
B33-bfl 1	STIFF2a	▲ 3,0	67	ULS-Set(6)	82,9	0,0	-42,2	-37,4	17,4	19,0	13,2	OK	OK



Project no:

Author:



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
		▲3,0 ▲	67	ULS-Set(6)	65,1	0,0	-27,8	32,6	-9,5	14,9	11,5	OK	OK
B33-w 1	STIFF2a	▲3,0 ▲	116	ULS-Set(6)	43,6	0,0	-3,6	-14,5	-20,4	10,0	8,5	OK	OK
		▲3,0 ▲	116	ULS-Set(6)	39,4	0,0	3,8	-7,1	21,5	9,0	8,6	OK	OK
B33-tfl 1	STIFF2a	▲3,0 ▲	67	ULS-Set(6)	32,0	0,0	-21,5	-8,4	10,9	7,4	6,4	OK	OK
		▲3,0 ▲	67	ULS-Set(6)	34,5	0,0	2,9	10,2	-17,0	7,9	6,5	OK	OK
B33-bfl 1	STIFF2b	▲3,0 ▲	67	ULS-Set(6)	65,1	0,0	-27,7	-32,7	9,2	14,9	11,4	OK	OK
		▲3,0 ▲	67	ULS-Set(6)	82,7	0,0	-42,4	37,4	-16,9	19,0	13,1	OK	OK
B33-w 1	STIFF2b	▲3,0 ▲	116	ULS-Set(6)	39,4	0,0	3,8	7,1	-21,5	9,1	8,6	OK	OK
		▲3,0 ▲	116	ULS-Set(6)	44,1	0,0	-3,7	14,6	20,7	10,1	8,5	OK	OK
B33-tfl 1	STIFF2b	▲3,0 ▲	67	ULS-Set(6)	35,0	0,0	2,8	-10,2	17,3	8,0	6,5	OK	OK
		▲3,0 ▲	67	ULS-Set(6)	32,4	0,0	-21,5	8,4	-11,2	7,4	6,5	OK	OK
EP1	WID1a	▲3,0 ▲	60	ULS-Set(6)	75,2	0,0	-20,0	-20,3	36,6	17,3	9,2	OK	OK
		▲3,0 ▲	60	ULS-Set(6)	74,2	0,0	-20,2	19,9	-36,1	17,0	9,0	OK	OK
EP1	WID1b	▲5,0 ▲	99	ULS-Set(6)	182,7	0,0	-125,0	76,6	-6,9	41,9	34,4	OK	OK
B11-bfl 1	WID1b	▲5,0 ▲	99	ULS-Set(6)	96,5	0,0	-80,3	27,2	-14,8	23,2	16,2	OK	OK
B11-bfl 1	WID1a	▲3,0 ▲	119	ULS-Set(6)	179,7	0,0	-45,0	-45,0	-89,8	41,3	25,8	OK	OK
		▲3,0 ▲	119	ULS-Set(6)	179,7	0,0	-45,0	45,0	89,8	41,2	25,8	OK	OK
B11-bfl 1	STIFF3a	▲3,0 ▲	47	ULS-Set(6)	66,8	0,0	-22,6	-27,9	23,2	15,3	13,1	OK	OK
		▲3,0 ▲	47	ULS-Set(6)	32,2	0,0	-10,8	13,4	11,3	7,4	7,3	OK	OK
B11-w 1	STIFF3a	▲3,0 ▲	80	ULS-Set(6)	35,7	0,0	-10,9	-11,2	-16,1	8,2	7,1	OK	OK
		▲3,0 ▲	80	ULS-Set(6)	35,9	0,0	-11,7	11,4	15,9	8,2	7,3	OK	OK
B11-tfl 1	STIFF3a	▲3,0 ▲	47	ULS-Set(6)	26,2	0,0	-9,9	-9,4	10,5	6,0	6,0	OK	OK
		▲3,0 ▲	47	ULS-Set(6)	27,3	0,0	-8,9	9,4	-11,5	6,3	6,0	OK	OK
B11-bfl 1	STIFF3b	▲3,0 ▲	47	ULS-Set(6)	32,3	0,0	-10,8	-13,4	-11,4	7,4	7,3	OK	OK
		▲3,0 ▲	47	ULS-Set(6)	67,0	0,0	-22,7	27,9	-23,3	15,4	13,1	OK	OK



Project no:

Author:



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
B11-w 1	STIFF3b	▲3,0 ▲	80	ULS-Set(6)	35,9	0,0	-11,7	-11,4	-15,9	8,2	7,3	OK	OK
		▲3,0 ▲	80	ULS-Set(6)	35,7	0,0	-10,9	11,2	16,2	8,2	7,1	OK	OK
B11-tfl 1	STIFF3b	▲3,0 ▲	47	ULS-Set(6)	27,3	0,0	-8,9	-9,4	11,5	6,3	6,0	OK	OK
		▲3,0 ▲	47	ULS-Set(6)	26,3	0,0	-9,9	9,4	-10,5	6,0	6,0	OK	OK
B13-bfl 1	STIFF4a	▲3,0 ▲	47	ULS-Seis(29)	119,6	0,0	-33,4	-65,6	10,0	27,5	14,5	OK	OK
		▲3,0 ▲	47	ULS-Seis(29)	170,6	0,0	-96,7	64,5	-49,2	39,2	22,3	OK	OK
B13-w 1	STIFF4a	▲3,0 ▲	80	ULS-Seis(29)	33,9	0,0	8,1	5,9	-18,1	7,8	7,8	OK	OK
		▲3,0 ▲	80	ULS-Seis(29)	36,3	0,0	7,5	-9,7	18,1	8,3	8,2	OK	OK
B13-tfl 1	STIFF4a	▲3,0 ▲	47	ULS-Seis(29)	20,5	0,0	-0,1	-3,2	11,4	4,7	4,7	OK	OK
		▲3,0 ▲	47	ULS-Seis(29)	19,5	0,0	-7,8	4,7	-9,2	4,5	4,5	OK	OK
B13-bfl 1	STIFF4b	▲3,0 ▲	47	ULS-Seis(29)	172,0	0,0	-96,9	-65,1	49,9	39,5	22,3	OK	OK
		▲3,0 ▲	47	ULS-Seis(29)	121,3	0,0	-34,5	66,2	-11,0	27,8	14,6	OK	OK
B13-w 1	STIFF4b	▲3,0 ▲	80	ULS-Seis(29)	36,8	0,0	7,6	9,8	-18,4	8,5	8,2	OK	OK
		▲3,0 ▲	80	ULS-Seis(29)	34,3	0,0	8,1	-5,9	18,3	7,9	7,9	OK	OK
B13-tfl 1	STIFF4b	▲3,0 ▲	47	ULS-Seis(29)	19,7	0,0	-7,8	-4,7	9,3	4,5	4,5	OK	OK
		▲3,0 ▲	47	ULS-Seis(29)	20,7	0,0	0,0	3,2	-11,5	4,8	4,8	OK	OK
B13-bfl 1	STIFF4c	▲3,0 ▲	47	ULS-Seis(25)	180,0	0,0	-102,1	-68,6	51,2	41,3	23,4	OK	OK
		▲3,0 ▲	47	ULS-Seis(25)	126,7	0,0	-36,0	69,4	-10,3	29,1	15,3	OK	OK
B13-w 1	STIFF4c	▲3,0 ▲	80	ULS-Seis(25)	39,2	0,0	8,9	10,8	-19,2	9,0	8,5	OK	OK
		▲3,0 ▲	80	ULS-Seis(25)	36,8	0,0	9,1	-7,2	19,3	8,5	8,2	OK	OK
B13-tfl 1	STIFF4c	▲3,0 ▲	47	ULS-Seis(25)	20,6	0,0	-8,1	-5,1	9,6	4,7	4,7	OK	OK
		▲3,0 ▲	47	ULS-Seis(25)	21,6	0,0	-0,8	3,8	-11,9	5,0	5,0	OK	OK
B13-bfl 1	STIFF4d	▲3,0 ▲	47	ULS-Seis(25)	126,2	0,0	-35,6	-69,3	9,2	29,0	15,3	OK	OK
		▲3,0 ▲	47	ULS-Seis(25)	179,2	0,0	-102,2	68,4	-50,5	41,1	23,5	OK	OK



Project no:

Author:



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
B13-w 1	STIFF4d	▲ 3,0 ▲ 3,0	80	ULS- Seis(25)	36,7	0,0	9,0	7,1	-19,3	8,4	8,2	OK	OK
		▲ 3,0 ▲ 3,0	80	ULS- Seis(25)	39,3	0,0	9,0	-10,8	19,3	9,0	8,5	OK	OK
B13-tfl 1	STIFF4d	▲ 3,0 ▲ 3,0	47	ULS- Seis(25)	21,9	0,0	-0,7	-3,8	12,1	5,0	5,0	OK	OK
		▲ 3,0 ▲ 3,0	47	ULS- Seis(25)	20,7	0,0	-8,2	5,1	-9,7	4,8	4,8	OK	OK
EP2	WID2d	▲ 5,0	50	ULS- Seis(29)	105,3	0,0	-42,2	-39,3	39,4	24,2	14,0	OK	OK
EP2	WID2c	▲ 5,0	50	ULS- Seis(25)	110,8	0,0	-44,6	41,6	-41,3	25,4	14,8	OK	OK
EP2	WID2b	▲ 5,0	50	ULS- Seis(29)	104,1	0,0	-42,0	38,9	-38,8	23,9	14,0	OK	OK
EP2	WID2a	▲ 5,0	50	ULS- Seis(25)	109,3	0,0	-44,2	-41,0	40,7	25,1	14,8	OK	OK

Design data

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9σ [MPa]
S 355	490,0	0,90	435,6	352,8

Buckling

Buckling analysis was not calculated.



Project no:

Author:



Bill of material



Project no:

Author:



Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
EP1	P12,0x140-176 (S 355)		1	Fillet: 5,0 Double fillet: 3,0	200 88	M12 10.9	4
CUT1							
EP2	P12,0x240-133 (S 355)		1	Fillet: 5,0 Double fillet: 3,0	280 125	M12 8.8	4
WID1	P5,0x60-120 (S 355)		1				
	P8,0x100-134 (S 355)		1				
STIFF1	P8,0x67-116 (S 355)		2	Double fillet: 3,0	501		
STIFF2	P8,0x67-116 (S 355)		2	Double fillet: 3,0	501		
STIFF3	P8,0x48-80 (S 355)		2	Double fillet: 3,0	350		
STIFF4	P8,0x48-80 (S 355)		4	Double fillet: 3,0	700		



Project no:

Author:



Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
WID2	P8,0x50-80 (S 355)		4	CJP: 8,0	320		

Symbol explanation

Fillet weld

throat thickness of weld

CJP weld

plate thickness

Welds

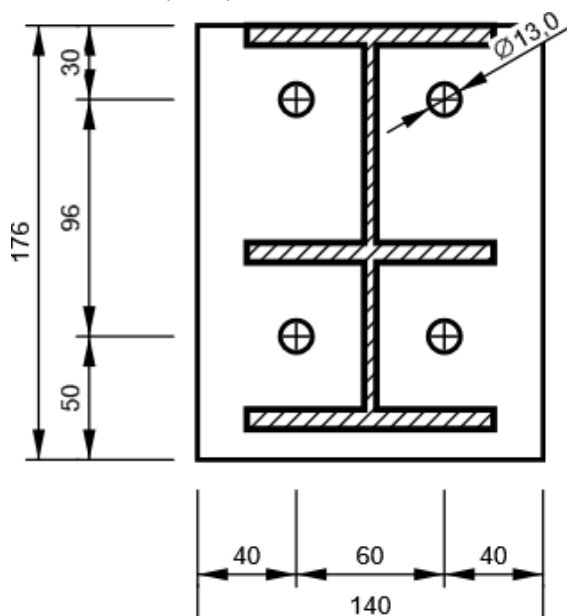
Type	Material	Throat thickness [mm]	Leg size [mm]	Effective throat [mm]	Length [mm]
Fillet	S 355	5,0	7,1	-	880
Double fillet	S 355	3,0	4,2	-	2445
CJP	S 355	-	-	5,0	134
CJP	S 355	-	-	8,0	320

Bolts

Name	Grip length [mm]	Count
M12 10.9	20	4
M12 8.8	20	4

Drawing**EP1**

P12,0x176-140 (S 355)





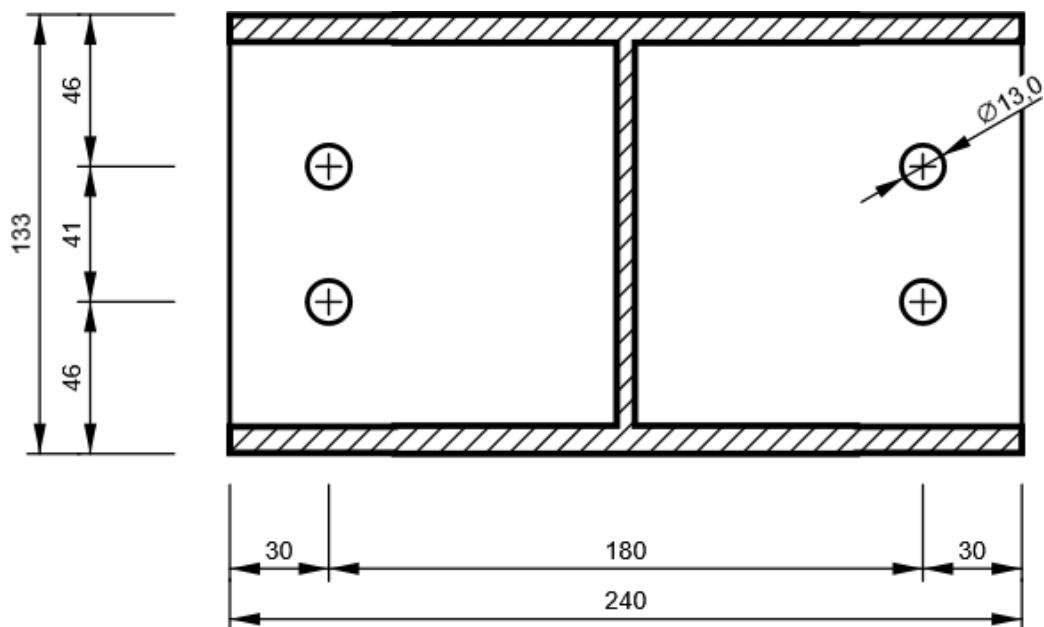
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Author:



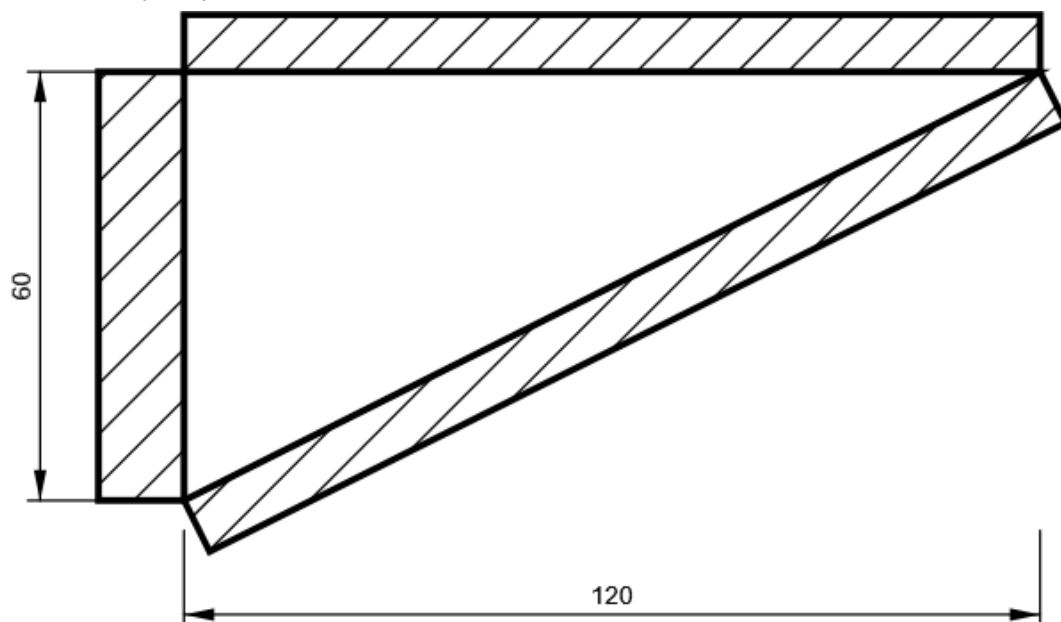
EP2

P12,0x133-240 (S 355)



WID1 - WID1a

P5,0x120-60 (S 355)





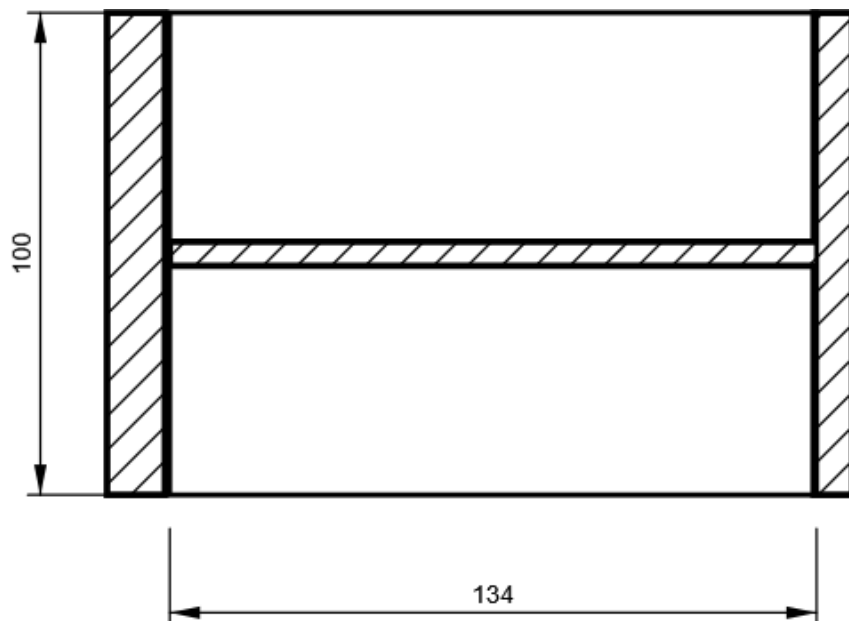
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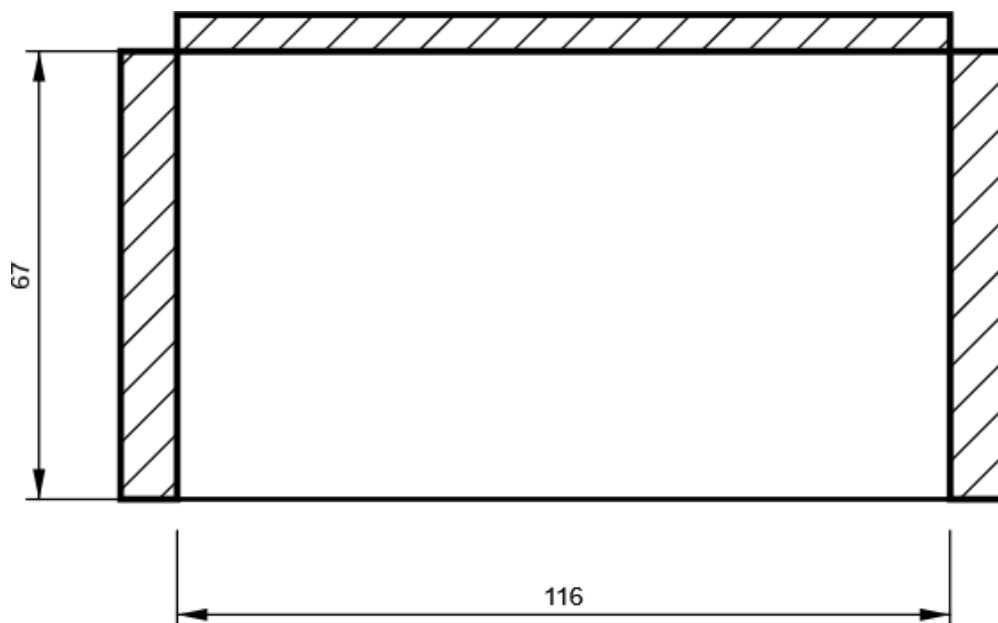
WID1 - WID1b

P8,0x134-100 (S 355)



STIFF1

P8,0x116-67 (S 355)





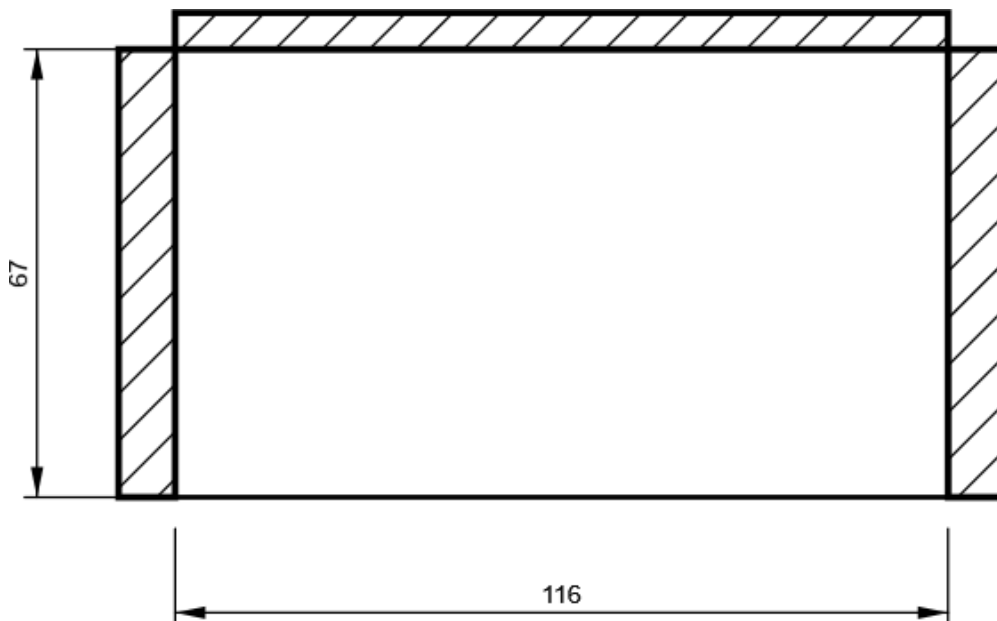
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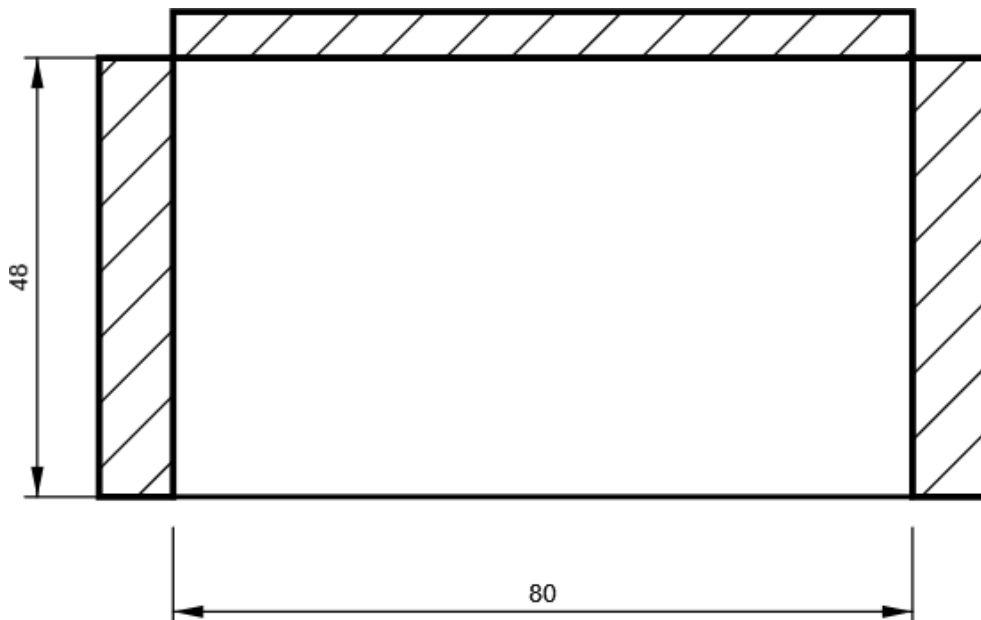
STIFF2

P8,0x116-67 (S 355)



STIFF3

P8,0x80-48 (S 355)



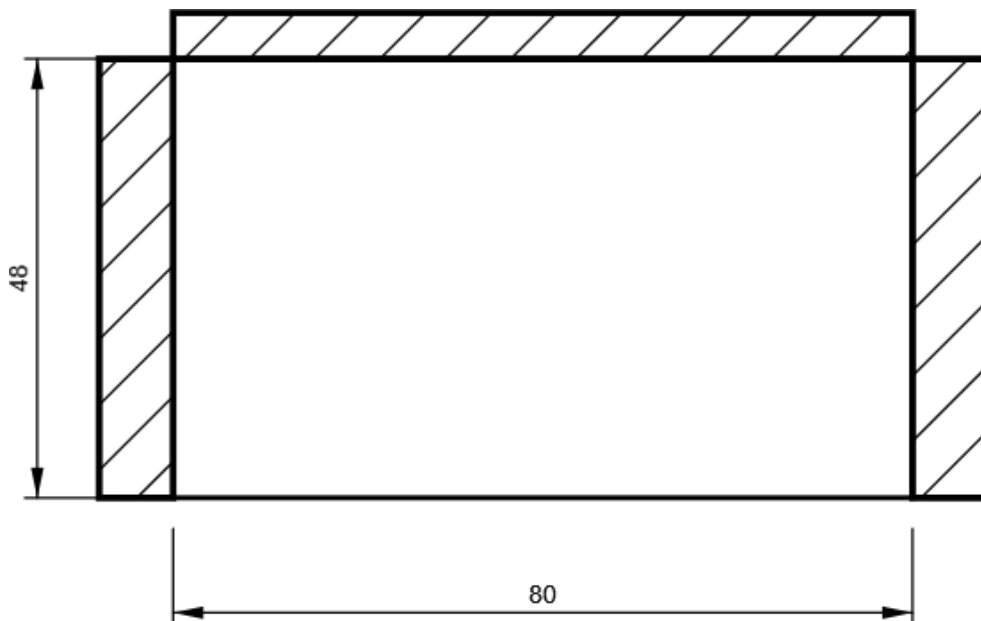


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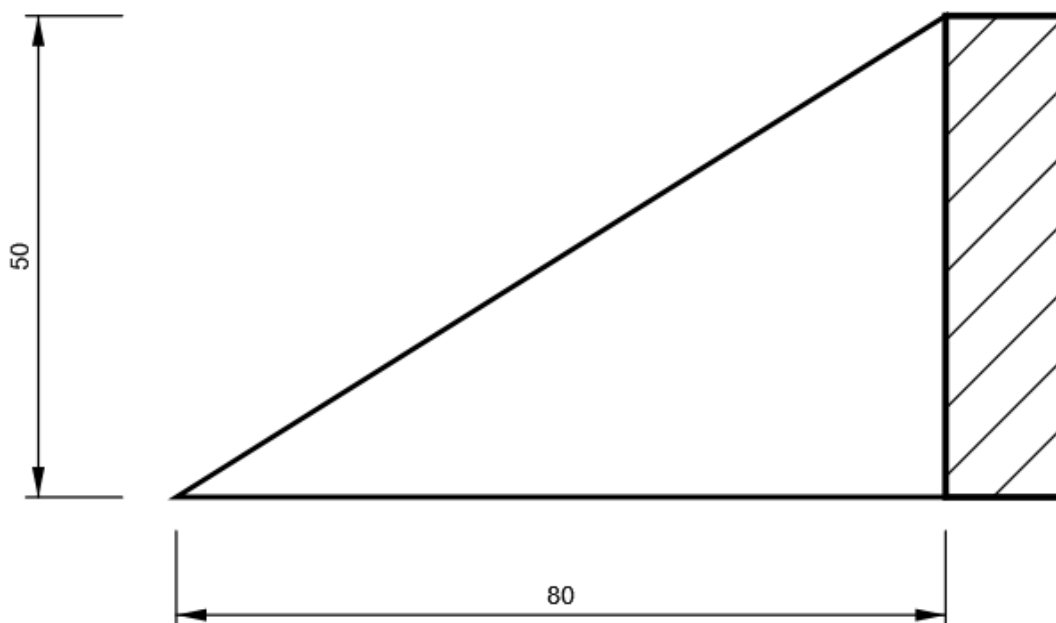
Author:

StatiCa
Calculate yesterday's estimates**STIFF4**

P8,0x80-48 (S 355)

**WID2**

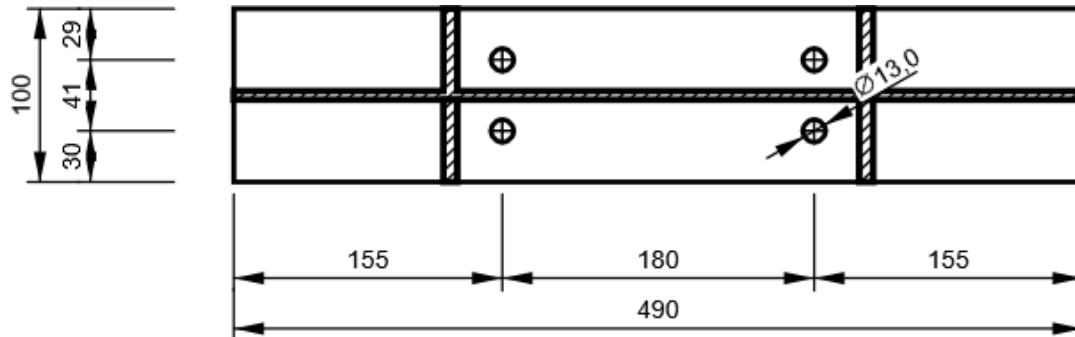
P8,0x80-50 (S 355)



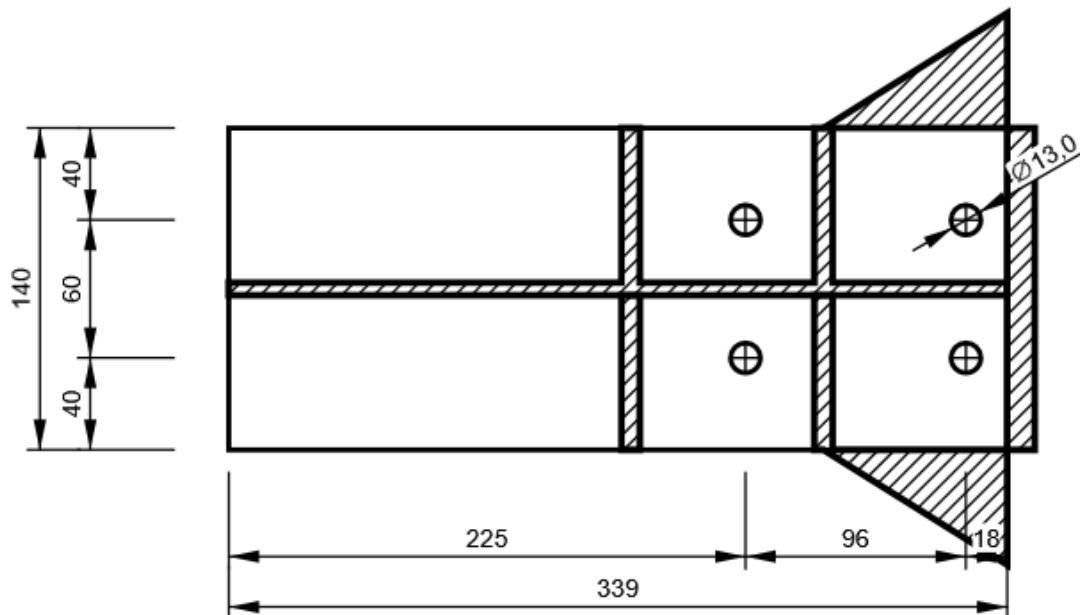
Project no:

Author:

B13, HEA100 - Bottom flange 1:



B33, HEA140 - Bottom flange 1:



Code settings

Item	Value	Unit	Reference
Safety factor γ_{M0}	1,00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1,00	-	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 β_j	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



Project no:

Author:



Item	Value	Unit	Reference
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



Project: Podest jeklena nadstrešnica s podestom

Project no:

Author:



Project data

Project name Podest jeklena nadstrešnica s podestom
 Project number
 Author
 Description
 Date 2/26/2026
 Code EN

Material

Steel S 355, S 355

Project item Stik primarec podesta sekundarec in steber

Name Stik primarec podesta sekundarec in steber
 Description
 Analysis Stress, strain/ loads in equilibrium

Design

Members

Geometry

Name	Cross-section	β - Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
B33	1 - HEA140	0,0	90,0	90,0	0	0	0
B34	1 - HEA140	0,0	90,0	90,0	0	0	0
B46	2 - HEA100	-90,0	0,0	0,0	0	0	0
B52	3 - HEA100	-180,0	0,0	0,0	0	0	0
B57	3 - HEA100	-180,0	0,0	0,0	0	0	0

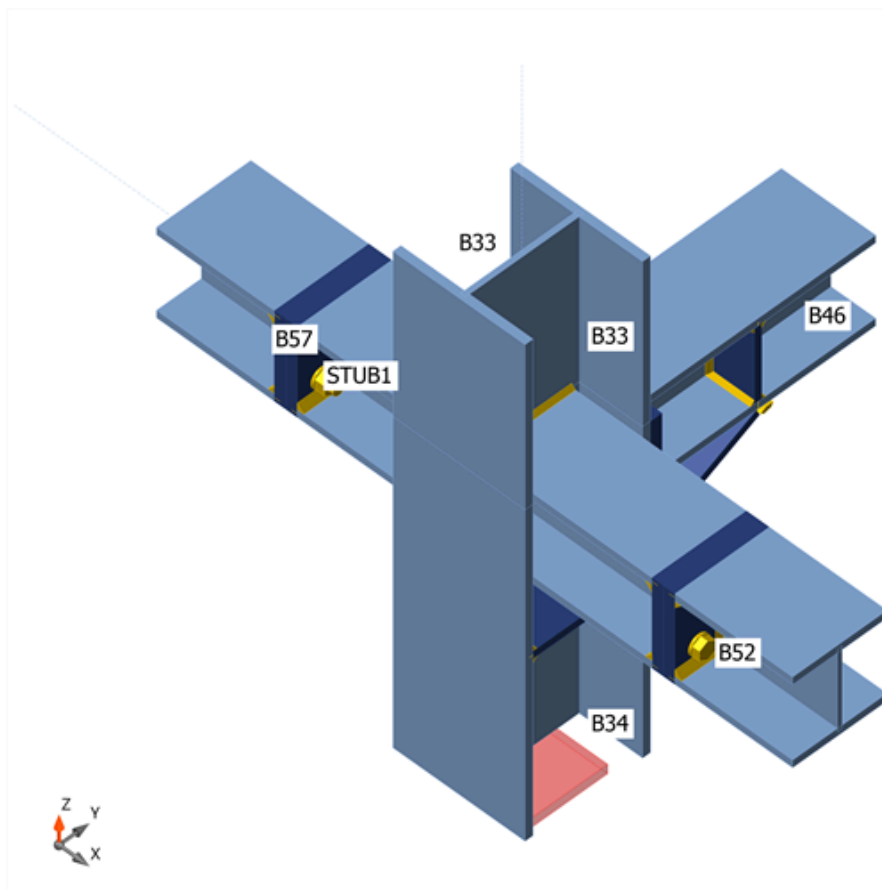
Supports and forces

Name	Support	Forces in	X [mm]
B33 / end		Position	0
B34 / begin	N-Vy-Vz-Mx-My-Mz	Position	0
B46 / begin		Position	0
B52 / begin		Position	0
B57 / end		Position	0



Project no:

Author:

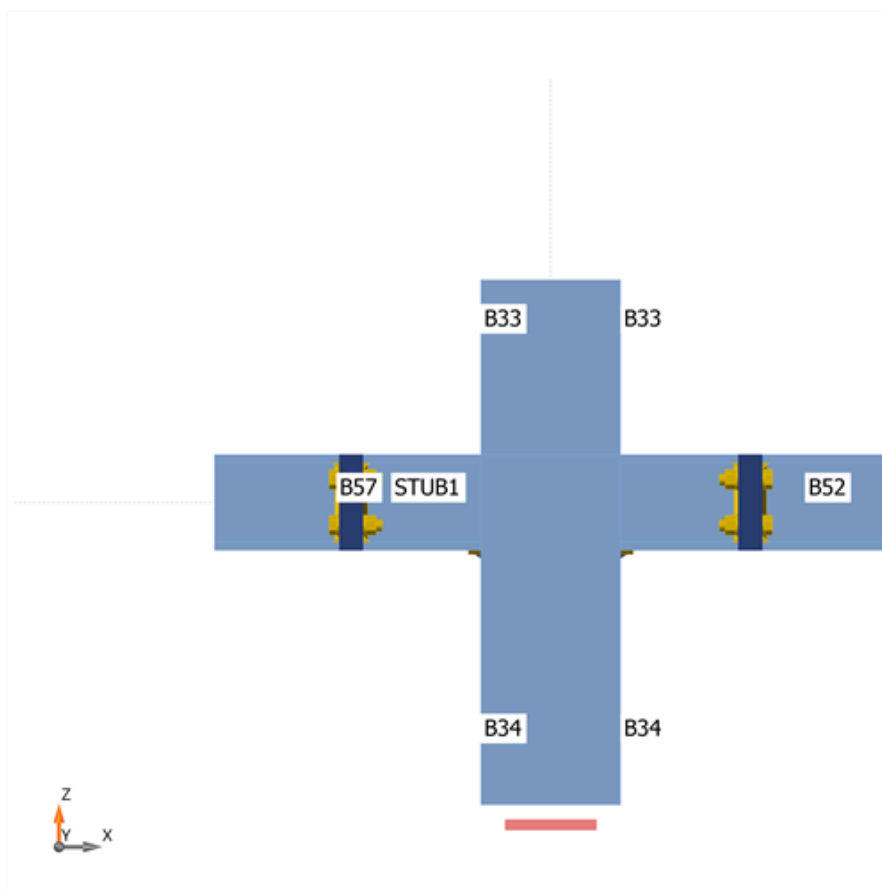


Stik primarec podesta sekundarec in steber, Axonometric view



Project no:

Author:

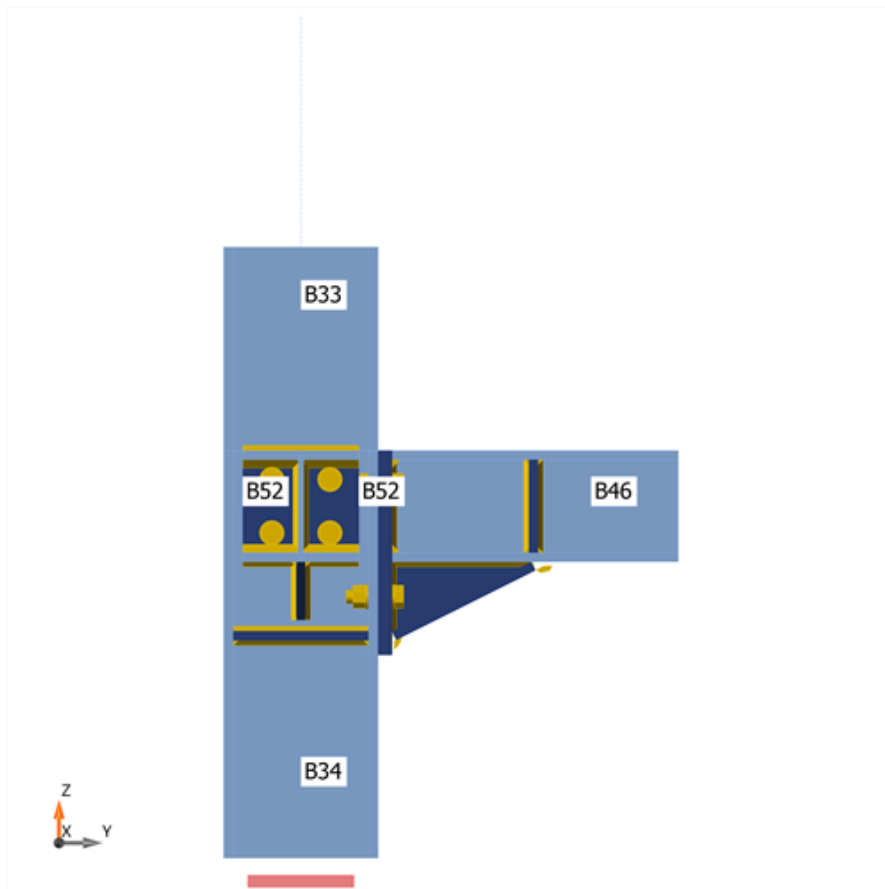


Stik primarec podesta sekundarec in steber, Y direction view



Project no:

Author:



Stik primarec podesta sekundarec in steber, X direction view

Cross-sections

Name	Material
1 - HEA140	S 355
2 - HEA100	S 355
3 - HEA100	S 355

Bolts

Name	Diameter [mm]	f_y [MPa]	f_u [MPa]	Gross area [mm ²]
M12 10.9	12	900,0	1000,0	113



Project no:

Author:



Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Set(2)	B33 / End	-29,1	-0,1	3,6	0,0	-3,7	-0,2
	B34 / Begin	39,6	-0,1	0,0	0,0	0,0	0,2
	B46 / Begin	-3,6	0,0	-7,6	0,0	-3,7	0,0
	B52 / Begin	-0,1	0,0	-1,5	0,0	-0,6	0,0
	B57 / End	0,3	0,0	-1,4	0,0	0,5	0,0
ULS-Set(7)	B33 / End	-29,1	-0,1	4,8	0,0	-7,2	-0,1
	B34 / Begin	62,6	-0,1	-1,4	0,0	-3,9	0,3
	B46 / Begin	-3,3	0,0	-24,8	0,0	-11,1	0,0
	B52 / Begin	-0,1	0,0	-4,5	0,0	-1,8	0,0
	B57 / End	0,3	0,0	-4,2	0,0	1,5	0,0
ULS-Set(10)	B33 / End	-18,0	0,0	4,0	0,0	-7,8	0,0
	B34 / Begin	61,4	-0,1	-2,3	0,0	-6,3	0,3
	B46 / Begin	-1,7	0,0	-32,1	0,0	-14,1	0,0
	B52 / Begin	0,0	0,0	-5,8	0,0	-2,3	0,0
	B57 / End	0,2	0,0	-5,4	0,0	2,0	0,0
ULS-Set(11)	B33 / End	-6,9	0,0	2,8	0,0	-6,9	0,1
	B34 / Begin	50,3	-0,1	-2,6	0,0	-7,0	0,2
	B46 / Begin	-0,3	0,0	-32,1	0,0	-13,9	0,0
	B52 / Begin	0,0	0,0	-5,8	0,0	-2,3	0,0
	B57 / End	0,0	0,0	-5,4	0,0	2,0	0,0
ULS-Seis(15)	B33 / End	-4,7	1,2	1,2	0,0	-2,5	0,9
	B34 / Begin	18,9	-2,4	-0,8	0,0	-2,2	6,6
	B46 / Begin	-0,4	-0,9	-10,6	0,0	-4,6	0,0
	B52 / Begin	0,3	0,0	-4,0	0,0	-4,5	0,0
	B57 / End	0,0	0,0	0,4	0,0	-3,1	0,0
ULS-Seis(16)	B33 / End	-5,7	-1,2	1,2	0,0	-2,5	-0,9
	B34 / Begin	20,3	2,4	-0,8	0,0	-2,2	-6,5
	B46 / Begin	-0,4	0,9	-10,6	0,0	-4,6	0,0
	B52 / Begin	-0,3	0,0	0,1	0,0	2,9	0,0
	B57 / End	0,1	0,0	-4,1	0,0	4,5	0,0
ULS-Set(20)	B33 / End	-27,3	-0,1	3,3	0,0	-3,2	-0,2
	B34 / Begin	35,1	-0,1	0,1	0,0	0,4	0,2
	B46 / Begin	-3,4	0,0	-5,6	0,0	-2,8	0,0
	B52 / Begin	-0,1	0,0	-1,1	0,0	-0,4	0,0
	B57 / End	0,3	0,0	-1,0	0,0	0,4	0,0
ULS-Seis(21)	B33 / End	-4,6	1,2	0,8	0,0	-1,4	0,9
	B34 / Begin	12,2	-2,4	-0,4	0,0	-1,0	6,7
	B46 / Begin	-0,5	-0,9	-5,6	0,0	-2,4	0,0
	B52 / Begin	0,3	0,0	-3,2	0,0	-4,1	0,0
	B57 / End	0,0	0,0	1,2	0,0	-3,4	0,0
ULS-Seis(23)	B33 / End	-4,6	1,2	1,2	0,0	-2,4	0,9



Project no:

Author:



Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
	B46 / Begin	-0,4	-0,9	-10,5	0,0	-4,5	0,0
	B52 / Begin	0,3	0,0	-4,0	0,0	-4,5	0,0
	B57 / End	0,0	0,0	0,4	0,0	-3,1	0,0
ULS-Seis(24)	B33 / End	-8,0	0,1	2,0	0,0	-1,4	0,1
	B34 / Begin	30,2	-0,1	-4,6	0,0	-12,5	0,4
	B46 / Begin	1,9	0,0	-18,4	0,0	-13,9	0,0
	B52 / Begin	0,0	0,4	-2,1	0,0	-0,9	0,0
	B57 / End	0,0	0,4	-1,7	0,0	0,5	0,0
ULS-Seis(26)	B33 / End	-5,7	-1,2	1,2	0,0	-2,4	-0,9
	B34 / Begin	20,1	2,4	-0,8	0,0	-2,1	-6,4
	B46 / Begin	-0,4	0,9	-10,5	0,0	-4,5	0,0
	B52 / Begin	-0,3	0,0	0,1	0,0	2,9	0,0
	B57 / End	0,1	0,0	-4,1	0,0	4,4	0,0
ULS-Seis(27)	B33 / End	-2,7	-0,1	0,2	0,0	-2,6	0,0
	B34 / Begin	3,2	0,2	3,2	0,0	8,7	-0,7
	B46 / Begin	-2,7	0,1	1,7	0,0	6,2	0,0
	B52 / Begin	-0,1	-0,4	-0,9	0,0	-0,1	0,0
	B57 / End	0,0	-0,3	-1,3	0,0	0,8	0,0

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Set(2)	0,0	0,0	0,0	0,0	0,0	0,0
ULS-Set(7)	0,0	0,0	0,0	0,0	0,0	0,0
ULS-Set(10)	0,0	0,0	0,0	0,0	0,0	0,0
ULS-Set(11)	0,0	0,0	0,0	0,0	0,0	0,0
ULS-Seis(15)	0,1	0,0	0,0	0,0	0,0	0,0
ULS-Seis(16)	-0,1	0,0	0,0	0,0	0,0	0,0
ULS-Set(20)	0,0	0,0	0,0	0,0	0,0	0,0
ULS-Seis(21)	0,1	0,0	0,0	0,0	0,0	0,0
ULS-Seis(23)	0,1	0,0	0,0	0,0	0,0	0,0
ULS-Seis(24)	0,0	0,1	0,0	0,0	0,0	0,0
ULS-Seis(26)	-0,1	0,0	0,0	0,0	0,0	0,0
ULS-Seis(27)	0,0	-0,1	0,0	0,0	0,0	0,0

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0,4 < 5,0%	OK
Bolts	87,4 < 100%	OK
Welds	99,4 < 100%	OK
Buckling	Not calculated	



Project no:

Author:



Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ϵ_{pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
B33-bfl 1	8,5	ULS-Seis(24)	355,2	0,1	0,0	OK
B33-tfl 1	8,5	ULS-Seis(23)	210,6	0,0	0,0	OK
B33-w 1	5,5	ULS-Seis(23)	355,5	0,2	0,0	OK
B34-bfl 1	8,5	ULS-Seis(24)	355,9	0,4	60,2	OK
B34-tfl 1	8,5	ULS-Seis(23)	247,8	0,0	0,0	OK
B34-w 1	5,5	ULS-Seis(23)	355,8	0,4	0,0	OK
B46-bfl 1	8,0	ULS-Seis(24)	310,4	0,0	0,0	OK
B46-tfl 1	8,0	ULS-Seis(24)	200,9	0,0	0,0	OK
B46-w 1	5,0	ULS-Seis(24)	310,6	0,0	0,0	OK
B52-bfl 1	8,0	ULS-Seis(23)	79,5	0,0	0,0	OK
B52-tfl 1	8,0	ULS-Seis(16)	62,1	0,0	0,0	OK
B52-w 1	5,0	ULS-Seis(23)	148,0	0,0	0,0	OK
B57-bfl 1	8,0	ULS-Seis(16)	78,7	0,0	0,0	OK
B57-tfl 1	8,0	ULS-Seis(21)	67,5	0,0	0,0	OK
B57-w 1	5,0	ULS-Seis(16)	147,0	0,0	0,0	OK
STUB1-bfl 1	8,0	ULS-Seis(23)	222,8	0,0	0,0	OK
STUB1-tfl 1	8,0	ULS-Seis(16)	237,5	0,0	0,0	OK
STUB1-w 1	5,0	ULS-Seis(16)	164,1	0,0	0,0	OK
STUB2-bfl 1	8,0	ULS-Seis(23)	225,7	0,0	0,0	OK
STUB2-tfl 1	8,0	ULS-Seis(16)	230,5	0,0	0,0	OK
STUB2-w 1	5,0	ULS-Seis(23)	165,9	0,0	0,0	OK
EP1	12,0	ULS-Seis(24)	342,8	0,0	164,9	OK
STUB1-EPa	12,0	ULS-Seis(16)	264,8	0,0	66,4	OK
STUB1-EPb	12,0	ULS-Seis(16)	264,0	0,0	66,4	OK
WID1a	5,0	ULS-Set(10)	229,9	0,0	0,0	OK
WID1b	8,0	ULS-Seis(24)	179,3	0,0	0,0	OK
STIFF1a	8,0	ULS-Seis(23)	248,0	0,0	0,0	OK
STIFF1b	8,0	ULS-Seis(16)	241,1	0,0	0,0	OK
STIFF2a	8,0	ULS-Seis(24)	138,6	0,0	0,0	OK
STIFF2b	8,0	ULS-Seis(24)	139,0	0,0	0,0	OK
STUB2-EPa	12,0	ULS-Seis(23)	266,5	0,0	67,1	OK
STUB2-EPb	12,0	ULS-Seis(23)	265,7	0,0	67,1	OK
WID2	8,0	ULS-Seis(23)	355,8	0,4	0,0	OK
WID3	8,0	ULS-Seis(23)	355,7	0,4	0,0	OK

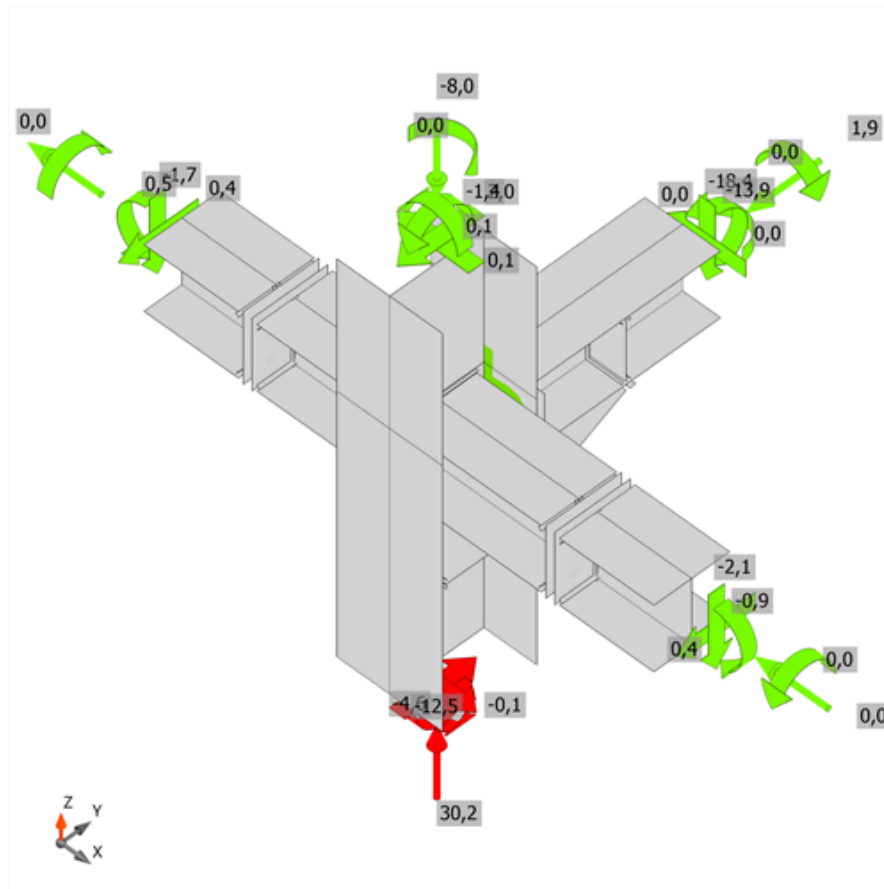
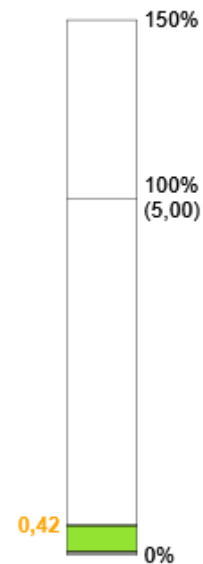
Design data

Material	f_y [MPa]	ϵ_{lim} [%]
S 355	355,0	5,0



Project no:

Author:

StatiCa®
Calculate yesterday's estimatesStrain check
[%]

Strain check, ULS-Seis(24)

Bolts

Shape	Item	Grade	Loads	$F_{t,Ed}$ [kN]	$F_{v,Ed}$ [kN]	$F_{b,Rd}$ [kN]	U_t [%]	U_s [%]	U_{ts} [%]	Detailing	Status
	B1	M12 10.9 - 1	ULS-Seis(24)	53,1	4,3	100,0	87,4	12,6	75,1	OK	OK
	B2	M12 10.9 - 1	ULS-Seis(24)	52,7	4,2	100,0	86,9	12,6	74,7	OK	OK
	B3	M12 10.9 - 1	ULS-Seis(27)	25,5	1,0	100,0	42,0	3,1	33,1	OK	OK
	B4	M12 10.9 - 1	ULS-Seis(27)	25,1	1,1	100,0	41,4	3,3	32,9	OK	OK
	B5	M12 10.9 - 2	ULS-Seis(16)	29,0	1,0	90,5	47,7	3,0	37,1	OK	OK
	B6	M12 10.9 - 2	ULS-Seis(16)	29,0	1,0	90,5	47,8	3,0	37,2	OK	OK
	B7	M12 10.9 - 2	ULS-Seis(21)	25,0	0,3	90,5	41,2	0,8	30,3	OK	OK
	B8	M12 10.9 - 2	ULS-Seis(21)	25,2	0,3	90,5	41,5	0,9	30,5	OK	OK
	B9	M12 10.9 - 2	ULS-Seis(23)	29,2	1,0	90,5	48,0	3,0	37,3	OK	OK
	B10	M12 10.9 - 2	ULS-Seis(23)	29,2	1,0	90,5	48,1	3,0	37,4	OK	OK
	B11	M12 10.9 - 2	ULS-Seis(16)	23,3	0,0	90,5	38,3	0,0	27,4	OK	OK
	B12	M12 10.9 - 2	ULS-Seis(16)	23,4	0,0	90,5	38,6	0,1	27,6	OK	OK

**Project no:****Author:****Design data**

Grade	$F_{t,Rd}$ [kN]	$B_{p,Rd}$ [kN]	$F_{v,Rd}$ [kN]
M12 10.9 - 1	60,7	119,4	33,7
M12 10.9 - 2	60,7	168,6	33,7



Project no:

Author:



Welds

Item	Edge	T _w [mm]	L [mm]	Loads	σ _{w,Ed} [MPa]	ε _{pl} [%]	σ _⊥ [MPa]	τ _⊥ [MPa]	τ [MPa]	U _t [%]	U _{t,c} [%]	Detailing	Status
B34-bfl 1	B33-bfl 1	-	140	-	-	-	-	-	-	-	-	OK	OK
B34-tfl 1	B33-tfl 1	-	140	-	-	-	-	-	-	-	-	OK	OK
B34-w 1	B33-w 1	-	125	-	-	-	-	-	-	-	-	OK	OK
WID1b	WID1a	-	134	-	-	-	-	-	-	-	-	OK	OK
EP1	B46-bfl 1	▲ 5,0	99	ULS-Seis(27)	117,4	0,0	54,9	59,0	10,0	26,9	20,8	OK	OK
EP1	B46-tfl 1	▲ 5,0	99	ULS-Seis(27)	220,8	0,0	-100,8	110,1	-27,2	50,7	29,3	OK	OK
EP1	B46-w 1	▲ 3,0 ▲ 3,0	87	ULS-Seis(24)	315,6	0,0	142,5	144,6	-74,5	72,5	46,3	OK	OK
		▲ 3,0 ▲ 3,0	87	ULS-Seis(24)	312,3	0,0	144,9	-142,8	71,6	71,7	45,8	OK	OK
STUB1-EPa	B57-bfl 1	▲ 5,0	99	ULS-Seis(16)	141,9	0,0	-70,1	-70,7	8,4	32,6	25,7	OK	OK
STUB1-EPa	B57-tfl 1	▲ 5,0	99	ULS-Seis(21)	124,2	0,0	-61,6	61,9	-7,1	28,5	22,4	OK	OK
STUB1-EPa	B57-w 1	▲ 3,0 ▲ 3,0	87	ULS-Seis(16)	191,0	0,0	91,5	91,8	30,9	43,9	29,6	OK	OK
		▲ 3,0 ▲ 3,0	87	ULS-Seis(16)	192,5	0,0	92,1	-91,9	-32,7	44,2	29,8	OK	OK
STUB1-EPb	STUB1-bfl 1	▲ 5,0	99	ULS-Seis(16)	145,0	0,0	-72,3	-72,2	-7,4	33,3	26,2	OK	OK
STUB1-EPb	STUB1-tfl 1	▲ 5,0	99	ULS-Seis(21)	125,6	0,0	-62,6	62,5	6,7	28,8	22,7	OK	OK
STUB1-EPb	STUB1-w 1	▲ 3,0 ▲ 3,0	87	ULS-Seis(16)	198,9	0,0	91,2	91,5	-45,1	45,7	28,8	OK	OK
		▲ 3,0 ▲ 3,0	87	ULS-Seis(16)	201,0	0,0	91,7	-91,5	48,0	46,2	29,0	OK	OK
B46-bfl 1	WID1a	▲ 3,0 ▲ 3,0	119	ULS-Seis(24)	310,6	0,0	-72,3	-72,3	-158,7	71,3	42,1	OK	OK
		▲ 3,0 ▲ 3,0	119	ULS-Seis(24)	310,8	0,0	-72,4	72,4	158,7	71,3	42,2	OK	OK
EP1	WID1a	▲ 3,0 ▲ 3,0	59	ULS-Seis(27)	173,1	0,0	65,5	67,0	-63,8	39,7	23,6	OK	OK
		▲ 3,0 ▲ 3,0	59	ULS-Seis(27)	173,7	0,0	67,6	-66,2	64,4	39,9	23,8	OK	OK
EP1	WID1b	▲ 5,0	99	ULS-Seis(24)	347,8	0,0	-238,8	145,9	-5,0	79,9	62,7	OK	OK
B46-bfl 1	WID1b	▲ 5,0	99	ULS-Seis(24)	182,4	0,0	-151,9	50,6	29,0	44,5	31,2	OK	OK
B34-bfl 1	STIFF1a	▲ 3,0 ▲ 3,0	67	ULS-Seis(27)	144,7	0,0	51,5	36,4	-69,1	33,2	22,8	OK	OK
		▲ 3,0 ▲ 3,0	67	ULS-Seis(24)	229,6	0,0	-120,5	94,2	-62,1	52,7	38,3	OK	OK
B34-w 1	STIFF1a	▲ 3,0 ▲ 3,0	115	ULS-Seis(23)	243,6	0,0	-162,9	-84,5	-61,7	55,9	33,2	OK	OK
		▲ 3,0	115	ULS-	229,6	0,0	-120,5	94,2	-62,1	52,7	38,3	OK	OK



Project no:

Author:



Item	Edge	T _w [mm]	L [mm]	Loads	σ _{w,Ed} [MPa]	ε _{pl} [%]	σ _⊥ [MPa]	τ _⊥ [MPa]	τ [MPa]	U _t [%]	U _{t,c} [%]	Detailing	Status
B34-tfl 1	STIFF1a	▲ 3,0 ▲	67	ULS- Seis(16)	82,9	0,0	-25,6	-13,6	43,4	19,0	13,6	OK	OK
		▲ 3,0 ▲	67	ULS- Seis(24)	63,2	0,0	16,9	19,3	-29,4	14,5	9,7	OK	OK
B34-bfl 1	STIFF1b	▲ 3,0 ▲	67	ULS- Seis(24)	224,9	0,0	-118,5	-92,9	59,5	51,6	37,3	OK	OK
		▲ 3,0 ▲	67	ULS- Seis(27)	137,5	0,0	53,9	-37,9	62,5	31,6	21,9	OK	OK
B34-w 1	STIFF1b	▲ 3,0 ▲	115	ULS- Seis(23)	95,8	0,0	-2,9	-18,6	-52,1	22,0	13,2	OK	OK
		▲ 3,0 ▲	115	ULS- Seis(16)	238,1	0,0	-158,8	82,4	60,9	54,7	32,3	OK	OK
B34-tfl 1	STIFF1b	▲ 3,0 ▲	67	ULS- Seis(24)	64,7	0,0	18,2	-19,8	29,9	14,9	10,0	OK	OK
		▲ 3,0 ▲	67	ULS- Seis(23)	84,8	0,0	-26,1	13,8	-44,5	19,5	13,9	OK	OK
B46-bfl 1	STIFF2a	▲ 3,0 ▲	47	ULS- Set(10)	55,4	0,0	-19,7	-23,0	-19,1	12,7	10,0	OK	OK
		▲ 3,0 ▲	47	ULS- Seis(24)	134,2	0,0	-69,0	54,6	-37,9	30,8	26,3	OK	OK
B46-w 1	STIFF2a	▲ 3,0 ▲	80	ULS- Seis(24)	78,4	0,0	-15,1	-30,4	-32,4	18,0	13,1	OK	OK
		▲ 3,0 ▲	80	ULS- Seis(24)	66,1	0,0	-33,2	17,8	27,8	15,2	10,8	OK	OK
B46-tfl 1	STIFF2a	▲ 3,0 ▲	47	ULS- Seis(24)	60,8	0,0	-37,3	-18,4	20,8	14,0	9,4	OK	OK
		▲ 3,0 ▲	47	ULS- Seis(24)	56,4	0,0	-2,8	21,8	-24,1	12,9	9,0	OK	OK
B46-bfl 1	STIFF2b	▲ 3,0 ▲	47	ULS- Seis(24)	134,7	0,0	-69,1	-54,7	38,2	30,9	26,3	OK	OK
		▲ 3,0 ▲	47	ULS- Set(10)	55,6	0,0	-19,7	23,1	19,2	12,8	10,0	OK	OK
B46-w 1	STIFF2b	▲ 3,0 ▲	80	ULS- Seis(24)	66,3	0,0	-33,2	-17,8	-27,9	15,2	10,8	OK	OK
		▲ 3,0 ▲	80	ULS- Seis(24)	78,6	0,0	-15,1	30,4	32,5	18,0	13,1	OK	OK
B46-tfl 1	STIFF2b	▲ 3,0 ▲	47	ULS- Seis(24)	56,4	0,0	-2,9	-21,7	24,2	13,0	9,0	OK	OK
		▲ 3,0 ▲	47	ULS- Seis(24)	60,9	0,0	-37,3	18,4	-20,9	14,0	9,5	OK	OK
B34-w 1	STUB1-bfl 1	▲ 3,0 ▲	99	ULS- Seis(23)	354,5	0,0	74,2	137,8	-145,2	81,4	45,9	OK	OK
		▲ 3,0 ▲	99	ULS- Seis(23)	427,2	0,2	177,7	-148,0	168,5	98,1	73,4	OK	OK
B34-w 1	STUB1-tfl 1	▲ 3,0 ▲	99	ULS- Seis(23)	432,9	3,5	-184,7	-173,7	-144,6	99,4	86,1	OK	OK
		▲ 3,0 ▲	99	ULS- Seis(23)	431,8	2,9	-163,2	176,2	149,2	99,1	88,7	OK	OK



Project no:

Author:



Calculate yesterday's estimates

Item	Edge	T _w [mm]	L [mm]	Loads	σ _{w,Ed} [MPa]	ε _{pl} [%]	σ _⊥ [MPa]	τ _⊥ [MPa]	τ [MPa]	U _t [%]	U _{t,c} [%]	Detailing	Status
B34-w 1	STUB1-w 1	▲ 3,0 ▲	87	ULS- Seis(23)	102,0	0,0	-24,4	-22,9	-52,4	23,4	17,2	OK	OK
		▲ 3,0 ▲	87	ULS- Seis(23)	86,5	0,0	-23,4	24,9	41,1	19,9	15,2	OK	OK
STUB2-EPa	B52-bfl 1	▲ 5,0 ▲	99	ULS- Seis(23)	143,7	0,0	-70,9	-71,7	-8,5	33,0	26,1	OK	OK
STUB2-EPa	B52-tfl 1	▲ 5,0 ▲	99	ULS- Seis(16)	115,4	0,0	-57,2	57,5	6,5	26,5	20,8	OK	OK
STUB2-EPa	B52-w 1	▲ 3,0 ▲	87	ULS- Seis(23)	192,4	0,0	92,1	92,3	-31,3	44,2	28,9	OK	OK
		▲ 3,0 ▲	87	ULS- Seis(23)	193,8	0,0	92,7	-92,5	33,0	44,5	28,7	OK	OK
STUB2-EPb	STUB2-bfl 1	▲ 5,0 ▲	99	ULS- Seis(23)	147,0	0,0	-73,2	-73,2	7,5	33,8	26,5	OK	OK
STUB2-EPb	STUB2-tfl 1	▲ 5,0 ▲	99	ULS- Seis(16)	116,2	0,0	-57,7	57,9	-6,5	26,7	20,7	OK	OK
STUB2-EPb	STUB2-w 1	▲ 3,0 ▲	87	ULS- Seis(23)	200,1	0,0	91,8	92,1	45,4	45,9	28,7	OK	OK
		▲ 3,0 ▲	87	ULS- Seis(23)	202,2	0,0	92,3	-92,0	-48,2	46,4	28,8	OK	OK
B34-w 1	STUB2-bfl 1	▲ 3,0 ▲	99	ULS- Seis(16)	340,9	0,0	71,7	133,4	138,6	78,3	47,4	OK	OK
		▲ 3,0 ▲	99	ULS- Seis(23)	427,2	0,2	-184,5	155,9	158,7	98,1	68,1	OK	OK
B34-w 1	STUB2-tfl 1	▲ 3,0 ▲	99	ULS- Seis(23)	433,1	3,6	183,4	173,8	-145,3	99,4	88,9	OK	OK
		▲ 3,0 ▲	99	ULS- Seis(23)	432,0	3,0	164,6	-176,0	149,0	99,2	84,9	OK	OK
B34-w 1	STUB2-w 1	▲ 3,0 ▲	87	ULS- Seis(16)	100,9	0,0	-24,5	-22,9	51,7	23,2	15,1	OK	OK
		▲ 3,0 ▲	87	ULS- Seis(23)	87,3	0,0	-5,4	2,7	50,2	20,0	13,9	OK	OK
B34-w 1	WID2	▲ 3,0 ▲	49	ULS- Seis(23)	430,1	1,9	-122,8	-123,0	203,7	98,7	87,3	OK	OK
		▲ 3,0 ▲	49	ULS- Seis(23)	430,2	1,9	-123,9	123,7	-203,2	98,8	86,6	OK	OK
STUB2-bfl 1	WID2	▲ 3,0 ▲	80	ULS- Seis(23)	142,4	0,0	-14,9	-16,4	-80,1	32,7	25,0	OK	OK
		▲ 3,0 ▲	80	ULS- Seis(23)	144,8	0,0	-16,4	15,0	81,7	33,3	23,6	OK	OK
B34-w 1	WID3	▲ 3,0 ▲	49	ULS- Seis(23)	429,9	1,8	122,5	122,6	-203,9	98,7	79,6	OK	OK
		▲ 3,0 ▲	49	ULS- Seis(23)	430,0	1,8	122,9	-122,8	203,7	98,7	80,4	OK	OK
STUB1-bfl 1	WID3	▲ 3,0 ▲	80	ULS- Seis(16)	146,1	0,0	-16,3	-14,8	-82,5	33,5	23,8	OK	OK
		▲ 3,0 ▲	80	ULS- Seis(16)	143,6	0,0	-14,8	16,3	80,8	33,0	25,3	OK	OK

**Project no:****Author:****Design data**

Material	f_u [MPa]	β_w [-]	$\sigma_{w,Rd}$ [MPa]	0.9σ [MPa]
S 355	490,0	0,90	435,6	352,8

Buckling**Buckling analysis was not calculated.**



Project no:

Author:



Bill of material



Project no:

Author:



Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
EP1	P12,0x140-176 (S 355)		1	Fillet: 5,0 Double fillet: 3,0	200 88	M12 10.9	4
CUT1							
CUT2				CJP: 8,5 CJP: 5,5	280 125		
STUB1	P12,0x100-96 (S 355)		1	Fillet: 5,0 Double fillet: 3,0	400 176	M12 10.9	4
	P12,0x100-96 (S 355)		1				
WID1	P5,0x60-120 (S 355)		1				
	P8,0x100-134 (S 355)		1				
STIFF1	P8,0x67-116 (S 355)		2	Double fillet: 3,0	501		
STIFF2	P8,0x48-80 (S 355)		2	Double fillet: 3,0	350		
CUT3				Double fillet: 3,0	288		



Project no:

Author:



Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
STUB2	P12,0x100-96 (S 355)		1	Fillet: 5,0 Double fillet: 3,0	400 176	M12 10.9	4
	P12,0x100-96 (S 355)		1				
CUT4				Double fillet: 3,0	288		
WID2	P8,0x50-80 (S 355)		1	Double fillet: 3,0	130		
WID3	P8,0x50-80 (S 355)		1	Double fillet: 3,0	130		

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]
Fillet	S 355	5,0	7,1	-	1200
Double fillet	S 355	3,0	4,2	-	2307
CJP	S 355	-	-	8,5	280
CJP	S 355	-	-	5,5	125
CJP	S 355	-	-	5,0	134

Bolts

Name	Grip length [mm]	Count
M12 10.9	20	4
M12 10.9	24	8

Drawing**EP1**

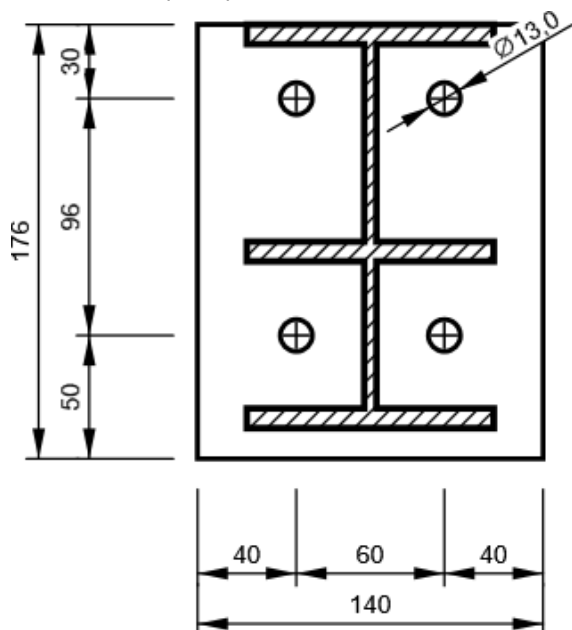


Project no:

Author:

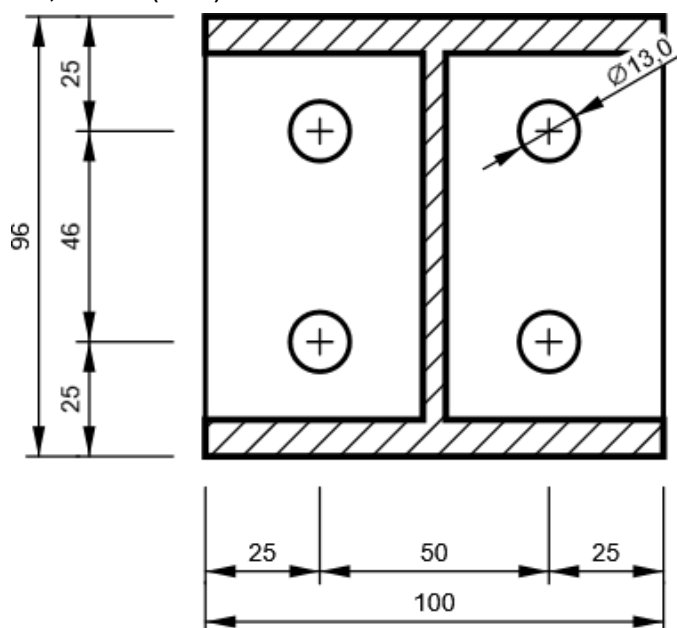


P12,0x176-140 (S 355)



STUB1 - STUB1-EPa

P12,0x96-100 (S 355)

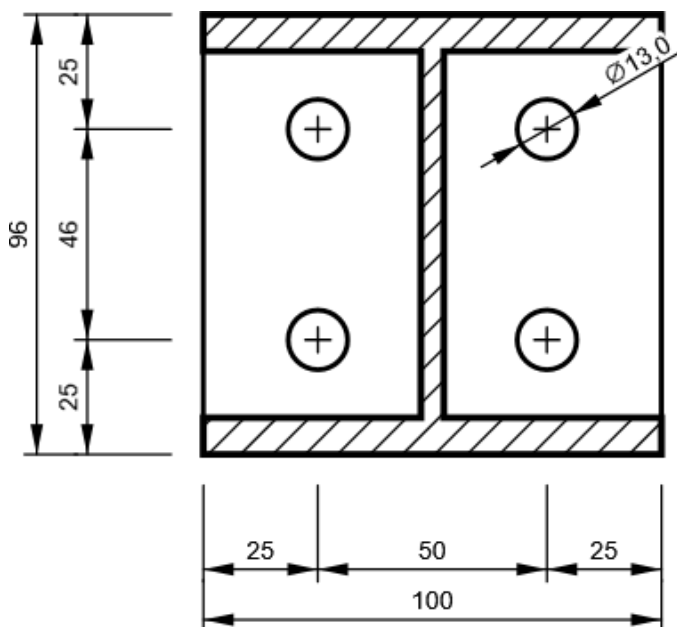


Project no:

Author:

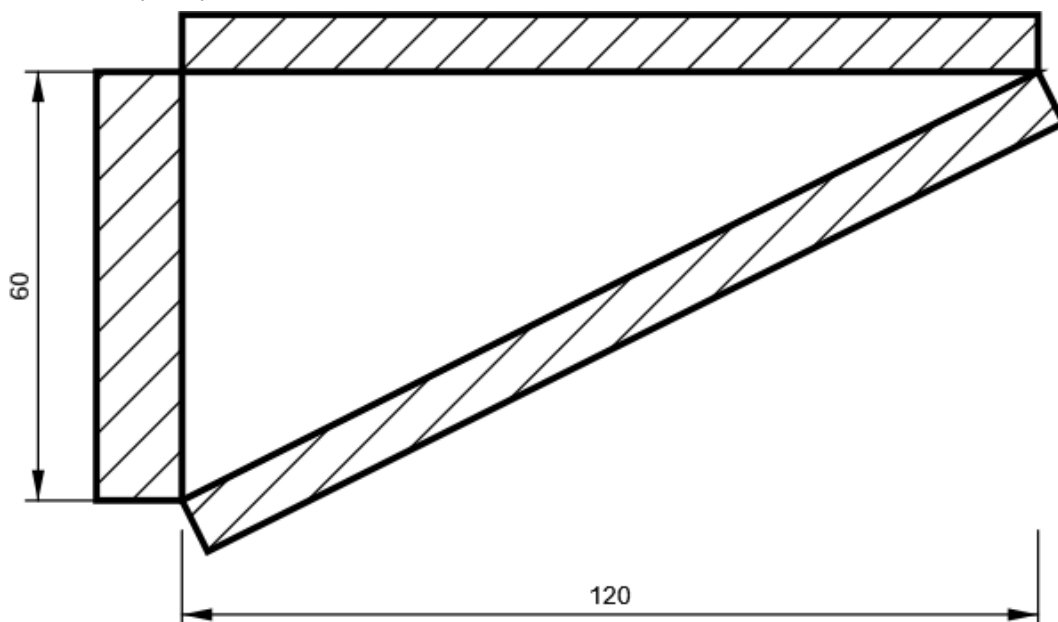
STUB1 - STUB1-EPb

P12,0x96-100 (S 355)



WID1 - WID1a

P5,0x120-60 (S 355)





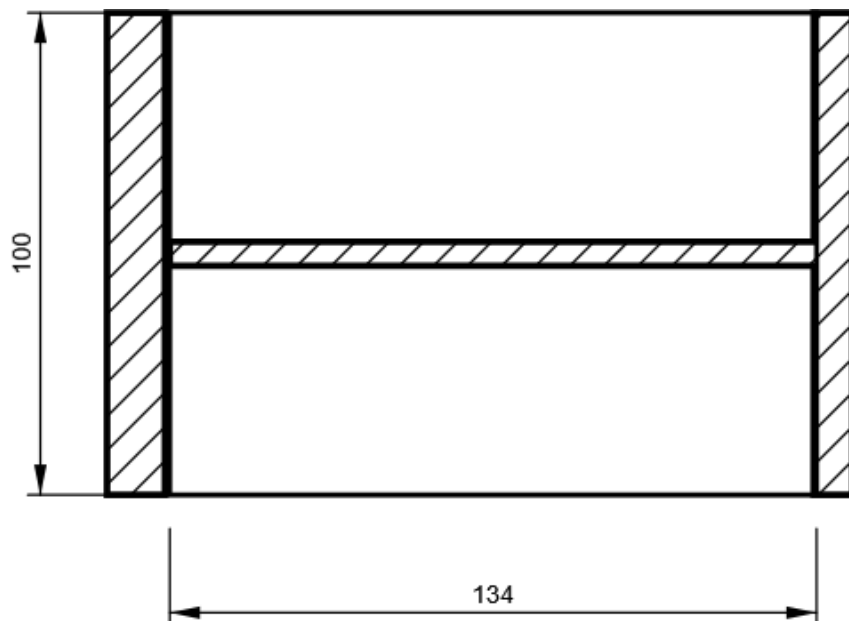
Project no:

Author:



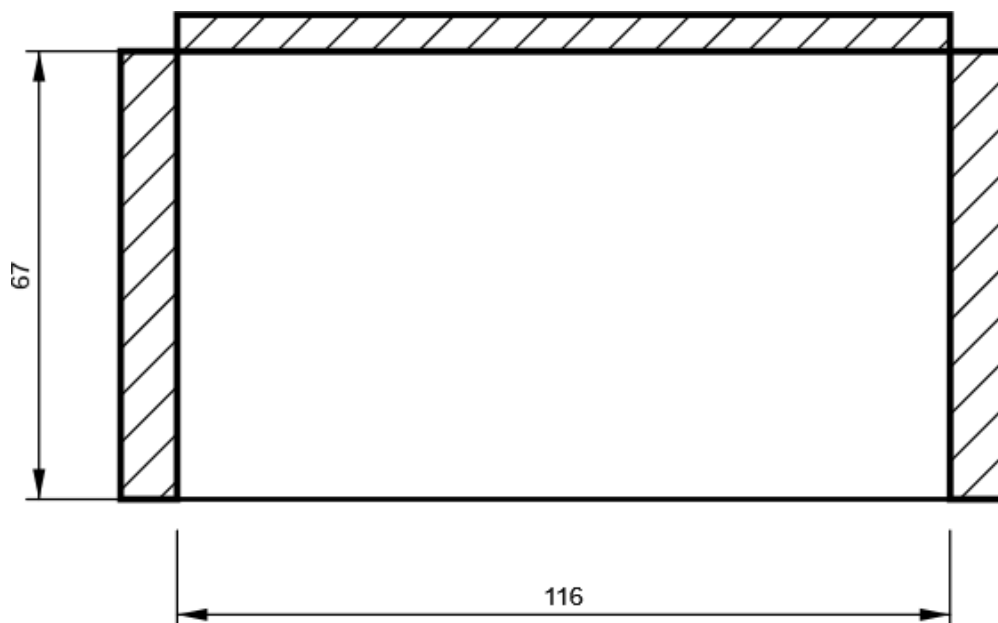
WID1 - WID1b

P8,0x134-100 (S 355)



STIFF1

P8,0x116-67 (S 355)





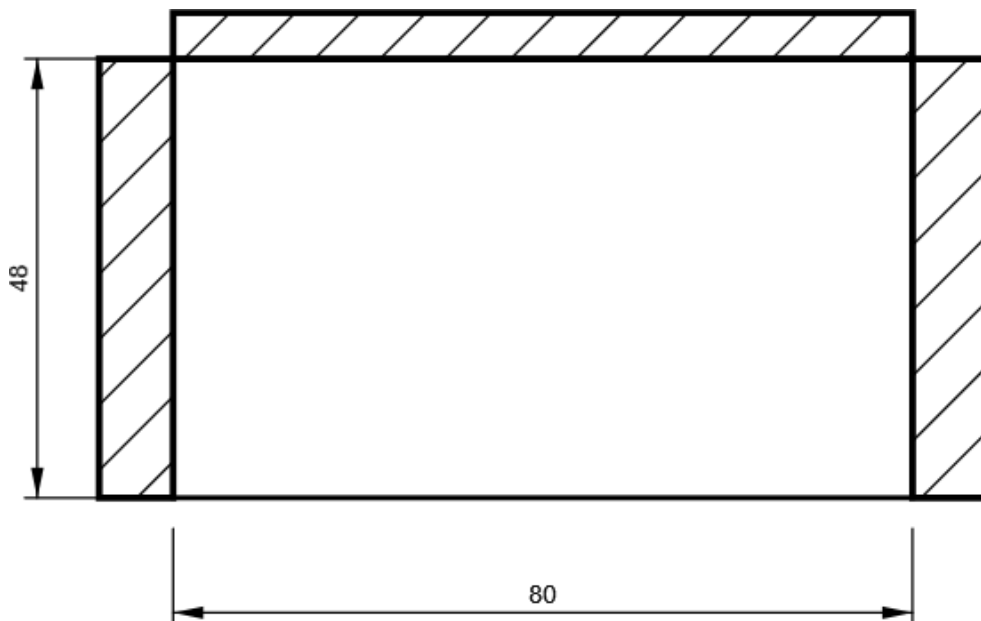
Project no:

Author:



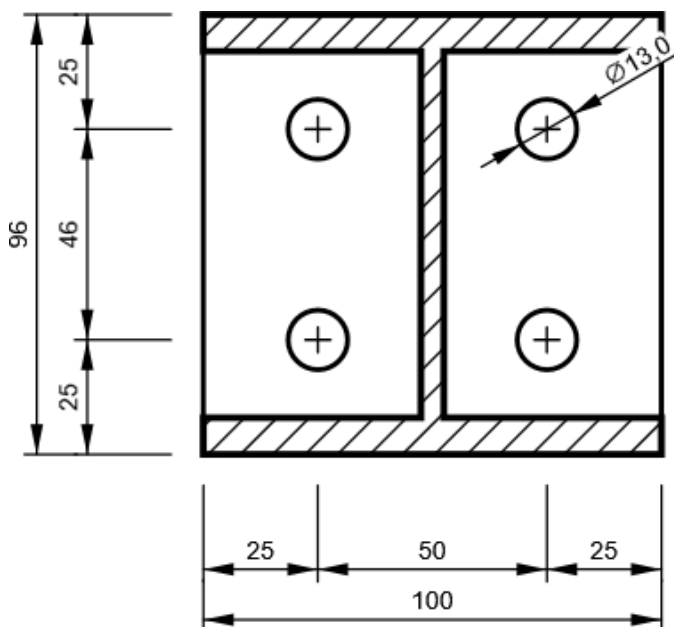
STIFF2

P8,0x80-48 (S 355)



STUB2 - STUB2-EPa

P12,0x96-100 (S 355)





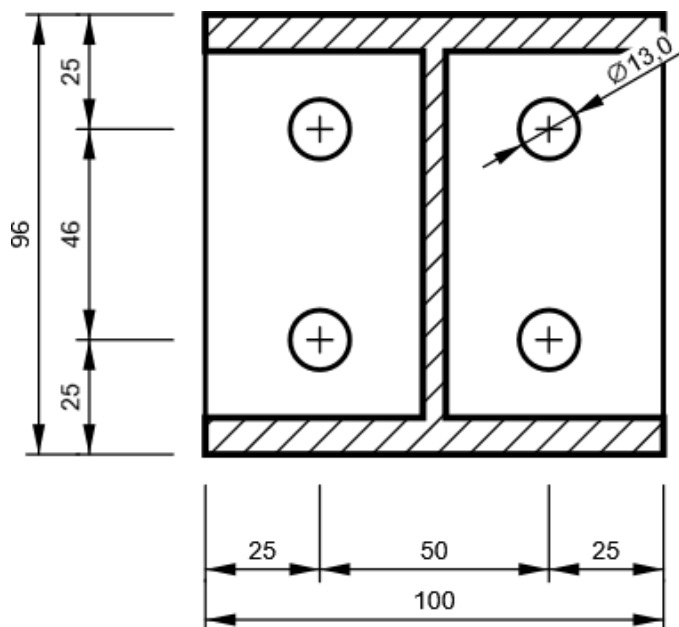
Project no:

Author:



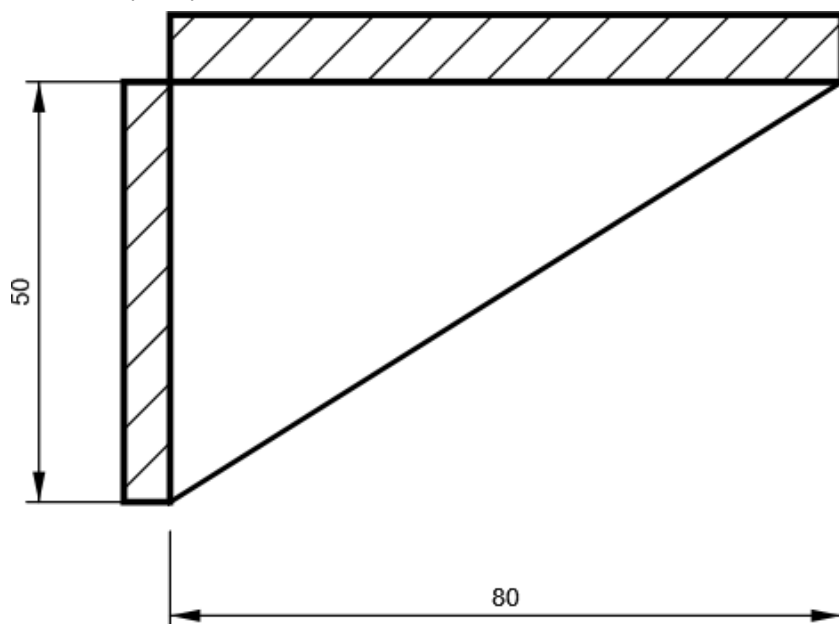
STUB2 - STUB2-EPb

P12,0x96-100 (S 355)



WID2

P8,0x80-50 (S 355)



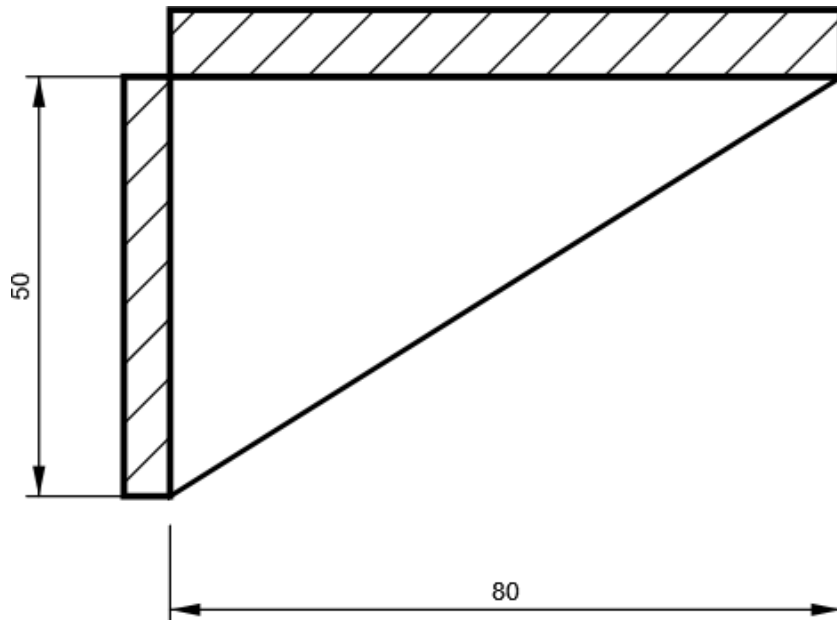
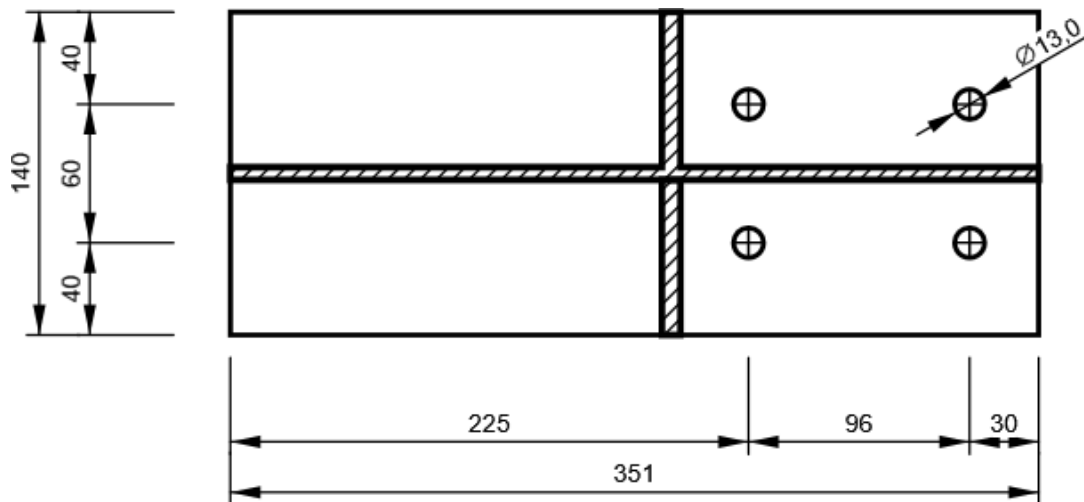


Project no:

Author:

Calculate yesterday's estimates
WID3

P8,0x80-50 (S 355)

**B34, HEA140 - Bottom flange 1:****Code settings**

Item	Value	Unit	Reference
Safety factor γ_{M0}	1,00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1,00	-	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



Project no:

Author:



Item	Value	Unit	Reference
Joint coefficient β_j	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



Project: Podest, jeklena nadstrešnica s podestom

Project no:

Author:



Project data

Project name Podest jeklena nadstrešnica s podestom
 Project number
 Author
 Description
 Date 2/26/2026
 Code EN

Material

Steel S 355, S 355

Project item Con N43

Name Con N43
 Description
 Analysis Stress, strain/ loads in equilibrium

Design

Members

Geometry

Name	Cross-section	β - Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
B46	1 - HEA100	-90,0	0,0	0,0	0	0	0
B50	2 - HEA100	-180,0	0,0	0,0	0	0	0
B55	2 - HEA100	-180,0	0,0	0,0	0	0	0

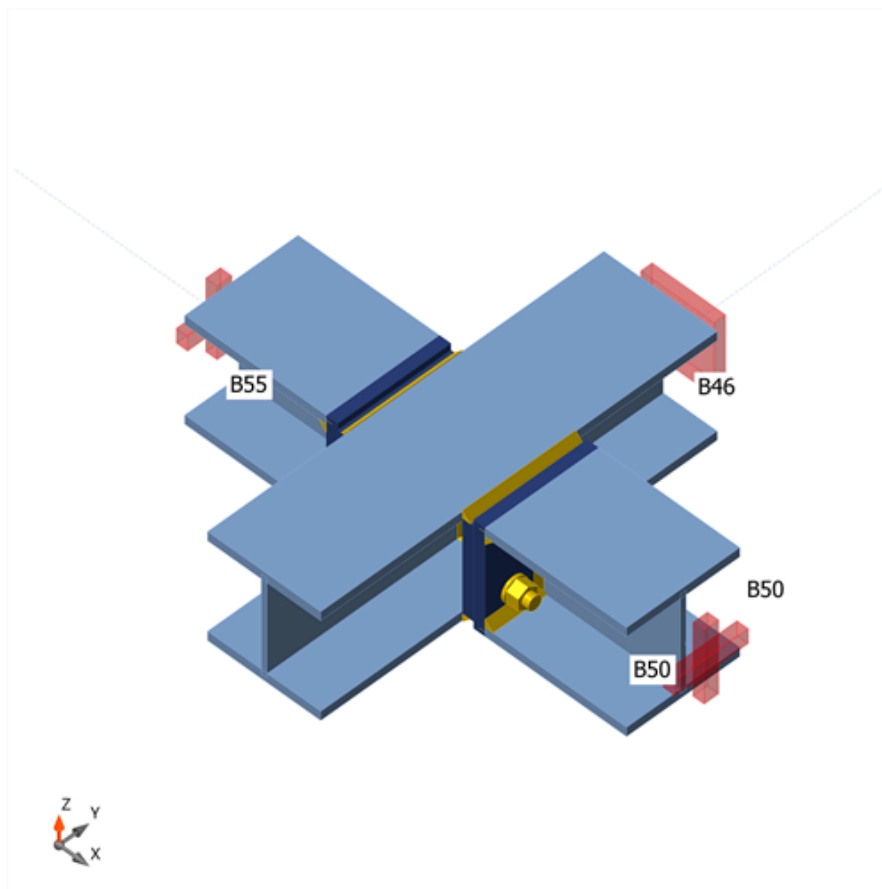
Supports and forces

Name	Support	Forces in	X [mm]
B46 / begin	N-Vy-Vz-Mx-My-Mz	Node	0
B46 / end		Node	0
B50 / begin	Mx-My-Mz	Node	0
B55 / end	Mx-My-Mz	Node	0



Project no:

Author:

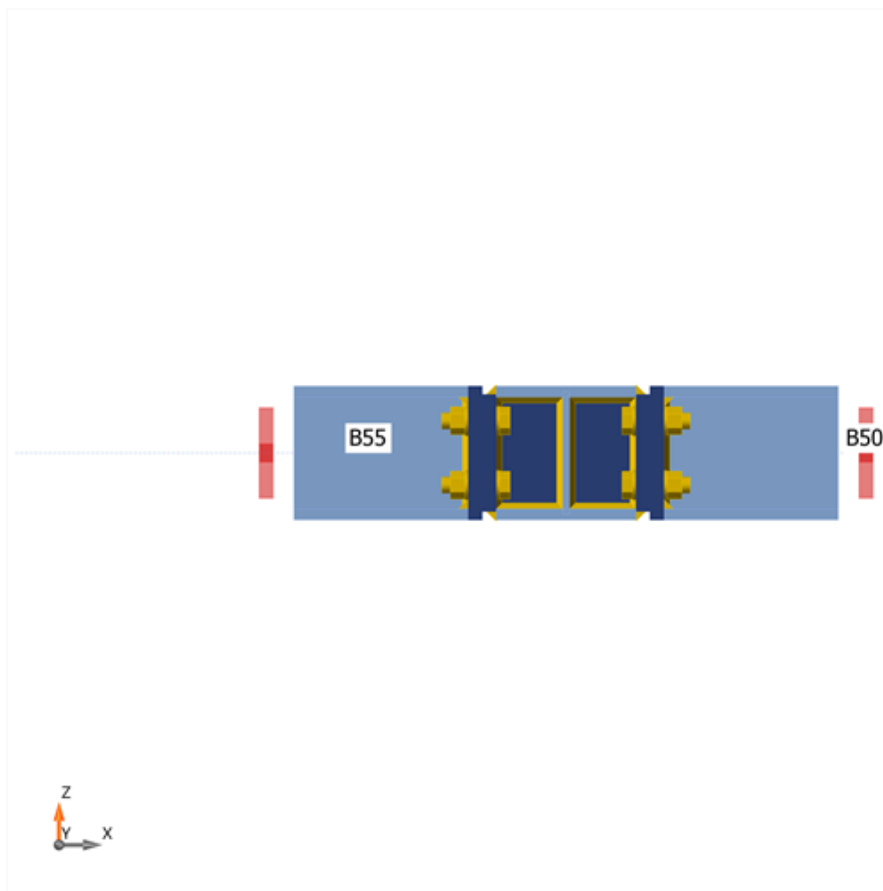


Con N43, Axonometric view



Project no:

Author:

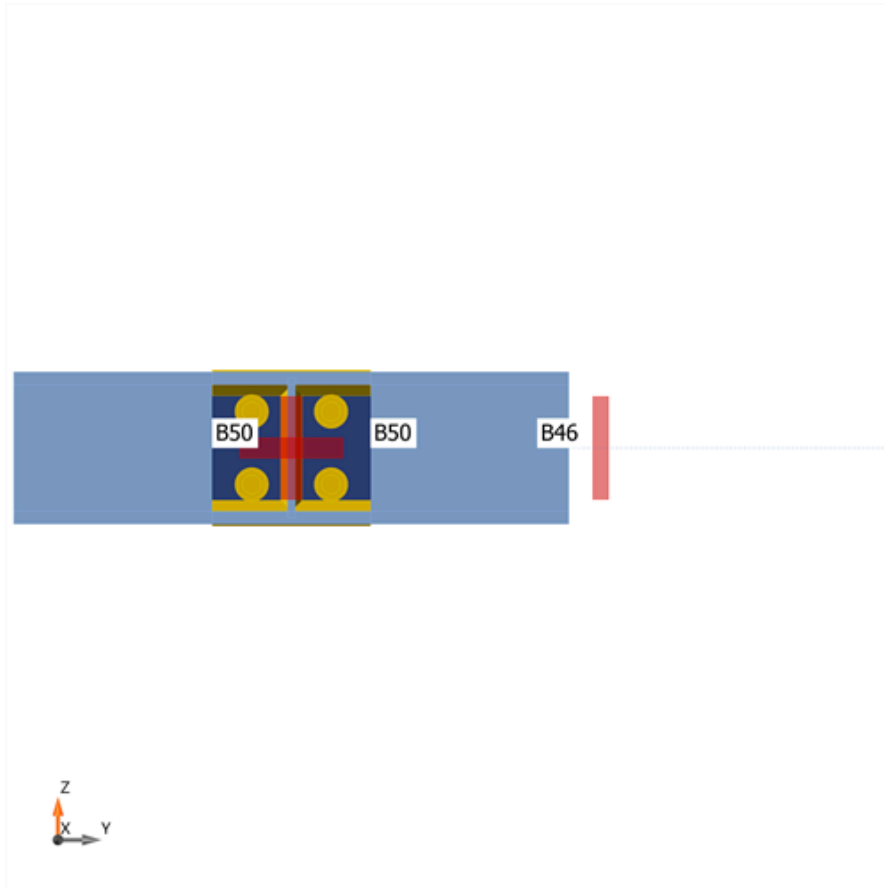


Con N43, Y direction view



Project no:

Author:



Con N43, X direction view

Cross-sections

Name	Material
1 - HEA100	S 355
2 - HEA100	S 355

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 (forces in equilibrium)

Name	Member	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
ULS-Set(7)	B46 / Begin	-1,7	0,0	10,6	0,0	11,1	0,0
	B46 / End	1,7	0,0	10,6	0,0	-11,1	0,0
	B50 / Begin	0,0	0,0	-11,0	0,0	0,0	0,0
	B55 / End	0,0	0,0	-10,3	0,0	0,0	0,0



Project no:

Author:



Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
ULS-Set(7)	0,0	0,0	0,0	0,0	0,0	0,0

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0,0 < 5,0%	OK
Bolts	23,1 < 100%	OK
Welds	21,6 < 100%	OK
Buckling	Not calculated	

Plates

Name	t _p [mm]	Loads	σ _{Ed} [MPa]	ε _{pl} [%]	σ _{c,Ed} [MPa]	Status
B46-bfl 1	8,0	ULS-Set(7)	202,1	0,0	0,0	OK
B46-tfl 1	8,0	ULS-Set(7)	207,0	0,0	0,0	OK
B46-w 1	5,0	ULS-Set(7)	135,7	0,0	0,0	OK
B50-bfl 1	8,0	ULS-Set(7)	42,4	0,0	0,0	OK
B50-tfl 1	8,0	ULS-Set(7)	31,0	0,0	0,0	OK
B50-w 1	5,0	ULS-Set(7)	75,3	0,0	0,0	OK
B55-bfl 1	8,0	ULS-Set(7)	43,0	0,0	0,0	OK
B55-tfl 1	8,0	ULS-Set(7)	30,9	0,0	0,0	OK
B55-w 1	5,0	ULS-Set(7)	73,7	0,0	0,0	OK
SEP1a	10,0	ULS-Set(7)	134,6	0,0	62,1	OK
SEP1b	10,0	ULS-Set(7)	133,9	0,0	33,5	OK
STIFF	5,0	ULS-Set(7)	86,3	0,0	0,0	OK
SEP2a	10,0	ULS-Set(7)	137,9	0,0	62,8	OK
SEP2b	10,0	ULS-Set(7)	136,6	0,0	33,8	OK
STIFF	5,0	ULS-Set(7)	85,6	0,0	0,0	OK

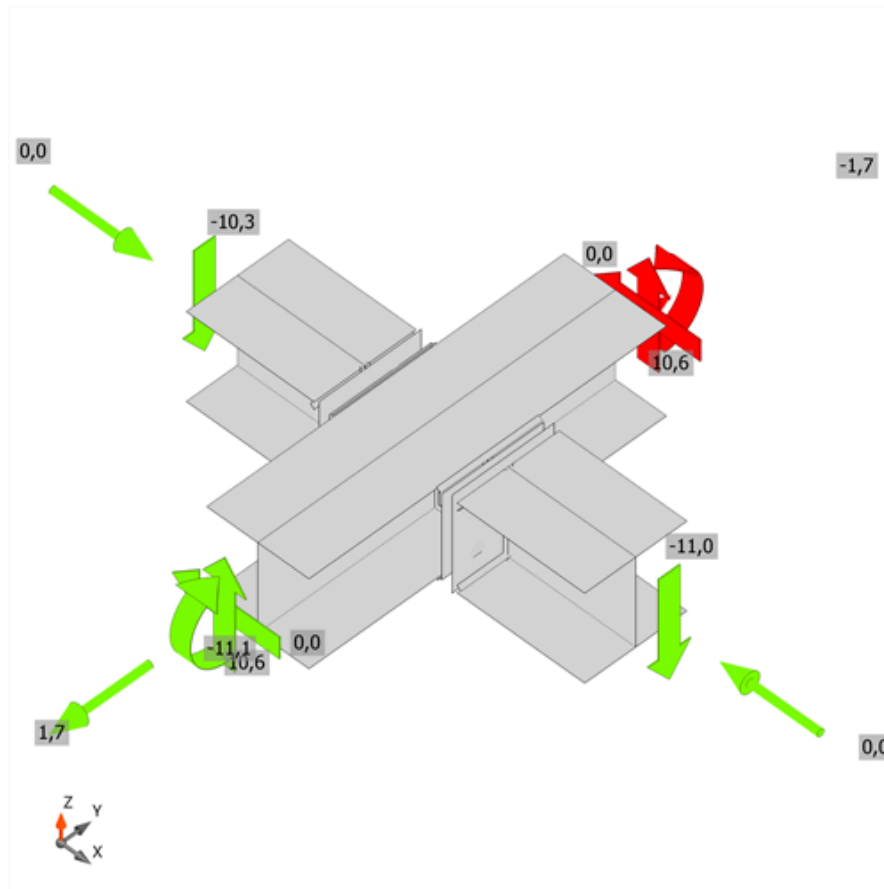
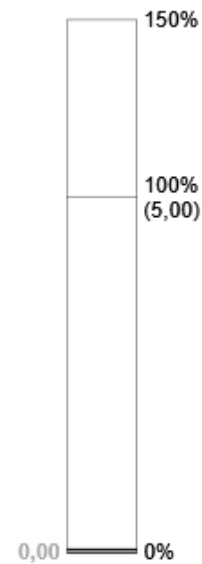
Design data

Material	f _y [MPa]	ε _{lim} [%]
S 355	355,0	5,0



Project no:

Author:

StatiCa®
Calculate yesterday's estimatesStrain check
[%]

Strain check, ULS-Set(7)

Bolts

Shape	Item	Grade	Loads	$F_{t,Ed}$ [kN]	$F_{v,Ed}$ [kN]	$F_{b,Rd}$ [kN]	$U_{t,t}$ [%]	$U_{t,s}$ [%]	$U_{t,ts}$ [%]	Detailing	Status
	B1	M12 8.8 - 1	ULS-Set(7)	7,7	3,5	75,4	16,0	11,0	22,4	OK	OK
	B2	M12 8.8 - 1	ULS-Set(7)	10,9	2,1	75,4	22,5	6,5	22,5	OK	OK
	B3	M12 8.8 - 1	ULS-Set(7)	0,9	3,5	57,3	1,9	10,9	12,2	OK	OK
	B4	M12 8.8 - 1	ULS-Set(7)	1,0	2,1	57,3	2,1	6,4	8,0	OK	OK
	B5	M12 8.8 - 1	ULS-Set(7)	8,1	3,4	75,4	16,7	10,4	22,4	OK	OK
	B6	M12 8.8 - 1	ULS-Set(7)	11,2	1,9	75,4	23,1	5,9	22,4	OK	OK
	B7	M12 8.8 - 1	ULS-Set(7)	1,0	3,3	57,3	2,0	10,3	11,7	OK	OK
	B8	M12 8.8 - 1	ULS-Set(7)	1,1	1,9	57,2	2,2	5,9	7,5	OK	OK

Design data

Grade	$F_{t,Rd}$ [kN]	$B_{p,Rd}$ [kN]	$F_{v,Rd}$ [kN]
M12 8.8 - 1	48,6	140,5	32,4



Project no:

Author:



Welds

Item	Edge	T _w [mm]	L [mm]	Loads	$\sigma_{w,Ed}$ [MPa]	ϵ_{pl} [%]	$\sigma_{\perp}$ [MPa]	$\tau_{\perp}$ [MPa]	$\tau_{\parallel}$ [MPa]	U _t [%]	U _{t,c} [%]	Detailing	Status
SEP1b	B50-bfl 1	▲ 5,0	99	ULS-Set(7)	76,4	0,0	-41,2	-35,2	-11,8	17,5	11,1	OK	OK
SEP1b	B50-tfl 1	▲ 5,0	99	ULS-Set(7)	32,0	0,0	19,6	-14,5	-1,4	7,3	7,0	OK	OK
SEP1b	B50-w 1	▲ 3,0 ▼	87	ULS-Set(7)	85,2	0,0	22,8	26,2	39,5	19,6	11,0	OK	OK
		▲ 3,0 ▼	87	ULS-Set(7)	71,6	0,0	29,3	-25,9	-27,4	16,4	10,1	OK	OK
B46-bfl 1	STIFF	▲ 3,0 ▼	47	ULS-Set(7)	62,1	0,0	5,1	-32,0	15,9	14,3	10,2	OK	OK
		▲ 3,0 ▼	47	ULS-Set(7)	53,3	0,0	-18,1	-19,0	21,9	12,2	9,9	OK	OK
B46-w 1	STIFF	▲ 3,0 ▼	79	ULS-Set(7)	58,0	0,0	27,5	27,4	11,0	13,3	10,2	OK	OK
		▲ 3,0 ▼	79	ULS-Set(7)	57,2	0,0	26,9	-27,0	-11,1	13,1	10,1	OK	OK
B46-tfl 1	STIFF	▲ 3,0 ▼	47	ULS-Set(7)	62,0	0,0	18,7	18,9	-28,4	14,2	11,0	OK	OK
		▲ 3,0 ▼	47	ULS-Set(7)	66,3	0,0	16,6	13,6	34,4	15,2	12,6	OK	OK
SEP1a	STIFF	▲ 3,0 ▼	79	ULS-Set(7)	92,9	0,0	40,3	41,0	25,7	21,3	16,5	OK	OK
		▲ 3,0 ▼	79	ULS-Set(7)	90,1	0,0	14,3	-49,3	-14,6	20,7	15,8	OK	OK
SEP2b	B55-bfl 1	▲ 5,0	99	ULS-Set(7)	77,5	0,0	-41,8	-35,8	11,9	17,8	11,4	OK	OK
SEP2b	B55-tfl 1	▲ 5,0	99	ULS-Set(7)	33,0	0,0	20,2	-15,0	1,2	7,6	6,8	OK	OK
SEP2b	B55-w 1	▲ 3,0 ▼	87	ULS-Set(7)	84,9	0,0	23,7	27,1	-38,5	19,5	11,7	OK	OK
		▲ 3,0 ▼	87	ULS-Set(7)	71,7	0,0	30,1	-26,7	26,4	16,5	11,1	OK	OK
B46-bfl 1	STIFF	▲ 3,0 ▼	47	ULS-Set(7)	50,5	0,0	-17,9	18,4	-20,2	11,6	9,4	OK	OK
		▲ 3,0 ▼	47	ULS-Set(7)	61,8	0,0	4,8	31,5	-16,6	14,2	9,9	OK	OK
B46-w 1	STIFF	▲ 3,0 ▼	79	ULS-Set(7)	56,7	0,0	26,8	27,0	10,1	13,0	9,9	OK	OK
		▲ 3,0 ▼	79	ULS-Set(7)	57,6	0,0	27,5	-27,4	-10,2	13,2	9,9	OK	OK
B46-tfl 1	STIFF	▲ 3,0 ▼	47	ULS-Set(7)	64,6	0,0	16,5	-13,0	-33,7	14,8	12,4	OK	OK
		▲ 3,0 ▼	47	ULS-Set(7)	61,0	0,0	18,8	-18,9	27,7	14,0	10,8	OK	OK
SEP2a	STIFF	▲ 3,0 ▼	79	ULS-Set(7)	90,4	0,0	37,1	36,3	30,8	20,8	15,6	OK	OK
		▲ 3,0 ▼	79	ULS-Set(7)	94,2	0,0	41,1	-41,9	-25,2	21,6	16,4	OK	OK
SEP1a	B46-tfl 1	▲ 5,0	99	ULS-Set(7)	77,2	0,0	14,1	-10,6	42,5	17,7	12,5	OK	OK
SEP1a	B46-bfl 1	▲ 5,0	99	ULS-Set(7)	92,3	0,0	-37,5	-35,5	-33,3	21,2	17,1	OK	OK
SEP2a	B46-tfl 1	▲ 5,0	99	ULS-Set(7)	78,4	0,0	13,5	-9,2	-43,7	18,0	12,9	OK	OK
SEP2a	B46-bfl 1	▲ 5,0	99	ULS-Set(7)	93,3	0,0	-37,8	-34,8	34,8	21,4	17,3	OK	OK

Design data

Material	f _u [MPa]	β _w [-]	σ _{w,Rd} [MPa]	0.9 σ [MPa]
S 355	490,0	0,90	435,6	352,8

Buckling

Buckling analysis was not calculated.



Project no:

Author:

**Bill of material****Manufacturing operations**

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
SEP1	P10,0x100-84 (S 355)		1	Double fillet: 3,0 Fillet: 5,0	343 400	M12 8.8	4
	P10,0x100-96 (S 355)		1				
	P5,0x48-80 (S 355)		1				
SEP2	P10,0x100-84 (S 355)		1	Double fillet: 3,0 Fillet: 5,0	343 400	M12 8.8	4
	P10,0x100-96 (S 355)		1				
	P5,0x47-80 (S 355)		1				

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	800
Double fillet	S 355	3,0	4,2	686



Project no:

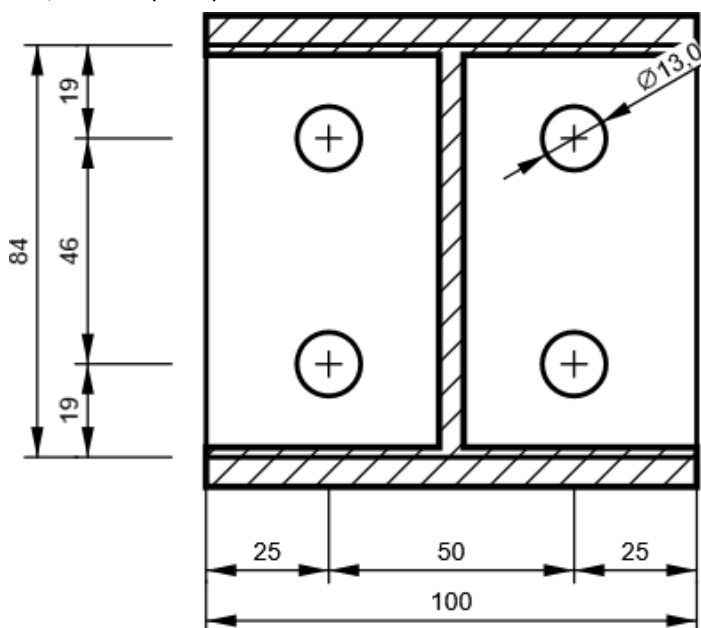
Author:

**Bolts**

Name	Grip length [mm]	Count
M12 8.8	20	8

Drawing**SEP1 - SEP1a**

P10,0x84-100 (S 355)





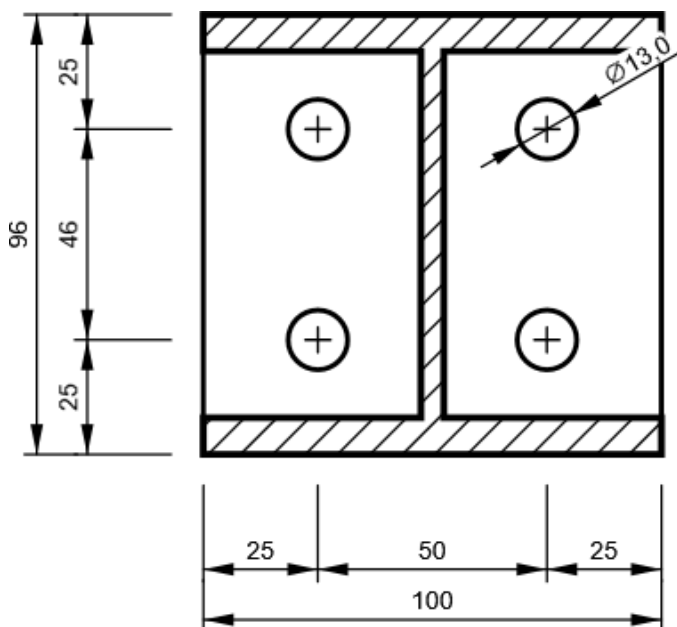
Project no:

Author:



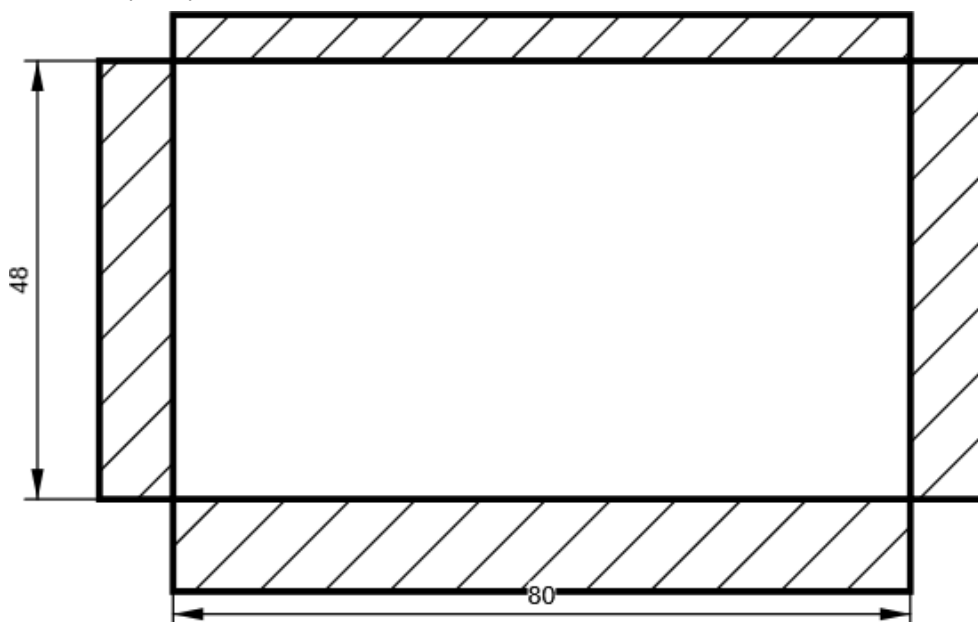
SEP1 - SEP1b

P10,0x96-100 (S 355)



SEP1 - STIFF

P5,0x80-48 (S 355)





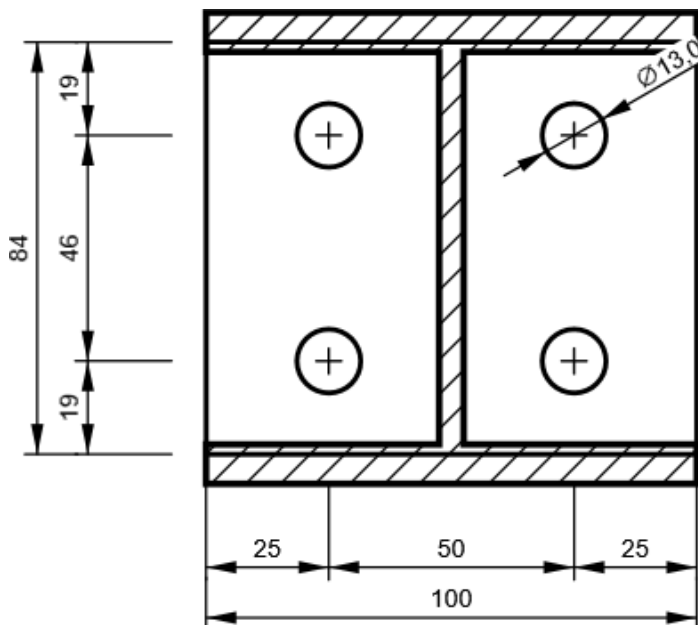
Project no:

Author:



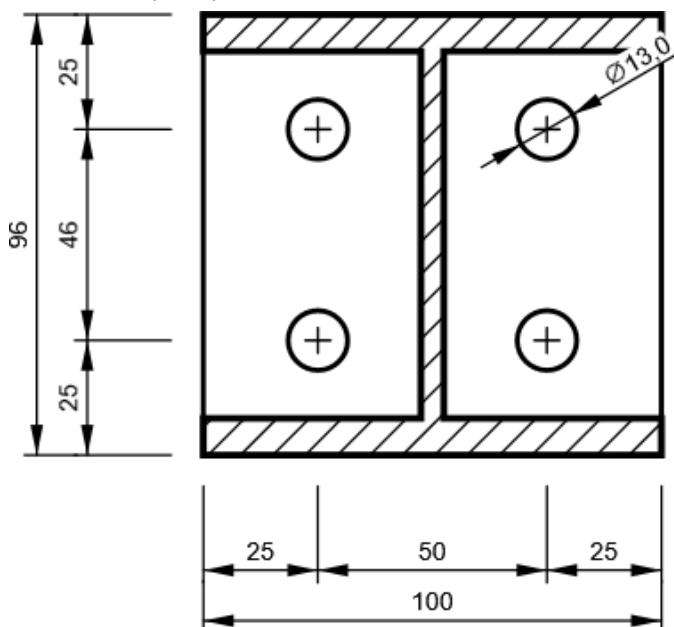
SEP2 - SEP2a

P10,0x84-100 (S 355)



SEP2 - SEP2b

P10,0x96-100 (S 355)



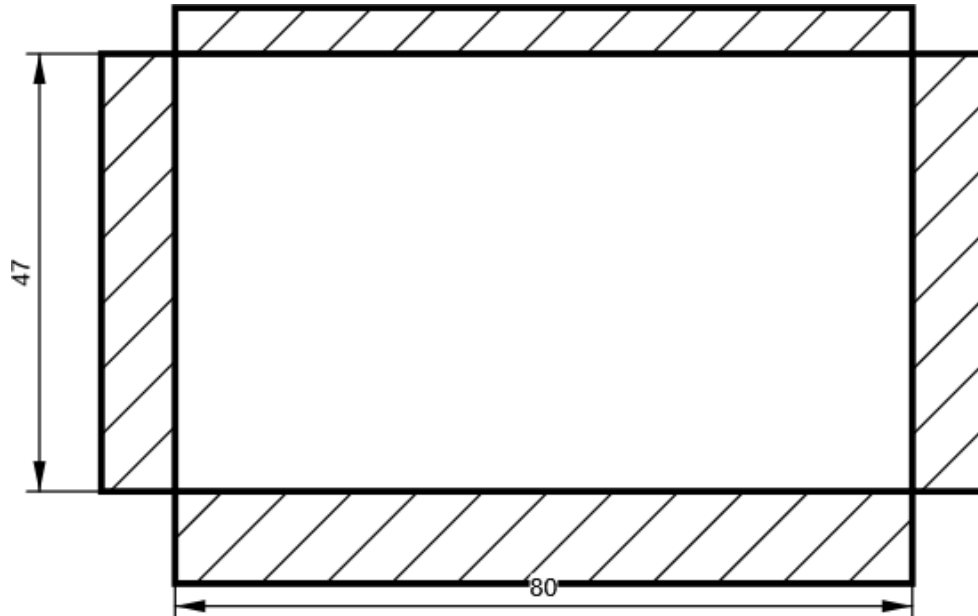


Project no:

Author:

**SEP2 - STIFF**

P5,0x80-47 (S 355)

**Code settings**

Item	Value	Unit	Reference
Safety factor γ_{M0}	1,00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1,00	-	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 β_j	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



Project:

Project no:

Author:



Project data

Project name

Project number

Author

Description

Date 2/25/2026

Code EN

Material

Steel S 355

Concrete C30/37

Project item PTJ 1

Name PTJ 1

Description

Analysis Stress, strain/ loads in equilibrium

Design

Members

Geometry

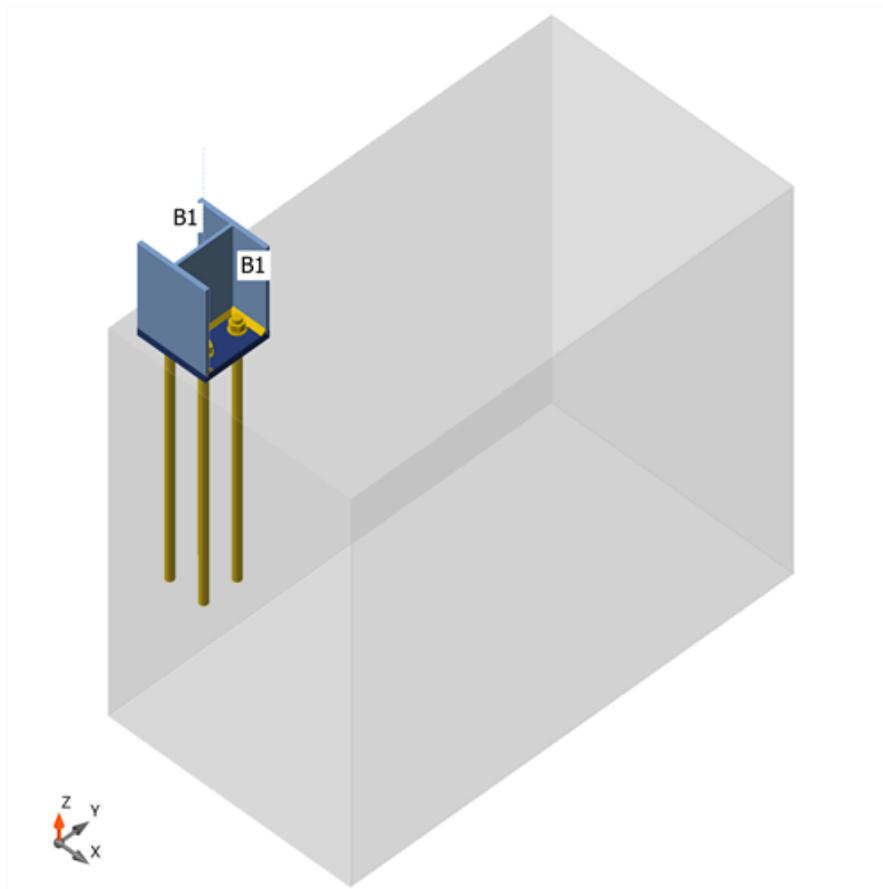
Name	Cross-section	β - Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]
B1	1 - HEA140	0,0	90,0	90,0	0	0	0

Supports and forces

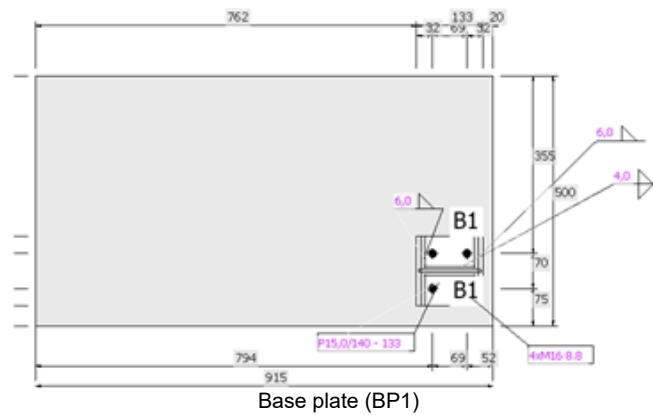
Name	Support	Forces in	X [mm]
B1 / end		Node	0

Project no:

Author:



PTJ 1, Axonometric view



Cross-sections

Name	Material
1 - HEA140	S 355

Anchors

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



Project no:

Author:



Load effects (forces in equilibrium)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
MSN 1	B1 / End	-24,7	0,0	1,3	0,0	0,0	0,0
MSN 2	B1 / End	-28,8	0,3	1,2	0,0	0,0	0,0
MSN P 1	B1 / End	3,0	0,1	2,2	0,0	0,0	0,0
LE4	B1 / End	3,4	-0,1	2,8	0,0	0,0	0,0
LE5	B1 / End	-13,2	2,0	0,3	0,0	0,0	0,0
LE6	B1 / End	-12,7	-2,0	-0,3	0,0	0,0	0,0
LE7	B1 / End	-19,4	0,2	2,8	0,0	0,0	0,0
LE8	B1 / End	-19,4	-0,2	-2,8	0,0	0,0	0,0

Unbalanced forces

Name	X [kN]	Y [kN]	Z [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
MSN 1	0,0	-1,3	-24,7	0,0	0,0	0,0
MSN 2	-0,3	-1,2	-28,8	0,0	0,0	0,0
MSN P 1	-0,1	-2,2	3,0	0,0	0,0	0,0
LE4	0,1	-2,8	3,4	0,0	0,0	0,0
LE5	-2,0	-0,3	-13,2	0,0	0,0	0,0
LE6	2,0	0,3	-12,7	0,0	0,0	0,0
LE7	-0,2	-2,8	-19,4	0,0	0,0	0,0
LE8	0,2	2,8	-19,4	0,0	0,0	0,0

Foundation block

Item	Value	Unit
CB 1		
Dimensions	500 x 915	mm
Depth	800	mm
Anchor	M16 8.8	
Anchoring length	500	mm
Shear force transfer	Anchors	

Check

Summary

Name	Value	Check status
Analysis	100.0%	OK
Plates	0,0 < 5,0%	OK
Anchors	33,0 < 100%	OK
Welds	6,1 < 100%	OK
Concrete block	10,0 < 100%	OK
Buckling	Not calculated	



Project no:

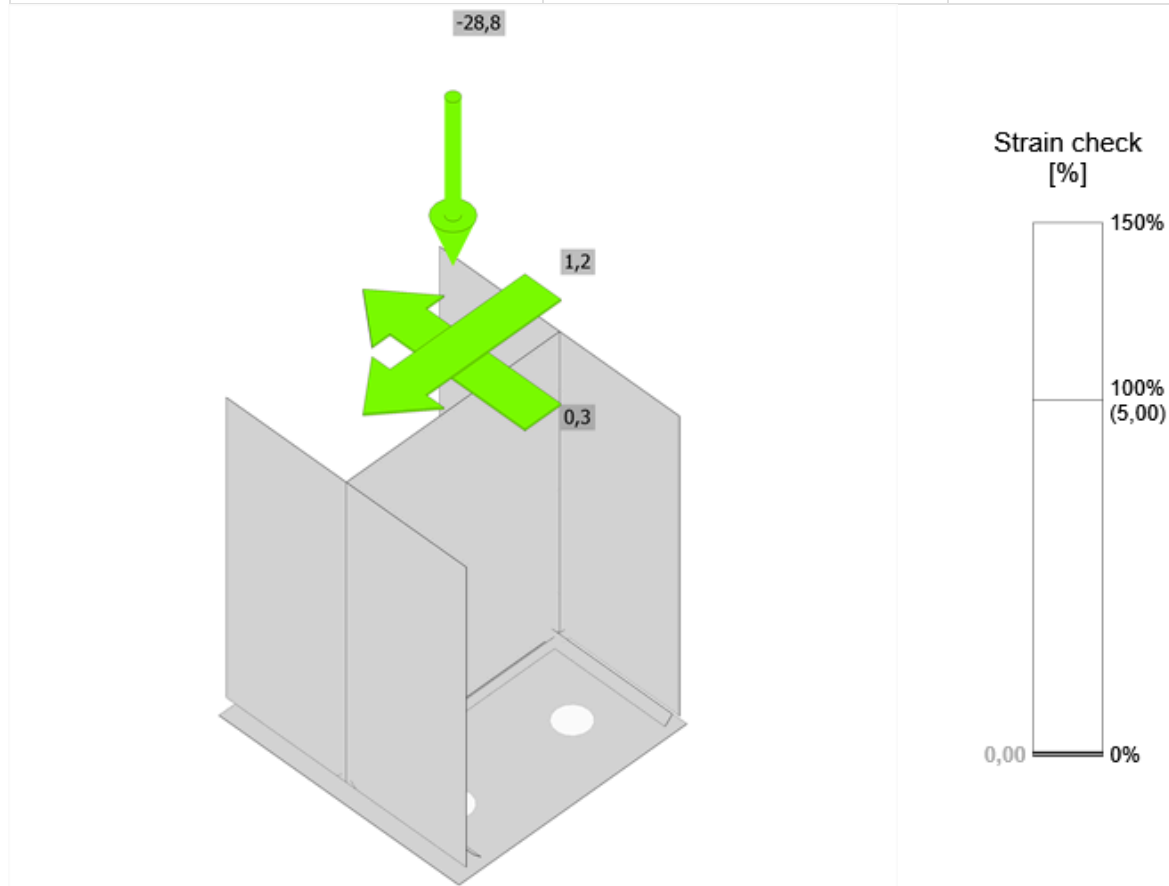
Author:

Plates

Name	t_p [mm]	Loads	σ_{Ed} [MPa]	ϵ_{pl} [%]	$\sigma_{c,Ed}$ [MPa]	Status
B1-bfl 1	8,5	MSN 2	11,3	0,0	0,0	OK
B1-tfl 1	8,5	MSN 2	10,8	0,0	0,0	OK
B1-w 1	5,5	MSN 2	25,2	0,0	0,0	OK
BP1	15,0	MSN 2	23,9	0,0	0,0	OK

Design data

Material	f_y [MPa]	ϵ_{lim} [%]
S 355	355,0	5,0



Strain check, MSN 2



Project no:

Author:



Anchors

Shape	Item	Loads	N _{Ed} [kN]	V _{Ed} [kN]	N _{Rd,c} [kN]	V _{Rd,c} [kN]	V _{Rd,cp} [kN]	U _t [%]	U _s [%]	U _{ts} [%]	Detailing	Status
	A1	LE7	0,0	0,7	0,0	8,5	71,8	0,0	33,0	19,0	OK	OK
	A2	LE7	0,0	0,7	0,0	8,5	71,8	0,0	33,0	19,0	OK	OK
	A3	LE5	0,0	0,5	0,0	8,1	71,8	0,0	24,3	12,0	OK	OK
	A4	LE4	0,8	0,7	29,9	60,0	71,8	11,4	3,9	4,6	OK	OK

Design data

Grade	N _{Rd,s} [kN]	V _{Rd,s} [kN]
M16 8.8 - 1	71,2	50,2

Welds

Item	Edge	T _w [mm]	L [mm]	Loads	σ _{w,Ed} [MPa]	ε _{pl} [%]	σ _⊥ [MPa]	τ _⊥ [MPa]	τ [MPa]	U _t [%]	U _c [%]	Detailing	Status
BP1	B1-bfl 1	▲ 6,0	138	MSN 2	20,8	0,0	-9,6	-9,6	-4,5	4,8	4,8	OK	OK
BP1	B1-tfl 1	▲ 6,0	138	MSN 2	20,6	0,0	-9,5	9,5	4,6	4,7	4,7	OK	OK
BP1	B1-w 1	▲ 4,0 ▲	123	MSN 2	26,5	0,0	-13,2	-13,2	1,5	6,1	6,1	OK	OK
		▲ 4,0 ▲	123	MSN 2	26,4	0,0	-13,2	13,1	-1,6	6,1	6,1	OK	OK

Design data

Material	f _u [MPa]	β _w [-]	σ _{w,Rd} [MPa]	0.9 σ [MPa]
S 355	490,0	0,90	435,6	352,8

Concrete block

Item	Loads	c [mm]	A _{eff} [mm ²]	σ [MPa]	k _j [-]	f _{jd} [MPa]	U _t [%]	Status
CB 1	MSN 2	38	15355	1,9	1,41	18,8	10,0	OK

Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
BP1	P15,0x140-133 (S 355)		1	Fillet: 6,0 Double fillet: 4,0	280 125	M16 8.8	4

Symbol explanation



Project no:

Author:

**Welds**

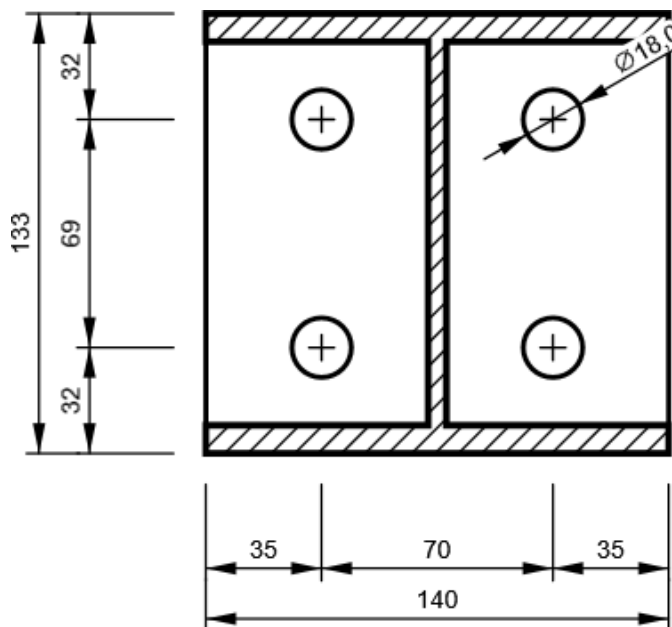
Type	Material	Throat thickness [mm]	Leg size [mm]	Length [mm]
Fillet	S 355	6,0	8,5	280
Double fillet	S 355	4,0	5,7	125

Anchors

Name	Length [mm]	Drill length [mm]	Count
M16 8.8	515	500	4

Drawing**BP1**

P15,0x133-140 (S 355)

**Code settings**

Item	Value	Unit	Reference
Safety factor γ_{M0}	1,00	-	EN 1993-1-1 – 6.1
Safety factor γ_{M1}	1,00	-	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 β_j	0,67	-	EN 1993-1-8 – 6.2.5(7)
Effective area - influence of mesh size	0,10	-	



Project no:

Author:



Item	Value	Unit	Reference
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



Spread footing verification

Input data

Project : Kulturni center čatež

Part : Pasovni temelj nadstreška - vmesni

Date : 3. 10. 2023

Settings

Slovenia - EN 1997

Materials and standards

Concrete structures : EN 1992-1-1 (EC2)

Coefficients EN 1992-1-1 : standard

Settlement

Analysis method : Analysis using oedometric modulus

Restriction of influence zone : by percentage of Sigma, Or

Coeff. of restriction of influence zone : 10,0 [%]

Spread Footing

Verification methodology : according to EN 1997

Analysis for drained conditions : EC 7-1 (EN 1997-1:2003)

Analysis of uplift : Standard

Allowable eccentricity : 0,333

Design approach : 2 - reduction of actions and resistances

Partial factors on actions (A)			
Permanent design situation			
		Unfavourable	Favourable
Permanent actions :	$\gamma_G =$	1,35 [-]	1,00 [-]

Partial factors for resistances (R)			
Permanent design situation			
Partial factor on vertical bearing capacity :	$\gamma_{Rvs} =$	1,40 [-]	
Partial factor on sliding resistance :	$\gamma_{Rhs} =$	1,10 [-]	

Soil parameters

Melj z gruščem

Basic data

Unit weight : $\gamma = 19,50$ [kN/m³]Internal friction angle : $\phi_{ef} = 28,00$ [°]Cohesion : $c_{ef} = 3,00$ [kPa]

Settlement - oedometric modulus

Poisson's ratio : $\nu = 0,30$ [-]Modulus type : input E_{def} Deformation modulus : $E_{def} = 10,00$ [MPa]

Uplift pressure

Uplift calculation : standard

Unit weight of saturated soil : $\gamma_{sat} = 19,50$ [kN/m³]

View

Sample :



Well graded gravel (GW), medium dense

Basic dataUnit weight : $\gamma = 21,00 \text{ [kN/m}^3\text{]}$ Internal friction angle : $\varphi_{ef} = 36,00 \text{ [}^\circ\text{]}$ Cohesion : $c_{ef} = 0,00 \text{ [kPa]}$ Settlement - oedometric modulusPoisson's ratio : $\nu = 0,20 \text{ [-]}$ Modulus type : input E_{oed}

Modulus : constant

Oedometric modulus : $E_{oed} = 355,50 \text{ [MPa]}$ Uplift pressure

Uplift calculation : standard

Unit weight of saturated soil : $\gamma_{sat} = 21,00 \text{ [kN/m}^3\text{]}$ View

Sample :

**Kompaktna podlaga**Basic dataUnit weight : $\gamma = 25,00 \text{ [kN/m}^3\text{]}$ Internal friction angle : $\varphi_{ef} = 30,00 \text{ [}^\circ\text{]}$ Cohesion : $c_{ef} = 100,00 \text{ [kPa]}$ Settlement - oedometric modulusPoisson's ratio : $\nu = 0,30 \text{ [-]}$ Modulus type : input E_{def} Deformation modulus : $E_{def} = 100,00 \text{ [MPa]}$ Uplift pressure

Uplift calculation : standard

Unit weight of saturated soil : $\gamma_{sat} = 25,00 \text{ [kN/m}^3\text{]}$ View

Sample :

**Foundation****Foundation type: eccentric spread footing**Depth from original ground surface $h_z = 0,70 \text{ m}$ Depth of footing bottom $d = 0,70 \text{ m}$ Incl. of finished grade $s_1 = 0,00 \text{ }^\circ$ Incl. of footing bottom $s_2 = 0,00 \text{ }^\circ$ **Overburden**

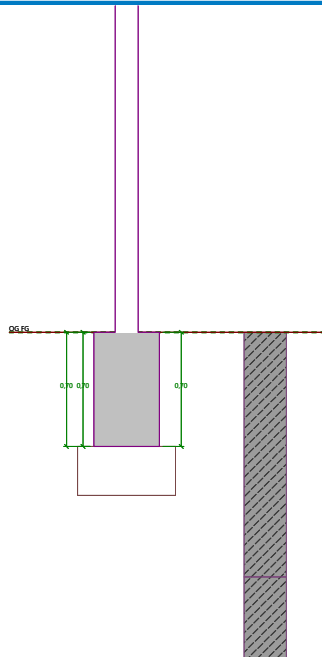
Type: input unit weight

Unit weight of soil above foundation = $19,00 \text{ kN/m}^3$



Name : Prerez temelja

Stage - analysis : 1 - 0

**Geometry of structure****Foundation type: eccentric spread footing**Spread footing length $x = 0,40$ mSpread footing width $y = 2,50$ m

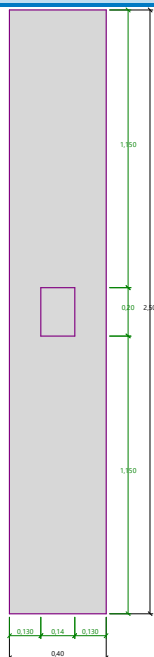
Column shape rectangle

Column width in the direction of x $c_x = 0,14$ mColumn width in the direction of y $c_y = 0,20$ mDist. of column axis from spr.footing edge in direct. of $x = 0,20$ mDist. of column axis from spr.footing edge in direct. of $y = 1,25$ mSpread footing volume $= 0,70$ m³Volume of excavation $= 0,70$ m³Volume of fill $= 0,00$ m³



Name : Tloris temelja

Stage - analysis : 1 - 0

**Sand-gravel bed**

Soil used for the SG pad - Well graded gravel (GW), medium dense

SG pad overhangs foundation $d_{sp} = 0,10 \text{ m}$ Sand-gravel pad depth $h_{sp} = 0,30 \text{ m}$ **Material of structure**Unit weight $\gamma = 25,00 \text{ kN/m}^3$

Analysis of concrete structures carried out according to the standard EN 1992-1-1 (EC2).

Concrete: C 30/37Cylinder compressive strength $f_{ck} = 30,00 \text{ MPa}$ Tensile strength $f_{ctm} = 2,90 \text{ MPa}$ Elasticity modulus $E_{cm} = 33000,00 \text{ MPa}$ **Longitudinal reinforcement: B500B**Yield strength $f_{yk} = 500,00 \text{ MPa}$ **Transverse reinforcement: B500B**Yield strength $f_{yk} = 500,00 \text{ MPa}$ **Geological profile and assigned soils**

Number	Thickness of layer t [m]	Depth z [m]	Assigned soil	Pattern
1	1,50	0,00 .. 1,50	Melj z gručcem	
2	-	1,50 .. ∞	Kompaktna podlaga	

**Load**

Number	Load		Name	Type	N [kN]	M _x [kNm]	M _y [kNm]	H _x [kN]	H _y [kN]
	new	change							
1	Yes		MSN 1	Design	37,19	0,00	0,00	4,98	0,00
2	Yes		MSN 2	Design	25,10	17,69	0,00	0,05	5,81
3	Yes		MSN 3	Design	127,00	0,00	0,00	0,30	0,00
4	Yes		MSN 4	Design	24,07	0,00	0,00	4,97	0,00
5	Yes		MSN 5	Design	14,62	0,00	0,00	3,53	0,00
6	Yes		MSN 6	Design	19,89	33,58	0,00	0,00	8,20

Global settings

Type of analysis : analysis for drained conditions

Settings of the stage of construction

Design situation : permanent

Verification No. 1**Load case verification**

Name	Self w. in favor	e _x [m]	e _y [m]	σ [kPa]	R _d [kPa]	Utilization [%]	Is satisfactory
MSN 6	Yes	0,00	-0,88	84,00	1664,41	5,05	Yes
MSN 6	No	0,00	-0,73	76,91	1621,32	4,74	Yes

Analysis carried out for the load case No. 6. (MSN 6)

Computed weight of spread footing G = 27,71 kN

Computed weight of overburden Z = 0,00 kN

Computation of bearing capacity performed below the sand-gravel bed.

Vertical bearing capacity check

Shape of contact stress : rectangle

Parameters of slip surface below foundation:

Depth of slip surface z_{sp} = 0,92 mLength of slip surface l_{sp} = 2,74 mDesign bearing capacity of found. soil R_d = 1664,41 kPa

Extreme contact stress σ = 84,00 kPa

Bearing capacity in the vertical direction is SATISFACTORY**Verification of load eccentricity**Max. eccentricity in direction of base length e_x = 0,000 < 0,333Max. eccentricity in direction of base width e_y = 0,325 < 0,333Max. overall eccentricity e_t = 0,325 < 0,333**Eccentricity of load is SATISFACTORY****Horizontal bearing capacity check**

Earth resistance: at rest

Design magnitude of earth resistance S_{pd} = 2,82 kNHorizontal bearing capacity R_{dh} = 27,12 kN

Extreme horizontal force H = 8,20 kN

Bearing capacity in the horizontal direction is SATISFACTORY**Bearing capacity of foundation is SATISFACTORY**

**Verification No. 1****Dimensioning No. 1**

Analysis carried out with automatic selection of the most unfavourable load cases.

Verification of longitudinal reinforcement of foundation in the direction of x

$$0,13 \text{ m} \leq 0,35 \text{ m}$$

Maximum offset of the foundation is smaller than $0,50 \cdot$ thickness of foundation. Reinforcement is not required.

Verification of longitudinal reinforcement of foundation in the direction of y

4 prof. 14,0 mm, cover 60,0 mm

Cross-section width = 0,40 m

Cross-section depth = 0,70 m

$$\text{Reinforcement ratio } \rho = 0,24 \% > 0,15 \% = \rho_{\min}$$

$$\text{Position of neutral axis } x = 0,04 \text{ m} < 0,39 \text{ m} = x_{\max}$$

$$\text{Ultimate moment } M_{Rd} = 164,99 \text{ kNm} > 33,59 \text{ kNm} = M_{Ed}$$

Cross-section is SATISFACTORY.

Spread footing for punching shear failure check

Column normal force = 127,00 kN

Maximum resistance at the column perimeter

$$\text{Force transferred into found. soil} = 3,56 \text{ kN}$$

$$\text{Force transferred by shear strength of foundation} = 123,44 \text{ kN}$$

$$\text{Considered column perimeter } u_0 = 0,68 \text{ m}$$

$$\text{Shear stress at the column perimeter } v_{Ed, \max} = 0,29 \text{ MPa}$$

$$\text{Resistance at the column perimeter } v_{Rd, \max} = 4,22 \text{ MPa}$$

Critical section without shear reinforcement

$$\text{Force transferred into found. soil} = 74,63 \text{ kN}$$

$$\text{Force transferred by shear strength of foundation} = 52,37 \text{ kN}$$

$$\text{Distance of section from the column} = 0,63 \text{ m}$$

$$\text{Section perimeter } u = 0,80 \text{ m}$$

$$\text{Shear stress at section } v_{Ed} = 0,10 \text{ MPa}$$

$$\text{Shear resistance of section without shear reinforcement } v_{Rd, c} = 0,75 \text{ MPa}$$

$v_{Ed} < v_{Rd, c} \Rightarrow$ Reinforcement is not required

Spread footing for punching shear is SATISFACTORY



Spread footing verification

Input data

Project : Kulturni center čatež

Part : Pasovni temelj nadstreška - robni

Date : 3. 10. 2023

Settings

Slovenia - EN 1997

Materials and standards

Concrete structures : EN 1992-1-1 (EC2)

Coefficients EN 1992-1-1 : standard

Settlement

Analysis method : Analysis using oedometric modulus

Restriction of influence zone : by percentage of Sigma, Or

Coeff. of restriction of influence zone : 10,0 [%]

Spread Footing

Verification methodology : according to EN 1997

Analysis for drained conditions : EC 7-1 (EN 1997-1:2003)

Analysis of uplift : Standard

Allowable eccentricity : 0,333

Design approach : 2 - reduction of actions and resistances

Partial factors on actions (A)			
Permanent design situation			
		Unfavourable	Favourable
Permanent actions :	$\gamma_G =$	1,35 [-]	1,00 [-]

Partial factors for resistances (R)			
Permanent design situation			
Partial factor on vertical bearing capacity :	$\gamma_{Rvs} =$	1,40 [-]	
Partial factor on sliding resistance :	$\gamma_{Rhs} =$	1,10 [-]	

Soil parameters

Melj z gruščem

Basic data

Unit weight : $\gamma = 19,50 \text{ [kN/m}^3\text{]}$ Internal friction angle : $\phi_{ef} = 28,00 \text{ [}^\circ\text{]}$ Cohesion : $c_{ef} = 3,00 \text{ [kPa]}$

Settlement - oedometric modulus

Poisson's ratio : $\nu = 0,30 \text{ [-]}$ Modulus type : input E_{def} Deformation modulus : $E_{def} = 10,00 \text{ [MPa]}$

Uplift pressure

Uplift calculation : standard

Unit weight of saturated soil : $\gamma_{sat} = 19,50 \text{ [kN/m}^3\text{]}$

View

Sample :



Well graded gravel (GW), medium dense

Basic dataUnit weight : $\gamma = 21,00 \text{ [kN/m}^3\text{]}$ Internal friction angle : $\varphi_{\text{ef}} = 36,00 \text{ [}^\circ\text{]}$ Cohesion : $c_{\text{ef}} = 0,00 \text{ [kPa]}$ Settlement - oedometric modulusPoisson's ratio : $\nu = 0,20 \text{ [-]}$ Modulus type : input E_{oed}

Modulus : constant

Oedometric modulus : $E_{\text{oed}} = 355,50 \text{ [MPa]}$ Uplift pressure

Uplift calculation : standard

Unit weight of saturated soil : $\gamma_{\text{sat}} = 21,00 \text{ [kN/m}^3\text{]}$ View

Sample :

**Kompaktna podlaga**Basic dataUnit weight : $\gamma = 25,00 \text{ [kN/m}^3\text{]}$ Internal friction angle : $\varphi_{\text{ef}} = 30,00 \text{ [}^\circ\text{]}$ Cohesion : $c_{\text{ef}} = 100,00 \text{ [kPa]}$ Settlement - oedometric modulusPoisson's ratio : $\nu = 0,30 \text{ [-]}$ Modulus type : input E_{def} Deformation modulus : $E_{\text{def}} = 100,00 \text{ [MPa]}$ Uplift pressure

Uplift calculation : standard

Unit weight of saturated soil : $\gamma_{\text{sat}} = 25,00 \text{ [kN/m}^3\text{]}$ View

Sample :

**Foundation****Foundation type: eccentric spread footing**Depth from original ground surface $h_z = 0,70 \text{ m}$ Depth of footing bottom $d = 0,70 \text{ m}$ Incl. of finished grade $s_1 = 0,00 \text{ }^\circ$ Incl. of footing bottom $s_2 = 0,00 \text{ }^\circ$ **Overburden**

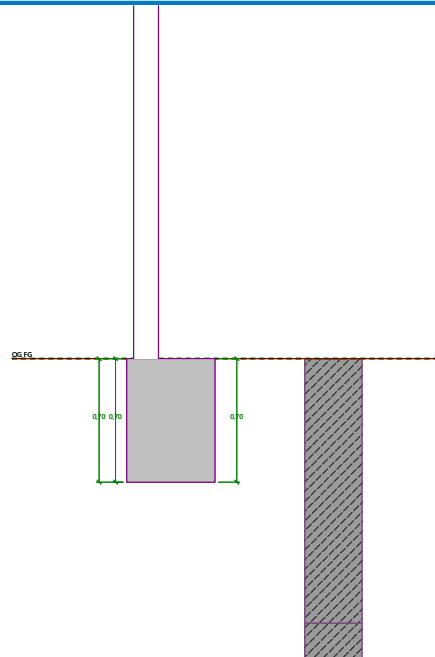
Type: input unit weight

Unit weight of soil above foundation = $19,00 \text{ kN/m}^3$



Name : Prerez temelja

Stage - analysis : 1 - 0

**Geometry of structure****Foundation type: eccentric spread footing**Spread footing length $x = 0,50$ mSpread footing width $y = 2,55$ m

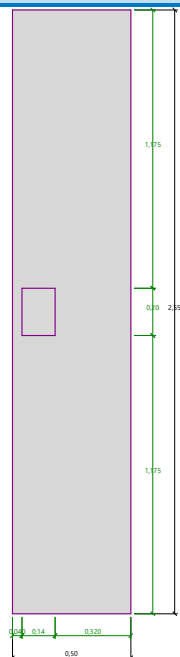
Column shape rectangle

Column width in the direction of x $c_x = 0,14$ mColumn width in the direction of y $c_y = 0,20$ mDist. of column axis from spr.footing edge in direct. of $x = 0,11$ mDist. of column axis from spr.footing edge in direct. of $y = 1,28$ mSpread footing volume $= 0,89$ m³Volume of excavation $= 0,89$ m³Volume of fill $= 0,00$ m³



Name : Tloris temelja

Stage - analysis : 1 - 0

**Material of structure**Unit weight $\gamma = 25,00 \text{ kN/m}^3$

Analysis of concrete structures carried out according to the standard EN 1992-1-1 (EC2).

Concrete: C 30/37

Cylinder compressive strength

 $f_{ck} = 30,00 \text{ MPa}$

Tensile strength

 $f_{ctm} = 2,90 \text{ MPa}$

Elasticity modulus

 $E_{cm} = 33000,00 \text{ MPa}$ **Longitudinal reinforcement: B500B**

Yield strength

 $f_{yk} = 500,00 \text{ MPa}$ **Transverse reinforcement: B500B**

Yield strength

 $f_{yk} = 500,00 \text{ MPa}$ **Geological profile and assigned soils**

Number	Thickness of layer t [m]	Depth z [m]	Assigned soil	Pattern
1	1,50	0,00 .. 1,50	Melj z gruščem	
2	-	1,50 .. ∞	Kompaktna podlaga	

Load

Number	Load		Name	Type	N [kN]	M_x [kNm]	M_y [kNm]	H_x [kN]	H_y [kN]
	new	change							
1	Yes		MSN 1	Design	25,97	0,00	0,00	-3,91	0,00
2	Yes		MSN 2	Design	14,03	-24,77	0,00	-0,09	-6,00
3	Yes		MSN 3	Design	57,60	0,00	0,00	-0,50	0,00

**Global settings**

Type of analysis : analysis for drained conditions

Settings of the stage of construction

Design situation : permanent

Verification No. 1**Load case verification**

Name	Self w. in favor	e_x [m]	e_y [m]	σ [kPa]	R_d [kPa]	Utilization [%]	Is satisfactory
MSN 1	Yes	-0,13	0,00	80,22	196,53	40,82	Yes
MSN 1	No	-0,11	0,00	80,64	205,40	39,26	Yes
MSN 2	Yes	-0,06	0,80	97,89	213,38	45,88	Yes
MSN 2	No	-0,05	0,66	87,40	220,89	39,57	Yes
MSN 3	Yes	-0,11	0,00	108,28	235,13	46,05	Yes
MSN 3	No	-0,10	0,00	111,63	237,83	46,94	Yes

Analysis carried out with automatic selection of the most unfavourable load cases.

Computed weight of spread footing $G = 30,12$ kNComputed weight of overburden $Z = 0,00$ kN**Vertical bearing capacity check**

Shape of contact stress : rectangle

Most unfavorable load case No. 3. (MSN 3)

Parameters of slip surface below foundation:

Depth of slip surface $z_{sp} = 0,74$ mLength of slip surface $l_{sp} = 2,17$ mDesign bearing capacity of found. soil $R_d = 237,83$ kPaExtreme contact stress $\sigma = 111,63$ kPa**Bearing capacity in the vertical direction is SATISFACTORY****Verification of load eccentricity**Max. eccentricity in direction of base length $e_x = 0,264 < 0,333$ Max. eccentricity in direction of base width $e_y = 0,313 < 0,333$ Max. overall eccentricity $e_t = 0,332 < 0,333$ **Eccentricity of load is SATISFACTORY****Horizontal bearing capacity check**

Most unfavorable load case No. 2. (MSN 2)

Earth resistance: at rest

Design magnitude of earth resistance $S_{pd} = 1,27$ kNHorizontal bearing capacity $R_{dh} = 19,73$ kNExtreme horizontal force $H = 6,00$ kN**Bearing capacity in the horizontal direction is SATISFACTORY****Bearing capacity of foundation is SATISFACTORY****Verification No. 1****Dimensioning No. 1**

Analysis carried out with automatic selection of the most unfavourable load cases.

**Verification of longitudinal reinforcement of foundation in the direction of x**

$$0,32 \text{ m} \leq 0,35 \text{ m}$$

Maximum offset of the foundation is smaller than $0,50 \cdot$ thickness of foundation. Reinforcement is not required.

Verification of longitudinal reinforcement of foundation in the direction of y

4 prof. 14,0 mm, cover 60,0 mm

Cross-section width = 0,50 m

Cross-section depth = 0,70 m

$$\text{Reinforcement ratio } \rho = 0,19 \% > 0,15 \% = \rho_{\min}$$

$$\text{Position of neutral axis } x = 0,03 \text{ m} < 0,39 \text{ m} = x_{\max}$$

$$\text{Ultimate moment } M_{Rd} = 165,88 \text{ kNm} > 15,59 \text{ kNm} = M_{Ed}$$

Cross-section is SATISFACTORY.

Spread footing for punching shear failure check

Column normal force = 14,03 kN

Maximum resistance at the column perimeter

$$\text{Force transferred into found. soil} = 0,31 \text{ kN}$$

$$\text{Force transferred by shear strength of foundation} = 13,72 \text{ kN}$$

$$\text{Considered column perimeter } u_0 = 0,68 \text{ m}$$

$$\text{Shear stress at the column perimeter } v_{Ed, \max} = 0,32 \text{ MPa}$$

$$\text{Resistance at the column perimeter } v_{Rd, \max} = 4,22 \text{ MPa}$$

Critical section without shear reinforcement

$$\text{Force transferred into found. soil} = 8,14 \text{ kN}$$

$$\text{Force transferred by shear strength of foundation} = 5,89 \text{ kN}$$

$$\text{Distance of section from the column} = 0,64 \text{ m}$$

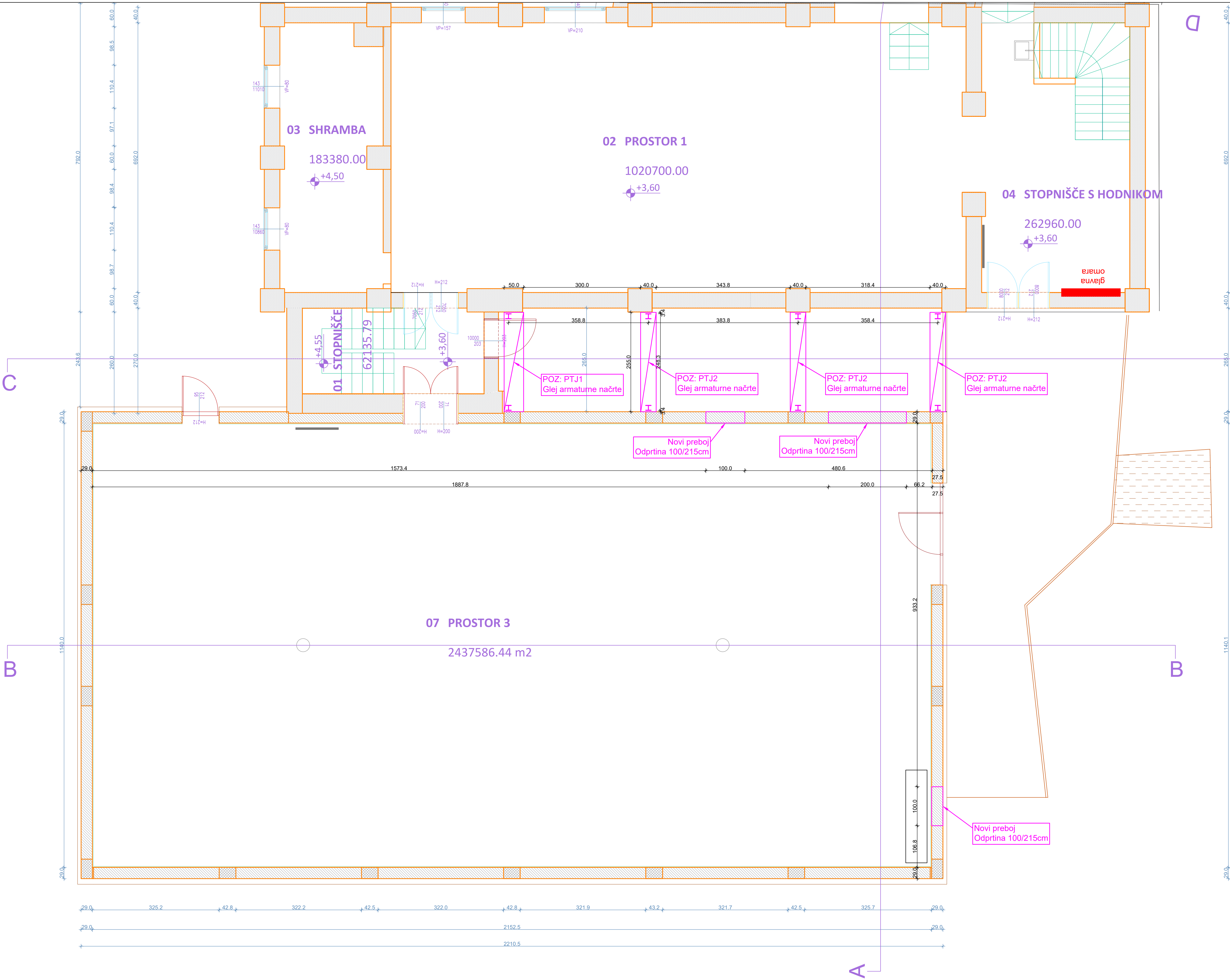
$$\text{Section perimeter } u = 1,00 \text{ m}$$

$$\text{Shear stress at section } v_{Ed} = 0,04 \text{ MPa}$$

$$\text{Shear resistance of section without shear reinforcement } v_{Rd, c} = 0,75 \text{ MPa}$$

$v_{Ed} < v_{Rd, c} \Rightarrow$ Reinforcement is not required

Spread footing for punching shear is SATISFACTORY

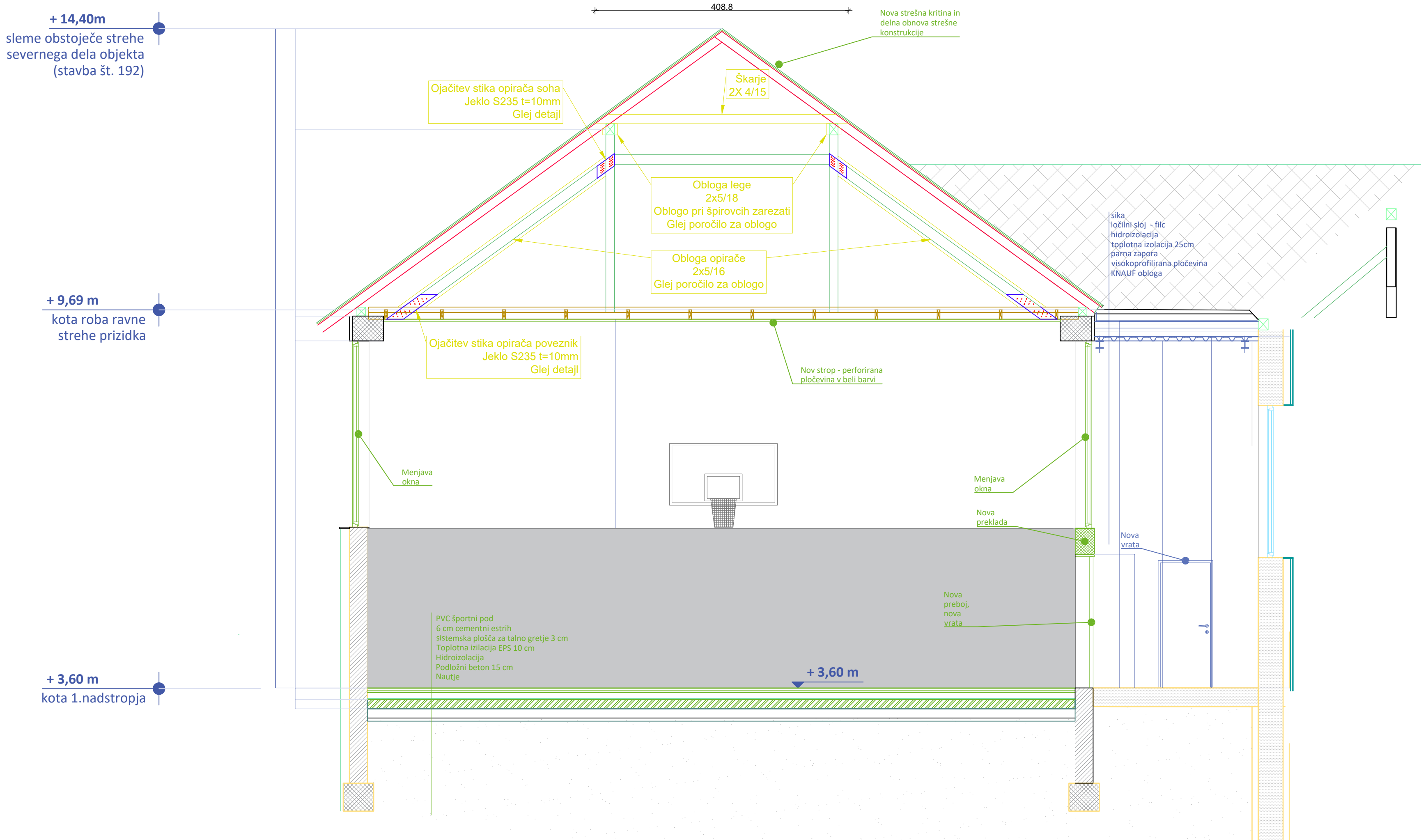
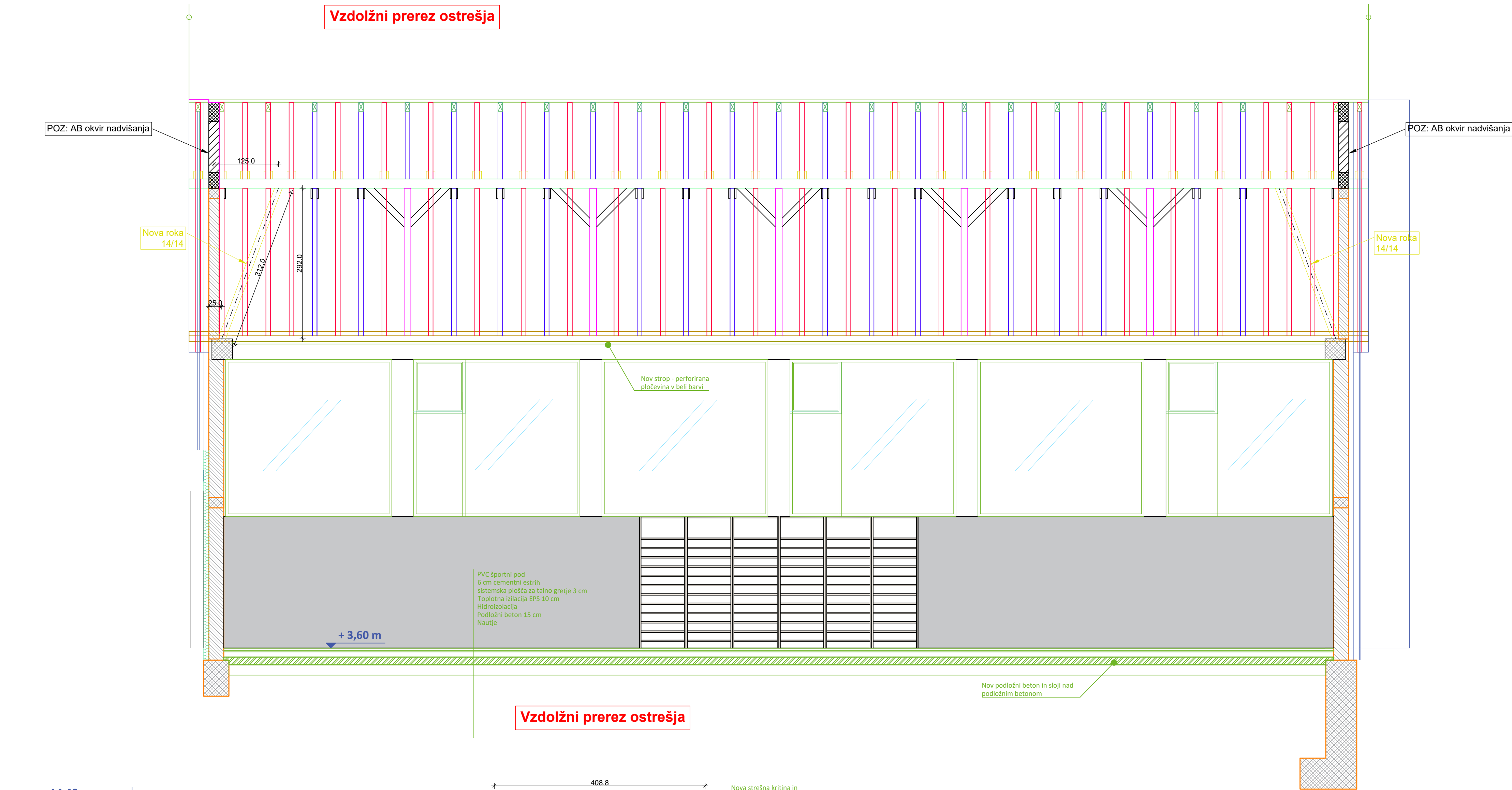


Pozicija: Pozicijski načrt, izvedba prebojev pritličje in pozicija pasovnih temeljev

Komentar: Glej detajli izvedbe prebojev!

SPREMEMBA		OPIS SPREMEMBE		DATUM	
Marko Markoja projektor in strokovni svetovalec		MARKO MARKOJA s.p. Projekiranje in tehnično svetovanje Prešernova 8, 3320 VELENJE		NAROČNIK / INVESTITOR OBČINA TREBNJE Goliev trg 5 8210 Trebnje	
OBJEKT / LOKACIJA / GRADNJA Večnamenski center Čatež		NASLOV RISBE / VSEBINA 2.1.NAČRT S PODROČJA GRADBENIŠTVA Pozicijski načrt Pozicijski načrt vgradnje preklad in pasovnih temeljev			
Rekonstrukcija, sprememba namembnosti					
NAZIV		IME		ID. ŠT.	PODPIS
VODJA PROJEKTA		Ana Štibelj, univ.dipl.inž.arh.		PA PPN ZAPS 0966	
POOBlašČeni inženir		MARKO MARKOJA, univ.dipl.inž.grad.		IZS G - 3082	
SODELAVCI		Vid Markota, mag. inž. grad.			
ŠT. PROJEKTA		ŠT. NAČRTA		VRSTA NAČRTA	DATUM
14/2025		13/2026		PZI	APRIL 2026
					MERILO
					1:50
					ŠT. LISTA
					P01

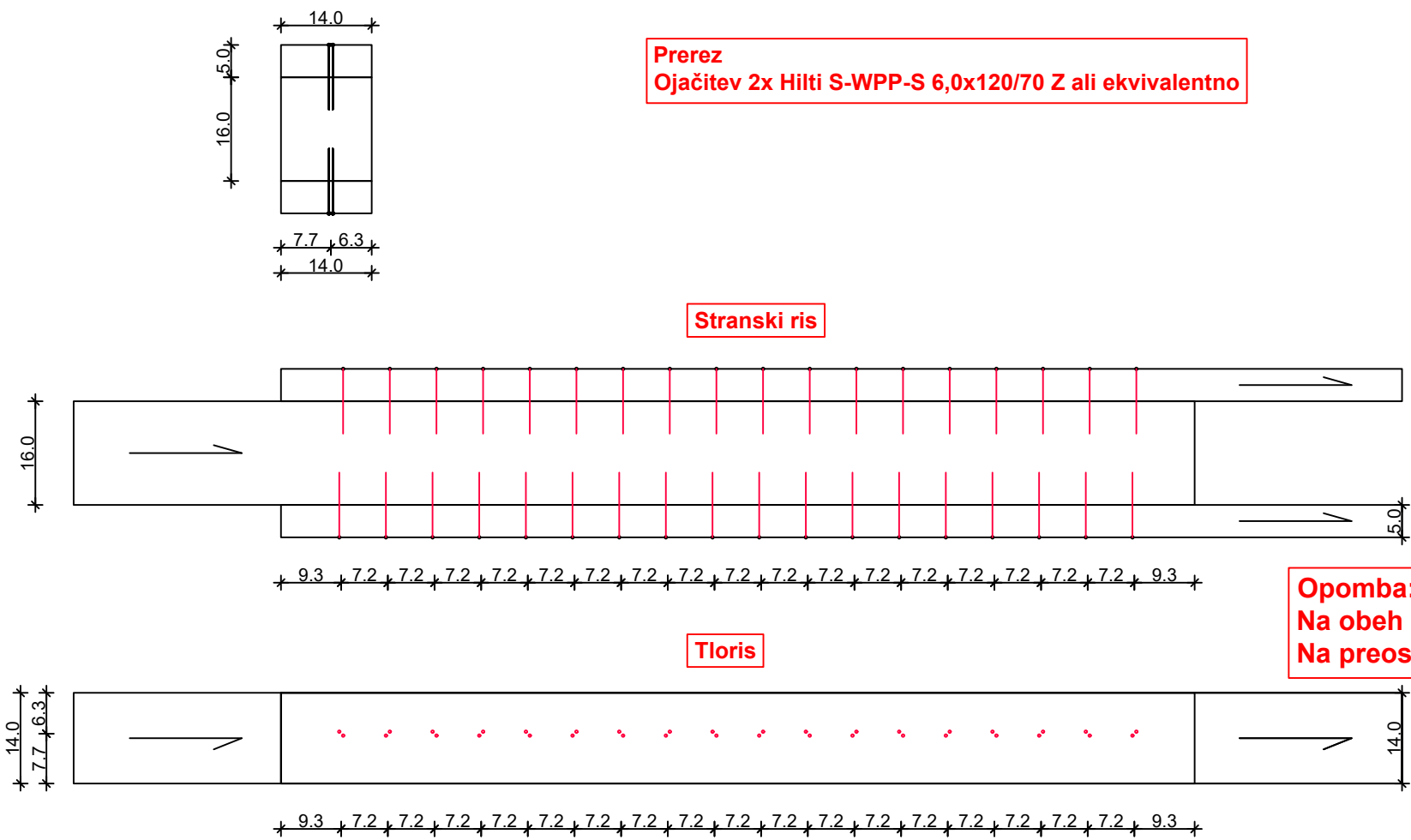




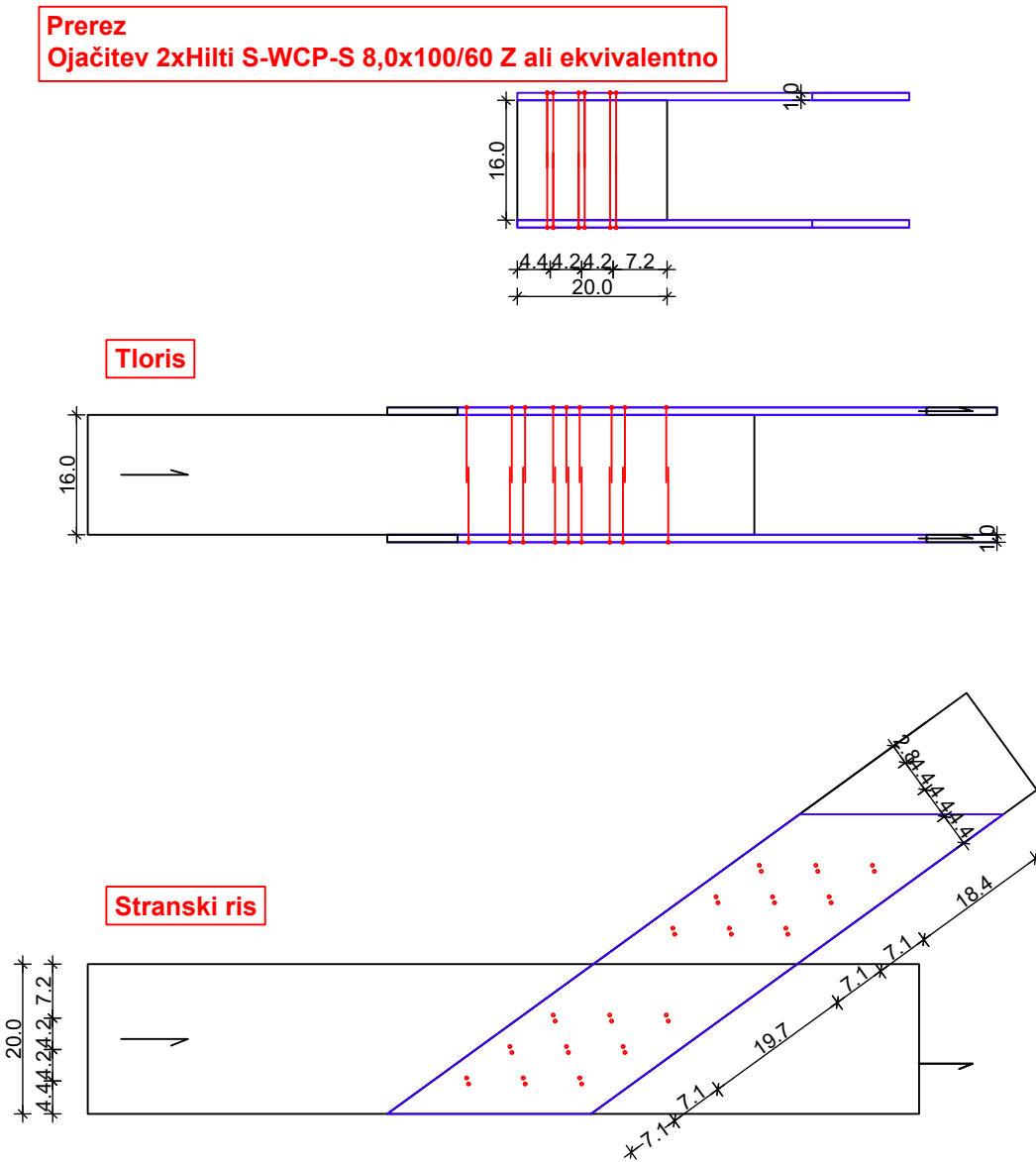
Pozicija: Pozicijski načrt, ostrešje vgradnja novih elementov - vzdolžni in prečni prerez.
Komentar: Za vgradnjo obloge lege glej statično poročilo
Za nadvišanje glej armaturni načrt

SPREMEMBA		OPIS SPREMEMBE		DATUM			
 Marko Markoja arhitektura in inženiring		MARKO MARKOJA s.p. Projekiranje in tehnično svetovanje Prešernova 8, 3320 VELENJE		NAROČNIK / INVESTITOR OBČINA TREBNJE Goliev trg 5 8210 Trebnje			
OBJEKT / LOKACIJA / GRADNJA		NASLOV RISBE / VSEBINA					
Večnamenski center Čatež		2.1 NAČRT S PODROČJA GRADBENIŠTVA					
Rekonstrukcija, sprememba namembnosti		Pozicijski načrt					
		Pozicijski načrt ostrešja - Vzdolžni in prečni prerez					
NAZIV		IME		ID. ŠT.	PODPIS		
VODJA PROJEKTA		Ana Štibelj, univ.dipl.inž.arh.		PA PPN ZAPS 0906			
POOBLAŠČENI INŽENIR		MARKO MARKOJA, univ.dipl.inž.grad.		IZS G - 3082			
SODELAVCI		Vid Markota, mag. inž. grad.					
ŠT. PROJEKTA		ŠT. NAČRTA		VRSTA NAČRTA	DATUM	MERILO	ŠT. LISTA
14/2025		13/2026		PZI	APRIL 2026	1:50	P04

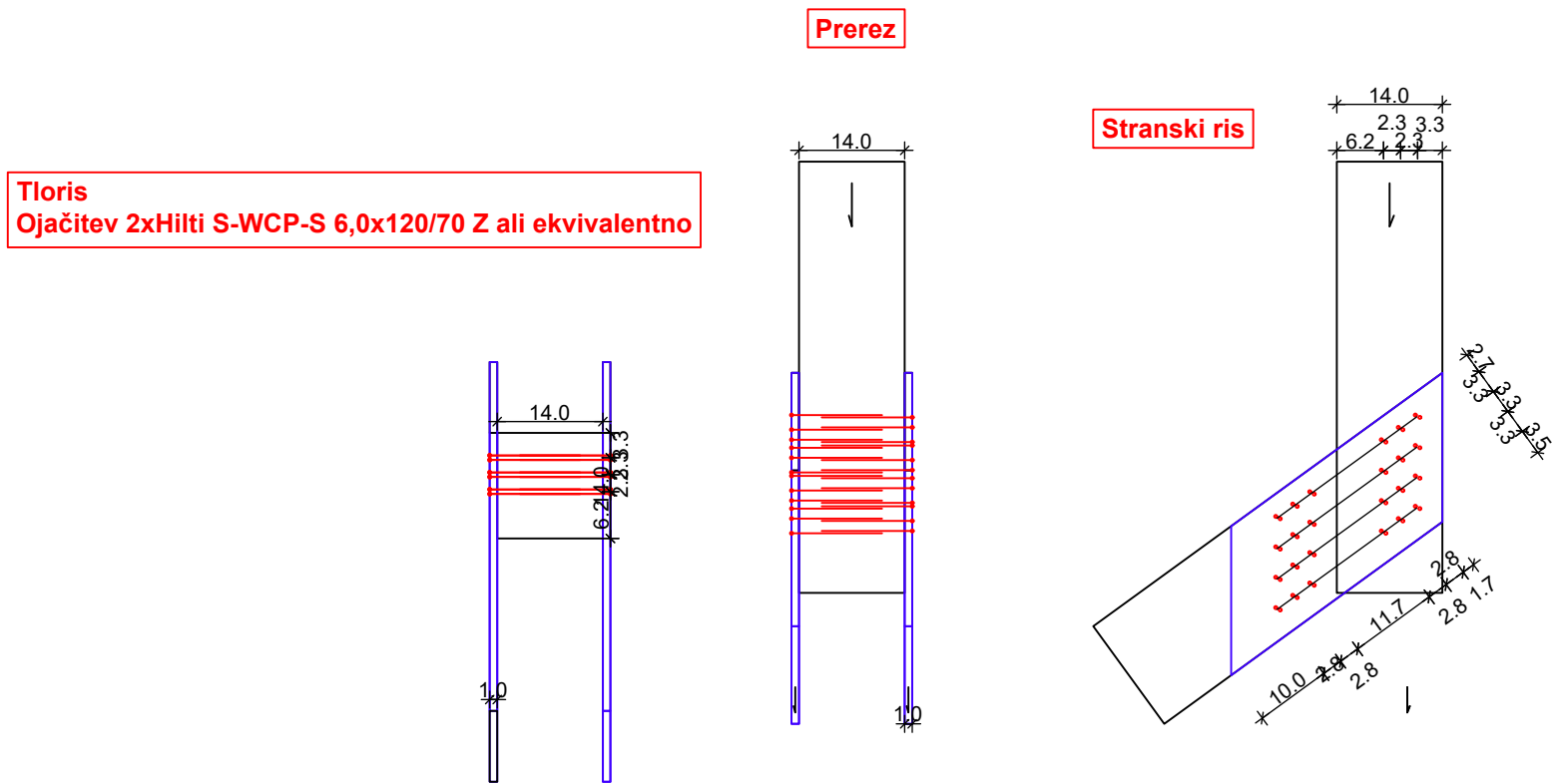
Detajl ojačitev opirače



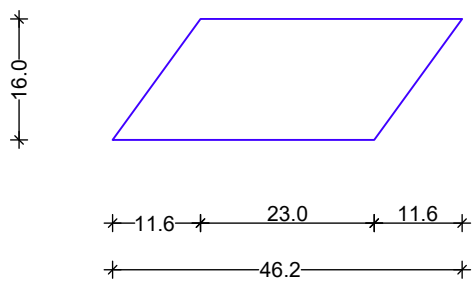
Detajl stik opirača poveznik



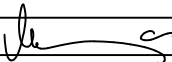
Detajl stik soha opirača

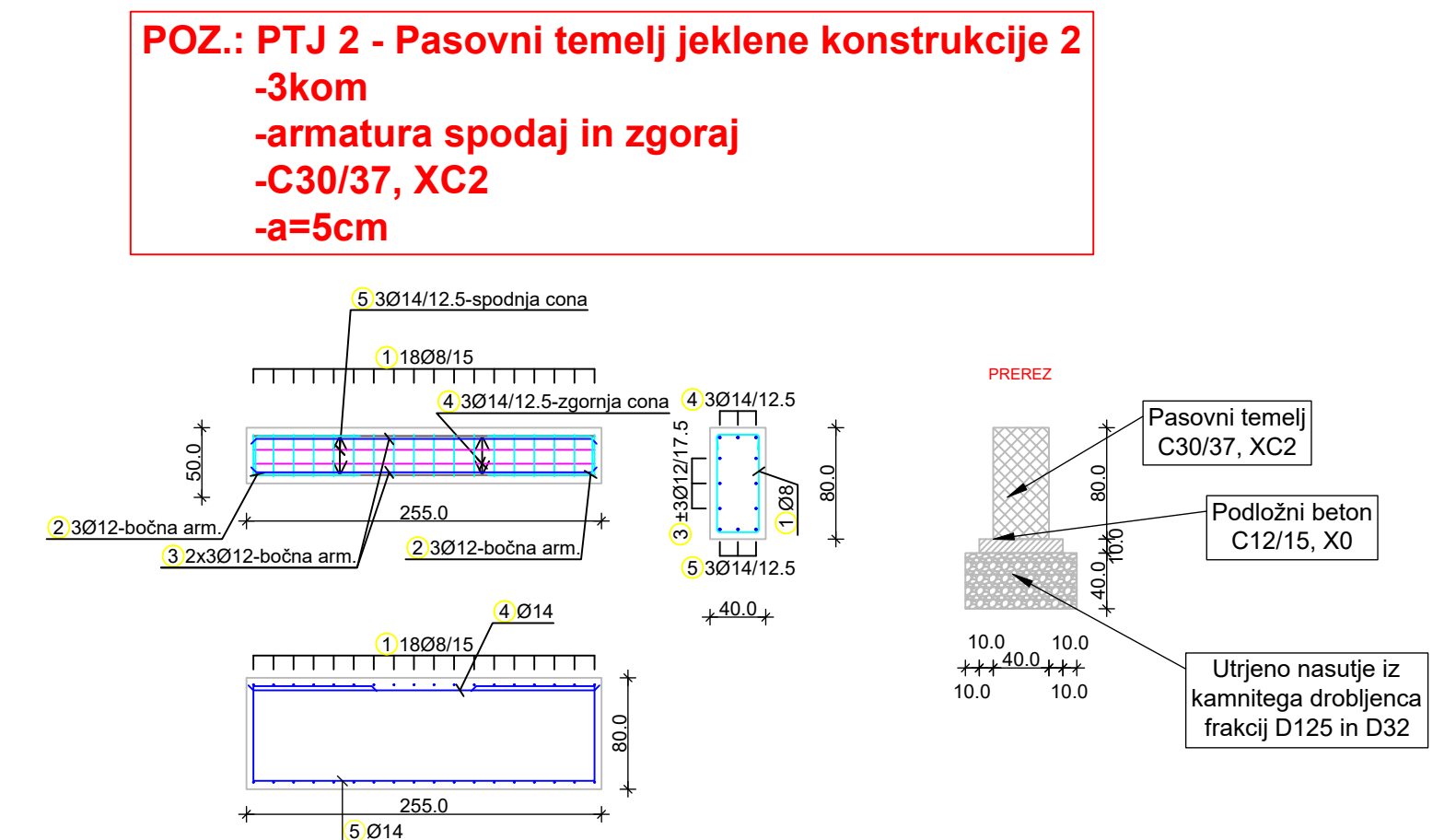
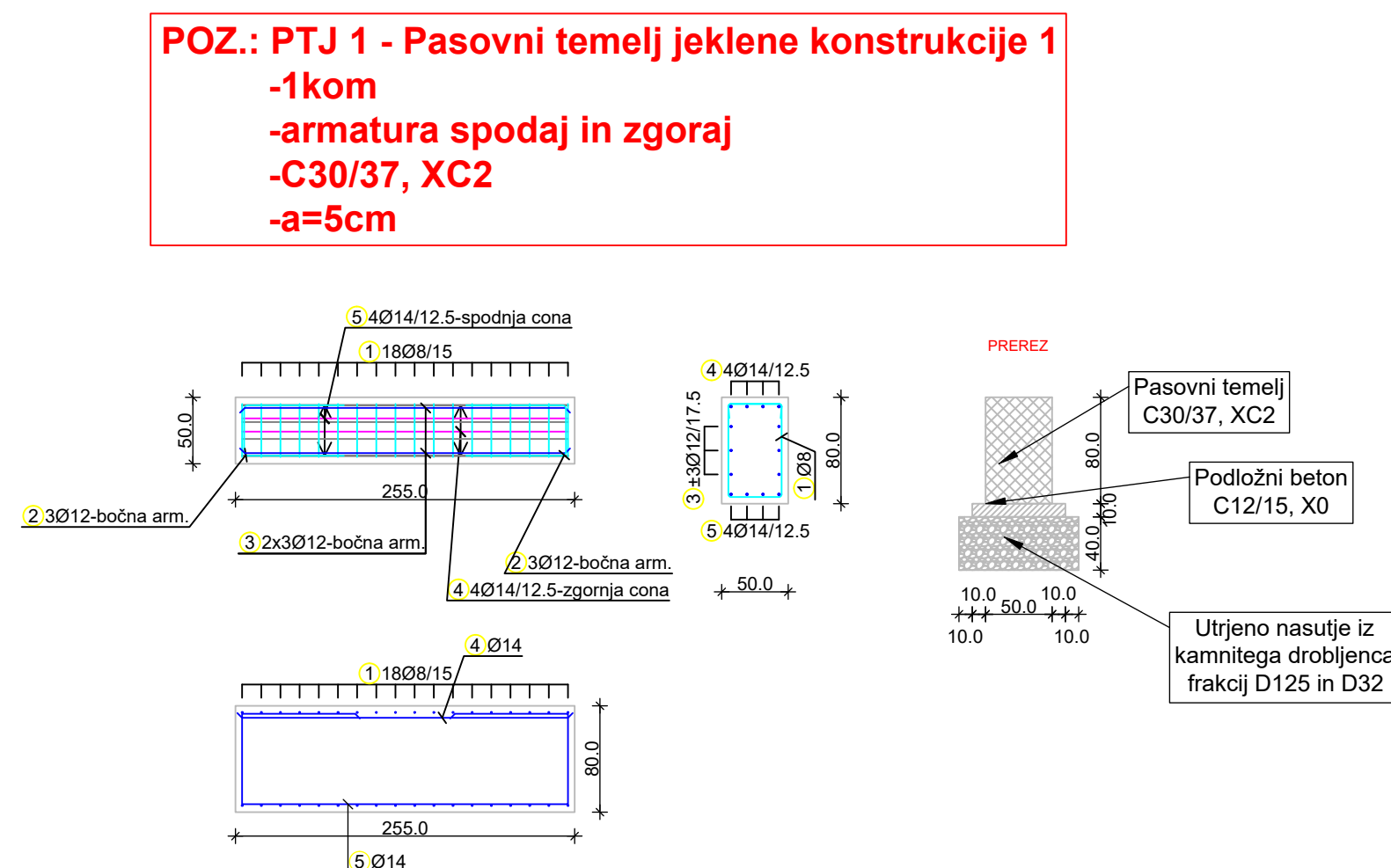
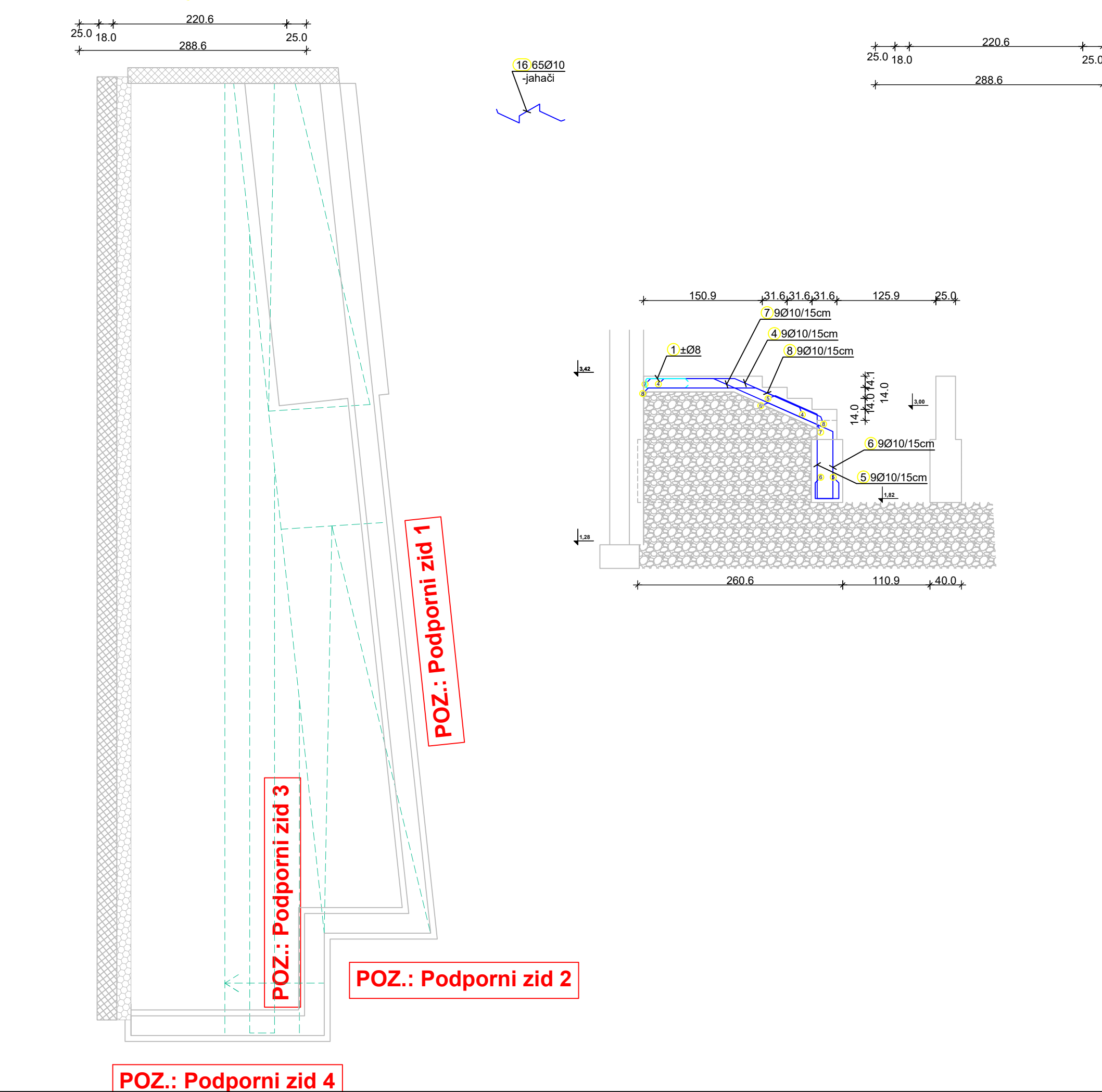
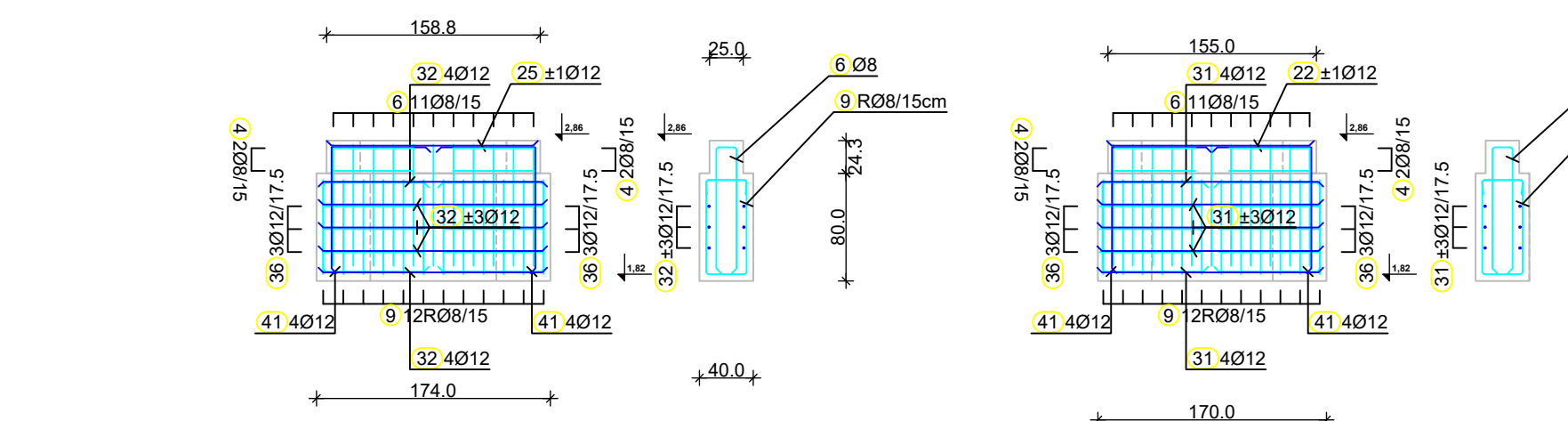
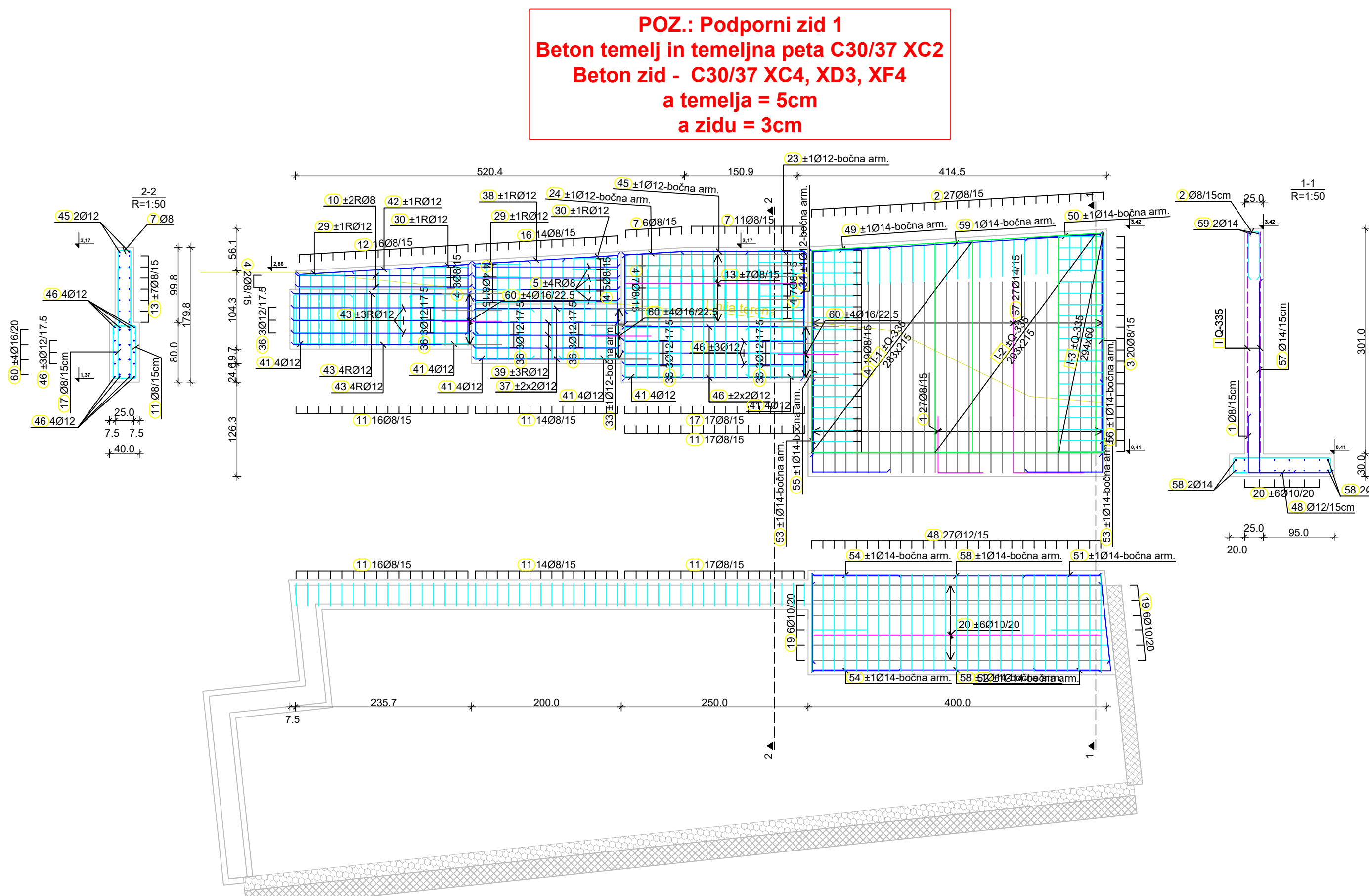
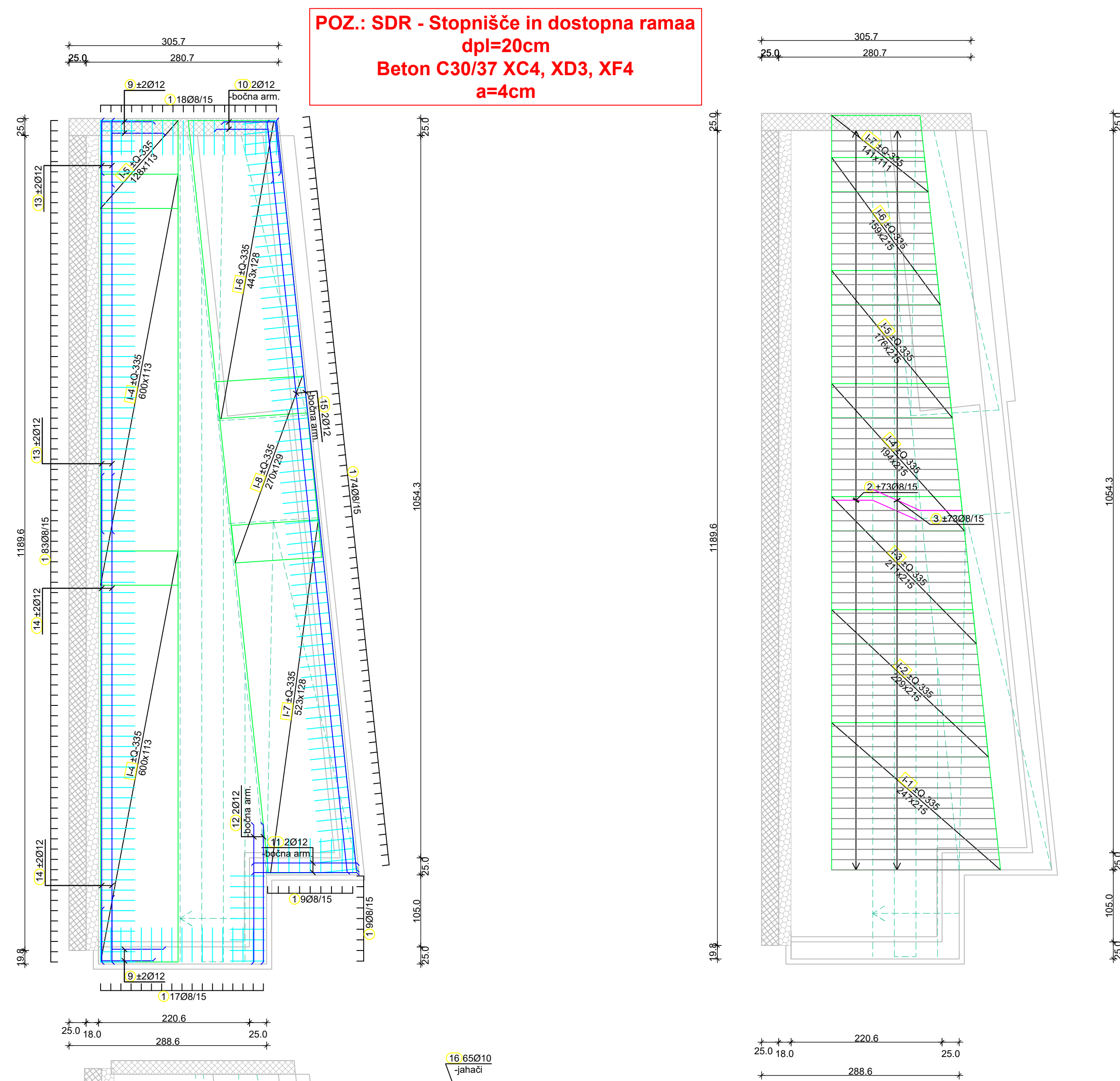


Pločevina S235 t=10mm



Pozicija: Detajl ojačitve razpirače in priključkov
Opomba: Glej statično poročilo

SPREMEMBA		OPIS SPREMEMBE		DATUM	
 Marko Markoja projekcijsko in tehnično svetovanje, o.o.		MARKO MARKOJA s.p. Projektiranje in tehnično svetovanje Prešernova 8, 3320 VELENJE		NAROČNIK / INVESTITOR	
				OBČINA TREBNJE Goliev trg 5 8210 Trebnje	
OBJEKT / LOKACIJA / GRADNJA		NASLOV RISBE / VSEBINA			
Večnamenski center Čatež		2.1.NAČRT S PODROČJA GRADBENIŠTVA			
Rekonstrukcija, sprememba namembnosti		Detajl Detajl ojačitve razpirače in priključka			
NAZIV	IME	ID. ŠT.	PODPIS		
VODJA PROJEKTA	Ana Štibelj, univ.dipl.inž.arh.	PA PPN ZAPS 0969			
POOBLAŠČENI INŽENIR	MARKO MARKOJA, univ.dipl.inž.grad.	IZS G - 3082			
SODELAVCI	Vid Markota, mag. inž. grad.				
ŠT. PROJEKTA	ŠT. NAČRTA	VRSTA NAČRTA	DATUM	MERILO	ŠT. LISTA
14/2025	13/2026	PZI	APRIL 2026	1:20	D02

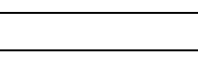


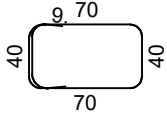
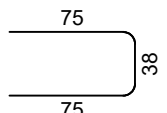
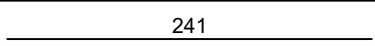
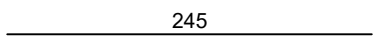
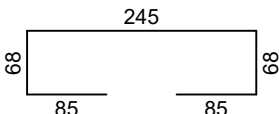
Pozicija: -PTJ 1 in PTJ2 - pasovni temelji jeklene konstrukcije 1 in 2
-PZ - Podporni zidovi
-SDR- Stopnišče in dostopna ramapa

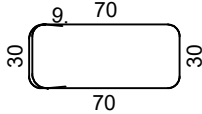
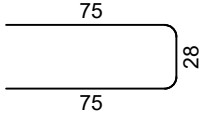
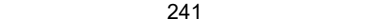
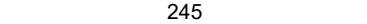
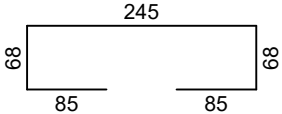
Beton: Temelji konstrukcij C30/37, XC2
Ostali elementi C30/37, XC4, XD3, XF4

Armatura:	B500B
Zaščitni sloj:	Temelji konstrukcij 5cm Ostali elementi 4cm

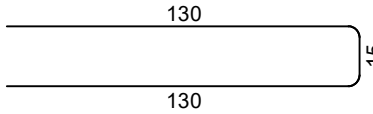
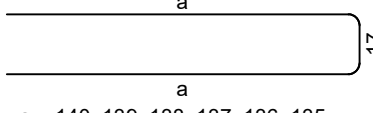
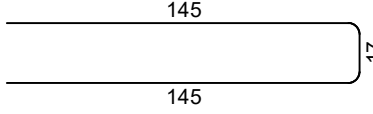
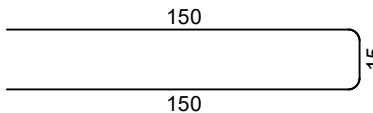
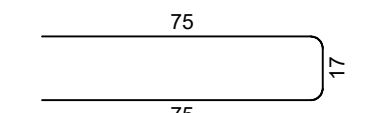
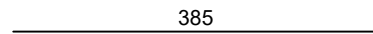
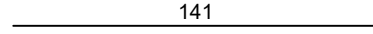
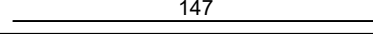
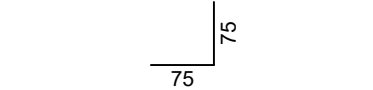
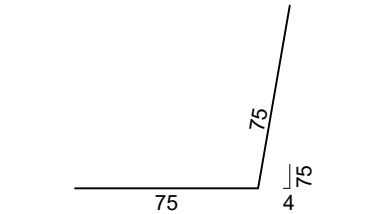
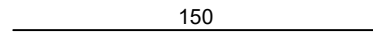
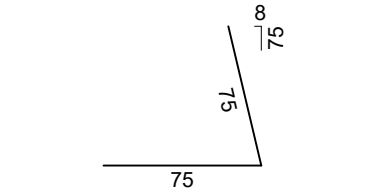
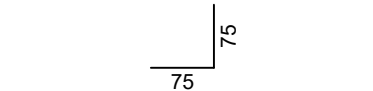
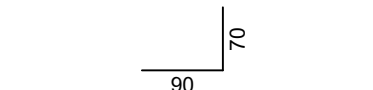
Opomba: -Dimenzije in pozicije prodorov strojnih inštalacij, preveriti v strojnih načrtih, ter ustrezno prilagoditi armaturo, oziroma narediti izsek na mrežah.
-Potrebno je ustrezno določiti višino jahačev na mestu samem.
-SDR stopnišče in dostopna rama, kriví po opažu!

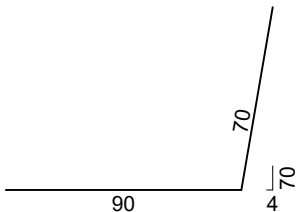
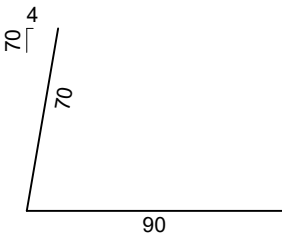
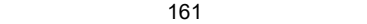
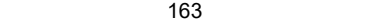
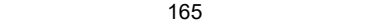
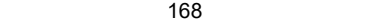
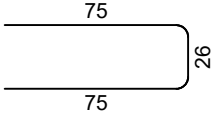
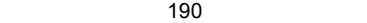
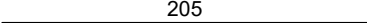
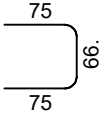
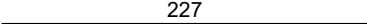
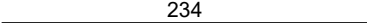
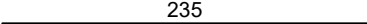
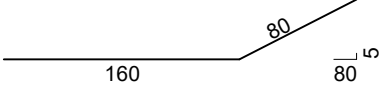
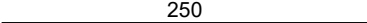
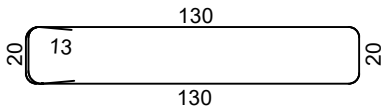
SPREMEMBA		OPIS SPREMEMBE		DATUM	
 Marko Markoja projektiranje in oblikovanje prostora		MARKO MARKOJA s.p. Projektiranje in tehnično svetovanje Prešernova 8, 3320 VELENJE		NAROČNIK / INVESTITOR OBČINA TREBNJE Goliev trg 5 8210 TREBNJE	
OBJEKT / LOKACIJA / GRADNJA VEČNAMENSKI CENTER ČATEŽ ČATEŽ NOVOGRADNJA - PRIZIDAVA		NASLOV RISBE / VSEBINA 2.1.NAČRT S PODROČJA GRADBENIŠTVA ARMATURNI NAČRT POZ.: TG, TP, TO, 10;			
NAZIV	IME	ID. ŠT.	PODPIS		
VOĐJA PROJEKTA	ŠTIBELJ ANA, univ.dipl.inž.arh.	A-0969 ZAPS			
POOBLASTČEN INŽENIR	MARKO MARKOJA, univ.dipl.inž.grad.	IZS G - 3082			
SODELAVCI	MATJAŽ NOVAK				
ŠT. PROJEKTA	ŠT. NAČRTA	VRSTA NAČRTA	DATUM	MERILO	ŠT. LISTA
14/2025	33/2026	PZI	APRIL 2025	1:50	A03

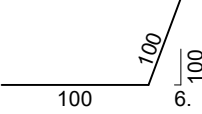
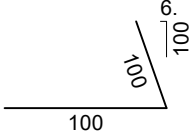
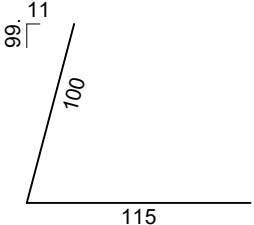
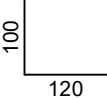
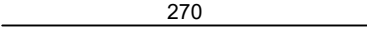
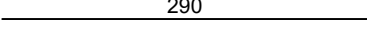
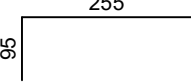
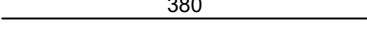
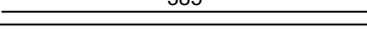
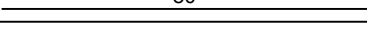
Palice - specifikacija (POZ: PTJ 1 - Pasovni temelj jeklene konstrukcije 1) (1 kom)							
ozn	oblika in mere [cm]	Ø	lg [m]	n [kos]	lg _n [m]	Teža pozicije [kg]	Opomba
1		8	2.78	18	50.04	20.47	
2		12	1.88	6	11.28	10.38	
3		12	2.41	6	14.46	13.30	
4		14	2.45	4	9.80	12.27	
5		14	5.51	4	22.04	27.59	
Skupaj						84.01	

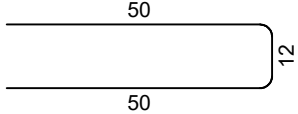
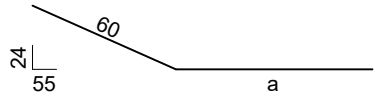
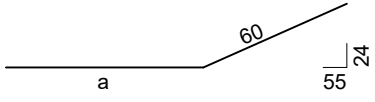
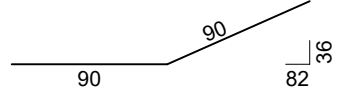
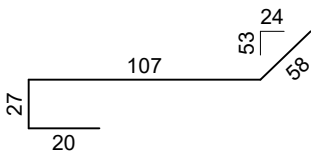
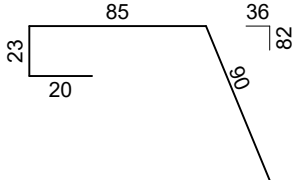
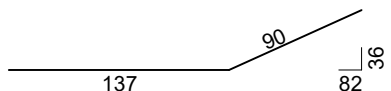
Palice - specifikacija (POZ: PTJ 2 - Pasovni temelj jeklene konstrukcije 2) (3 kom)							
ozn	oblika in mere [cm]	Ø	lg [m]	n [kos]	lg _n [m]	Teža pozicije [kg]	Opomba
1		8	2.48	54	133.92	54.77	
2		12	1.78	18	32.04	29.48	
3		12	2.41	18	43.38	39.91	
4		14	2.45	9	22.05	27.61	
5		14	5.51	9	49.59	62.09	
Skupaj						213.85	

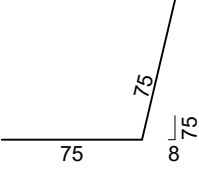
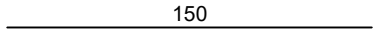
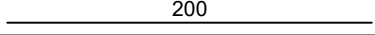
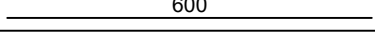
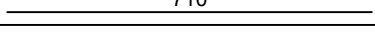
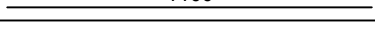
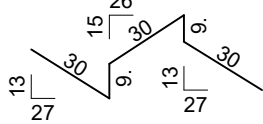
Palice - specifikacija (POZ: Podporni zidovi) (1 kom)							
ozn	oblika in mere [cm]	Ø	lg [m]	n [kos]	lg _n [m]	Teža pozicije [kg]	Opomba
1		8	1.35	27	36.45	14.91	
2		8	1.35	27	36.45	14.91	
3		8	1.37	20	27.40	11.21	
4		8	1.37	64	87.68	35.86	
5		8	1.90	8	15.20	6.22	
6		8	1.95	22	42.90	17.55	
7		8	1.97	17	33.49	13.70	
8		8	2.25	3	6.75	2.76	
9		8	2.48	42	104.16	42.60	
10		8	2.30	4	9.20	3.76	
11		8	2.48	47	116.56	47.67	
12	 a = 108, 107, 106, 105, 105, 104, 103, 102, 101, 100, 99, 98, 97, 96, 95, 95	8	*2.20	1 x 16	35.14	14.37	
13		8	2.40	14	33.60	13.74	
14		8	2.55	3	7.65	3.13	

Palice - specifikacija (POZ: Podporni zidovi) (1 kom)							
ozn	oblika in mere [cm]	Ø	lg [m]	n [kos]	lg _n [m]	Teža pozicije [kg]	Opomba
15		8	2.75	3	8.25	3.37	
16	 a a = 140, 139, 138, 137, 136, 135, 135, 134, 133, 132, 131, 130, 129, 128	8	*2.85	1 x 14	39.92	16.33	
17		8	3.07	17	52.19	21.35	
18		8	3.15	10	31.50	12.88	
19		10	1.67	12	20.04	13.01	
20		10	3.85	12	46.20	29.98	
21		12	1.41	2	2.82	2.59	
22		12	1.47	2	2.94	2.70	
23		12	1.50	2	3.00	2.76	
24		12	1.50	2	3.00	2.76	
25		12	1.50	2	3.00	2.76	
26		12	1.50	14	21.00	19.32	
27		12	1.50	28	42.00	38.64	
28		12	1.60	8	12.80	11.78	

Palice - specifikacija (POZ: Podporni zidovi) (1 kom)							
ozn	oblika in mere [cm]	Ø	lg [m]	n [kos]	lg _n [m]	Teža pozicije [kg]	Opomba
29		12	1.60	4	6.40	5.89	
30		12	1.60	4	6.40	5.89	
31		12	1.61	14	22.54	20.74	
32		12	1.63	14	22.82	20.99	
33		12	1.65	2	3.30	3.04	
34		12	1.68	2	3.36	3.09	
35		12	1.73	2	3.46	3.18	
36		12	1.76	36	63.36	58.29	
37		12	1.90	8	15.20	13.98	
38		12	1.90	2	3.80	3.50	
39		12	1.90	6	11.40	10.49	
40		12	2.05	2	4.10	3.77	
41		12	2.16	48	103.68	95.39	
42		12	2.27	2	4.54	4.18	
43		12	2.34	14	32.76	30.14	
44		12	2.35	6	14.10	12.97	
45		12	2.40	2	4.80	4.42	
46		12	2.40	14	33.60	30.91	
47		12	2.50	14	35.00	32.20	
48		12	3.46	27	93.42	85.95	

Palice - specifikacija (POZ: Podporni zidovi) (1 kom)							
ozn	oblika in mere [cm]	Ø	lg [m]	n [kos]	lg _n [m]	Teža pozicije [kg]	Opomba
49		14	2.00	2	4.00	5.01	
50		14	2.00	2	4.00	5.01	
51		14	2.15	2	4.30	5.38	
52		14	2.15	2	4.30	5.38	
53		14	2.20	4	8.80	11.02	
54		14	2.30	4	9.20	11.52	
55		14	2.70	2	5.40	6.76	
56		14	2.90	2	5.80	7.26	
57		14	3.50	27	94.50	118.31	
58		14	3.80	4	15.20	19.03	
59		14	3.85	1	3.85	4.82	
60		16	0.80	24	19.20	31.45	
Skupaj						1102.57	

Palice - specifikacija (POZ: SDR - Stopnišče in dostopna rama) (1 kom)							
ozn	oblika in mere [cm]	Ø	lg [m]	n [kos]	lg _n [m]	Teža pozicije [kg]	Opomba
1		8	1.12	210	235.20	96.20	
2	 2 x : a = 12, 14, 16, 17, 19, 21, 23, 24, 26, 28, 30, 31, 33, 35, 37, 38, 40, 42, 44, 45, 47, 49, 51, 52, 54, 56, 58, 59, 61, 63, 65, 66, 68, 70, 72, 73, 75, 77, 79, 80, 82, 84, 86, 87, 89, 91, 93, 94, 96, 98, 100, 101, 103, 105, 107, 108, 110, 112, 114, 115, 117, 119, 121, 122, 124, 126, 128, 129, 131, 133, 135, 136, 138	8	*1.35	2 x 73	197.28	80.69	
3	 2 x : a = 13, 14, 16, 18, 20, 21, 23, 25, 27, 28, 30, 32, 34, 35, 37, 39, 41, 42, 44, 46, 48, 49, 51, 53, 55, 56, 58, 60, 62, 63, 65, 67, 69, 70, 72, 74, 76, 77, 79, 81, 83, 84, 86, 88, 90, 91, 93, 95, 97, 98, 100, 102, 104, 105, 107, 109, 111, 112, 114, 116, 118, 119, 121, 123, 125, 126, 128, 130, 132, 133, 135, 137, 139	8	*1.36	2 x 73	198.02	80.99	
4		10	1.80	9	16.20	10.51	
5		10	2.12	9	19.08	12.38	
6		10	2.18	9	19.62	12.73	
7		10	2.25	9	20.25	13.14	
8		10	2.27	9	20.43	13.26	

Palice - specifikacija (POZ: SDR - Stopnišče in dostopna rama) (1 kom)							
ozn	oblika in mere [cm]	Ø	lg [m]	n [kos]	lg _n [m]	Teža pozicije [kg]	Opomba
9		12	1.50	8	12.00	11.04	
10		12	1.50	2	3.00	2.76	
11		12	1.50	2	3.00	2.76	
12		12	2.00	2	4.00	3.68	
13		12	6.00	4	24.00	22.08	
14		12	7.10	4	28.40	26.13	
15		12	11.00	2	22.00	20.24	
16		10	1.08	65	70.20	45.56	
Skupaj						454.15	

Palice - izvleček opaža (POZ: PTJ 1 - Pasovni temelj jeklene konstrukcije 1)			
Ø [mm]	lgn [m]	Teža enote [kg/m']	Teža [kg]
B500B			
8	50.04	0.41	20.47
12	25.74	0.92	23.68
14	31.84	1.25	39.86
Skupaj			84.01
Palice - izvleček opaža (POZ: PTJ 2 - Pasovni temelj jeklene konstrukcije 2)			
B500B			
8	133.92	0.41	54.77
12	75.42	0.92	69.39
14	71.64	1.25	89.69
Skupaj			213.85
Palice - izvleček opaža (POZ: Podporni zidovi)			
B500B			
8	595.93	0.41	243.74
10	66.24	0.65	42.99
12	513.30	0.92	472.24
14	159.35	1.25	199.51
16	19.20	1.64	31.45
Skupaj			989.92
S400			
8	128.56	0.41	52.58
12	65.30	0.92	60.08
Skupaj			112.66
Palice - izvleček opaža (POZ: SDR - Stopnišče in dostopna rama)			
B500B			
8	630.50	0.41	257.87
10	165.78	0.65	107.59
12	96.40	0.92	88.69
Skupaj			454.15

Palice - izvleček			
Ø [mm]	lgn [m]	Teža enote [kg/m']	Teža [kg]
B500B			
8	1410.39	0.41	576.85
10	232.02	0.65	150.58
12	710.86	0.92	653.99
14	262.83	1.25	329.06
16	19.20	1.64	31.45
Skupaj (B500B)			1741.93
S400			
8	128.56	0.41	52.58
12	65.30	0.92	60.08
Skupaj (S400)			112.66
Skupaj			1854.59

Mreže - specifikacija							
Pozicija	Oznaka mreže	B [cm]	L [cm]	n	Teža enote [kg/m ²]	Skupna teža [kg]	Opomba
POZ: Podporni zidovi (1 kom)							
I-1	Q-335	215	283	2	5.33	64.90	
I-2	Q-335	215	293	2	5.33	67.17	
I-3	Q-335	60	294	2	5.33	18.79	
I-4	Q-335	113	600	4	5.33	144.83	
I-5	Q-335	113	128	2	5.33	15.50	
I-6	Q-335	128	443	2	5.33	60.55	
I-7	Q-335	128	523	2	5.33	71.58	
I-8	Q-335	129	270	2	5.33	37.07	
Skupaj						480.38	

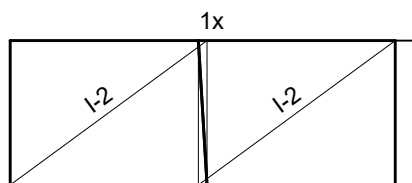
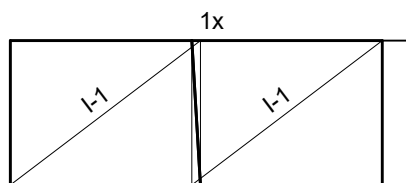
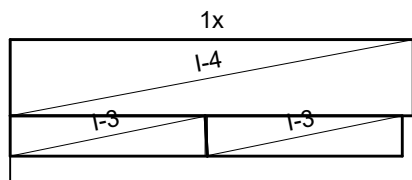
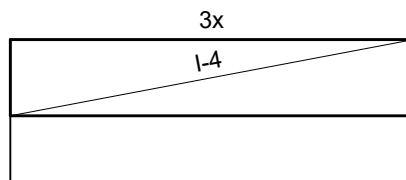
POZ: SDR - Stopnišče in dostopna rama (1 kom)							
I-1	Q-335	215	247	2	5.26	55.78	
I-2	Q-335	215	229	2	5.26	51.80	
I-3	Q-335	215	211	2	5.26	47.82	
I-4	Q-335	215	194	2	5.26	43.84	
I-5	Q-335	215	176	2	5.26	39.86	
I-6	Q-335	215	159	2	5.26	35.87	
I-7	Q-335	111	141	2	5.26	16.52	
Skupaj						291.49	

Mreže - izvleček						
Oznaka mreže	B [cm]	L [cm]	n	Teža enote [kg/m2]	Skupna teža celih mrež [kg]	Neto vgraena teža [kg]
Q-335	215	600	16	5.33	1095.60	749.09
Skupaj					1095.60	749.09

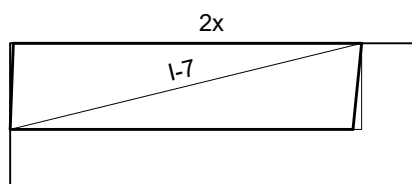
Mreže - načrt razreza

POZ: Podporni zidovi

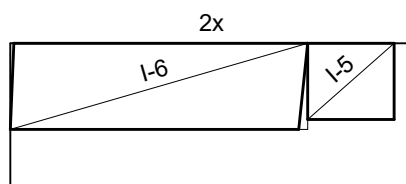
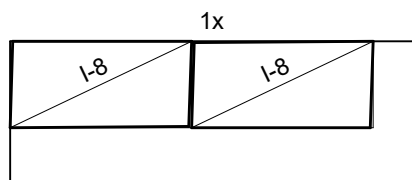
Q-335 (600 cm x 215 cm)

I-2 293 x 215
I-2 293 x 215I-1 283 x 215
I-1 283 x 215I-4 600 x 113
I-3 294 x 60
I-3 294 x 60

I-4 600 x 113

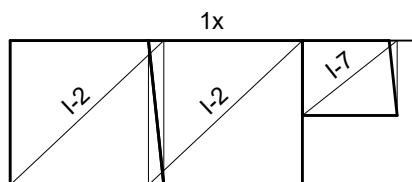
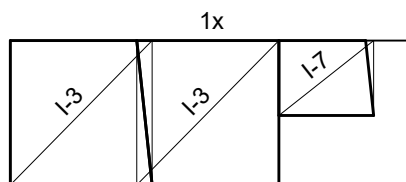
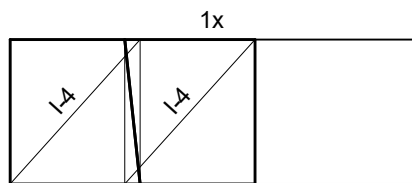
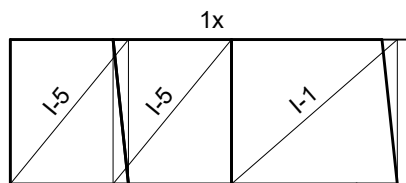
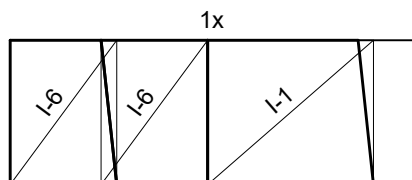


I-7 523 x 128

I-6 443 x 128
I-5 128 x 113I-8 270 x 129
I-8 270 x 129

POZ: SDR - Stopnišče in dostopna rama

Q-335 (600 cm x 215 cm)

I-2 229 x 215
I-2 229 x 215
I-7 141 x 111I-3 211 x 215
I-3 211 x 215
I-7 141 x 111I-4 194 x 215
I-4 194 x 215I-5 176 x 215
I-5 176 x 215
I-1 247 x 215I-6 159 x 215
I-6 159 x 215
I-1 247 x 215

Palice - specifikacija (POZ: AB okvir nadvišanja) (2 kom)							
ozn	oblika in mere [cm]	Ø	lg [m]	n [kos]	lg _n [m]	Teža pozicije [kg]	Opomba
1		8	0.67	72	48.24	19.73	
2		8	0.88	48	42.24	17.28	
3		8	1.08	36	38.88	15.90	
4		8	1.00	16	16.00	6.54	
5		12	1.41	8	11.28	10.38	
6		12	1.75	8	14.00	12.88	
7		12	1.80	4	7.20	6.62	
8		12	1.88	8	15.04	13.84	
9		12	3.00	8	24.00	22.08	
10		12	3.25	8	26.00	23.92	
11		12	3.58	4	14.32	13.17	
12		12	3.70	4	14.80	13.62	
13		12	3.85	4	15.40	14.17	
Skupaj						190.13	

Palice - izvleček opaža (POZ: AB okvir nadvišanja)			
Ø [mm]	lgn [m]	Teža enote [kg/m']	Teža [kg]
B500B			
8	145.36	0.41	59.45
12	142.04	0.92	130.68
Skupaj			190.13

Palice - izvleček			
Ø [mm]	lgn [m]	Teža enote [kg/m']	Teža [kg]
B500B			
8	145.36	0.41	59.45
12	142.04	0.92	130.68
Skupaj (B500B)			190.13
Skupaj			190.13